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TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

PROCEEDINGS OF THE WORLD TELECOMMUNICATION STANDARDIZATION ASSEMBLY

Geneva, Switzerland, 1-9 March 2022

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

Proceedings of the World Telecommunication Standardization Assembly

(Geneva, 2022)

CONTENTS

Table of contents

PART I

Resolutions and Opinions adopted by the Assembly of the ITU Telecommunication Standardization Sector[1]

[1] This publication includes all WTSA Resolutions that were in-force at the end of WTSA-20.

RESOLUTION 1 (Rev. Geneva, 2022)

Rules of procedure of the ITU Telecommunication Standardization Sector

(Geneva, 2022)[1]

The World Telecommunication Standardization Assembly (Geneva, 2022),

considering

a) that the functions, duties and organization of the ITU Telecommunication Standardization Sector (ITU-T) are stated in Articles 17, 18, 19, 20 of the ITU Constitution and Articles 13, 14, 14A, 15 and 20 of the ITU Convention;

b) that, in accordance with the above articles of the Constitution and Convention, ITU-T shall study technical, operating and tariff questions and adopt Recommendations with a view to standardizing telecommunications on a worldwide basis;

b)bis that the International Telecommunication Regulations (ITRs) contain references to relevant ITU-T Recommendations;

c) that the ITU-T Recommendations resulting from these studies shall be in harmony with the ITRs in force, complement the basic principles therein and assist all those concerned in the provision and operation of telecommunication services to meet the objectives set down in the relevant articles of those Regulations;

d) that, accordingly, the rapid developments in telecommunication technology and services require rapid, timely and reliable ITU-T Recommendations in order to keep abreast of the needs of the telecommunication/information and communication technology sector, including the industry sector, to assist all Member States, especially the ITU-T members, in the development of their telecommunications;

e) the General Rules of conferences, assemblies and meetings of the Union adopted by the Plenipotentiary Conference;

f) that the General Rules of conferences, assemblies and meetings of the Union adopted by the Plenipotentiary Conference, and Resolution 165 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on deadlines for the submission of proposals and procedures for the registration of participants for conferences and assemblies of the Union, apply to the World Telecommunication Standardization Assembly (WTSA);

g) that, in accordance with No. 184A of the Convention, WTSA is authorized to adopt the working methods and procedures for the management of the activities of ITU-T in accordance with No. 145A of the Constitution;

h) that careful review of the more detailed working arrangements has been made in order to adapt them to meet the increasing demand for developing Recommendations with the most effective use of the limited resources available to Member States, Sector Members and ITU headquarters;

i) Resolution 54 (Rev. Geneva, 2022) of this assembly, on the creation of, and assistance to, regional groups;

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[1] Previously published (Geneva, 1956 and 1958; New Delhi, 1960; Geneva, 1964; Mar del Plata, 1968; Geneva, 1972, 1976 and 1980, Malaga-Torremolinos, 1984; Melbourne, 1988; Helsinki, 1993; Geneva, 1996; Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016).

j) that Resolution 208 (Dubai, 2018) of the Plenipotentiary Conference establishes the appointment procedure and maximum term of office for chairmen and vice-chairmen of Sector advisory groups, study groups and other groups;

k) that Resolution 191 (Rev. Dubai, 2018) of the Plenipotentiary Conference establishes methods and approaches for the coordination of efforts among the three Sectors of the Union;

l) that Resolution 154 (Rev. Dubai, 2018) of the Plenipotentiary Conference establishes methods and approaches for the use of the six official languages of the Union on an equal footing,

resolves

that the provisions referred to in *considering e)* to *l)* above shall be further elaborated by the provisions of this resolution and the resolutions to which they refer, bearing in mind that, in the case of inconsistency, the Constitution, the Convention, the ITRs and the General Rules of conferences, assemblies and meetings of the Union (in that order) shall prevail over this resolution.

SECTION 1

World Telecommunication Standardization Assembly

1.1 The World Telecommunication Standardization Assembly (WTSA), in undertaking the duties assigned to it in Article 18 of the ITU Constitution, Article 13 of the ITU Convention and the General Rules of conferences, assemblies and meetings of the Union, shall:

a) establish and adopt working methods and procedures for the management of the activities of the Sectors (see No. 145A of the Constitution);

b) consider the reports of study groups prepared in accordance with No. 194 of the Convention (see No. 187 of the Convention);

c) approve, modify or reject draft Recommendations contained in those reports (see No. 187 of the Convention);

d) consider the reports of the Telecommunication Standardization Advisory Group (TSAG) in accordance with Nos. 197H and 197I of the Convention (see No. 187 of the Convention);

e) bearing in mind the need to keep the demands on the resources of the Union to a minimum, approve the programme of work arising from the review of existing Questions and new Questions and determine the priority, urgency, estimated financial implications and time-scale for the completion of their study (see No. 188 of the Convention);

f) decide, in the light of the approved programme of work derived from No. 188 of the Convention, on the need to maintain, terminate or establish study groups and allocate to each of them the Questions to be studied (see No. 189 of the Convention);

g) group, as far as practicable, Questions of interest to the developing countries[2] to facilitate their participation in these studies (see No. 190 of the Convention);

h) consider and approve the report of the Director of the Telecommunication Standardization Bureau (TSB) on the activities of the Sector since the last conference (see No. 191 of the Convention);

i) decide on the need to maintain, terminate or establish other groups and appoint their chairmen and vice-chairmen (see No. 191A of the Convention) in accordance with provisions of Resolution 208 (Dubai, 2018) of the Plenipotentiary Conference and taking into account the proposals of the meeting of the heads of delegation (see 1.10 below);

j) establish the terms of reference for the groups referred to in No. 191A of the Convention; such groups shall not adopt Questions or Recommendations (see No. 191B of the Convention);

k) take into account, when adopting resolutions and decisions, the foreseeable financial implications; in so doing, it should avoid adopting resolutions and decisions which might give rise to expenditure in excess of the financial limits laid down by the Plenipotentiary Conference (see No. 115 of the Constitution);

l) undertake any other duties assigned by the Plenipotentiary Conference.

1.1*bis* WTSA may assign specific matters within its competence to TSAG indicating the action required on those matters (see No. 191C of the Convention).

1.2 WTSA shall establish a Steering Committee, presided over by the chairman of the assembly, and composed of the vice-chairman of the assembly and the chairmen and vice-chairmen of the committees and any group(s) created by the assembly.

1.3 Prior to and during the process of developing resolutions which define working methods and identify priority issues, WTSA should take into consideration the following questions:

a) If an existing Plenipotentiary Conference resolution identifies a priority issue, the need for a similar WTSA resolution should be questioned.

b) If an existing resolution identifies a priority issue, the need to recycle this resolution at various conferences or assemblies should be questioned.

c) If only editorial updates are required to a WTSA resolution, the need to produce a revised version should be questioned.

d) If the actions proposed have been accomplished, the resolution should be viewed as fulfilled and the need for it should be questioned.

1.4 WTSA shall establish a Budget Control Committee and an Editorial Committee, the tasks and responsibilities of which are set out in the General Rules of conferences, assemblies and meetings of the Union (General Rules, Nos. 69-74):

a) The "Budget Control Committee", *inter alia*, examines the estimated total expenditure of the assembly and estimates the financial needs of the ITU Telecommunication Standardization Sector (ITU-T) up to the next WTSA and the costs to ITU-T and ITU as a whole entailed by the execution of the decisions of the assembly.

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[2] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

b) The "Editorial Committee" perfects the wording of texts arising from WTSA deliberations, such as resolutions, without altering their sense and substance, and aligns the texts in the official languages of the Union.

1.5 In addition to the steering, budget control and editorial committees, the two following committees are set up:

a) The "Committee on Working Methods of ITU-T", which submits to the plenary meeting reports including proposals on the ITU-T working methods for implementation of the ITU-T work programme, on the basis of the TSAG reports submitted to the assembly and the proposals of ITU Member States and ITU-T Sector Members.

b) The "Committee on the ITU-T Work Programme and Organization", which submits to the plenary meeting reports including proposals on the programme and organization of the work of ITU-T consistent with ITU-T strategy and priorities. It shall specifically:

i) propose the maintenance, establishment or termination of study groups;

ii) review the general structure of study groups and Questions set for study or further study;

iii) produce a clear description of the general area of responsibility within which each study group may maintain existing and develop new Recommendations, in collaboration with other groups, as appropriate;

iv) propose the allocation of Questions to study groups, as appropriate;

v) recommend, when a Question or group of closely related Questions concerns several study groups, whether:

a) to accept proposals of ITU Member States or the recommendation of TSAG (where they differ);

b) to entrust the study to a single study group; or

c) to adopt an alternative arrangement;

vi) review, and adjust as necessary, the lists of Recommendations for which each study group is responsible;

vii) propose the maintenance, establishment or termination of other groups in accordance with Nos. 191A and 191B of the Convention.

1.6 The chairmen of study groups, the chairman of TSAG and the chairmen of other groups set up by the preceding WTSA should make themselves available to participate in the Committee on the Work Programme and Organization.

1.7 The plenary meeting of a WTSA may set up other committees in accordance with No. 63 of the General Rules of conferences, assemblies and meetings of the Union. The terms of reference should be contained in a document of the plenary meeting, taking into account the appropriate distribution of workload between the committees.

1.8 All committees and groups referred to in 1.2 to 1.7 above shall normally cease to exist with the closing of WTSA except, if required and subject to the approval of the assembly and within the budgetary limits, the Editorial Committee. The Editorial Committee may therefore hold meetings after the closing of the assembly to complete its tasks as assigned by the assembly.

1.9 Prior to the inaugural meeting of WTSA, in accordance with No. 49 of the General Rules of conferences, assemblies and meetings of the Union, the heads of delegation shall meet to prepare the agenda for the first plenary meeting and make proposals for the organization of the assembly, including proposals for chairmanships and vice-chairmanships of WTSA and its committees and group(s).

1.10 During WTSA, the heads of delegation shall meet:

a) to consider the proposals of the Committee on the ITU-T Work Programme and Organization concerning the work programme and the constitution of study groups in particular;

b) to draw up proposals concerning the designation of chairmen and vice-chairmen of study groups, TSAG and any other groups established by WTSA (see Section 2).

1.10*bis* The heads of delegation can also meet if the need arises and at the invitation of the chairman of the assembly to consider any pending issues, with the aim of consulting and coordinating to reach consensus.

1.11 The programme of work of WTSA shall be designed to provide adequate time for consideration of the important administrative and organizational aspects of ITU-T. As a general rule:

1.11.1 While WTSA is in session, study group chairmen shall make themselves available to WTSA to supply information on matters which concern their study groups.

1.11.2 In those cases as indicated in Section 9, a WTSA may be asked to consider approval of one or more Recommendations. The report of any study group(s) or TSAG proposing such action should include information on why such action is proposed.

1.11.3 WTSA shall receive and consider the reports, including proposals, of the committees it has established, and take final decisions on those proposals and on the reports submitted to it by those committees and groups. On the basis of the proposals by the Committee on the Work Programme and Organization of ITU-T, it shall set up study groups and, where appropriate, other groups, and, taking into account consideration by the heads of delegation, appoint the chairmen and vice-chairmen of study groups, of TSAG and of any other groups it has established, taking account of Article 20 of the Convention, Resolution 208 (Dubai, 2018) of the Plenipotentiary Conference and Section 3 below.

1.11.4 In accordance with Resolution 191 (Rev. Dubai, 2018) of the Plenipotentiary Conference, WTSA identifies areas it has in common with other Sectors where work is to be done and that require internal coordination within ITU.

1.12 In accordance with No. 191C of the Convention, WTSA may assign specific matters within its competence to TSAG indicating the action required on these matters.

1.13 Voting

Should there be a need for a vote by Member States at WTSA, the vote shall be conducted according to the relevant sections of the Constitution, the Convention and the General Rules of conferences, assemblies and meetings of the Union.

Section 1*BIS*

Documentation of ITU-T

1*bis*.1 General principles

In 1*bis*.1.1 and 1*bis*.1.2 below, the term "texts" is used for resolutions, Questions, opinions, Recommendations, and non-normative documents defined in Recommendation ITU-T A.13.

1*bis*.1.1 Presentation of texts

1*bis*.1.1.1 Texts should be as brief as possible, taking account of the necessary content, and should relate directly to the Question/topic or part of the Question/topic being studied.

1*bis*.1.1.2 Each text should include a reference to related texts and, where appropriate, to relevant provisions of the International Telecommunication Regulations (ITRs), without any interpretation or qualification of the ITRs or suggesting any change to them.

1*bis*.1.1.3 Texts (including resolutions, Questions, opinions, Recommendations, and non-normative documents defined in Recommendation ITU-T A.13) shall be presented showing their number, their title and an indication of the year of their initial approval, and, where appropriate, the year of approval of any revisions.

1*bis*.1.1.4 Annexes to any of these texts should be considered as having equivalent status, unless otherwise specified.

1*bis*.1.1.5 Supplements to Recommendations do not constitute an integral part of the Recommendations and shall not be considered as having equivalent status to Recommendations or annexes to Recommendations.

1*bis*.1.2 Publication of texts

1*bis*.1.2.1 All texts shall be published in electronic form as soon as possible after approval and may also be made available in paper form according to the publication policy of ITU.

1*bis*.1.2.2 Approved new or revised resolutions, opinions, Questions and Recommendations shall be published by ITU in the official languages of the Union as soon as practicable. Non-normative documents shall be published, as soon as possible, in English only or in the six official languages of the Union, depending on the decision of the relevant group.

1*bis*.2 WTSA resolutions

1*bis*.2.1 Definition

WTSA resolution: A text of the World Telecommunication Standardization Assembly containing provisions on the organization, working methods and programmes of the ITU Telecommunication Standardization Sector and Questions/topics to be studied.

1*bis*.2.2 Adoption

WTSA shall examine and may adopt revised or new WTSA resolutions proposed by Member States and Sector Members or suggested by TSAG.

1*bis*.2.3 Deletion

WTSA may delete resolutions based on proposals from Member States and Sector Members and/or taking into account suggestions provided by TSAG.

1*bis*.3 Opinions

1*bis*.3.1 Definition

Opinion: A text containing a viewpoint, proposal or query aimed at study groups of the ITU Telecommunication Standardization Sector and the other ITU Sectors or international organizations, etc., and not necessarily related to a technical issue.

1*bis*.3.2 Adoption

WTSA shall examine and may adopt revised or new opinions based on proposals from Member States and Sector Members or suggested by TSAG.

1*bis*.3.3 Deletion

WTSA may delete an opinion based on proposals from Member States and Sector Members or suggested by TSAG.

1*bis*.4 ITU-T Questions

1*bis*.4.1 Definition

Question: Description of an area of work to be studied, normally leading to the production of one or more new or revised Recommendations and/or new or revised non-normative documents as defined in Recommendation ITU-T A.13.

1*bis*.4.2 Approval

The procedure for approving Questions is set out in Section 7 of this resolution.

1*bis*.4.3 Deletion

The procedure for deleting Questions is set out in Section 7 of this resolution.

1*bis*.5 ITU-T Recommendations

1*bis*.5.1 Definition

Recommendation: An answer to a Question or part of a Question, or a text developed by the Telecommunication Standardization Advisory Group for the organization of the work of the ITU Telecommunication Standardization Sector.

NOTE – This answer, which is a normative text, within the scope of existing knowledge and the research carried out by study groups and adopted in accordance with established procedures, may provide guidance on technical, organizational, tariff-related and operational matters, including working methods, may describe a preferred method or proposed solution for undertaking a specific task, or may recommend procedures for specific applications. These Recommendations should be sufficient to serve as a basis for international cooperation.

1*bis*.5.2 Approval

The traditional approval procedure is set out in Section 9 of this resolution. The alternative approval procedure is set out in Recommendation ITU-T A.8. The selection of the approval process is set out in Section 8 of this resolution.

1*bis*.5.3 Deletion

The procedure for deleting Recommendations is set out in 9.8 of this resolution.

1*bis*.6 Non-normative documents

Non-normative documents are defined in Recommendation ITU-T A.13.

SECTION 2

Study groups and their relevant groups

2.1 Classification of study groups and their relevant groups

2.1.1 In accordance with Article 14 of the ITU Convention, WTSA establishes study groups in order for each of them:

a) to pursue the goals laid down in a set of Questions related to a particular area of study in a task-oriented fashion;

b) to prepare draft Recommendations within its general area of responsibility (as defined by WTSA), in collaboration with its relevant groups as appropriate, in order to be adopted and/or approved;

c) to prepare draft non-normative documents, which are defined in Recommendation ITU-T A.13, within its general area of responsibility (as defined by WTSA), in collaboration with its relevant groups, as appropriate, in order to be agreed;

d) to review and, as necessary, to recommend amendment or deletion of existing Recommendations and definitions within its general area of responsibility (as defined by WTSA), in collaboration with its relevant groups, as appropriate;

e) to review and, as necessary, to recommend amendment of existing opinions within its general area of responsibility (as defined by WTSA), in collaboration with its relevant groups, as appropriate.

2.1.2 To facilitate their work, study groups may set up working parties, joint working parties and rapporteur groups to deal with the tasks assigned to them (see Recommendation ITU-T A.1).

2.1.3 A joint working party shall submit draft Recommendations to its lead study group.

2.1.4 The establishment of regional groups of ITU-T study groups shall be in accordance with WTSA Resolution 54 (Rev. Geneva, 2022), on regional groups of ITU-T study groups.

2.1.5 A study group may be designated by WTSA or TSAG as the lead study group for ITU-T studies forming a defined programme of work involving a number of study groups. This lead study group is responsible for the study of the appropriate core Questions. In addition, in consultation with the relevant study groups and, where appropriate, giving due consideration to the work of national, regional and other international standardization organizations (No. 196 of the Convention), the lead study group has the responsibility to define and maintain the overall framework and to coordinate, assign (in consultation with, and recognizing the mandates of, the relevant study groups) and prioritize the studies to be carried out by the study groups, and to ensure the preparation of consistent, complete and timely Recommendations. The lead study group shall inform TSAG on the progress of the work as defined in the scope of the lead study group activity. Issues which cannot be resolved by the study group should be raised for TSAG to offer advice and proposals for the direction of the work.

2.2 Meetings outside Geneva

2.2.1 Study groups or working parties may meet outside Geneva if invited to do so by Member States, ITU-T Sector Members or entities authorized in this respect by a Member State of the Union, and if the holding of a meeting outside Geneva is desirable (e.g. in association with symposia or seminars). Such invitations shall be considered only if they are submitted to a WTSA or to an ITU-T study group meeting and they shall be finally planned and organized after consultation with the Director of TSB and if they are within the credits allocated to ITU-T by the ITU Council.

2.2.2 For meetings held outside Geneva, the provisions of Resolution 5 (Kyoto, 1994) of the Plenipotentiary Conference as well as of Council Decision 304 shall apply. Invitations to hold meetings of the study groups or their working parties away from Geneva shall be accompanied by a statement indicating the host's agreement to defray the additional expenditure involved and a commitment to provide at least adequate premises and the necessary furniture and equipment free of charge, except that in the case of developing countries[3] equipment need not necessarily be provided free of charge if the government of the host so requests.

2.2.3 Should an invitation be cancelled for any reason, it shall be proposed to Member States or to other duly authorized entities that the meeting be convened in Geneva, in principle on the dates originally planned.

[3] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

2.3 Participation in meetings

2.3.1 Member States and other duly authorized entities pursuant to Article 19 of the Convention shall be represented in the study groups and their relevant groups, such as working parties and rapporteur groups, in whose work they wish to take part, by participants registered by name and chosen by them as qualified to investigate satisfactory solutions to the Questions under study. Exceptionally, however, registration by Member States and other duly authorized entities with a study group or its relevant group may be made without specifying the name of the participants concerned. Chairmen of meetings may invite individual experts as appropriate. Experts may present reports and submissions for information at the request of the chairmen of meetings; they may also participate in relevant discussions without taking part in the decision-making process or liaison activity of that meeting.

2.3.2 Participation at the meetings of regional groups of ITU-T study groups shall be in accordance with WTSA Resolution 54 (Rev. Geneva, 2022), on regional groups of ITU-T study groups.

2.3.3 Study group meetings should normally not be held in parallel with the meetings of TSAG, especially if the meetings of the study groups or the meetings of TSAG are held outside ITU headquarters.

2.3.4 As far as practical, every effort should be made so that the schedule of study group meetings does not coincide with any major religious, national or regional holiday periods.

2.4 Reports of study groups to WTSA

2.4.1 All study groups shall meet sufficiently in advance of WTSA for the report of each study group to WTSA to reach administrations of Member States and Sector Members no later than 35 calendar days before the opening of WTSA.

2.4.2 The report of each study group to WTSA should be developed by the study group chairman, in consultation with the study group, and shall include:

a) a short but comprehensive summary of the results achieved in the study period, and observations concerning future work;

b) reference to all Recommendations (new or revised) that have been approved by the Member States during the study period, with a statistical analysis of activities per study group Question;

c) reference to all Recommendations deleted during the study period;

d) reference to the final text of all draft Recommendations (new or revised) that are forwarded for consideration by WTSA;

e) the list of new or revised Questions proposed for study;

f) review of joint coordination activities for which it is the lead study group;

g) a draft standardization action plan for the following study period.

SECTION 3

Study group management

3.1 Within the mandate set out in WTSA Resolution 2 (Rev. Geneva, 2022), study group chairmen shall be responsible for the establishment of an appropriate structure for the distribution and coordination of work, after consulting with study group vice-chairmen. The study group chairmen perform the duties required of them within their study groups or within joint coordination activities.

3.2 Appointment of chairmen and vice-chairmen shall be based upon the provisions of Resolution 208 (Dubai, 2018) of the Plenipotentiary Conference, on the appointment and maximum term of office for chairmen and vice-chairmen of Sector advisory groups, study groups and other groups.

3.3 The chairman of a study group should establish a management team, composed of all vice-chairmen, working party chairmen, etc., to assist in the organization of the work. The mandate of a vice-chairman shall be to assist the chairman in matters relating to the management of the study group, including substitution for the chairman at official ITU-T meetings or replacement of the chairman should he or she be unable to continue with study group duties. Each working party chairman provides technical and administrative leadership and should be recognized as having a role of equal importance to that of a study group vice-chairman. Each vice-chairman should be assigned specific functions based upon the study group's programme of work. The management team is encouraged to assist the chairman in the study group management role, for example in responsibilities for liaison activities, cooperation and collaboration with other standardization organizations, forums and consortia outside ITU, and promotion of the related study group activities.

3.4 On the basis of 3.2 above, appointed vice-chairmen should be considered first in the appointment of working party chairmen. However, that does not prevent other competent experts being appointed as working party chairmen.

3.5 To the extent possible, in accordance with Resolution 208 (Dubai, 2018) of the Plenipotentiary Conference, and taking into account the need for demonstrated competence, appointment or selection to the management team should utilize the resources of as broad a range of Member States and Sector Members as possible, at the same time recognizing the need to appoint only the number of vice-chairmen and working party chairmen necessary for the efficient and effective management and functioning of the study group, consistent with the projected structure and work programme.

3.6 A chairman, vice-chairman or working party chairman, on accepting this role, is expected to have the necessary support of the Member State or Sector Member to fulfil this commitment throughout the period to the next WTSA.

3.7 Study group chairmen should participate in WTSA and TSAG to represent their respective study groups.

3.8 The study group chairman shall comply with the provisions of the ITU Constitution, the ITU Convention, the General Rules of conferences, assemblies and meetings of the Union, this resolution, and ITU-T A-series Recommendations. Support and advice from TSB staff shall be provided in this regard.

3.9 Chairmen and vice-chairmen of study groups, working parties and other groups, rapporteurs and editors shall be impartial in the performance of their duties.

SECTION 4

Telecommunication Standardization Advisory Group

4.1 In accordance with Article 14A of the ITU Convention, the Telecommunication Standardization Advisory Group (TSAG) shall be open to representatives of administrations of Member States and representatives of ITU-T Sector Members and other duly authorized entities and to chairmen of the study groups and other groups or their designated representatives. The Director of TSB or the Director's designated representatives shall participate in TSAG. The chairmen of the study groups and other groups, according to the case, or their designated representatives (e.g. vice-chairmen) shall also participate in TSAG.

4.2 In accordance with Article 14A of the Convention and the tasks further elaborated in this resolution, TSAG's principal duties are to review priorities, programmes, operations, financial matters and strategies for ITU-T's activities, to review progress in the implementation of ITU-T's work programme, to provide guidelines for the work of the study groups and to recommend measures, *inter alia*, to foster cooperation and coordination with other relevant bodies, within ITU-T and with the Radiocommunication (ITU-R) and Telecommunication Development (ITU-D) Sectors and the General Secretariat, and with other standardization organizations, forums and consortia outside ITU, including the Universal Postal Union.

4.3 TSAG shall identify changing requirements and provide advice on appropriate changes to be made to the priority of work in ITU-T study groups, planning, and allocation of work between study groups (and the coordination of that work with other Sectors), giving due regard to the cost and availability of resources within TSB and the study groups. TSAG shall monitor the activities of any joint coordination activities and may also recommend the establishment of such activities, if appropriate. TSAG may also advise on further improvements to ITU-T working methods. TSAG shall monitor the activities of the lead study groups and advise on the progress report as presented to TSAG. TSAG shall endeavour to ensure that the programmes of work across the study groups are successfully completed.

4.3*bis* WTSA shall appoint the chairman and vice-chairmen of TSAG in accordance with Resolution 208 (Dubai, 2018) of the Plenipotentiary Conference.

4.4 In accordance with 1.1*bis* above, TSAG shall take the necessary steps to consider matters under temporary authority assigned to it by WTSA. WTSA may assign temporary authority to TSAG between two consecutive WTSAs to consider and act on matters specified by WTSA. WTSA should assure itself that the special functions entrusted to TSAG do not require financial expenses exceeding the ITU-T budget. TSAG may consult with the Director on these matters, if necessary. TSAG should report to the next WTSA on its activities on the fulfilment of specific functions assigned to it, pursuant to No. 197I of the Convention and WTSA Resolution 22 (Rev. Geneva, 2022).

4.5 TSAG shall hold regular scheduled meetings, included on the ITU-T timetable of meetings. The meetings should take place as necessary, but at least once a year.[4]

4.5*bis* As far as practical, every effort should be made so that the schedule of TSAG meetings does not coincide with any major religious, national or regional holiday periods.

4.6 In the interest of minimizing the length and costs of the meetings, the chairman of TSAG should collaborate with the Director in making appropriate advance preparation, for example by identifying the major issues for discussion.

4.7 In general, the same rules of procedure that apply to study groups shall also apply to TSAG and its meetings. However, at the discretion of the chairman, written proposals may be submitted during the TSAG meeting provided they are based on ongoing discussions taking place during the meeting and are intended to assist in resolving conflicting views which exist during the meeting.

4.8 A report on its activities shall be prepared by TSAG after each meeting. This report is to be made available not later than three weeks after the closure of the meeting. The report shall be distributed in accordance with normal ITU-T procedures and made available in all official languages of the Union.

4.9 TSAG shall prepare a report for the assembly on the matters assigned to TSAG by the previous WTSA. At its last meeting prior to WTSA, TSAG shall, pursuant to No. 197H of the Convention, prepare a report which summarizes its activities since the previous WTSA. This report shall offer advice on the allocation of work, and proposals on ITU-T working methods and on strategies and relations with other ITU Sectors and other relevant bodies outside ITU, as appropriate (No. 19A of the ITU Constitution). The TSAG report to WTSA should also include proposals for WTSA Resolution 2, i.e. the titles of study groups with their responsibilities and mandates. These reports shall be submitted to the assembly by the Director.

4.10 TSAG shall be made aware of the non-attendance of chairmen and vice-chairmen at study group meetings, and raise the issue through the Director with the Member State concerned in an attempt to secure participation in these roles in the study group concerned to which the Member State has committed.

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[4] The Director and the study group chairmen may use the opportunity of these meetings to consider any appropriate measure related to activities described in 4.4 and 5.5.

SECTION 5

Duties of the Director

5.1 The duties of the Director of the Telecommunication Standardization Bureau (TSB) are outlined in Article 15 and relevant provisions of Article 20 of the ITU Convention. These duties are further elaborated in this resolution.

5.2 The Director of TSB shall take the necessary preparatory measures for meetings of WTSA, TSAG, study groups and other groups, and coordinate their work so that the meetings produce the best results in the shortest possible time. The Director shall fix, by agreement with TSAG and study group chairmen, the dates and programmes of TSAG, study group and working party meetings and shall group these meetings in time according to the nature of the work and the availability of TSB and other ITU resources.

5.2*bis* The Director shall ensure that the secretariat assigned to the study groups and regional groups works to support the membership in order to accomplish the objectives defined in the strategic plan (Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference).

5.3 The Director shall suggest editorial updates to WTSA resolutions and provide a recommendation as to whether the modifications are significant enough to warrant the production of a revised version and be published as documents of WTSA no later than 35 days before the opening of WTSA.

5.4 The Director shall manage the allocation of the ITU-T financial and TSB human resources required for meetings administered by TSB in a manner that is consistent with the approved strategic and financial plans of the Sector and the budget approved by the Council, for publication of the associated documents to ITU Member States and Sector Members (meeting reports, contributions, etc.), for the authorized operational support functions for the international telecommunication network and services (Operational Bulletin, code assignments, etc.) and for the operation of TSB.

5.4*bis* The Director shall promote the active participation of the membership, in particular developing countries[5], in the contribution-driven work of ITU-T and shall publish, in the chairman's report of each meeting of a study group or regional group, a complete account of resources used and fellowships requested and provided along with any extrabudgetary resources expended.

5.5 The Director shall provide the required liaison between ITU-T and the other ITU Sectors, ITU regional and area offices and the ITU General Secretariat and with other standards-development organizations.

5.6 In the Director's estimate of the financial needs of ITU-T until the next WTSA as part of the biennial budgetary preparatory process of the Union, the Director shall prepare the financial estimates in accordance with relevant provisions of the Financial Regulations and Financial Rules, taking into account the relevant decisions of WTSA, including priorities for the work of the Sector.

[5] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

5.7 The Director shall provide to WTSA (for information) a summary of the accounts for the years which have elapsed since the preceding WTSA, and the estimated expenses of ITU-T to cover its financial requirements until the next WTSA for the subsequent biennial budgets and financial plan, as appropriate, taking into account the pertinent results of WTSA, including priorities.

5.8 The Director shall submit for preliminary examination by the Budget Control Committee, and thereafter for approval by WTSA, the accounts for expenses incurred for the current WTSA.

5.9 The Director shall submit to WTSA a report on the proposals that have been received from TSAG (see 4.9) concerning the organization, terms of reference and work programme of study groups and other groups for the next study period, as well as proposals on ways and means to increase ITU resources through ITU-T. The Director may give views on these proposals.

5.10 In addition, the Director may, within the limits specified in the Convention, submit to WTSA any report or advice which would help to improve the work of ITU-T. In particular, the Director shall submit to WTSA such advice concerning the organization and terms of reference of the study groups for the next study period as may be considered necessary.

5.11 The Director may consult study group and TSAG chairmen regarding proposals for potential candidates for study group and TSAG chairmanships and vice-chairmanships, for consideration by the heads of delegation.

5.12 After the close of WTSA, the Director shall supply administrations of Member States and Sector Members and other duly authorized entities taking part in the activities of ITU-T with a list of the study groups and other groups set up by WTSA, indicating the general areas of responsibility and the Questions that have been referred to the various groups for study.

Furthermore, the Director shall supply appropriate international organizations with a list of the study groups and other groups set up by WTSA, asking them to advise the Director of the study groups or other groups in which they wish to participate in an advisory capacity.

5.13 Administrations of Member States, Sector Members and other participating organizations are invited to supply these particulars after each WTSA as soon as possible, and not later than two months after they have received the Director's circular, and to update them regularly.

5.14 In the interval between WTSAs, when circumstances so demand, the Director is authorized to take exceptional measures to ensure the efficiency of the work of ITU-T within the limits of the appropriations available.

5.15 In the interval between WTSAs, the Director may request assistance from the chairmen of study groups and the chairman of TSAG regarding the allocation of available financial and human resources so to be able to ensure the most efficient work of ITU-T.

5.16 In consultation with the chairmen of study groups and the chairman of TSAG, the Director shall ensure an appropriate flow of executive summary information on the work of the study groups. This information should be designed to assist in following and appreciating the overall significance of the work progressing in ITU-T.

5.17 The Director shall foster cooperation and coordination with the other standardization organizations for the benefit of all members and report to TSAG on these efforts.

SECTION 6

Contributions

6.1 Contributions should be submitted not later than one month before the opening of WTSA, and at any event the submission deadline for all contributions to WTSA, in accordance with Resolution 165 (Rev. Dubai, 2018) of the Plenipotentiary Conference, shall be not later than 21 calendar days before the opening of WTSA in order to allow for their timely translation and thorough consideration by delegations. TSB shall immediately publish all contributions submitted to WTSA in their original language(s) on the WTSA website, even before their translation into the other official languages of the Union.

Inputs from the ITU secretariat, including reports from the study groups, TSAG, the Director of TSB, and others, shall be published no later than 35 calendar days before the opening of WTSA in order to ensure timely translation and careful consideration of such documents by delegations.

6.2 Contributions to meetings of study groups, working parties and TSAG shall be formatted in accordance with Recommendation ITU-T A.2.

6.3 Submission and processing of contributions to meetings of study groups, working parties and TSAG shall be in accordance with the provisions of Recommendation ITU-T A.1.

SECTION 7

Development, adoption and approval of new and revised Questions

7.1 Common elements of the development and revision of Questions

7.1.0 Development of a draft new or revised Question for approval and inclusion in the work programme of ITU-T may be processed, preferably:

a) through a study group and further consideration in TSAG;

b) through a study group and further consideration in the relevant committee of WTSA, when the study group meeting is its last in the study period prior to a WTSA;

c) through a study group where urgent treatment is justified;

or,

d) through WTSA (see 7.4.1).

Figures 7.1a and 7.1b illustrate the adoption and approval process for new and revised Questions between WTSAs and at a WTSA, respectively.

7.1.1 Member States, and other duly authorized entities, shall submit proposed new or revised Questions as contributions to the study group meeting which will consider the new or revised Question(s).

7.1.2 Each proposed Question should be formulated in terms of one or more specific task objectives and shall be accompanied by appropriate information as listed in Appendix I to this resolution, with the aim of managing as efficiently as possible the scarce ITU resources and optimizing the use of resources. This information should clearly justify the reasons for proposing the Question and indicate the degree of urgency, while taking into account the relationship with the work of other study groups and standardization bodies and No. 196 of the ITU Convention.

7.1.3 The proposed new or revised Questions shall be made available on the ITU website for consideration in accordance with the deadline for contributions described in Recommendation ITU-T A.1 (clause 3.1.9).

7.1.4 New or revised Questions may also be proposed by a study group itself during a meeting.

7.1.5 Each study group shall consider the proposed new or revised Questions to determine:

i) the clear purpose of each proposed Question;

ii) the priority and urgency of new Recommendation(s) desired, or changes to existing Recommendations resulting from the study of the Questions;

iii) that there be as little overlap of work as possible between the proposed new or revised Questions both within the study group concerned and with Questions of other study groups. The work of other standardization organizations should also be considered.

7.1.5*bis* Some Member States and Sector Members (normally at least four) have to commit themselves to support the work, e.g. by contributions, provision of rapporteurs or editors and/or hosting of meetings. The names of the supporting entities should be recorded in the meeting report, together with the type of support to which they are committing.

7.1.6 Agreement by a study group to submit proposed new or revised Questions for approval is achieved by reaching consensus among the Member States and Sector Members present at the study group meeting where the proposed new or revised Question is discussed that the criteria in 7.1.5 have been satisfied.

7.1.7 TSAG shall be made aware by liaison statement from the study groups of all proposed new or revised Questions, in order to allow it to consider the possible implications for the work of all ITU-T study groups or other groups. In collaboration with the author(s) of proposed Questions, TSAG shall review and, if appropriate, may recommend changes to these Questions, taking into account the criteria in 7.1.5 above.

7.1.8 The opportunity for review of the Questions by TSAG prior to approval may be dispensed with only where urgent approval of the proposed Question is justified in the opinion of the Director of TSB, after consulting the chairman of TSAG and the chairman of any other study groups where overlap or liaison problems could arise. This shall not apply to proposed new or revised Questions that have policy or regulatory implications, or about the scope of which there is any doubt (see Nos. 246D, 246F and 246H of the Convention).

7.1.9 A study group may agree to commence work on a draft new or revised Question before its approval.

7.1.10 Questions approved between WTSAs have the same status as Questions approved at a WTSA.

7.1.11 In order to allow for the specific characteristics of countries with economies in transition, developing countries[6], and especially the least developed countries, TSB shall take account of the relevant provisions of WTSA Resolution 44 (Rev. Geneva, 2022) in responding to any request submitted by such countries through the Telecommunication Development Bureau (BDT), particularly with regard to matters related to training, information, examination of questions which are not covered by the ITU-D study groups, and technical assistance required for the examination of certain questions by the ITU-D study groups.

[6] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

7.2 Adoption of new or revised Questions between WTSAs

7.2.1 Agreement by a study group to submit proposed new or revised Questions for review by TSAG is achieved by reaching consensus among the Member States and Sector Members present at the study group meeting. The text of such Questions shall satisfy the criteria listed in 7.1.5 above.

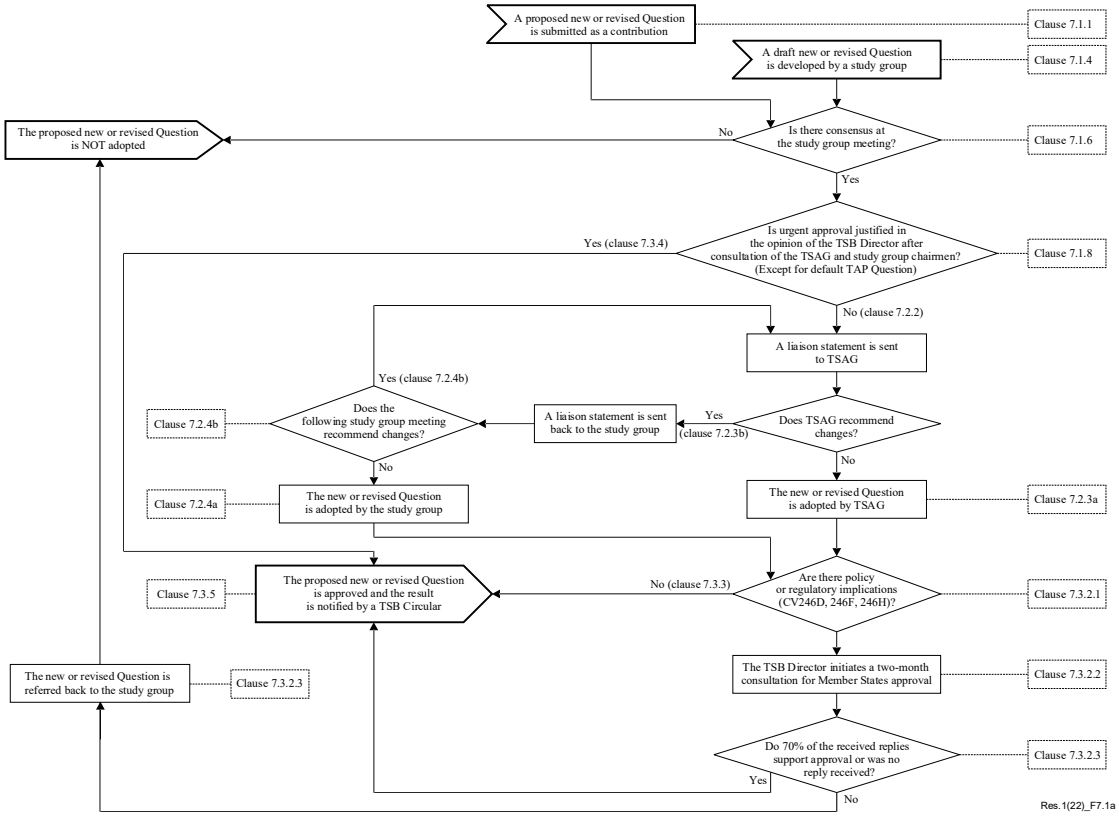


Figure 7.1a – Adoption and approval of new or revised Questions between WTSAs

7.2.2 TSAG shall be made aware by liaison statement from the study groups of all proposed new or revised Questions, in order to allow it to consider the possible implications for the work of all ITU-T study groups or other groups. TSAG shall review and, if appropriate, may recommend changes to these Questions, taking into account the criteria listed in 7.1.5 above.

7.2.3 In particular, TSAG shall review any new or revised Question to determine whether it is in line with the mandate of the study group. TSAG may then:

a) adopt the text of any proposed new or revised Question, in which case the proposed draft new or revised Question is submitted for approval according to the provisions set out in 7.3 below; or

b) recommend that it be modified, in which case the Question shall be returned to the relevant study group for reconsideration.

7.2.4 If TSAG recommends modifying the draft new or revised Question (7.2.3b) above), then the relevant study group may:

a) adopt the new or revised Question incorporating the recommendations from TSAG and submit it for approval in accordance with the provisions of 7.3 below;

b) consider the recommendations from TSAG and, in the event of difficulties with their implementation, provide TSAG with additional information for further consideration;

c) submit the proposed draft new or revised Question for approval by WTSA.

7.2.5 A review by TSAG is not required for the urgent Questions referred to in 7.1.8 above.

7.2.6 If there are no study group meetings remaining before the next WTSA, the study group chairman shall include the proposed new or revised Questions agreed by the study group in the report that the study group submits for consideration by WTSA.

7.3 Approval of new or revised Questions between WTSAs

7.3.1 Between WTSAs, and after development of proposed new or revised Questions (see 7.1 above), the approval procedure for new or revised Questions is set out in the clauses below.

7.3.2 Approval of adopted new or revised Questions through formal consultation with Member States

7.3.2.1 Under Nos. 246D, 246F and 246H of the Convention, the approval of adopted new or revised Questions that have policy or regulatory implications, or about the scope of which there is any doubt, requires formal consultation with Member States.

7.3.2.2 The Director shall request that Member States indicate within two months from the date of the request whether or not they support approval of the adopted new or revised Questions. This request shall be accompanied by the complete final text of the adopted new or revised Questions.

7.3.2.3 If 70 per cent or more of the replies received during the consultation period indicate approval (or if there are no replies), the adopted new or revised Questions shall be considered as approved. If the adopted new or revised Questions are not approved, they shall be referred back to the study group. Any comments received with replies to the consultation are forwarded to the study group.

NOTE – Only those replies that either explicitly support approval or explicitly do not support approval are counted.

7.3.3 Approval of adopted new or revised Questions that do not require consultation with the Member States

Any adopted new or revised Questions, with the exception of Questions that fall under Nos. 246D, 246F or 246H of the Convention, shall be considered as approved.

7.3.4 Approval of proposed new or revised urgent Questions

Proposed new or revised urgent Questions, as stated in 7.1.8 above, may be approved by a study group if consensus at the study group meeting is achieved.

7.3.5 Notification of approval of new or revised Questions

The Director shall notify the approval of new or revised Questions between WTSAs by circular.

7.4 Approval of Questions by WTSA

7.4.1 If, despite the above provisions, a Member State or Sector Member proposes a Question directly to a WTSA, the latter either approves the new or revised Question, or invites the Member State or Sector Member to submit the proposed Question to the next meeting of the relevant study group(s).

7.4.2 Adopted new or revised Questions may be submitted for consideration by WTSA as described in 7.2.6 above.

7.4.3 At least two months prior to WTSA, TSAG shall meet to consider, review and, where appropriate, recommend changes to Questions for consideration by WTSA, while ensuring that the Questions respond to the overall needs and priorities of the ITU-T work programme and are duly harmonized to:

i) avoid duplication of effort;

ii) provide a coherent basis for interaction between study groups;

iii) facilitate monitoring overall progress in the drafting of Recommendations and other ITU-T publications;

iv) facilitate cooperative efforts with other standardization organizations.

7.4.4 No later than 35 days before WTSA, the Director shall inform the Member States and Sector Members of the list of proposed new and revised Questions.

7.4.5 The proposed new and revised Questions may be approved by WTSA in accordance with the General Rules of conferences, assemblies and meetings of the Union.

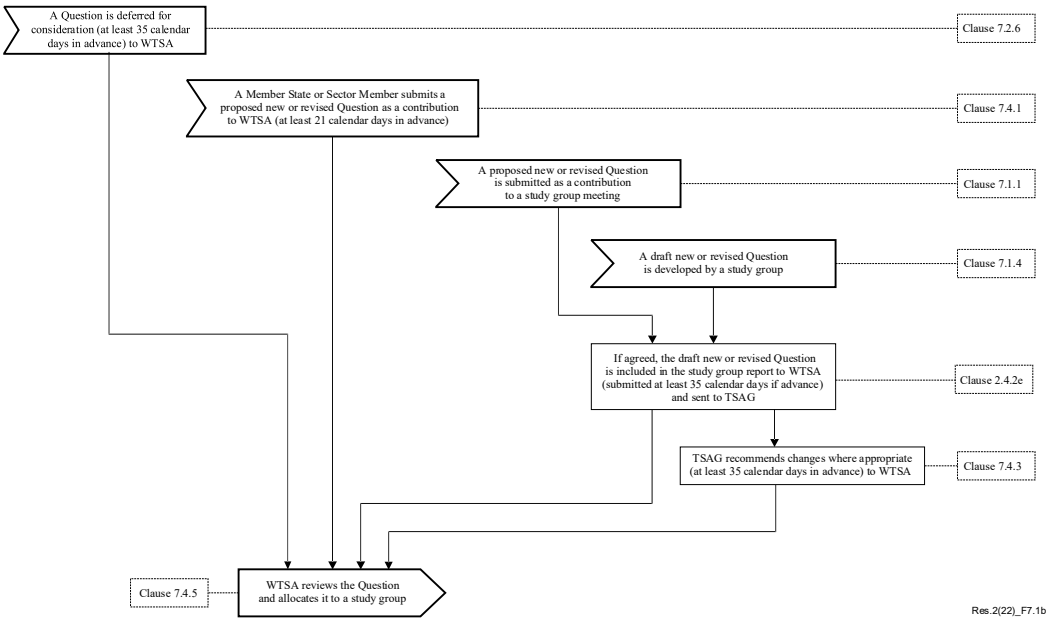


Figure 7.1b – Adoption and approval of new or revised Questions at WTSA

7.5 Deletion of Questions

Study groups may decide in each individual case which of the following alternatives is the most appropriate for the deletion of a Question.

7.5.1 Deletion of a Question between WTSAs

7.5.1.1 At a study group meeting, it may be agreed by consensus among those present to delete a Question, e.g. either because work has been terminated or because no contributions have been received at that meeting and at the previous two study group meetings. Notification of this agreement, including an explanatory summary of the reasons for the deletion, shall be provided by a circular. If a simple majority of the Member States responding has no objection to the deletion within two months, or in the event that there are no replies, the deletion comes into force. Otherwise, the issue shall be referred back to the study group.

7.5.1.2 Those Member States which indicate disapproval are requested to provide their reasons and to indicate the possible changes that would facilitate further study of the Question.

7.5.1.3 Notification of the result shall be given in a circular, and TSAG shall be informed by the Director. In addition, the Director shall publish a list of deleted Questions whenever appropriate, but at least once by the middle of a study period.

7.5.2 Deletion of a Question by WTSA

Upon the decision of the study group, the chairman shall include a request to delete a Question in the chairman's report to WTSA. WTSA shall decide as appropriate.

SECTION 8

Recommendation development and approval processes

8.1 ITU-T Recommendation approval processes and selection of the approval process

Procedures for approval of Recommendations which require formal consultation of Member States (traditional approval process, TAP) are specified in Section 9 of this resolution. Procedures for approval of Recommendations which do not require formal consultation of Member States (alternative approval process, AAP) are specified in Recommendation ITU-T A.8. In accordance with the ITU Convention, the status of Recommendations approved is the same for both methods of approval.

"Selection" refers to the act of choosing AAP or choosing TAP for the development and approval of new and revised Recommendations.

8.1.1 Selection at a study group meeting

As a general approach, ITU-T Recommendations having policy or regulatory implications, such as tariff and accounting issues and relevant numbering and addressing plans, or Recommendations where there is any doubt about their scope, are assumed to follow TAP in accordance with Nos. 246D, 246F and 246H of the Convention. Likewise, ITU-T Recommendations relating to other issues are assumed in general to follow AAP. However, explicit action at the study group meeting can change the selection from AAP to TAP, and vice versa, if so decided by consensus of the Member States and Sector Members present at the meeting.

When determining whether a new or revised draft Recommendation has policy or regulatory implications, such as tariff and accounting issues and relevant numbering and addressing plans, study groups should refer to WTSA Resolution 40 (Rev. Geneva, 2022).

If consensus is not achieved, the same process used at a WTSA, as described in 1.13 above, shall be used to decide the selection.

8.1.2 Selection at WTSA

As a general approach, ITU-T Recommendations having policy or regulatory implications, such as tariff and accounting issues and relevant numbering and addressing plans, or Recommendations where there is any doubt about their scope, are assumed to follow TAP. Likewise, ITU-T Recommendations relating to other issues are assumed to follow AAP. However, explicit action at WTSA can change the selection from AAP to TAP, and vice versa.

8.2 Notification of the selection

When the Director of TSB notifies the membership that a Question has been approved, the Director shall also include notification of the proposed selection for the resulting Recommendations. If there are any objections, which shall be based on the provisions of Nos. 246D, 246F or 246H of the Convention, they shall be forwarded to the next study group meeting, in writing, where there can be a reconsideration of the selection (see 8.3 below).

8.3 Reconsideration of the selection

8.3.1 At any time, up to the decision to put a draft new or revised Recommendation into the "Last Call" comment process, the selection can be reconsidered based on the provisions of Nos. 246D, 246F or 246H of the Convention. Any request for reconsideration shall be in writing (e.g. a contribution or, if submitted after the expiry of the deadline for a contribution, a written document that is then reflected in a TD) to a study group or working party meeting, accompanied by the reasons for reconsideration of the selection. A proposal from a Member State or Sector Member to change the selection has to be seconded before it can be addressed by the meeting.

8.3.2 Using the same procedures as described in 8.1.1, the study group shall decide if the selection remains as is, or if it is changed.

8.3.3 Any agreed change of a Recommendation's approval process shall be clearly announced at the time by the chairman of the meeting. It shall also be included in the meeting report and in the ITU-T work programme for the Recommendation.

8.3.4 The selection may be changed once the Recommendation has been consented (according to Recommendation ITU-T A.8, clause 5.2). The selection may not be changed once the Recommendation has been determined (see 9.3.1 below).

SECTION 9

Approval of new and revised Recommendations using the traditional approval process

9.1 General

9.1.1 This section sets out procedures for approval of new or revised Recommendations which require formal consultation of Member States under Nos. 246D, 246F or 246H of the ITU Convention (traditional approval process, TAP). According to No. 246B of the Convention, draft new or revised ITU-T Recommendations are adopted by a study group in accordance with procedures established by WTSA, and Recommendations which do not require formal consultation of Member States for their approval are considered approved. Procedures for such approval of Recommendations (alternative approval process, AAP) are found in Recommendation ITU-T A.8. In accordance with the Convention, the status of Recommendations approved is the same for both methods of approval.

9.1.2 In the interests of speed and efficiency, approval should normally be sought as soon as the relevant texts are mature, by a formal consultation in which the Director of TSB asks Member States to delegate authority to the relevant study group to proceed with the approval process and subsequent agreement at a formal meeting of the study group.

The relevant study group may also seek approval at a WTSA.

9.1.3 In accordance with No. 247A of the Convention, the status of Recommendations approved is the same whether approval is at a study group meeting or at a WTSA.

9.2 Process

9.2.1 Study groups shall apply the process described below for seeking the approval of all draft new and revised Recommendations, when they have been developed to a mature state. See Figure 9.1 for the sequence of events.

9.2.1.1 A Study Group 3 regional group shall decide on its own to apply this procedure for settling telecommunication questions which are such that they may be treated on a regional basis, including the establishment of regional tariffs. Any Recommendation adopted according to this procedure shall only apply to the Member States that are part of the regional group. The chairman of Study Group 3 shall be informed of the decision to apply this approval procedure and Study Group 3 at its next plenary meeting will examine the draft Recommendation in broad terms. If there is no objection as regards principles and methodology, the procedure shall be initiated. Only the Member States of the Study Group 3 regional group shall be consulted by the Director for the approval of the draft Recommendation concerned.

9.2.2 Cases where approval of new or revised Recommendations shall be deferred for consideration at a WTSA are:

a) Recommendations of an administrative nature concerning ITU-T as a whole;

b) where the study group concerned considers it desirable that WTSA itself shall debate and resolve particularly difficult or delicate issues;

c) where attempts to achieve agreement within the study groups have failed.

9.3 Prerequisites

9.3.1 Upon request of the study group chairman, the Director shall explicitly announce the intention to apply the approval procedure set out in this resolution when convening the meeting of the study group. Such requests shall be based upon a determination at a study group or working party meeting or, exceptionally, at a WTSA, that work on a draft Recommendation is sufficiently mature for such action. At this stage the draft Recommendation is considered to be "determined". The Director shall include the summary of the Recommendation. Reference shall be provided to the report or other documents where the text of the draft new or revised Recommendation to be considered may be found. This information shall also be distributed to all Member States and Sector Members.

9.3.2 Study groups are encouraged to establish an editing group in each study group to review the texts of new and revised Recommendations for suitability in each of the official languages.

9.3.3 The text of the draft new or revised Recommendation shall be available to TSB in a final edited form in at least one of the official languages at the time that the Director makes the announcement of the intended application of the approval procedure set out in this resolution. Any associated electronic material included in the Recommendation (e.g. software, test vectors, etc.) shall also be made available to TSB at the same time. A summary that reflects the final edited form of the draft Recommendation shall also be provided to TSB in accordance with 9.3.4 below. The invitation to the meeting, together with the summary of the draft new or revised Recommendation, announcing the intended application of this approval procedure, shall be sent by the Director to all Member States and Sector Members so as to be received at least three months before the meeting. The invitation and the enclosed summary shall be distributed according to normal procedures, which include the use of the appropriate official languages.

9.3.4 The summary shall be prepared in accordance with the Author's guide for drafting ITU-T Recommendations. It is a brief outline of the purpose and content of the new or revised draft Recommendation and, where appropriate, the intent of the revisions. No Recommendation shall be considered as complete and ready for approval without this summary statement.

9.3.5 The text of the draft new or revised Recommendation shall have been distributed in the official languages at least one month prior to the announced meeting.

9.3.6 Approval may only be sought for a draft new or revised Recommendation within the study group's mandate as defined by the Questions allocated to it, in accordance with No. 192 of the Convention. Alternatively, or additionally, approval may be sought for amendment of an existing Recommendation within the study group's responsibility and mandate (see WTSA Resolution 2).

9.3.7 Where a draft new or revised Recommendation falls within the mandate of more than one study group, the chairman of the study group proposing the approval should consult and take into account the views of any other study group chairmen concerned before proceeding with the application of this approval procedure.

9.3.8 ITU-T Recommendations are to be elaborated with a view to being applied as broadly and openly as possible, so as to ensure their widespread use. Recommendations are to be elaborated keeping in mind the requirements relating to intellectual property rights and in accordance with the Common Patent Policy for ITU-T/ITU-R/ISO/IEC available at https://www.itu.int/en/ITU-T/ipr/. For example:

9.3.8.1 Any party participating in the work of ITU-T should, from the outset, draw the attention of the Director to any known patent or to any known pending patent application, either of their own or of other organizations. The "Patent Statement and Licensing Declaration" form available at the ITU-T website is to be used.

9.3.8.2 ITU-T non-member organizations that hold patent(s) or pending patent application(s), the use of which may be required in order to implement an ITU-T Recommendation, can submit a "Patent Statement and Licensing Declaration" to TSB using the form available at the ITU-T website.

9.3.9 In the interests of stability, once a new or revised Recommendation has been approved, approval should not normally be sought within a reasonable period of time for any further amendment of the new text or the revised portion, respectively, unless the proposed amendment complements rather than changes the agreement reached in the previous approval process or a significant error or omission is discovered. As a guideline, in this context "a reasonable period of time" would be at least two years in most cases.

9.3.10 Any Member States considering themselves to be adversely affected by a Recommendation approved in the course of a study period may refer their case to the Director, who shall submit it to the relevant study group for prompt attention.

9.3.11 The Director shall inform the next WTSA of all cases notified under 9.3.10 above.

9.4 Consultation

9.4.1 Consultation of the Member States encompasses the time period and procedures beginning with the announcement by the Director of the intention to apply the approval procedure (9.3.1) up to seven working days before the beginning of the study group meeting. The Director shall request Member States' opinions within this period on whether they assign authority to the study group that the draft new or revised Recommendations should be considered for approval at the study group meeting. Only Member States are entitled to respond to this consultation.

9.4.2 If TSB has received a statement (or statements) indicating that the use of intellectual property, e.g. the existence of a patent, or a copyright claim, may be required in order to implement a draft Recommendation, the Director shall indicate this situation in the circular announcing the intention to invoke the WTSA Resolution 1 approval process (see Appendix II to this resolution).

9.4.3 The Director shall inform the Directors of the other two Bureaux, as well as recognized operating agencies, scientific and industrial organizations and international organizations participating in the work of the study group in question, that Member States are being asked to respond to a consultation on a proposed new or revised Recommendation. Only Member States are entitled to respond (see 9.5.2 below).

9.4.4 Should any Member States be of the opinion that consideration for approval shall not proceed, they should advise their reasons for disapproving and indicate the possible changes that would facilitate further consideration and approval of the draft new or revised Recommendation.

9.4.5 If 70 per cent or more of the replies from Member States support consideration for approval at the study group meeting (or if there are no replies), the Director shall advise the chairman that consideration of the approval may proceed. (With the authorization given by Member States that the study group may proceed with the approval process, they also recognize that the study group may make the necessary technical and editorial changes in accordance with 9.5.2 below.)

9.4.6 If less than 70 per cent of the replies received by the due date support consideration for approval at the study group meeting, the Director shall advise the chairman that consideration of the approval may not proceed at that meeting. (Nevertheless, the study group should consider the information provided under 9.4.4 above.)

NOTE – Only those replies that either explicitly support or explicitly do not support consideration for approval at the study group meeting are counted.

9.4.7 Any comments received along with all responses to the consultation shall be collected by TSB and submitted as a TD to the next meeting of the study group.

9.5 Procedure at study group meetings

9.5.1 The study group should review the text of the draft new or revised Recommendation as referred to in 9.3.1 and 9.3.3 above. The meeting may then accept any editorial corrections or other amendments not affecting the substance of the Recommendation. The study group shall assess the summary statement referred to in 9.3.4 in terms of its completeness and ability to concisely convey the intent of the draft new or revised Recommendation to a telecommunication expert who has not participated in the study group work.

9.5.2 Technical and editorial changes may only be made during the meeting as a consequence of written contributions, of results from the consultation process (see 9.4 above) or of liaison statements. Where proposals for such revisions are found to be justified but to have a major impact on the intent of the Recommendation or to depart from points of principle agreed at the previous study group or working party meeting, consideration of this approval procedure should be deferred to another meeting. However, in justified circumstances the approval procedure may still be applied if the chairman of the study group, in consultation with TSB, considers:

a) that the proposed changes are reasonable (in the context of the advice issued under 9.4 above) for those Member States not represented at the meeting, or not represented adequately under the changed circumstances; and

b) that the proposed text is stable.

9.5.3 After debate at the study group meeting, the decision of the delegations of Member States (see No.1005 in the Annex to the Constitution) to approve the Recommendation under this approval procedure shall be unopposed (but see 9.5.4, regarding reservations, 9.5.5 and 9.5.6) (see No. 239 of the Convention).

9.5.4 In cases where a delegation does not elect to oppose approval of a text, but would like to register a degree of reservation on one or more aspects, this shall be noted in the report of the meeting. Such reservations shall be mentioned in a concise note appended to the text of the Recommendation concerned.

9.5.5 A decision shall be reached during the meeting on the basis of a text available in its final form to all participants at the meeting. Exceptionally, but only during the meeting, a delegation may request more time to consider its position. Unless the Director is advised of formal opposition from the Member State to which the delegation belongs within a period of four weeks from the end of the meeting, the Director shall proceed in accordance with 9.6.1.

9.5.5.1 A Member State which requested more time to consider its position and which then indicates disapproval within the four-week interval specified in 9.5.5 above is requested to state its reasons and to indicate the possible changes that would facilitate further consideration and future approval of the draft new or revised Recommendation.

9.5.5.2 If the Director is advised of formal opposition, the matter shall be returned to the study group, and the study group chairman, after consultation with the parties concerned, may proceed according to 9.3.1 above, without further determination at a subsequent working party or study group meeting.

9.5.6 A delegation may advise at the meeting that it is abstaining from the decision to apply the procedure. This delegation's presence shall then be ignored for the purposes of 9.5.3 above. Such an abstention may subsequently be revoked, but only during the course of the meeting.

9.6 Notification

9.6.1 Within four weeks of the closing date of the study group meeting or, exceptionally, four weeks after the period described in 9.5.5, the Director shall notify whether the text is approved or not, by circular. The Director shall arrange that this information is also included in the next available ITU Notification. Within this same time period, the Director shall also ensure that any Recommendation agreed to during the study group decision meeting is available online in at least one official language, with an indication that the Recommendation may not be in its final publication form.

9.6.2 Should minor, purely editorial amendments or corrections of evident oversights or inconsistencies in the text as presented for approval be necessary, TSB may correct these with the approval of the chairman of the study group.

9.6.3 The Secretary-General shall publish the approved new or revised Recommendations in the official languages as soon as practicable, indicating, as necessary, a date of entry into effect. However, in accordance with Recommendation ITU-T A.11, minor amendments may be covered by corrigenda rather than a complete reissue. Also, where appropriate, texts may be grouped to suit market needs.

9.6.4 Text shall be added to the cover sheets of all new and revised Recommendations urging users to consult the ITU-T patent database and the ITU-T software copyright database. Suggested wording is:

a) "ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed intellectual property right. ITU takes no position concerning the evidence, validity or applicability of claimed intellectual property rights, whether asserted by ITU Member States and Sector Members or by others outside of the Recommendation development process."

b) "As of the date of approval of this Recommendation, ITU had/had not received notice of intellectual property, protected by patents/software copyrights, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the appropriate ITU-T databases available via the ITU-T website."

9.6.5 See also Recommendation ITU-T A.11 concerning the publication of lists of new and revised Recommendations.

9.7 Correction of defects

When a study group identifies the need for implementers to be made aware of defects (e.g. typographical errors, editorial errors, ambiguities, omissions or inconsistencies and technical errors) in a Recommendation, one mechanism that may be employed is an implementers' guide. This guide is an historical document recording all identified defects and their status of correction, from their identification to final resolution. Implementers' guides shall be agreed by the study group or agreed by one of its existing working parties with the concurrence of the study group chairman. Implementers' guides shall be made available by posting on the ITU-T website with open access.

9.8 Deletion of Recommendations

Study groups may decide in each individual case which of the following alternatives is the most appropriate for the deletion of Recommendations.

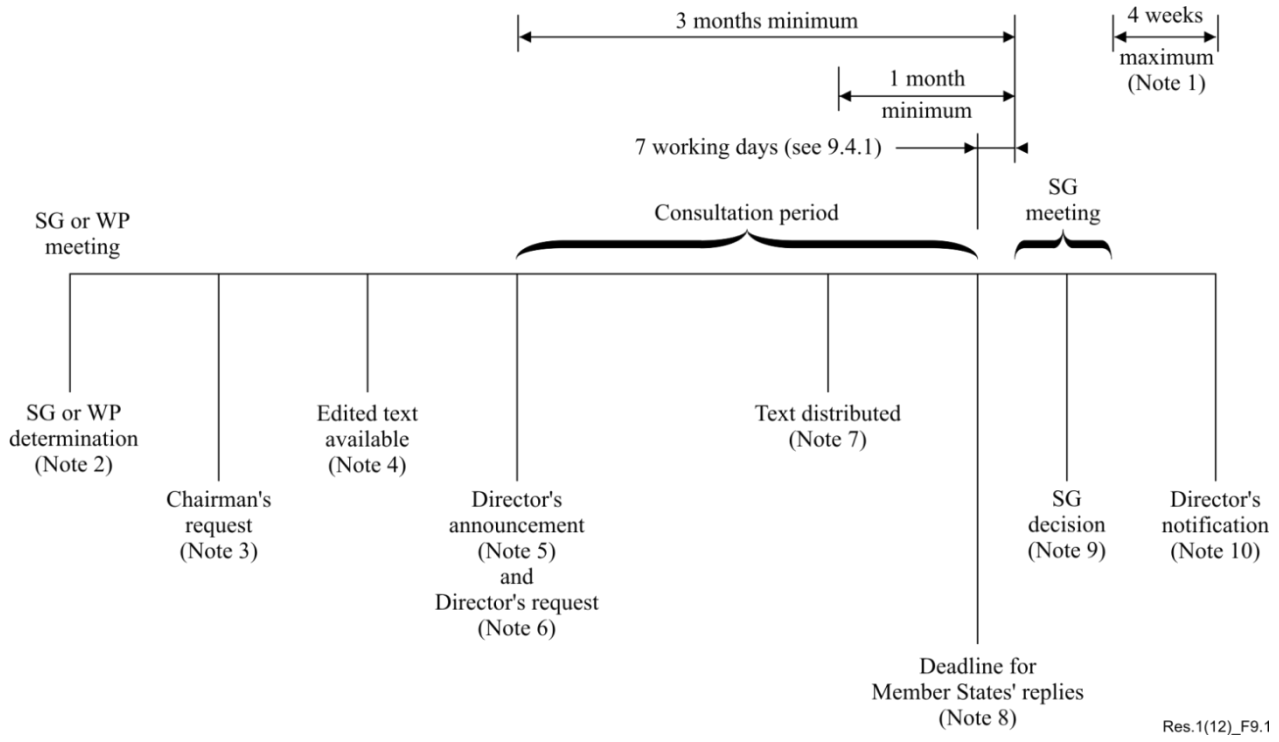
9.8.1 Deletion of Recommendations by WTSA

Upon the decision of the study group, the chairman shall include in his or her report to WTSA the request to delete a Recommendation. WTSA shall consider the request and act as appropriate.

9.8.2 Deletion of Recommendations between WTSAs

9.8.2.1 At a study group meeting it may be agreed to delete a Recommendation, either because it has been superseded by another Recommendation or because it has become obsolete. This agreement shall be unopposed by the Member States and any Sector Members acting on behalf of Member States under No. 239 of the Convention. Information about this agreement, including an explanatory summary about the reasons for the deletion, shall be provided by a circular. If no objection to the deletion is received within three months, the deletion will come into force. In the case of objection, the matter shall be referred back to the study group.

9.8.2.2 Notification of the result shall be included in another circular, and TSAG shall be informed by a report from the Director. In addition, the Director shall publish a list of deleted Recommendations whenever appropriate, but at least once by the middle of a study period.



NOTE 1 – Exceptionally, an additional period of up to four weeks would be added if a delegation requested more time under 9.5.5.

NOTE 2 – SG or WP DETERMINATION: The study group or working party determines that work on a draft Recommendation is sufficiently mature and requests the SG chairman to make the request to the Director (9.3.1).

NOTE 3 – CHAIRMAN'S REQUEST: The SG chairman requests that the Director announce the intention to seek approval (9.3.1).

NOTE 4 – EDITED TEXT AVAILABLE: Text of the draft Recommendation, including the required summary, shall be available to TSB in final edited form in at least one official language (9.3.3). Any associated electronic material included in the Recommendation must also be made available to TSB at the same time.

NOTE 5 – DIRECTOR'S ANNOUNCEMENT: The Director announces the intention to seek approval of the draft Recommendation at the next SG meeting. The invitation to the meeting with the announcement of the intention to apply the approval procedure should be sent to all Member States and Sector Members so as to be received at least three months before the meeting (9.3.1 and 9.3.3).

NOTE 6 – DIRECTOR'S REQUEST: The Director requests Member States to inform the Director whether they approve or do not approve the proposal (9.4.1 and 9.4.2). This request shall contain the summary and reference to the complete final text.

NOTE 7 – TEXT DISTRIBUTED: Text of the draft Recommendation shall have been distributed in the official languages at least one month before the announced meeting (9.3.5).

NOTE 8 – DEADLINE FOR MEMBER STATES' REPLIES: If 70% of replies received during the consultation period indicate approval, the proposal shall be accepted (9.4.1, 9.4.5 and 9.4.7).

NOTE 9 – STUDY GROUP DECISION: After debate, the study group reaches unopposed agreement to apply the approval procedure (9.5.3 and 9.5.2). A delegation can register a degree of reservation (9.5.4), can request more time to consider its position (9.5.5) or can abstain from the decision (9.5.6).

NOTE 10 – DIRECTOR'S NOTIFICATION: The Director notifies whether the draft Recommendation is approved or not (9.6.1).

Figure 9.1 – Approval of new and revised Recommendations using TAP – Sequence of events

APPENDIX I
(to Resolution 1 (Rev. Geneva, 2022))

Information for submission of a Question

- Source
- Short title
- Type of Question or proposal[7]
- Reasons or experience motivating the proposed Question or proposal, taking into account No. 196 of the ITU Convention
- Draft text of Question or proposal
- Specific task objective(s) with expected time-frames for completion
- Relationship of this study activity to:
  - Recommendations
  - Questions
  - study groups
  - relevant standardization organizations

Guidelines for drafting Question text are available on the ITU-T website.

APPENDIX II
(to Resolution 1 (Rev. Geneva, 2022))

Suggested text of the note to be included in the circular

TSB has received a statement(s) indicating that the use of intellectual property, protected by one or more issued or pending patent(s) and/or software copyright(s), may be required to implement this draft Recommendation. Available patent and software copyright information can be accessed via the ITU-T website.

[7] Background Question, task-oriented Question designed to lead to a Recommendation, proposal for a new manual, revised manual, etc.

RESOLUTION 2 (Rev. Geneva, 2022)

ITU Telecommunication Standardization Sector study group responsibility and mandates

(Helsinki, 1993; Geneva, 1996; Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; 2009[1]; Dubai, 2012; 2015[2]; 2016[3]; Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recognizing

a) that the ITU Telecommunication Standardization Sector (ITU-T) is entitled to study and develop outputs on technical, economic and policy issues related to the telecommunication/information and communication technology (ICT) field, as stated in Articles 17, 18, 19, 20 of the ITU Constitution and Articles 13, 14, 14A, 15 and 20 of the ITU Convention;

b) relevant resolutions of the ITU Plenipotentiary Conference which mandate ITU-T to study and develop outputs, including Recommendations, in many areas;

c) that new and emerging technologies will have a noticeable impact on telecommunications/ICTs, and ITU-T needs to address the interests of its membership by keeping pace with these advances in technology to advance telecommunications/ICT;

d) the resolutions adopted by this assembly, which contain many instructions and implications for the work of the relevant study groups,

considering

a) that the mandate for each study group needs to be clearly defined in order to minimize duplication of work between study groups and to ensure the coherence of the overall work programme of ITU-T;

b) that ITU-T has to evolve in order to stay relevant to the changing telecommunication environment and to its membership interests;

c) that collocation of study group, working party or rapporteur group meetings has also been a means to minimize duplication of work and to improve efficiency of work; in practice, collocation enables:

- attendees' participation in the work of more than one study group;
- reduction in the need for exchange of liaison statements between the study groups concerned;
- saving costs for ITU and for ITU members and other experts;

[1] Changes to the ITU-T Study Group 5 mandate agreed by TSAG on 30 April 2009.
[2] Creation of ITU-T Study Group 20 by TSAG on 5 June 2015.
[3] Changes to the ITU-T Study Group 20 lead study group role agreed by TSAG on 5 February 2016.

d) that the World Telecommunication Standardization Assembly (WTSA), through Resolution 22, assigns authority to the Telecommunication Standardization Advisory Group (TSAG) in the interval between WTSAs to restructure and establish ITU-T study groups in response to changes in the telecommunication marketplace,

noting

that the study group structure, responsibilities and mandates agreed at WTSA may be modified in the interval between WTSAs, and that the current study group structure, responsibility and mandates may be found on the ITU-T website or obtained from the Telecommunication Standardization Bureau (TSB),

resolves

1 that the mandate of each study group, which it shall use as the basis for organizing its study programme, taking into account *recognizing a), b), c),* and *d)* above, shall consist of:

- a general area of responsibility, as set out in Annex A to this resolution, within which the study group may amend existing Recommendations, in collaboration with other groups, as appropriate; and
- a set of Questions related to particular areas of study, which are compatible with the general area of responsibility and which should be results-oriented (refer to Section 7 of Resolution 1 (Rev. Geneva, 2022) of this assembly);

2 to encourage the study groups to consider collocation (e.g. of study group plenaries, working parties or rapporteur meetings) as a means to improve cooperation in some areas of work; the study groups involved will need to identify the areas in which they need to cooperate, based on their mandates, and keep TSAG and TSB informed;

3 to encourage ITU-T study groups to conduct work on how to ensure wider implementation of ITU-T Recommendations at the national level in collaboration with the study groups of the ITU Telecommunication Development Sector;

instructs the Telecommunication Standardization Bureau

to support and facilitate the operational aspects of such collocation.

Annex A
(to Resolution 2 (Rev. Geneva, 2022))

Part 1 – General areas of study

ITU-T Study Group 2

Operational aspects of service provision and telecommunication management

ITU-T Study Group 2 is responsible for studies relating to:

- continued deployment of numbering, naming, addressing and identification (NNAI) requirements and resource assignment, including criteria and procedures for reservation, assignment and reclamation;

- evolution of and specification of use of NNAI requirements and resource assignment, including criteria and procedures for reservation, assignment and reclamation for future telecommunication/ICT architectures, capabilities, technologies, applications and services;
- principles of administering global NNAI resources;
- principles and operational aspects of routing, interworking, number portability and carrier switching;
- principles of service provision, definition and operational requirements for current and future telecommunication/ICT architectures, capabilities, technologies, applications and services;
- operational and management aspects of networks, including network traffic management, designations and transport-related operations procedures;
- operational aspects of interworking between traditional telecommunication networks and evolving and emerging telecommunication/ICT architectures, capabilities, technologies, applications and services;
- evaluation of feedback from operators, manufacturing companies and users on different aspects of network operation;
- management of future telecommunication/ICT architectures, capabilities, technologies, applications and services;
- evolution of the management interface specification methodology;
- specifying interfaces to management systems to support the communication of identity information within or between organizational domains; and
- the operational impact of the Internet, convergence (services or infrastructure) and future services, such as over-the-top (OTT), on international telecommunication services and networks.

ITU-T Study Group 3

Tariff and accounting principles and international telecommunication/ICT economic and policy issues

ITU-T Study Group 3 is responsible, *inter alia*, for studying international telecommunication/ICT policy and economic issues and tariff and accounting matters (including costing principles and methodologies), with a view to informing the development of enabling regulatory models and frameworks. To this end, Study Group 3 shall in particular foster collaboration among its participants with a view to the establishment of rates at levels as low as possible consistent with an efficient service and taking into account the necessity of maintaining independent financial administration of telecommunications on a sound basis. Additionally, Study Group 3 will study the economic and regulatory impact of the Internet, new and emerging technologies, convergence (services or infrastructure) and new services, such as over-the-top (OTT), on international telecommunication services and networks.

ITU-T Study Group 5

Electromagnetic fields, environment, climate action, sustainable digitalization and circular economy

ITU-T Study Group 5 is responsible for the development of standards on the environmental aspects of ICT and digital technologies and protection of the environment, including electromagnetic phenomena and climate change.

Study Group 5 will study how the digital transformation can be shaped to ensure it supports transitions towards more sustainable societies.

Study Group 5 will also study issues related to resistibility, human exposure to electromagnetic fields (EMF), circular economy, energy efficiency and climate-change adaptation and mitigation. It will develop international standards, guidelines, technical papers and assessment frameworks that support the sustainable use and deployment of ICTs and digital technologies, and evaluate the environmental performance, including biodiversity, of digital technologies such as, but not limited to, 5G, artificial intelligence (AI), smart manufacturing, automation, etc.

Study Group 5 is also responsible for studying design methodologies and frameworks to reduce the volume and adverse environmental effects of e-waste and to support the transition towards a circular economy.

Study Group 5 has an extended role in evaluating the impact of ICTs in accelerating climate-change adaptation and mitigation actions, particularly in industries (including the ICT sector), cities, rural areas and communities. To this end, it is also working to develop standards and guidelines for building resilient ICT infrastructures in rural areas and communities, as well as to develop assessment methodologies for the trajectories of the ICT sector in connection with the United Nations Sustainable Development Agenda 2030 and the Paris Agreement.

In addition to its climate-focused activities, Study Group 5 has five other objectives. The first is to protect ICT (including telecommunication equipment and installations) against damage and malfunction due to electromagnetic phenomena, such as lightning, as well as from particle radiations. In this field, Study Group 5 is one of the world's most experienced and respected standardization bodies. The second is to ensure safety of personnel and users of networks in relation to electrical hazards existing in ICT networks. The third is to avoid health risks from EMF produced by telecommunication devices and installations. Study Group 5 will develop standards to give operators, manufacturers, and government agencies the tools required to assess EMF levels and to verify compliance with the World Health Organization (WHO) recommended human exposure guidelines and limits. The fourth is to guarantee good reliability and low latency for high-speed network services by providing requirements on resistibility and electromagnetic compatibility (EMC). The fifth is EMC, which is another key component of Study Group 5's work, by ensuring that the functionality of telecommunication equipment is not compromised by electromagnetic interference related to radiated and conducted disturbances emitted by other electrical or communications systems. EMC is becoming particularly relevant in taking into account the convergence of telecommunication and IT equipment, as well as in ensuring the efficient operation of home networks.

Study Group 5 is responsible for studies on how to use ICTs and digital technologies to tackle environmental challenges in line with the Sustainable Development Goals (SDGs).

ITU-T Study Group 9

Audiovisual content transmission and integrated broadband cable networks

ITU-T Study Group 9 is responsible for studies relating to:

- use of telecommunication systems for contribution, primary distribution and secondary distribution of audiovisual content, e.g. television programmes and related data services, including interactive services and applications, providing advanced capabilities, e.g. ultra-high definition and high-dynamic range, 3D, virtual reality, augmented reality and multiview;

- use of cable networks, e.g. coaxial cable, optical fibre, hybrid fibre coaxial (HFC), etc., to also provide integrated broadband services. The cable network, primarily designed for audiovisual content delivery to the home, also carries time-critical services like voice, gaming, video-on-demand, interactive and multiscreen services, etc. to customer premises equipment (CPE) in the home or enterprise;

- use of cloud computing, artificial intelligence (AI) and other advanced technologies to enhance audiovisual content contribution and distribution as well as integrated broadband services over the cable networks;

- use of accessibility services (like captioning, audio caption) and new interaction technologies (like haptic, gesture, eye tracking and so on) to enhance accessibility of audiovisual content and related data services for people with different ranges of abilities.

ITU-T Study Group 11

Signalling requirements, protocols, test specifications and combating counterfeit telecommunication/ICT devices

ITU-T Study Group 11 has been attributed the responsibility for studies related to signalling-system architecture, signalling requirements and protocols, for all types of networks such as future networks (FN), cloud-computing networks, VoLTE/ViLTE-based network interconnection, virtual networks, multimedia, next-generation networks (NGN), signalling for legacy network interworking, satellite-terrestrial networks, software-defined networking (SDN) technologies, network function virtualization (NFV) technologies, IMT-2020 networks and beyond, quantum key distribution network (QKDN) and related technologies, and augmented reality.

Study Group 11 is also responsible for studies to combat counterfeit telecommunication/ICT devices and mobile device theft.

Study Group 11 will also develop test specifications for testing conformance and interoperability (C&I) for all types of networks, technologies and services, a testing methodology and test suites for standardized network parameters in relation to the framework for Internet-related performance measurement, as well as for existing and emerging technologies.

In addition, Study Group 11 will study a way to implement a testing laboratory recognition procedure in ITU-T through the work of the ITU-T Conformity Assessment Steering Committee (CASC).

ITU-T Study Group 12

Performance, quality of service and quality of experience

ITU-T Study Group 12 is responsible for Recommendations on performance, quality of service (QoS) and quality of experience (QoE) for the full spectrum of terminals, networks, services and applications ranging from speech over fixed circuit-based networks to multimedia applications over networks that are mobile and packet based. Included in this scope are the operational aspects of performance, QoS and QoE; the end-to-end quality aspects of interoperability; and the development of multimedia quality assessment methodologies, both subjective and objective.

ITU-T Study Group 13

Future networks and emerging network technologies

ITU-T Study Group 13 is responsible for studies relating to the requirements, architectures, capabilities and application programming interfaces (APIs) as well as softwarization and orchestration aspects of converged future networks (FN), including the application of machine learning technologies. It develops standards related to information-centric networking (ICN) and content-centric networking (CCN). Regarding IMT-2020 and beyond, it particularly focuses on non-radio related parts. Study Group 13's responsibility also includes IMT-2020 and beyond project management coordination across all ITU-T study groups, and release planning.

It is also responsible for studies relating to future computing, including cloud computing and data handling in telecommunication networks. This covers capabilities and technologies from the network side to support data utilization, exchange, sharing, and data quality assessment and computing-aware networking, as well as end-to-end awareness, control and management of future computing, including cloud, cloud security and data handling.

Study Group 13 studies aspects relating to fixed, mobile and satellite convergence for multi-access networks, mobility management, and enhancements to existing ITU-T Recommendations on mobile communications, including the energy-saving aspects. It develops standards for quantum key distribution networks (QKDN) and related technologies. It further studies the concepts and mechanisms to enable trusted ICT, including framework, requirements, capabilities, architectures and implementation scenarios of trusted network infrastructures and trusted cloud solutions in coordination with all study groups concerned.

ITU-T Study Group 15

Networks, technologies and infrastructures for transport, access and home

ITU-T Study Group 15 is responsible in ITU-T for the development of standards for the optical transport network, access network, home network and power utility network infrastructures, systems, equipment, optical fibres and cables. This includes related installation, maintenance, management, test, instrumentation and measurement techniques, and control plane technologies to enable the evolution toward intelligent transport networks, including the support of smart-grid applications.

ITU-T Study Group 16

Multimedia and related digital technologies

ITU-T Study Group 16 is responsible for studies relating to ubiquitous multimedia applications, multimedia capabilities, multimedia services and multimedia applications for existing and future networks.

This encompasses ICTs for multimedia systems, applications, terminals and delivery platforms; accessibility for digital inclusion; ICTs for active assisted living; human interfaces; multimedia aspects of distributed ledger technologies; media and signal coding and systems; and digital multimedia services in various verticals (health, culture, mobility, etc.).

NOTE – When ITU-T Study Group 16 was created in 1996, one of its mandates was to continue ITU-T Study Group 1's studies on multimedia services. Accordingly, reference to "services" in the context of Study Group 16's mandate is to be understood as "multimedia services".

ITU-T Study Group 17

Security

ITU-T Study Group 17 is responsible for building confidence and security in the use of ICTs.

Providing security by ICTs and ensuring security for ICTs are both major study areas for Study Group 17. This includes studies relating to cybersecurity, managed security services, endpoint detection and response, security management, countering spam and identity management. It also includes security architecture and framework, quantum-based security, distributed ledger technology (DLT) security, intelligent transport system (ITS) security, security aspects related to artificial intelligence (AI), and security of networks, applications and services such as Internet of things (IoT) and smart cities, various kinds of networks including IMT-2020/5G and beyond, smart grid, industrial control systems (ICS), supply chain, smartphone, software-defined networking (SDN), network function virtualization (NFV), Internet Protocol television (IPTV), web services, over-the-top (OTT), social network, cloud computing, big data analytics, digital financial system (DFS) and telebiometrics.

Building confidence and security in the use of ICTs also includes protecting personally identifiable information (PII), such as technical and operational aspects of data protection with respect to ensuring confidentiality, integrity and availability of PII.

Study Group 17 is also responsible for the application of open system communications, including directory and object identifiers, and for technical languages, the method for their usage and other issues related to the software aspects of telecommunication systems, and for test specification languages in support of conformance testing to improve the quality of Recommendations.

ITU-T Study Group 20

Internet of Things and smart cities and communities

Study Group 20 is responsible for studies relating to Internet of Things (IoT) and its applications, and smart cities and communities (SC&C). This includes studies relating to big data aspects of IoT and SC&C, digital services for SC&C, and digital transformation relevant IoT and SC&C aspects.

Part 2 – Lead ITU-T study groups in specific areas of study

SG2	Lead study group on numbering, naming, addressing and identification Lead study group on administration of global numbering, naming, addressing and identification resources Lead study group on routing and interworking Lead study group on number portability and carrier switching Lead study group on telecommunication/ICT capabilities and applications Lead study group on telecommunication/ICT service definition Lead study group on telecommunications for disaster relief/early warning, network resilience and recovery Lead study group on telecommunication management
SG3	Lead study group on tariff and accounting principles relating to international telecommunications/ICT Lead study group on economic issues relating to international telecommunications/ICT Lead study group on policy issues relating to international telecommunications/ICT
SG5	Lead study group on electromagnetic compatibility, resistibility and lightning protection Lead study group on soft error caused by particle radiations Lead study group on human exposure to electromagnetic fields Lead study group on circular economy and e-waste management Lead study group on ICTs related to the environment, energy efficiency, clean energy and sustainable digitalization for climate actions
SG9	Lead study group on integrated broadband cable networks Lead study group on audiovisual content delivery over cable networks

SG11	Lead study group on signalling and protocols Lead study group on establishing test specifications, conformance and interoperability testing for all types of networks, technologies and services that are the subject of study and standardization by all ITU-T study groups Lead study group on combating counterfeiting of ICT devices Lead study group on combating the use of stolen ICT devices
SG12	Lead study group on quality of service and quality of experience Lead study group on driver distraction and voice aspects of car communications Lead study group on quality assessment of video communications and applications
SG13	Lead study group on future networks such as IMT-2020 networks and beyond (non-radio related parts) Lead study group on fixed-mobile convergence Lead study group on cloud computing Lead study group on machine learning
SG15	Lead study group on access network transport Lead study group on home networking Lead study group on optical technology
SG16	Lead study group on multimedia technologies, applications, systems and services Lead study group on IP-based television services and digital signage Lead study group on human factors and ICT accessibility for digital inclusion Lead study group on multimedia aspects of automotive-related intelligent services Lead study group on multimedia aspects of digital health Lead study group on digital culture Lead study group on multimedia aspects of distributed ledger technology and its applications
SG17	Lead study group on security Lead study group on identity management Lead study group on languages and description techniques
SG20	Lead study group on Internet of Things and its applications Lead study group on smart cities and communities and related digital services Lead study group for Internet of Things identification Lead study group on digital health related to Internet of Things and smart cities and communities

Annex B
(to Resolution 2 (Rev. Geneva, 2022))

Points of guidance to ITU-T study groups for development of the post-2022 work programme

B.1 This annex provides points of guidance to study groups for the development of post-2022 study Questions in accordance with their proposed structure and general areas of responsibility. The points of guidance are intended to clarify, where appropriate, interaction between study groups in certain areas of common responsibility, and are not intended to provide a comprehensive list of such responsibilities.

B.2 This annex will be reviewed by the Telecommunication Standardization Advisory Group (TSAG) as necessary to facilitate interaction between study groups, to minimize duplication of effort and to harmonize the overall ITU-T work programme.

ITU-T Study Group 2

ITU-T Study Group 2 is the lead study group for numbering, naming, addressing and identification (NNAI), routing and interworking, and service definition (including future telecommunication/ICT architectures, capabilities, technologies, applications and services) and will continue to be responsible for creating principles of service and operational requirements, including NNAI aspects, billing and operational quality of service/network performance. Service principles and operational requirements will also continue to be developed for current and evolving telecommunications/ICTs.

Study Group 2 is responsible for studying, developing and recommending general principles of NNAI as well as routing for all types of future and evolving telecommunication/ICT architectures, capabilities, technologies, applications and services and operational aspects relating to end-to-end routing for all types of current and future networks.

Study Group 2 is responsible for studying, developing and recommending general principles and operational aspects related to interworking, number portability and carrier switching.

Study Group 2 will study and describe services and capabilities from a user's point of view to facilitate global interconnection and interoperation and, to the extent practicable, ensure compatibility with the International Telecommunication Regulations and related intergovernmental agreements.

Study Group 2 should continue to study service policy aspects, including those that may arise in the operation and provision of transborder, global and/or regional services, taking due account of national sovereignty.

The chairman of Study Group 2 (or, if necessary, the chairman's delegated representative), and the designated advisers through the Numbering Coordination Team (NCT), shall provide technical advice to the Director of TSB concerning general principles for NNAI, assignment, reassignment and/or reclamation of international NNAI directly assigned global resources and routing, and the effect on allocation of directly assigned NNAI resources.

Study Group 2 shall provide the Director of TSB with advice on technical, functional and operational aspects in the assignment, reassignment and/or reclamation of international numbering and addressing resources in accordance with the relevant ITU-T E- and F-series Recommendations, taking into account the results of any ongoing studies, or requests raised by NCT.

Study Group 2 should recommend measures to be taken to ensure operational performance of all networks (including network management) in order to meet the requisite in-service network performance and quality of service.

As the lead study group on telecommunication management, Study Group 2 is also responsible for the development and maintenance of a consistent ITU-T work plan, prepared with the cooperation of relevant ITU-T study groups, on activities associated with telecommunication management and with operations, administration and management (OAM). In particular, this work plan will focus on activities involving two types of interfaces:

- fault, configuration, accounting, performance and security management (FCAPS) interfaces between network elements and management systems, and between management systems; and
- transmission interfaces between network elements.

In support of market-acceptable FCAPS interface solutions, Study Group 2 studies will identify service-provider and network-operator requirements and priorities for telecommunication management, continue the evolution of the telecommunication management framework currently based on telecommunication management network (TMN), next-generation network (NGN), software-defined networking (SDN) and network function virtualization (NFV) concepts, and address the management of NGN, cloud computing, future networks (including future telecommunication/ICT architectures, capabilities, technologies, applications and services), SDN, NFV, IMT-2020 and distributed ledger technology (DLT).

Study Group 2 will study FCAPS interface solutions that will specify reusable management information definitions via protocol-neutral techniques, continue management information modelling for the major telecommunication technologies, such as optical and IP-based networking, and extend management technology choices consistent with market needs, industry recognized value, and major emerging technical directions.

Additional studies will also cover network and service operational requirements and procedures, including support for network traffic management, support for the Service and Network Operations (SNO) group, and designations for interconnections among network operators.

To support the generation of such interface solutions, Study Group 2 will strengthen the collaborative relationships with standards-development organizations, forums, consortia and other experts as appropriate.

Study Group 2 will work on relevant identification aspects in collaboration with Study Group 20 for Internet of Things (IoT) and with Study Group 17, as per the mandate of each study group.

ITU-T Study Group 3

ITU-T Study Group 3 should study and develop Recommendations, technical reports, handbooks and other publications for members to respond positively and proactively to the development of international telecommunication/ICT markets, in order to ensure that policy and regulatory frameworks remain supportive of innovation, competition and investment, for the benefit of users and the global economy.

In particular, Study Group 3 should ensure that tariffs, economic policies and regulatory frameworks related to international telecommunication/ICT services and networks are forward-looking and serve to encourage take-up and use, as well as industry innovation and investment. Furthermore, these frameworks need to be adequately flexible to adjust to rapidly evolving markets, technologies, and business models, while ensuring the necessary competitive safeguards and the protection of consumers.

In this context, the work of Study Group 3 should also consider new and emerging technologies and services so its work will help drive new economic opportunities and enhance societal benefits in different areas, including health care, education and sustainable development.

Study Group 3 should study and develop appropriate instruments, with a view to creating an enabling policy environment for the transformation of markets and industries, through the promotion of open, innovation-driven and accountable institutions.

All study groups shall notify Study Group 3 at the earliest opportunity of any development that may have an impact on tariff and accounting principles and international telecommunication/ICT economic and policy issues.

ITU-T Study Group 5

ITU-T Study Group 5 will develop Recommendations, supplements and other publications to:

- study the environmental performance of ICTs and digital technologies and their effects on climate change, biodiversity and other environmental impacts;
- accelerate climate-change adaptation and mitigation actions through the use of ICTs and other digital technologies;
- study the environmental aspects of ICTs and digital technologies, including issues related to electromagnetic fields (EMF), electromagnetic compatibility (EMC), energy feeding and efficiency, and resistibility;
- play an active role in reducing the volume of e-waste and facilitate its management, in order to enhance the transition to a circular economy;
- study lifecycle and rare-metal recycling approaches for ICT equipment to minimize the environmental and health impact of e-waste;
- achieve energy efficiency and sustainable clean energy use in ICTs and digital technologies, including, but not limited to, labelling, procurement practices, standardized power supplies/connectors, eco-rating schemes, etc.;
- build resilient and sustainable ICT infrastructures in urban and rural areas as well as in cities and communities;

- study the role of ICTs and digital technologies in climate-change adaptation and mitigation;
- reduce the volume of e-waste and its environmental impacts (including the environmental impact of counterfeit devices);
- study the transition to a circular economy and implementing circular actions in cities;
- study the role of ICTs and digital technologies to achieve net zero within the ICT sector and other sectors as well as in cities;
- develop methodologies for assessing the environmental impact of ICT and other digital technologies;
- develop standards and guidelines for using ICTs and other digital technologies in an eco-friendly way and enhancing rare-metal recycling and energy efficiency of ICT, including infrastructures/facilities
- develop standards, guidelines and metrics/key performance indicators (KPIs) for aligning the environmental performance of the ICT sector and digital technologies with the United Nations Sustainable Development Agenda 2030, the Paris Agreement and the Connect 2030 Agenda;
- develop energy efficiency/performance metrics/KPIs and related measurement methodologies for ICTs and digital technologies, including infrastructures and facilities;
- develop tools and guidance on proper, effective and simple communication to reach out to the general public on environmental issues, including EMF, EMC, resistibility, climate-change adaptation and mitigation, etc.;
- study of methodologies for assessing the environmental impact of ICT, in terms of both its own emissions and power usage and the savings created through ICT applications in other industry sectors;
- study of power-feeding methodologies that effectively reduce power consumption and resource usage, increase safety and increase global standardization for economic gains;
- set up a low-cost sustainable ICT infrastructure to connect the unconnected;
- study how to use ICTs to help countries and the ICT sector to adapt and build resilience to the effects of environmental challenges, including climate change;
- assess the sustainability impact of ICT to promote the Sustainable Development Goals (SDGs);
- study the protection of ICT networks and equipment from interference, lightning and power faults;
- develop standards related to the assessment of human exposure to EMF produced by ICT installations and devices;
- develop standards related to safety and implementation aspects related to ICT powering and to powering through networks and sites;
- develop standards related to components and application references for protection of ICT equipment and the telecommunication network;

- develop standards related to EMC, particle radiation effects, and assessment of human exposure to EMF produced by ICT installations and devices, including cellular phones, IoT devices and radio base stations;
- develop standards on the reutilization of the existing copper network outside plant and related indoor installations;
- develop standards to guarantee good reliability and low latency for high-speed network services by providing requirements on resistibility and EMC.

The meetings of Study Group 5 and its working parties/Questions should as far as practicable be collocated with other study groups/working parties/Questions involved in the study of environment, circular economy, energy efficiency and climate change to address the SDGs.

ITU-T Study Group 9

Within its general area of responsibility, ITU-T Study Group 9 will develop and maintain Recommendations on:

- audiovisual content systems for contribution and distribution, including broadcasting, over cable networks, e.g. coaxial cable, optical fibre or hybrid fibre coaxial (HFC), etc.;
- procedures for the operation of audiovisual content delivery over cable networks;
- the use of IP or other appropriate protocols, middleware and operating systems to provide time-critical services, services on demand or interactive services over cable networks;
- artificial intelligence (AI)-assisted delivery and transmission systems for audiovisual content and other data services over cable networks;
- cable network terminals and related interfaces (e.g. interfaces to home network devices, such as IoT devices, interfaces to the cloud);
- end-to-end integrated platforms for cable networks;
- advanced, interactive, time-critical and other services and applications over cable networks;
- cloud-based systems for audiovisual content services and control over cable networks;
- secured audiovisual content contribution and distribution, for example conditional access (CA) systems and digital rights management (DRM), over cable networks;
- accessibility applications to access audiovisual content over cable networks;
- common user profile and participation taxonomy for broadband cable-TV accessibility.

Study Group 9 will develop and maintain implementation guidelines to support the deployment of audiovisual content contribution and distribution in developing countries.

Study Group 9 is responsible for coordination with the ITU Radiocommunication Sector (ITU-R) on broadcasting matters.

Inter-Sector rapporteur group activities of different Sectors and/or joint rapporteur group activities of different study groups shall be seen as complying with the WTSA expectations for collaboration and coordination.

ITU-T Study Group 11

ITU-T Study Group 11 will develop Recommendations on the following subjects:

- network signalling and control architectures in existing and emerging telecommunication environments (e.g. software-defined networking (SDN), network function virtualization (NFV), future networks (FN), cloud computing, VoLTE/ViLTE, IMT-2020 network and beyond, quantum key distribution networks (QKDN) and related technologies, etc.);
- signalling requirements and protocols for services and applications;
- security of signalling protocols;
- session control and signalling requirements and protocols;
- resource control and signalling requirements and protocols;
- signalling and control requirements and protocols to support attachment in emerging telecommunication environments;
- signalling and control requirements and protocols to support broadband network gateways;
- signalling and control requirements and protocols to support emerging multimedia services;
- signalling and control requirements and protocols to support emergency telecommunication services (ETS);
- signalling requirements for establishing the interconnection of packet-based networks, including VoLTE/ViLTE-based networks, IMT-2020 and beyond;
- test methodologies and test suites as well as monitoring of parameters set for emerging network technologies and their applications, including cloud computing, SDN, NFV, IoT, VoLTE/ViLTE, IMT-2020 technologies, etc., to enhance interoperability;
- conformance, interoperability testing and network/system/service/device testing, including benchmark testing, a testing methodology and testing specification of standardized network parameters in relation to the framework for Internet-related performance measurement, etc.;
- combating counterfeiting of ICT devices;
- combating the use of stolen ICT devices.

Study Group 11 is to lend assistance to developing countries in the preparation of technical reports and guidelines on the deployment of packet-based networks as well as emerging networks.

The development of signalling requirements, protocols and test specifications will be as follows:

- Study and develop signalling requirements
- Develop protocols to meet the signalling requirements
- Develop protocols to meet the signalling requirements of new services and technologies
- Develop protocol profiles for the existing protocols

- Study existing protocols to determine if they meet the requirements, and work with the relevant standards-development organizations to avoid duplication and for necessary enhancements or extensions
- Study existing open-source codes from open-source communities (OSCs) to support the implementation of ITU-T Recommendations
- Develop signalling requirements and relevant test suites for interworking between new signalling protocols and existing ones
- Develop signalling requirements and relevant test suites for interconnection between packet-based networks (e.g. VoLTE/ViLTE-based networks, IMT-2020 and beyond)
- Develop test methodologies and test suites for the relevant signalling protocols.

Study Group 11 will collaborate with ITU-T Study Group 17 on security matters.

Study Group 11 is to work on enhancements to existing Recommendations on signalling protocols of legacy networks and new networks to ensure signalling security. The objective is to satisfy business needs of member organizations that wish to offer new features and services using networks based on existing Recommendations.

Study Group 11 is to continue coordination with the International Laboratory Accreditation Cooperation (ILAC) on the ITU Testing Laboratories recognition procedure and establishing collaboration with existing conformance assessment programmes.

Study Group 11 is to continue its work on any test specifications for use in benchmarks testing and testing specification for standardized network parameters in relation to the framework for Internet-related measurements.

Study Group 11 is to continue its work with relevant standards organizations and forums on subject areas established by the cooperation agreement.

Study Group 11 is to continue its work in developing ITU-T Recommendations, technical reports and guidelines to assist ITU Member States in combating counterfeiting, tampering and theft of ICT equipment and the adverse implications thereof.

ITU-T Study Group 12

A particular focus of ITU-T Study Group 12 is on the end-to-end quality (as perceived by the customer) delivered using a path that, with increasing frequency, involves complex interactions between terminals and network technologies (e.g. mobile terminals, multiplexers, gateway and network signal processing equipment, and IP-based networks).

As the lead study group for quality of service (QoS) and quality of experience (QoE), Study Group 12 coordinates QoS and QoE activities not only within ITU-T, but also with other standards-development organizations and forums, and develops frameworks to improve collaboration.

Study Group 12 is the parent group for the Quality of Service Development Group (QSDG); and the Regional Group of Study Group 12 on QoS for the Africa region (SG12RG-AFR).

Examples of the work Study Group 12 plans to undertake:

- end-to-end QoS planning, focusing on all-packet networks, but also considering hybrid IP/digital circuit-based paths;
- QoS operational aspects and related interworking guidance and resource management to support QoS;
- technology-specific (e.g. IP, Ethernet, multiprotocol label switching (MPLS)) performance guidance;
- application-specific (e.g. smart grid, Internet of Things (IoT), machine-to-machine (M2M), home network (HN), over-the-top (OTT)) performance guidance;
- definition of QoE requirements and performance targets, and associated evaluation methodologies, for multimedia services;
- definition of objective prediction models based on subjective assessment methodologies, data collection via crowdsourcing and customer surveys;
- definition of crowdsourcing-based methodologies for the assessment of QoS and QoE;
- subjective quality assessment methodologies for existing and emerging technologies (e.g. telepresence, virtual reality (VR) and augmented reality (AR));
- quality modelling (psychophysical models, parametric models, intrusive and non-intrusive methods, opinion models) for multimedia and speech (including wideband, superwideband and fullband);
- speech-based services in vehicles and aspects of mitigating driver distraction;
- speech terminal characteristics and electro-acoustic measurement methods (including wideband, superwideband and fullband);
- definition of QoS parameters and assessment methods related to artificial intelligence (AI) and machine learning;
- development of test specifications for ITU-T Recommendations on performance, QoS and QoE.

ITU-T Study Group 13

The key areas of competence of ITU-T Study Group 13 include:

- IMT-2020 and beyond network aspects: Studies on the requirements and capabilities for networks based on the service scenarios of IMT-2020 and beyond. This includes development of Recommendations on the framework and architecture design, including also network-related aspects of reliability, quality of service (QoS) and security. Furthermore, it includes interworking with current networks including IMT-Advanced, etc.
- Application of machine learning technology aspects for future networks: Studies on how to incorporate network intelligence into IMT-2020 and beyond. Development of Recommendations on overall requirements, functional architecture and application support capabilities for networks, which include artificial intelligence (AI) and machine learning mechanisms, based on, but not limited to, the gap analysis identified by the Focus Group on machine learning for future networks, including 5G.

- Software-defined networking (SDN), network slicing and orchestration aspects: Studies on SDN and data plane programmability to support functions such as network virtualization and network slicing necessary for exploding and diversifying services taking into account scalability, security and distribution of functions. Development of Recommendations on the orchestration and related management-control continuum capabilities/policies of network function components, softwarized network and network slices, including enhancement and support of distributed networking capabilities.

- Information-centric networking (ICN) and public packet telecom data network aspects: Studies related to analysis of ICN applicability to IMT-2020 and beyond. Development of new Recommendations on ICN general requirements, functional architecture and mechanisms of ICN networking and use-case specific mechanisms and architectures, including deployment of corresponding identifiers. Development of Recommendations on packet data network based on the study of requirements, frameworks and candidate mechanisms. Development of Recommendations on architecture, network virtualization, resource control and other technical issues of future packet-based network (FPBN), including migration from the conventional IP-based network to FPBN.

- Fixed, mobile and satellite convergence aspects: Studies related to access-agnostic core, which integrates fixed, mobile and satellite, and the application of innovative technologies to enhance such convergence, such as AI/machine learning., etc. This also includes the development of Recommendations on full connectivity for various types of user equipment.

- Knowledge-centric trustworthy networking and services aspects: Studies related to requirements and functions to support the building of trusted ICT infrastructures. Development of Recommendations regarding environmental and socio-economic awareness in order to minimize the environmental impact of future networks, as well as to reduce the barriers to entry for various actors involved in the network ecosystem.

- Quantum-enhanced networks: Studies related to quantum key distribution networks (QKDN). Furthermore, development of new Recommendations related to user networks interacting with quantum-enhanced networks.

- Aspects related to future computing, including cloud computing and data handling in telecommunication networks: Studies of the requirements, functional architectures and their capabilities, mechanisms and deployment models of future computing, including cloud computing and data handling, covering inter- and intra-cloud scenarios as well as the applications of future computing in vertical domains. Studies include the development of technologies from the network side to support end-to-end awareness, control and management of future computing, including cloud, cloud security and data handling.

Study Group 13 activities will also cover regulatory implications, including deep packet inspection, and lower energy consumption networks. Furthermore, it includes activities related to innovative service scenarios, deployment models and migration issues based on future networks.

In order to assist countries with economies in transition, developing countries and especially the least developed countries in the application of networks of the future, including IMT-2020 and beyond and other innovative technologies, Study Group 13 maintains a dedicated Question on this topic, and its regional group for Africa. Consultations should thereby be enabled with representatives of the ITU Telecommunication Development Sector (ITU-D) with a view to identifying how this assistance might best be provided through an appropriate activity conducted in conjunction with ITU-D.

Joint rapporteur group activities of different study groups shall be seen as complying with the WTSA expectations for collocation.

ITU-T Study Group 15

ITU-T Study Group 15 is the focal point in ITU-T for the development of standards on networks, technologies and infrastructures for transport, access and home. This encompasses the development of related standards for the customer premises, access, metropolitan and long-haul sections of communication networks.

Particular emphasis is given to providing global standards for a high-capacity (terabit) optical transport network (OTN) infrastructure, and for high-speed (multi-Mbit/s and Gbit/s) network access and home networking. This includes the related work on modelling for network, system and equipment management, transport network architectures and layer interworking. Special consideration is being given to the changing telecommunication environment, for example, supporting the evolving needs of mobile communication networks.

Access network technologies addressed by the study group include passive optical network (PON), point-to-point optical, and copper-based digital subscriber line (DSL) technologies, including ADSL, VDSL, HDSL, SHDSL, G.fast and MGfast. These access technologies find application in their traditional uses as well as in backhaul and fronthaul networks for emerging services such as broadband wireless and data centre interconnect. Home networking technologies include wired broadband, wired narrowband, wireless narrowband, optical fibre and free-space optical communications. Both access and home networking for smart-grid applications are supported.

Network, system and equipment features covered include: routing, switching, interfaces, multiplexers; secure transport; network synchronization (including frequency, time and phase); cross-connect (including optical cross-connect (OXC)), add/drop multiplexers (including fixed or reconfigurable optical add/drop multiplexers (ROADM)), amplifiers, transceivers, repeaters, regenerators; multilayer network protection switching and restoration; operations, administration and maintenance (OAM); transport resource management and control capabilities to enable increased transport network agility, resource optimization, and scalability (e.g. the application of software-defined networking (SDN) to transport networks, together with enabling the use of artificial intelligence (AI)/machine learning (ML) to support the automation of transport network operations). Many of these topics are addressed for various media and transport technologies, such as metallic and terrestrial/submarine optical fibre cables, dense and coarse wavelength-division multiplexing (DWDM and CWDM) optical systems for fixed and flex-grid networks, optical transport network (OTN), including the evolution of OTN beyond 400 Gbit/s rates, Ethernet and other packet-based data services.

The study group will handle the entire range of fibre and cable performance (including test methods), field deployment and installation, taking into account the need for additional specifications driven by new optical fibre technologies and new applications. The activity on field deployment and installation will address reliability, security aspects and social issues, such as the reduction of excavation, the problems caused to traffic and the generation of construction noise, and will include the investigation and standardization of new techniques allowing faster, cost-effective and safer cable installation. Planning, construction, maintenance and management of the physical infrastructure will take into account the advantages of emerging technologies. Approaches that improve network resilience and recovery from disasters will be studied.

In its work, Study Group 15 will take into account related activities in other ITU study groups, standards-development organizations, forums and consortia, and will collaborate with them to avoid duplication of effort and identify any gaps in the development of global standards.

Study Group 15 has developed standards on networks, technologies and infrastructures for transport, access and home related to Action Line C2 (Information and communication infrastructure) of the World Summit on the Information Society (WSIS) and United Nations Sustainable Development Goal 9 (Industry, innovation and infrastructure).

ITU-T Study Group 16

ITU-T Study Group 16 will work on the following items:

- terminology for various multimedia services;
- operation of multimedia systems and applications, including interoperability, scalability and interworking over different networks;
- ubiquitous multimedia services and applications;
- multimedia aspects of digital services;
- multimedia system and service accessibility for digital inclusion;
- development of multimedia end-to-end architectures, including vehicle gateway for intelligent transport systems (ITS);
- high-layer protocols and middleware for multimedia systems and applications, including IP-based television services (managed and non-managed networks), Internet-based streaming media services and digital signage;
- media and signal coding;
- multimedia and multimode terminals;
- human-machine interaction;
- signal processing network equipment and terminals, gateway implementations, and characteristics;
- quality of service (QoS), quality of experience (QoE) and end-to-end performance in multimedia systems;
- security of multimedia systems and services;
- multimedia aspects of distributed ledger technology (DLT) and its applications;
- digital multimedia services and applications in various vertical industries;
- AI-enabled multimedia applications.

In developing its studies, Study Group 16 will take into consideration societal and ethical aspects of intelligent applications.

ITU-T Study Group 16 will work collaboratively with all stakeholders working in the standardization areas within its mandate, in particular with ITU-T Study Groups 2, 9, 12 and 20 and other ITU study groups, other United Nations agencies, the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC), industry forums and consortia, and regional and international standards-development organizations.

ITU-T Study Group 17

ITU-T Study Group 17 is responsible for developing key technical Recommendations in supporting building confidence and security in the use of ICTs.

To this end, this includes studies relating to security, including cybersecurity, countering spam and identity management. It also includes security architecture and framework, security management, and security of networks, applications and services such as the Internet of Things (IoT), intelligent transport systems (ITS), secure application services, social networks, cloud computing, distributed ledger technology (DLT) and telebiometrics. Study Group 17 is also responsible for the application of open system communications, including directory and object identifiers, and for technical languages, the method for their usage and other issues related to the software aspects of telecommunication systems, and for conformance testing to improve the quality of Recommendations.

Study Group 17's role is to provide technical solutions for addressing security for ICTs and ensuring security by ICTs. Studies focus especially on security for new emerging areas, such as security for IMT-2020/5G and beyond, IoT, smart cities, DLT, big data analytics, ITS, security aspects related to artificial intelligence (AI) and quantum-related technologies. Its study areas also include the management of personally identifiable information (PII), such as technical and operational aspects of data protection with respect to ensuring confidentiality, integrity and availability of PII.

In the area of security, Study Group 17 is responsible for developing the core Recommendations on ICT security, such as security architecture and frameworks; the fundamentals related to cybersecurity, including threats, vulnerabilities and risks, incident handling/response and digital forensics; security management, including management of PII, such as technical and operational aspects of data protection; and countering spam by technical means.

Study Group 17 provides overall coordination of security work in ITU-T in its capacity as lead study group on security, on identity management, and on languages and description techniques.

In addition, Study Group 17 is responsible for developing the core Recommendations on security for DLT, security for ITS, security aspects of applications and services in the areas of Internet Protocol television (IPTV), various kinds of networks, including IMT-2020/5G and beyond, smart grid, industrial control systems (ICS), supply chains, IoT and smart cities, software-defined networking (SDN), network function virtualization (NFV), social networks, cloud computing, big data analytics, smartphones, digital financial systems and telebiometrics.

Study Group 17 is also responsible for developing the core Recommendations on a generic identity management model that is independent of network technologies and supports the secure exchange of identity information between entities. This work also includes studying the process for discovery of authoritative sources of identity information; generic mechanisms for the bridging/interoperability of a diverse set of identity information formats; identity management threats; the mechanisms to counter these threats; the protection of PII; and the development of mechanisms to ensure that access to PII is only authorized when appropriate.

In the area of open system communication, Study Group 17 is responsible for Recommendations in the following areas:

- directory services and systems, including public key infrastructure (PKI) (ITU-T F.500- and ITU-T X.500-series);
- object identifiers (OIDs) and associated registration authorities (ITU-T X.660/ITU-T X.670-series);
- open systems interconnection (OSI), including Abstract Syntax Notation One (ASN.1) (ITU-T F.400-, ITU-T X.200-, ITU-T X.400-, ITU-T X.600-, ITU-T X.800-series); and
- open distributed processing (ODP) (ITU-T X.900-series).

In the area of languages, Study Group 17 is responsible for studies on modelling, specification and description techniques, which includes languages such as ASN.1, SDL, MSC, URN and TTCN-3.

Study Group 17 coordinates security work across all study groups in ITU-T. This work will be developed in line with the requirements of, and in cooperation with, the relevant study groups such as ITU-T Study Groups 2, 9, 11, 13, 15, 16 and 20.

Study Group 17 will work on relevant identity management aspects in collaboration with Study Group 20 and Study Group 2, as per the mandate of each study group.

ITU-T Study Group 20

ITU-T Study Group 20 will work on the following items:

- framework and roadmaps for the harmonized and coordinated development of Internet of things (IoT), including machine-to-machine (M2M) communications, ubiquitous sensor networks and smart sustainable cities, in ITU-T and in close cooperation with the ITU Radiocommunication Sector (ITU-R) and ITU Telecommunication Development Sector (ITU-D) study groups and other regional and international standards organizations and industry forums;
- requirements and capabilities for IoT and smart cities and communities (SC&C) including verticals;
- definitions and terminology for IoT and SC&C;
- solutions provided by emerging digital technologies and their technical impact on IoT and SC&C;
- IoT and SC&C network infrastructure, connectivity and devices and digital services and applications, including architectures and architecture frameworks for IoT and SC&C;
- evaluation, assessment, service analysis and infrastructure for SC&C for the use of emerging digital technologies in the smartness of cities;
- guidelines, methodologies and best practices related to standards to help cities, communities, rural areas and villages deliver services using emerging digital technologies;
- identification aspects of IoT and SC&C in collaboration with other study groups, as appropriate;

- protocols and interfaces for IoT and SC&C systems, services and applications;
- platforms for IoT and SC&C;
- interoperability and interworking of IoT and SC&C systems, services and applications;
- quality of service (QoS) and end-to-end performance for IoT and SC&C, in collaboration with Study Group 12, as appropriate;
- security, privacy[4] and trustworthiness[4] of IoT and SC&C systems, services and applications;
- database maintenance of IoT and SC&C standards;
- big data aspects, including big data ecosystems, of IoT and SC&C;
- digital and smart services for SC&C;
- IoT and SC&C data processing and management, including data analytics, and AI-enabled applications;
- technical aspects of data value chain for IoT and SC&C, in collaboration with Study Group 3, as appropriate;
- datasets and semantics-based capabilities for IoT and SC&C including verticals.

Annex C
(to Resolution 2 (Rev. Geneva, 2022))

List of Recommendations under the responsibility of the respective ITU-T study groups and TSAG in the 2022-2024 study period

ITU-T Study Group 2

ITU-T E-series, except those in conjunction with Study Group 17 or under the responsibility of Study Groups 3, 12 and 16

ITU-T F-series, except those under the responsibility of Study Groups 13, 16 and 17

ITU-T G.850-series

Recommendations of the ITU-T I.220-, ITU-T I.230-, ITU-T I.240-, ITU-T I.250-series and ITU-T I.750-series

ITU-T M-series

ITU-T O.220-series

ITU-T Q.513, ITU-T Q.800 – ITU-T Q.849, ITU-T Q.940-series

[4] Some relevant aspects of this term may be considered differently from one Member State to another. The use of this term is framed in terms of international telecommunication standardization.

Maintenance of the ITU-T S-series

ITU-T V.51/M.729

ITU-T X.160-, ITU-T X.170-, ITU-T X.700-series

ITU-T Z.300-series

ITU-T Study Group 3

ITU-T D-series

ITU-T D.103/E.231

ITU-T D.104/E.232

ITU-T D.1140/X.1261

ITU-T Study Group 5

ITU-T K-series

ITU-T L.1 – ITU-T L.9, ITU-T L.18 – ITU-T L.24, ITU-T L.32, ITU-T L.33, ITU-T L.71, ITU-T L.75, ITU-T L.76, ITU-T L.1000-series

ITU-T Study Group 9

ITU-T J-series, except those under the responsibility of Study Groups 12 and 15

ITU-T N-series

ITU-T Study Group 11

ITU-T Q-series, except those under the responsibility of Study Groups 2, 13, 15, 16 and 20

Maintenance of the ITU-T U-series

ITU-T X.290-series (except ITU-T X.292) and ITU-T X.600 – ITU-T X.609

ITU-T Z.500-series

ITU-T Study Group 12

ITU-T E.420 – ITU-T E.479, ITU-T E.800 – ITU-T E.859

ITU-T G.100-series, except ITU-T G.160- and ITU-T G.180-series

ITU-T G.1000-series

ITU-T I.350-series (including ITU-T G.820/I.351/Y.1501), ITU-T I.371, ITU-T I.378, ITU-T I.381

ITU-T J.140-, ITU-T J.240- and ITU-T J.340-series

ITU-T P-series

ITU-T Y.1220-, ITU-T Y.1530-, ITU-T Y.1540-, ITU-T Y.1550- and ITU-T Y.1560-series

ITU-T Study Group 13

ITU-T F.600-series

ITU-T G.801, ITU-T G.802, ITU-T G.860-series

ITU-T I-series, except those under the responsibility of Study Groups 2, 12 and 15, and those having double/triple numbering in other series

ITU-T Q.933, ITU-T Q.933*bis*, ITU-T Q.10xx-series and ITU-T Q.1700-series

ITU-T X.1 – ITU-T X.25, ITU-T X.28 – ITU-T X.49, ITU-T X.60 – ITU-T X.84, ITU-T X.90 – ITU-T X.159, ITU-T X.180 – ITU-T X.199, ITU-T X.272, ITU-T X.300-series

ITU-T Y-series, except those under the responsibility of Study Groups 12, 15, 16 and 20

ITU-T Study Group 15

ITU-T G-series, except those under the responsibility of Study Groups 2, 12, 13 and 16

ITU-T I.326, ITU-T I.414, ITU-T I.430-series, ITU-T I.600-series and ITU-T I.700-series, except ITU-T I.750-series

ITU-T J.190 and ITU-T J.192

ITU-T L-series, except those under the responsibility of Study Group 5

ITU-T O-series (including ITU-T O.41/ITU-T P.53), except those under the responsibility of Study Group 2

ITU-T Q.49/O.22 and ITU-T Q.500-series, except ITU-T Q.513

Maintenance of the ITU-T R-series

ITU-T X.50-series, ITU-T X.85/ Y.1321, ITU-T X.86/ Y.1323, ITU-T X.87/Y.1324

ITU-T V.38, ITU-T V.55/ O.71, ITU-T V.300

ITU-T Y.1300 – ITU-T Y.1309, ITU-T Y.1320 – ITU-T Y.1399, ITU-T Y.1501 and ITU-T Y.1700-series

ITU-T Study Group 16

ITU-T E.120 – ITU-T E.139 (except ITU-T E.129), ITU-T E.161, ITU-T E.180-series, ITU-T E.330-series, ITU-T E.340-series

ITU-T F.700-series, except those under the responsibility of Study Group 20, and ITU-T F.900-series

ITU-T G.160-series, ITU-T G.710 — ITU-T G.729 (except ITU-T G.712), ITU-T G.760-series (including ITU-T G.769/Y.1242), ITU-T G.776.1, ITU-T G.799.1/ Y.1451.1, ITU-T G.799.2, ITU-T G.799.3

ITU-T H-series, except those under the responsibility of Study Group 20

ITU-T T-series

ITU-T Q.50-series, ITU-T Q.115-series

ITU-T V-series, except those under the responsibility of Study Groups 2 and 15

ITU-T X.26/V.10 and ITU-T X.27/V.11

ITU-T Study Group 17

ITU-T E.104, ITU-T E.115, ITU-T E.409 (in conjunction with Study Group 2)

ITU-T F.400-series; ITU-T F.500 — ITU-T F.549

ITU-T X-series, except those under the responsibility of Study Groups 2, 3, 11, 13, 15 and 16

ITU-T Z-series, except ITU-T Z.300-series and ITU-T Z.500-series

ITU-T Study Group 20

ITU-T F.744, ITU-T F.747.1 – ITU-T F.747.8, ITU-T F.748.0 – ITU-T F.748.5 and ITU-T F.771

ITU-T H.621, ITU-T H.623, ITU-T H.641, ITU-T H.642.1, ITU-T H.642.2 and ITU-T H.642.3

ITU-T L.1600, ITU-T L.1601, ITU-T L.1602, ITU-T L.1603

ITU-T Q.3052

ITU-T Y.4000-series, ITU-T Y.2016, ITU-T Y.2026, ITU-T Y.2060 – ITU-T Y.2070, ITU-T Y.2074 – ITU-T Y.2078, ITU-T Y.2213, ITU-T Y.2221, ITU-T Y.2238, ITU-T Y.2281 and ITU-T Y.2291

NOTE – Recommendations transferred from other study groups have double numbers in the Y.4000-series.

TSAG

ITU-T A-series Recommendations

RESOLUTION 7 (Rev. Geneva, 2022)

Collaboration with the International Organization for Standardization and the International Electrotechnical Commission

(Malaga-Torremolinos, 1984; Helsinki, 1993; Geneva, 1996; Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

considering

a) Articles 1 and 50 of the ITU Constitution;

b) Articles 2 and 20 of the Statutes of the International Organization for Standardization (ISO);

c) Article 2 of the Statutes and Rules of Procedure of the International Electrotechnical Commission (IEC);

d) the mandate of the ITU Telecommunication Standardization Sector (ITU-T) as set forth in the basic instruments of the Union, notably Chapter III of the Constitution and Section 6 of the ITU Convention;

e) the interest of both ISO and IEC in some aspects of telecommunications;

f) the common interest of ISO and IEC on the one hand and ITU-T on the other in the development of their respective standards in telecommunications/information and communication technology which take full account of the needs of all interested stakeholders, including manufacturers, users and those responsible for communication systems and services;

g) the need for mutual agreements on many areas of standardization activity of common interest;

h) the existing cooperation within the framework of the World Standards Cooperation (WSC), established in 2001 by ITU, ISO and IEC in order to advance the development of voluntary consensus-based international standards in ITU, ISO and IEC;

i) the relevance of the ITU conformance and interoperability (C&I) programme and its four pillars, and the action plan for the C&I programme (reviewed by the ITU Council at its 2014 session),

noting

a) that the working methods and standards-development time-frames of the organizations concerned are not the same;

b) that the document-sharing mechanisms and requirements differ among the three organizations;

c) the importance of shared documents being accessible among the three organizations during the development of the work;

d) the increasing financial burdens on the professional experts who participate in the development of standards in these three organizations;

e) the coordination meeting established between the three organizations through their top management;

f) the progress made on the basis of existing procedures in the alignment of technical Recommendations with ISO, IEC and ISO/IEC Joint Technical Committee 1 (JTC 1) in areas of joint interest, thanks to the spirit of cooperation which has prevailed;

g) the principles of collaboration established between ISO and IEC and particularly with ISO/IEC JTC 1 on information technology as contained in Recommendation ITU-T A.23 and in the ISO/IEC JTC 1 Directives;

h) that other standardization activities of a collaborative nature may require coordination;

i) the increasing cost of developing international standards and Recommendations;

j) the role of the Common Patent Policy for ITU-R/ITU-T/ISO/IEC in furthering common approaches between ITU-T, ISO and IEC on certain standards-related intellectual property rights issues;

k) the value of identifying and setting priorities for cooperation between ITU-T, ISO and IEC,

recognizing

that the collaboration between ITU-T on one hand and ISO and IEC on the other is on the basis of overall win and mutual benefits to best serve international standardization efforts,

resolves

1 to request the Director of the Telecommunication Standardization Bureau (TSB) to report regularly to the Telecommunication Standardization Advisory Group (TSAG) on the status of collaboration with ISO and IEC;

2 to continue inviting ISO and IEC to examine, through TSAG, the ITU-T study programme, in the early stages of its studies, and vice versa, and to further examine such programmes to take into account ongoing changes, in order to identify subjects where coordination seems desirable for common and complementary work, and which would benefit the membership, and to inform the Director of TSB;

3 to request the Director of TSB, after consultation with the study group management team concerned, to reply, and to furnish any additional information requested by ISO and IEC, as it becomes available;

4 to invite the Director of TSB, at the request of Member States and Sector Members, in consultation with TSAG, to review the agreement between ISO/IEC and ITU-T, with a view to exploring options for accessing and publishing common texts, with a possible unified approach;

5 to request the Director of TSB to examine and update the programme of cooperation and priority of the study items among ITU-T, ISO and IEC and highlight this information on the ITU-T website on a regular basis;

6 to request the Director of TSB, the study groups and TSAG, as appropriate, to consider and propose further improvements to the procedures for cooperation between ITU-T and ISO and IEC;

7 that the necessary contacts with ISO and/or IEC (including ISO/IEC JTC 1) at the appropriate levels and coordination methods should be mutually agreed and regular coordination events arranged:

- for work where text should be drawn up mutually and kept aligned, procedures in accordance with Recommendation ITU-T A.23 and the Guidelines for Cooperation therein apply;

- for other activities where coordination between ITU-T and ISO and IEC is required (for example in relation to any mutual agreements, such as the Memorandum of Understanding on standardization in the field of electronic business), clear means of coordination shall be established and regular coordination contacts made;

8 to request the chairmen of study groups to take into account the related work programmes and the progress of projects in ISO, IEC and ISO/IEC JTC 1; further, to cooperate with these organizations as widely as possible and by appropriate and balanced means, in order to:

- ensure that the specifications which have been jointly drawn up remain aligned;
- collaborate in drawing up other specifications in fields of shared interest;

9 that, for reasons of economy, any necessary collaborative meetings take place to the extent possible in association with other relevant meetings;

10 that the report concerning such coordination indicate the status of alignment and compatibility of draft texts on points of shared interest, in particular identifying cases where cross-referencing would be helpful to users of published International Standards and Recommendations;

11 to invite administrations to contribute significantly to the coordination between ITU-T on the one hand and ISO and IEC (including ISO/IEC JTC 1) on the other by ensuring adequate coordination of national activities associated with the three organizations.

RESOLUTION 11 (Rev. Hammamet, 2016)

Collaboration with the Postal Operations Council of the Universal Postal Union in the study of services concerning both the postal and the telecommunication sectors

(Malaga-Torremolinos, 1984; Helsinki, 1993; Geneva, 1996; Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

considering

a) that within the United Nations system, both the International Telecommunication Union (ITU) and the Universal Postal Union (UPU), as organizations specialized in communications, have been collaborating to identify synergies with a view to achieving the objectives of the World Summit on the Information Society (WSIS), each within its specific sphere of competence;

b) that postal and telecommunication administrations, the relevant operating agencies authorized by Member States and service providers need to keep themselves informed of technical progress liable to improve or harmonize existing services in both the postal and telecommunication sectors;

c) the usefulness of examining jointly the implications of any new Recommendations or modifications to current Recommendations made in this connection,

recognizing

a) the cooperation that has existed between the two organizations in regard, *inter alia,* to the use of new technologies by the postal sector and the fostering of its role in projects on the introduction and sustainable use of high-speed traffic, cybersecurity and currency transfer by mobile telephony;

b) that the changes in postal and telecommunication services in recent years have increased the synergies between the two sectors and consequently the need for greater coordination and joint work between both organizations,

recalling

that, under No. 9 of the ITU Constitution, one of the purposes of the Union is "to promote, at the international level, the adoption of a broader approach to the issues of telecommunications in the global information economy and society, by cooperating with other world and regional intergovernmental organizations and those non-governmental organizations concerned with telecommunications",

observing

that it is necessary to update the topics of interest with a view to developing common activities between both organizations and the efficient use of their resources,

resolves

that the relevant study groups of the ITU Telecommunication Standardization Sector (ITU-T) should continue to collaborate with the Postal Operations Council (POC) committees as necessary, on a reciprocal basis and with a minimum of formality, in particular by investigating issues of common interest such as quality of service (QoS), quality of experience (QoE), electronic services and security, digital financial services and transaction costs of mobile payment,

instructs the Director of the Telecommunication Standardization Bureau

1 to encourage and assist this collaboration between the two organs;

2 to consult with UPU on the establishment of a joint working group between ITU and UPU on digital financial services to share lessons learned through the implementation of projects in the area of digital financial inclusion in order to drive standardization activities in both organizations.

RESOLUTION 18 (Rev. Geneva, 2022)[1]

Principles and procedures for the allocation of work to, and strengthening coordination and cooperation among, the ITU Radiocommunication, ITU Telecommunication Standardization and ITU Telecommunication Development Sectors

(Helsinki, 1993; Geneva, 1996; Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) that the responsibilities of the ITU Radiocommunication (ITU-R), Telecommunication Standardization (ITU-T) and Telecommunication Development (ITU-D) Sectors are enshrined in the ITU Constitution and Convention, in particular No. 119 of the Constitution and Nos. 151 to 154 (relating to ITU-R), No. 193 (relating to ITU-T), Nos. 211 and 214 (relating to ITU-D) and No. 215 of the Convention;

b) Resolution 191 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on strategy for the coordination of efforts among the three Sectors of the Union;

c) Resolution ITU-R 6 (Rev. Sharm el-Sheikh, 2019) of the Radiocommunication Assembly (RA), on liaison and collaboration with ITU-T, and RA Resolution ITU-R 7 (Rev. Sharm el-Sheikh, 2019), on telecommunication development including liaison and collaboration with ITU-D;

d) Resolution 59 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference (WTDC), on strengthening coordination and cooperation among the three ITU Sectors on matters of mutual interest;

e) Resolution 44 (Rev. Geneva, 2022) of this assembly, on bridging the standardization gap between developing and developed countries,

considering

a) that a basic principle for cooperation and collaboration among ITU-R, ITU-T and ITU-D is the need to avoid duplication of activities of the Sectors, and to ensure that work is undertaken efficiently and effectively;

b) that there are a growing number of issues of mutual interest and concern to all Sectors, in accordance with Resolution 191 (Rev. Dubai, 2018);

[1] This resolution should also be brought to the attention of the ITU Radiocommunication and Telecommunication Development Sectors.

c) that the Inter-Sector Coordination Group on issues of mutual interest (ISCG), which is composed of representatives from the three advisory groups, works to identify subjects of common interest and mechanisms to enhance collaboration and cooperation among the Sectors and the General Secretariat, and considers reports from the Directors of the Bureaux and the Inter-Sectoral Coordination Task Force (ISC-TF) on options for improving cooperation and coordination within the secretariat;

d) that an ISC-TF in the secretariat, headed by the Deputy Secretary-General, an ISCG, and a subgroup of the Telecommunication Standardization Advisory Group (TSAG) on intra-ITU collaboration and coordination have been established,

recognizing

a) that there is a need to improve the participation of developing countries[2] in the work of ITU, as outlined in Resolution 5 (Rev. Buenos Aires, 2017) of WTDC;

b) that one such mechanism – the Inter-Sectoral Emergency Communications Team – has been established to ensure close collaboration within the Union as a whole, as well as with interested entities and organizations outside ITU, on this key priority issue for the Union;

c) that all the advisory groups are collaborating in the implementation of Resolution 123 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on bridging the standardization gap between developing and developed countries,

noting

that Resolution ITU-R 6 (Rev. Sharm el-Sheikh, 2019) provides mechanisms for ongoing review of the allocation of work and cooperation between ITU-R and ITU-T,

resolves

1 that the Radiocommunication Advisory Group (RAG), TSAG and the Telecommunication Development Advisory Group (TDAG), meeting jointly as necessary, shall continue the review of new and existing work and its distribution among ITU-R, ITU-T and ITU-D, for approval by Member States in accordance with the procedures laid down for the approval of new and/or revised Questions;

2 that, if considerable responsibilities in any two or all Sectors in a particular subject are identified:

i) the procedure given in Annex A to this resolution should be applied; or

ii) the matter should be studied by relevant study groups of the Sectors involved, with appropriate coordination and matching of relevant Question topics of interest to the study groups in ITU-T, ITU-D and ITU-R (see Annexes B and C to this resolution); or

iii) a joint meeting may be arranged by the Directors of the Bureaux involved,

[2] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

invites

1 RAG, TSAG and TDAG to continue to assist ISCG in the identification of subjects of mutual interest to the three Sectors and mechanisms to enhance their cooperation and collaboration;

2 the Directors of the Radiocommunication (BR), Telecommunication Standardization (TSB) and Telecommunication Development (BDT) Bureaux and ISC-TF to report to ISCG and the respective Sector advisory groups on options for improving cooperation at the secretariat level to ensure that close coordination is maximized,

invites Member States and Sector Members

to support efforts to improve inter-Sector coordination, including taking an active part in groups established by the Sector advisory groups for coordination activities,

instructs

1 the ITU-T study groups to continue cooperation with the study groups of the other two Sectors so as to avoid duplication of effort and proactively make use of the results of work done by the study groups of those two Sectors;

2 the Director of TSB to report annually to TSAG on the results of the implementation of this resolution.

Annex A
(to Resolution 18 (Rev. Geneva, 2022))

Procedural method of cooperation

With respect to *resolves* 2 i), the following procedure should be applied:

a) The joint meeting of the advisory groups referred to in *resolves* 1 will nominate the Sector which will lead the work and will finally approve the deliverable.

b) The lead Sector will request the other Sectors to indicate those requirements which it considers essential for integration in the deliverable.

c) The lead Sector will base its work on these essential requirements and integrate them in its draft deliverable.

d) During the process of development of the required deliverable, the lead Sector shall consult with the other Sectors if it has difficulties with these essential requirements. In the event of agreement on revised essential requirements, the revised requirements shall be the basis for further work.

e) When the deliverable concerned comes to maturity, the lead Sector shall once more seek the views of the other Sectors.

In the determination of the work responsibility, it may be appropriate to progress the work by drawing jointly on the skills of the Sectors involved.

Annex B
(to Resolution 18 (Rev. Geneva, 2022))

Coordination of radiocommunication, standardization and development activities through inter-Sector coordination groups

With respect to *resolves* 2 ii), the following procedure shall be applied:

a) The joint meeting of the advisory groups referred to in *resolves* 1 may, in exceptional cases, establish an inter-Sector coordination group (ICG) to coordinate the work of the Sectors involved and to assist the advisory groups in coordinating the related activity of their respective study groups.

b) The joint meeting shall, at the same time, nominate the Sector which will lead the work.

c) The mandate of each ICG shall be clearly defined by the joint meeting, based on the particular circumstances and issues at the time the group is established; the joint meeting shall also establish a target date for termination of the ICG.

d) The ICG shall designate a chairman and a vice-chairman, one representing each Sector.

e) The ICG shall be open to members of the participating Sectors in accordance with Nos. 86-88, 110-112 and 134-136 of the Constitution.

f) The ICG shall not develop Recommendations.

g) The ICG shall prepare reports on its coordinating activities to be presented to each Sector's advisory group; these reports shall be submitted by the Directors to the participating Sectors.

h) An ICG may also be established by the World Telecommunication Standardization Assembly or by RA or by WTDC following a recommendation by the advisory group(s) of the other Sector(s).

i) The cost of an ICG shall be supported by the participating Sectors on an equal basis and each Director shall include budgetary provisions for such meetings in the budget of his or her Sector.

Annex C
(to Resolution 18 (Rev. Geneva, 2022))

Coordination of radiocommunication, telecommunication standardization and development activities through inter-Sector rapporteur groups

With respect to *resolves* 2 ii), the following procedure shall be applied when work on a specific subject could be best performed by bringing together technology experts from the study groups or working parties concerned of either two or three Sectors to cooperate on a peer-to-peer basis in a technical group:

a) The study groups or working parties concerned in each Sector may, in special cases, agree by mutual consultation to establish an inter-Sector rapporteur group (IRG) to coordinate their work on a specific technical subject, informing RAG, TSAG and TDAG of this action through a liaison statement.

b) The study groups or working parties concerned in each Sector shall, at the same time, agree on clearly defined terms of reference for the IRG, and establish a target date for completion of the work and termination of the IRG.

c) The study groups or working parties concerned in each Sector shall also designate the chairman (or co-chairmen) of the IRG, taking into account the requested specific expertise and ensuring equitable representation of each Sector.

d) Being a rapporteur group, the IRG shall be regulated by the provisions applicable to rapporteur groups, given in the most recent versions of Resolution ITU-R 1, Recommendation ITU-T A.1 and WTDC Resolution 1; participation is limited to members of the Sectors involved.

e) In fulfilling its mandate, an IRG may develop draft new Recommendations or draft revisions to Recommendations, as well as draft technical reports or draft revisions to technical reports, to be submitted to its parent study groups or working parties for further processing as appropriate.

f) The results of the IRG's work should represent the agreed consensus of the IRG or reflect the diversity of views of the participants in the IRG.

g) An IRG shall also prepare reports on its activities, to be submitted to each meeting of its parent study groups or working parties.

h) An IRG shall normally work by correspondence and/or by teleconference; however, it may occasionally take the opportunity of a meeting of its parent study groups or working parties to hold short face-to-face concurrent meetings, if this is feasible without support by the Sectors.

RESOLUTION 20 (Rev. Geneva, 2022)

Procedures for allocation and management of international telecommunication numbering, naming, addressing and identification resources

(Helsinki, 1993; Geneva, 1996; Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recognizing

a) the relevant rules of the International Telecommunication Regulations (Dubai, 2012) regarding the integrity and use of numbering resources and calling line identification;

b) the instructions in the resolutions adopted by plenipotentiary conferences relevant for the stability of numbering and identification plans, especially the ITU-T E.164 and ITU-T E.212 plans, and in particular in Resolution 133 (Rev. Dubai, 2018) of the Plenipotentiary Conference, where it resolves to instruct the Secretary-General and the Directors of the Bureaux: "to take any necessary action to ensure the sovereignty of ITU Member States with regard to Recommendation ITU-T E.164 numbering plans whatever the application in which they are used";

c) Resolution 49 (Rev. Hammamet, 2016) of the World Telecommunication Standardization Assembly, on ENUM;

d) that international telecommunication numbering, naming, addressing and identification (NNAI) resources and related codes are crucial to maintain global interoperability;

e) the impact of new and emerging telecommunications/information and communication technologies (ICTs) on the allocation and management of international telecommunication NNAI resources,

noting

a) that the procedures governing the allocation and management of international telecommunication NNAI resources and related codes (e.g. new telephone country codes, telex destination codes, signalling area/network codes, data country codes, mobile country codes, identification), including ENUM, are laid down in the relevant Recommendations in the ITU-T E-, ITU-T F-, ITU-T Q-, ITU-T X- and ITU-T Y-series;

b) that the principles concerning future NNAI plans to deal with emerging services or applications and relevant NNAI resource allocation procedures to meet international telecommunication needs will be studied in accordance with this resolution and the work programme approved by this assembly for study groups of the ITU Telecommunication Standardization Sector (ITU-T);

c) the deployment of current and future telecommunications/ICTs, including Internet Protocol (IP)-based networks to support new and innovative services that may require NNAI resources;

d) that several international telecommunication NNAI resources are developed and maintained by ITU-T study groups and are in widespread use;

e) that the national authorities responsible for allocation of NNAI resources, including those covered by Recommendation ITU-T Q.708, on specifications of Signalling System No. 7 – Message transfer part (MTP), Recommendation ITU-T E.164, on the international public telecommunication numbering plan, and Recommendation ITU-T E.212, on the international identification plan for public networks and subscriptions, normally participate in ITU-T Study Group 2;

f) that it is in the common interest of ITU Member States and Sector Members that the Recommendations and guidelines for international telecommunication NNAI resources should:

i) be known, recognized and applied by all;

ii) be used to build and maintain confidence of all in the related services;

iii) address deterrence of misuse of such resources;

iv) be governed and administered in a consistent and appropriate manner;

g) Articles 14 and 15 of the ITU Convention, relating to the activities of ITU-T study groups and the responsibilities of the Director of the Telecommunication Standardization Bureau (TSB), respectively;

h) No. 196 of the Convention, which stipulates that "In the performance of their studies, the telecommunication standardization study groups shall pay due attention to the study of questions and to the formulation of recommendations directly connected with the establishment, development and improvement of telecommunications in developing countries at both the regional and international levels. They shall conduct their work giving due consideration to the work of national, regional and other international standardization organizations, and cooperate with them, keeping in mind the need for the Union to maintain its pre-eminent position in the field of worldwide standardization for telecommunications.",

considering

a) that the assignment of international telecommunication NNAI resources is a responsibility of the Director of TSB and the relevant administrations;

b) the evolution of telecommunication services, and the requirements for NNAI resources to support new telecommunications/ICTs and innovative services;

c) the ongoing cooperation between ITU-T and several consortia and standards entities in the allocation and management of international telecommunication NNAI resources as referred to in Supplement 3 to the ITU-T A-series Recommendations,

resolves to instruct

1 the Director of TSB, before assigning, reassigning and/or reclaiming international telecommunication NNAI resources, to consult:

i) the chairman of Study Group 2, in liaison with the chairmen of the other relevant study groups, or if needed the chairman's delegated representative, to resolve requirements as specified in relevant ITU-T Recommendations; and

ii) the relevant administration(s); and/or

iii) the authorized applicant/assignee when direct communication with TSB is required in order to perform its responsibilities;

in the Director's deliberations and consultations, the Director will consider the general principles for the allocation of NNAI resources, and the provisions of the relevant Recommendations in the ITU-T E-, ITU-T F-, ITU-T Q-, ITU-T X- and ITU-T Y-series, and those to be further adopted;

2 Study Group 2, in liaison with other relevant study groups, to provide to the Director of TSB with advice on technical, functional and operational aspects in the assignment, reassignment and/or reclamation of international telecommunication NNAI resources in accordance with the relevant Recommendations, taking into account the results of any ongoing studies, information and guidance in cases of reported complaints about misuse of international telecommunication NNAI resources;

3 the Director of TSB, in close collaboration with Study Group 2, and any other relevant study groups, to follow up with the administrations involved on the misuse of any international telecommunication NNAI resources, and inform the ITU Council accordingly;

4 the Director of TSB to encourage all relevant study groups to study the impact of new and emerging telecommunications/ICTs on the allocation and management of international telecommunication NNAI resources;

5 the Director of TSB to take the appropriate measures and actions where Study Group 2, in liaison with the other relevant study groups, has provided information, advice and guidance in accordance with *resolves to instruct* 2 and 3 above;

6 Study Group 2 to continue to study necessary action to ensure that the sovereignty of ITU Member States with regard to country-code NNAI plans is fully maintained, including ENUM, as enshrined in Recommendation ITU-T E.164 and other relevant Recommendations and procedures; this shall cover ways and means to address and counter any misuse of any international telecommunication NNAI resources,

invites Member States

to share their experiences regarding the implementation of this resolution.

RESOLUTION 22 (Rev. Geneva, 2022)

Authorization for the Telecommunication Standardization Advisory Group to act between world telecommunication standardization assemblies

(Geneva, 1996; Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

considering

a) that, under the provisions of Article 14A of the ITU Convention, the Telecommunication Standardization Advisory Group (TSAG) is to provide guidelines for the work of study groups and recommend measures to foster coordination and cooperation with other standards bodies;

b) that the rapid pace of change in the telecommunication/information and communication technology (ICT) environment and in industry groups dealing with telecommunications/ICT demands that the ITU Telecommunication Standardization Sector (ITU-T) make decisions on matters such as work priorities, study group structure and meeting schedules in shorter periods of time, between world telecommunication standardization assemblies (WTSAs), in order to maintain its relevance and responsiveness in accordance with No. 197C of the Convention;

c) that Resolution 122 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference resolves that WTSA shall continue, in accordance with its responsibilities, and subject to available financial resources, to promote the continued evolution of the standardization sector and adequately address strategic issues in standardization by means such as, but not limited to, the strengthening of TSAG;

d) that Resolution 122 (Rev. Guadalajara, 2010) instructs the Director of the Telecommunication Standardization Bureau (TSB) to continue, in consultation with relevant bodies, and the ITU membership, and in coordination with the ITU Radiocommunication Sector (ITU-R) and the ITU Telecommunication Development Sector (ITU-D), as appropriate, to organize a Global Standards Symposium (GSS);

e) that GSS was held in conjunction with this assembly to consider bridging the standardization gap and examining global ICT standards challenges;

f) that TSAG continues to make proposals for enhancing the operational efficiency of ITU-T, for improving the quality of ITU-T Recommendations and for methods of coordination and cooperation;

g) that TSAG helps to improve coordination of the study process and provide improved decision-making processes for the important areas of ITU-T activities;

h) that flexible administrative procedures, including those related to budgetary considerations, are needed in order to adapt to rapid changes in the telecommunication/ICT environment;

i) the importance of TSAG to act in the four years between WTSAs in order to meet the needs of the marketplace in a timely manner and to be able to address unforeseen issues requiring urgent action in the interim period between assemblies;

j) that it is desirable for TSAG to consider the implications of new and emerging technologies for the standardization activities of ITU-T related to technical, operating and tariff questions, on the basis of contributions submitted by the membership, and how such technologies can be included within the ITU-T work programme;

k) that TSAG plays an important role in ensuring coordination between study groups, as appropriate, on standardization issues, including, as required, avoiding duplication of work and identifying linkages and dependencies between related work items;

l) that TSAG, in providing advice to study groups, may take account of the advice of other groups;

m) that there is a need to continue improving coordination and collaboration with other relevant bodies, within ITU-T, with ITU-R and ITU-D and the General Secretariat, and with other standardization organizations, forums and consortia outside of ITU, and relevant entities;

n) that effective coordination between study groups is critical to ITU-T's ability to meet emerging standardization challenges and the needs of its membership,

noting

a) that ITU-T is one of the pre-eminent global standardization bodies, comprising administrations, equipment vendors, operators and regulators, universities and research institutes;

b) that Article 13 of the Convention states the duties of WTSA, among them that it may assign specific matters within its competence to TSAG indicating the action required on those matters;

c) that TSAG meets at least on a yearly basis;

d) that TSAG has already exhibited the capability to act effectively on matters assigned to it by WTSA;

e) that WTSA Resolution 68 (Rev. Hammamet, 2016)) instructs the Director of TSB to organize meetings for high-level industry executives, e.g. chief technology officer meetings, in order to assist in identifying and coordinating standardization priorities and subjects and minimize the number of forums and consortia;

f) that effective coordination can be achieved by means of joint coordination activities, joint rapporteur group meetings, liaison statements between study groups and the study group chairmen's meetings organized by the Director of TSB to meet emerging standardization challenges and the needs of the ITU-T membership,

recognizing

a) that Nos. 191A and 191B of the Convention allow WTSA to maintain, establish or terminate other groups as needed, as well as their mandates;

b) that coordination should serve to improve the effectiveness of ITU-T activities and should not limit the work of each study group to develop Recommendations;

c) that the tasks undertaken in ITU-T cover technical, operating and tariff questions,

resolves

1 to assign to TSAG the following specific matters within its competence between this assembly and the next assembly, to act in the following areas in consultation with the Director of TSB:

a) maintain and provide up-to-date, efficient and flexible working guidelines;

b) promote high-priority standardization activities related to technical, operating and tariff questions on the basis of contributions submitted by the membership from a global viewpoint and coordinate among ITU-T study groups in this regard;

c) assume responsibility, including development and submission for approval under appropriate procedures, for the ITU-T A-series Recommendations;

d) restructure and establish ITU-T study groups, taking into account the needs of the ITU-T membership and in response to changes in the telecommunication/ICT marketplace, and assign chairmen and vice-chairmen to act until the next WTSA, in accordance with Resolution 208 (Dubai, 2018) of the Plenipotentiary Conference;

e) issue advice on study group schedules to meet standardization priorities;

f) while recognizing the primacy of the study groups in carrying out the activities of ITU-T, create, terminate or maintain other groups, including focus groups, appoint their chairmen and vice-chairmen, and establish their terms of reference with a defined duration, in accordance with Nos. 191A and 191B of the Convention, in order to enhance and improve the effectiveness of ITU-T's work as well as promoting flexibility in responding rapidly to high-priority issues; such groups shall not adopt Questions or Recommendations, in accordance with Article 14A of the Convention, but work on a specific mandate;

g) identify changing requirements and provide advice on appropriate changes to be made to the priority of work in ITU-T study groups, planning and allocation of work between study groups, having due regard for the cost and availability of resources;

h) take an active role in ensuring coordination among ITU-T activities, particularly on standardization issues that are being studied in more than one group;

i) review reports of and consider appropriate proposals made by coordination groups and other groups, and implement those that are agreed;

j) identify requirements and provide determination on appropriate changes to be made where overlapping issues arise, which includes, but is not limited to, assignment of a mandate to a study group to lead on coordination work;

k) establish the appropriate mechanism and encourage the utilization, for example, of coordination groups or other groups to address key topics of work which span several study groups, with a view to ensuring effective coordination of standardization topics in order to achieve suitable global solutions;

l) review progress in the implementation of the ITU-T work programme, including fostering coordination and collaboration with other relevant bodies such as standardization organizations, forums and consortia outside of ITU;

m) cooperate and coordinate with ITU-R and ITU-D and with other, external, standardization bodies;

n) advise the Director of TSB on financial and other matters;

o) approve the programme of work arising from the review of existing and new Questions and determine the priority, urgency, estimated financial implications and time-scale for the completion of their study;

p) group, as far as practicable, Questions of interest to developing countries[1] in order to facilitate their participation in these studies;

q) address other specific matters within the competence of WTSA, subject to the approval of Member States, using the approval procedure contained in Resolution 1 (Rev. Geneva, 2022) of this assembly, Section 9;

r) take into account the interests of developing countries and encourage and facilitate their involvement in these activities,

2 that TSAG examine implementation of the actions and achievement of the goals as reflected in the annual ITU-T operational plan and in the WTSA-20 Action Plan, which includes the WTSA resolutions, for the purpose of identifying possible difficulties and possible strategies for implementing key elements, and recommending solutions to the Director of TSB regarding them;

3 that revisions to the relevant procedures for the adoption of Questions and Recommendations by study groups, other than those referred to in Nos. 246D, 246F and 246H of the Convention, may be initiated by TSAG for approval by Member States between WTSAs, using the approval procedure contained in Resolution 1 (Rev. Geneva, 2022) of this assembly, Section 9;

4 that TSAG provide liaison on its activities to relevant organizations outside ITU in consultation with the Director of TSB, as appropriate;

5 that TSAG consider the implications, for ITU-T, of market needs and new and emerging technologies that have not yet been considered for standardization by ITU-T, establish an appropriate mechanism to facilitate the examination of their consideration, for example assigning Questions, coordinating the work of study groups or establishing coordination groups or other groups, and appoint their chairmen and vice-chairmen;

6 that TSAG review and coordinate standardization strategies for ITU-T by identifying the main technological trends and market, economic and policy needs in the fields of activity relevant to the mandate of ITU-T, and identify possible topics and issues for consideration in ITU-T's standardization strategies;

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[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

7 that TSAG establish an appropriate mechanism to facilitate standardization strategies, for example assigning Questions, coordinating the work of study groups or establishing coordination groups or other groups, and appoint their chairmen and vice-chairmen;

8 that TSAG consider the result of this assembly concerning GSS and take follow-up actions, as appropriate;

9 that a report on the above TSAG activities shall be submitted to the next WTSA,

instructs the Director of the Telecommunication Standardization Bureau

1 to take into consideration the advice and guidance of TSAG in order to improve the effectiveness and efficiency of ITU-T;

2 to provide to each TSAG meeting a report on:

- the implementation of WTSA resolutions and actions to be undertaken pursuant to their operative paragraphs;
- the progress of the ITU-T annual operational plan and WTSA-20 Action Plan, identifying difficulties, if any, that hinder the progress, and possible solutions;

3 to provide information about any work item that has not given rise to any contribution in the time interval of the previous two study group meetings through the Director's report on study group activity;

4 to report to TSAG on the experience in the implementation of the A-series Recommendations for consideration by the ITU-T membership.

RESOLUTION 29 (Rev. Geneva, 2022)

Alternative calling procedures on international telecommunication networks

(Geneva, 1996; Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) Resolution 1099, adopted by the Council at its 1996 session, concerning alternative calling procedures on international telecommunication networks, which urged the ITU Telecommunication Standardization Sector (ITU-T) to develop, as soon as possible, the appropriate Recommendations concerning alternative calling procedures;

b) Resolution 22 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference, on alternative calling procedures on international telecommunication networks, identification of origin and apportionment of revenues in providing international telecommunication services;

c) Resolution 21 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on measures concerning alternative calling procedures on international telecommunication networks;

d) Recommendation ITU-T E.370, on interconnection between Internet Protocol (IP)-based networks and legacy networks,

recognizing

a) that alternative calling procedures, which may be potentially harmful, are not permitted in many countries and permitted in some others;

b) that although alternative calling procedures may be potentially harmful, they may be attractive for users;

c) that alternative calling procedures, which may be potentially harmful and may impact the revenue of international telecommunication operators or operating agencies authorized by Member States, may seriously hamper, in particular, the efforts of developing countries[1] for the sound development of their telecommunication networks and services;

d) that distortions in traffic patterns resulting from some forms of alternative calling procedures, which may be potentially harmful, may impact traffic management and network planning;

e) that some forms of alternative calling procedures seriously degrade the performance and quality of telecommunication networks;

f) that the ubiquity of IP-based networks, including the Internet, in the provision of telecommunication services has impacted the ways and means of alternative calling procedures, and that it is becoming necessary to identify and redefine these procedures,

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

considering

a) the results of the ITU workshop on alternative calling procedures and origin identification held in Geneva on 19-20 March 2012;

b) the results of the ITU workshop on caller ID spoofing held by ITU-T Study Group 2 in Geneva on 2 June 2014;

c) that any calling procedure should aim to maintain acceptable levels of quality of service (QoS) and quality of experience (QoE), as well as to enable calling line identification (CLI) and/or origin identification (OI) information,

reaffirming

a) that it is the sovereign right of each country to regulate its telecommunications;

b) that the ITU Constitution, in its Preamble, gave regard to "the growing importance of telecommunication for the preservation of peace and the economic and social development of all States", and that Member States agreed in the Constitution with "the object of facilitating peaceful relations, international cooperation among peoples and economic and social development by means of efficient telecommunication services",

noting

that, in order to minimize the effect of alternative calling procedures:

i) international telecommunication operators or operating agencies authorized by Member States should, within their national law, make every effort to establish the level of collection charges on a cost-oriented basis, taking into account Article 6.1.1 of the International Telecommunication Regulations and Recommendation ITU-T D.5;

ii) administrations and international telecommunication operators or operating agencies authorized by Member States should follow the guidelines developed by Member States on the measures to be applied to deter the impact of alternative calling procedures on other Member States,

resolves

1 to continue identifying and defining all forms of alternative calling procedures, to study their impact on all parties, and to develop appropriate Recommendations concerning alternative calling procedures;

2 that administrations and international telecommunication operators or operating agencies authorized by Member States should take, to the furthest extent practicable, all measures to suspend the methods and practices of any form of alternative calling procedures which seriously degrade the QoS and QoE of telecommunication networks, or prevent the delivery of CLI or OI information;

3 that administrations and international telecommunication operators or operating agencies authorized by Member States should take a cooperative approach to respect the national sovereignty of others, and suggested guidelines for this collaboration are attached;

4 to instruct Study Group 2 to study other aspects, forms and definition of alternative calling procedures, including those associated with the interworking of legacy and IP-based infrastructures, and the consequent instances of hindrance, obscuring or spoofing of OI or CLI information, and the evolution of alternative calling procedures, including the use of over-the-top (OTT) telephone applications that use telephone numbers, which may give rise to instances of fraudulent practices, and to develop appropriate Recommendations and guidelines;

5 to instruct ITU-T Study Group 3 to continue studying the economic effects of alternative calling procedures, origin non-identification or spoofing and OTT telephone applications on the efforts of developing countries for sound development of their local telecommunication networks and services, and to develop appropriate Recommendations and guidelines;

6 to instruct ITU-T Study Group 12 to develop guidelines regarding the minimum QoS and QoE threshold to be fulfilled during the use of alternative calling procedures;

7 to instruct Study Groups 2, 3 and 12 to continue the ongoing collaboration in studying issues related to alternative calling procedures,

instructs the Director of the Telecommunication Standardization Bureau

to continue to cooperate with the Director of the Telecommunication Development Bureau in order to facilitate the participation of developing countries in these studies and to make use of the results of the studies, and in the implementation of this resolution,

invites Member States

1 to adopt national legal and regulatory frameworks requesting administrations and international telecommunication operators or operating agencies authorized by Member States to avoid using alternative calling procedures that degrade the level of QoS and QoE, to encourage the delivery of international CLI and OI information, at least to the destination operating agency, and to ensure the appropriate charging, taking into account the relevant ITU-T Recommendations;

2 to contribute to this work.

Attachment
(to Resolution 29 (Rev. Geneva 2022))

Suggested guidelines for administrations and international telecommunication operators or operating agencies authorized by Member States for consultation on alternative calling procedures

In the interest of global development of international telecommunications, it is desirable for administrations and international telecommunication operators or operating agencies authorized by Member States to cooperate with others and to take a collaborative approach to ensure connectivity of country codes, where a preferable option is the selective blocking of particular international numbers, authorized on a case-by-case basis by national regulators.

Any cooperation and any subsequent actions would have to take account of the constraints of national laws. The following guidelines regarding alternative calling procedures (ACP) are recommended to be applied in country X (the location of the ACP user) and country Y (the location of the ACP provider). When ACP traffic is destined to a country other than countries X or Y, the sovereignty and the regulatory status of the destination country should be respected.

Country X (location of ACP user)	Country Y (location of ACP provider)
A generally collaborative and reasonable approach is desirable	A generally collaborative and reasonable approach is desirable
Administration X, wishing to restrict or prohibit ACP, should establish a clear policy position	
Administration X should make known its national position	Administration Y should bring this information to the attention of international telecommunication operators or operating agencies authorized by Member States and ACP providers in its territory using whatever official means are available
Administration X should instruct operating agencies authorized by Member States operating in its territory as to the policy position, and those operating agencies authorized by Member States should take steps to ensure that their international operating agreements comply with that position	Operating agencies authorized by Member States in Y should cooperate in considering any necessary modifications to international operating agreements
	Administration Y and/or operating agencies authorized by Member States in Y should seek to ensure that ACP providers establishing an operation in their territory are aware that: *a)* ACP should not be provided in a country where it is expressly prohibited, and *b)* the ACP configuration must be of a type which will not degrade the quality and performance of the international public switched telephone network
Administration X should take all reasonable steps within its jurisdiction and responsibility to stop the offering and/or usage of ACP in its territory which is: *a)* prohibited; and/or *b)* harmful to the network. Operating agencies authorized by Member States in country X will cooperate in the implementation of such steps.	Administration Y and operating agencies authorized by Member States in Y should take all reasonable measures to stop ACP providers in its territory offering ACP: *a)* in other countries where it is prohibited; and/or *b)* which is harmful to the networks involved.

NOTE 1 – For relations between countries which regard ACP as an "international telecommunication service" as defined in the International Telecommunication Regulations, bilateral operating agreements should be required between the operating agencies authorized by Member States concerned as to the conditions under which ACP will be operated.

NOTE 2 – All forms of ACP should be defined by ITU-T Study Group 2 and documented in the appropriate ITU-T Recommendation (e.g. call-back, over-the-top, refiling, etc.).

RESOLUTION 31 (Rev. Dubai, 2012)

Admission of entities or organizations to participate as Associates in the work of the ITU Telecommunication Standardization Sector

(Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012)

The World Telecommunication Standardization Assembly (Dubai, 2012),

considering

a) that the rapid pace of change in the telecommunication environment and in industry groups dealing with telecommunications demand the increased participation of interested entities and organizations in the standard-making process of ITU;

b) that entities or organizations with highly focused areas of activity may be interested only in a small part of the standardization work of the ITU Telecommunication Standardization Sector (ITU-T) and, therefore, do not intend to apply for membership in the Sector, but would be willing to join if simpler conditions existed;

c) that No. 241A of the ITU Convention enables the Sectors to admit participation of entities or organizations in the work of a given study group as an Associate;

d) that Nos. 241A, 248B and 483A of the Convention describe the principles for the participation of Associates,

recognizing

that organizations and entities from developing countries[1] have found great difficulty in playing an active role in ITU-T activities and, as a consequence, in meeting the goals of Resolution 123 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference,

resolves

1 that an interested entity or organization may join ITU-T as an Associate and be entitled to take part in the work of a selected single study group;

2 that Associates are limited to the study group roles described below and excluded from all others:

- Associates may take part in the process of preparing Recommendations within a study group, including the following roles: meeting participant, contribution submitter, Recommendation editor, and, during the alternative approval process, provider of comments during the last-call period (but not during the additional review period);
- Associates may have access to documentation required for their work;
- an Associate may serve as rapporteur, responsible for directing the studies for the relevant study Question within the selected study group, except for taking part in any decision-making or liaison activities which are to be handled separately, in accordance with No. 248B of the Convention;

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

3 that the amount of the financial contribution for Associates be based upon the contributory unit for Sector Members as determined by Council for any particular biennial budgetary period,

requests

1 the Secretary-General to admit entities or organizations to participate as Associates in the work of a given study group or subgroups thereof following the principles set out in Nos. 241B, 241C, 241D and 241E of the Convention;

2 the Telecommunication Standardization Advisory Group to review on an ongoing basis the conditions governing the participation (including financial impact on the Sector budget) of Associates based on the experience gained within ITU-T,

instructs the Director of the Telecommunication Standardization Bureau

to prepare the necessary logistics for the participation of Associates in the work of ITU-T, including possible impacts of study group reorganization.

RESOLUTION 32 (Rev. Hammamet, 2016)

Strengthening electronic working methods for the work of the ITU Telecommunication Standardization Sector

(Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

considering

a) the rapid pace of technology change and the consequent need for improved and more rapid standards development;

b) that electronic working methods (EWM) enable open, rapid and easy collaboration between participants in the activities of the ITU Telecommunication Standardization Sector (ITU-T);

c) that the implementation of EWM capabilities and associated arrangements will have significant benefits for the ITU-T membership, including resource-limited individuals, organizations and states, by allowing them timely and effective access to standards information and the standards-making and approval process;

d) that EWM will be advantageous in improving communication among members of ITU-T and between other relevant standardization organizations and ITU, towards globally harmonized standards;

e) the key role of the Telecommunication Standardization Bureau (TSB) in providing support to EWM capabilities;

f) the decisions contained in Resolution 66 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference;

g) the budgetary difficulty developing countries[1] have in participating actively in face-to-face ITU-T meetings;

h) Resolution 167 (Rev. Busan, 2014) of the Plenipotentiary Conference, which resolves that ITU should further develop its facilities and capabilities for remote participation by electronic means in appropriate meetings of the Union, including working groups created by the Council,

noting

a) the desire of members to receive documents in electronic format in a timely manner and the need to reduce the increasing amount of hard copy documentation generated during meetings and dispatched by mail;

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

b) that many forms of EWM have already been implemented by ITU-T, such as electronic document submission and the electronic forum service;

c) that there are still some difficulties in conducting e-meetings, due to persistent or intermittent deterioration in quality of service, in particular in meetings with live interpretation;

d) the desire of ITU-T members to conduct electronic meetings;

e) the increasing use of mobile devices by members in meetings and elsewhere;

f) the advantage to the membership of facilitating greater electronic participation in the development and approval of Recommendations, in particular by members unable to participate in study group meetings in Geneva and elsewhere;

g) the difficulties in terms of bandwidth availability and other constraints, particularly in developing countries;

h) the difficulties in searching for documents and/or information relevant to a specific subject, topic or issue, and the need for a smart solution for classification and easy mining of such documents and/or information;

i) the economies possible from enhancing ITU-T EWM capabilities (e.g. reduced costs for distribution of paper documentation, travel costs, ITU-T logistics costs, etc.);

j) the encouragement by other telecommunication standardization organizations of collaboration using EWM;

k) that the alternative approval process (AAP) (Recommendation ITU-T A.8) is conducted primarily by electronic means,

resolves

1 that the principal EWM objectives of ITU-T are:

- that collaboration between members on development of Recommendations should be by electronic means;
- that TSB, in close collaboration with the ITU Telecommunication Development Bureau (BDT), should provide facilities and capabilities for EWM at ITU-T meetings, workshops and training courses, particularly to assist developing countries that have bandwidth limitations and other constraints, including remote participation and electronic access, such as via LINUX-based platforms;
- to encourage electronic participation of developing countries in ITU-T meetings, by providing simplified facilities and guidelines, and by waiving any expenses for those participants, other than the local call or Internet connectivity charges;
- that TSB, in close collaboration with BDT, should provide facilities and capabilities for EWM at ITU-T meetings, workshops and training courses, and encourage participation of developing countries, by waiving, within the credits that the Council is empowered to authorize, any expenses for those participants, other than the local call or Internet connectivity charges;

- that TSB should provide all members of ITU-T with appropriate and ready access to electronic documentation for their work, including a global, unified and consolidated view of document traceability;

- that TSB should provide appropriate systems and facilities to support the conduct of ITU-T's work by electronic means;

- that all activities, procedures, studies and reports of ITU-T study groups be posted on the ITU-T website so as to facilitate navigation to find all relevant information;

- to consider developing a mobile-friendly version of the ITU-T website to facilitate easy access by smart mobile devices to information; and

- to simplify and facilitate enhanced searching for documents and/or information;

2 that these objectives should be systematically addressed in an EWM Action Plan, including individual action items identified by the ITU-T membership or TSB, and prioritized and managed by TSB with the advice of the Telecommunication Standardization Advisory Group (TSAG),

instructs

1 the Director of TSB to:

- maintain the EWM Action Plan to address the practical and physical aspects of increasing the EWM capability of ITU-T;

- identify and review costs and benefits of the action items on a regular basis;

- report to each meeting of TSAG on the status of the Action Plan, including the results of the cost and benefit reviews described above;

- provide the executive authority, budget within TSB, and resources to execute the Action Plan with all possible speed;

- develop and disseminate guidelines for the use of ITU-T EWM facilities and capabilities;

- take action, in order to provide appropriate electronic participation or observation facilities (e.g. webcast, audioconference, webconference/document sharing, videoconference, etc.) in ITU-T meetings, workshops and training courses for delegates unable to attend events in person, and coordinate with BDT to assist in the provision of such facilities;

- provide an ITU-T website that is easy to navigate to find all relevant information; and in particular a classification mechanism and an enhanced search engine to extract documents and/or information that are related to a specific subject, topic or issue; and

- provide a mobile-friendly version of the ITU-T website;

2 TSAG to continue to:

- act as the point of contact between the ITU-T membership and TSB on EWM matters, in particular providing feedback and advice on the contents, prioritization and implementation of the Action Plan;
- identify user needs and plan the introduction of suitable measures through appropriate subgroups and pilot programmes;
- request study group chairmen to identify EWM liaisons;
- encourage participation by all participants in the work of ITU-T, especially EWM experts from TSAG, the study groups, TSB and appropriate ITU Bureaux and departments;
- continue its work electronically outside TSAG meetings as necessary to carry out its objectives.

RESOLUTION 34 (Rev. Geneva, 2022)

Voluntary contributions

(Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

considering

a) Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the strategic plan for the Union for 2020-2023, targeting ambitious strategic objectives in the activities of the ITU Telecommunication Standardization Sector (ITU-T);

b) Resolution 123 (Rev. Dubai, 2018) of the Plenipotentiary Conference, which invites Member States and Sector Members to make voluntary contributions to the fund for bridging the standardization gap;

c) Decision 5 (Rev. Dubai, 2018) of the Plenipotentiary Conference and the annexes thereto, limiting expenses of the Union for the period 2020-2023;

d) Resolution 44 (Rev. Geneva, 2022) of this assembly, on bridging the standardization gap between developed and developing countries[1], which describes the sources from which funds will be raised for the purpose of bridging the standardization gap,

recalling

a) that the ITU Constitution, Convention and Financial Regulations stipulate that the Secretary-General may accept voluntary financial contributions in cash or in kind, in addition to the regular contributions from the Member States, Sector Members and Associates;

b) that expenditures under voluntary contributions are outside the limits of expenditure set by ITU plenipotentiary conferences;

c) that important voluntary contributions made to ITU-T in the past permitted ITU-T to make significant progress in its work,

considering further

that voluntary contributions are valuable, rapid and efficient instruments in the financing of extra activities for the Sector,

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

resolves

1 to encourage the financing of specific projects, focus groups, regional groups of ITU-T study groups or other new initiatives, including any activities which help achieve the objectives of Resolution 44 (Rev. Geneva, 2022), on bridging the standardization gap, by means of voluntary contributions;

2 to invite Sector Members and Associates to finance voluntarily the participation of developing countries, and in particular remote participation using electronic working methods, in ITU-T meetings and workshops;

3 to invite Member States, Sector Members and Associates from both developing and developed countries to make voluntary contributions and to submit to the Director of the Telecommunication Standardization Bureau projects and other initiatives of interest for ITU-T to be financed under voluntary contributions.

RESOLUTION 40 (Rev. Geneva, 2022)

Regulatory and policy aspects of the work of the ITU Telecommunication Standardization Sector

(Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recognizing

a) the provisions of Nos. 246D to 246H of the ITU Convention;

b) Resolution 20 (Rev. Geneva, 2022) of this assembly, on the procedures for allocation and management of international telecommunication numbering, naming, addressing and identification resources,

considering

a) that the tasks undertaken in the ITU Telecommunication Standardization Sector (ITU-T) cover both technical matters and matters having policy or regulatory implications;

b) that rules pertaining to certain aspects of the Sector's work are being framed in terms that will rely upon clear and certain identification of the boundary between technical matters and matters having policy or regulatory implications;

c) that administrations are encouraging a larger role for Sector Members in the work of ITU-T, particularly on technical matters;

d) that many matters having policy or regulatory implications may involve technical implementation and therefore need to be considered in appropriate technical study groups,

noting

a) that the ITU Member States have identified significant policy responsibilities in Chapter VI of the ITU Constitution (Articles 33-43) and in Chapter V of the Convention (Articles 36-40), and in relevant resolutions of plenipotentiary conferences;

b) that the International Telecommunication Regulations further describe policy and regulatory obligations incumbent upon Member States;

c) that No. 191C of the Convention empowers the World Telecommunication Standardization Assembly (WTSA) to assign matters within its competence to the Telecommunication Standardization Advisory Group (TSAG), indicating the action required on those matters,

resolves

1 that, when determining whether all new work items, Questions or Recommendations have policy or regulatory implications, study groups shall more generally consider possible topics such as:

- the right of the public to correspond;
- protection of telecommunication channels and installations;
- use of the limited numbering and addressing resources;
- naming and identification;
- secrecy and authenticity of telecommunications;
- safety of life;
- practices applicable to competitive markets;
- misuse of numbering resources; and
- any other relevant matters, including those identified by a decision of Member States, or recommended by TSAG, or Questions or Recommendations where there is any doubt about their scope;

2 to instruct TSAG to study and identify the operational and technical areas related to quality of service/quality of experience (QoS/QoE) of telecommunications/information and communication technologies that might have policy and regulatory nature, taking into account the studies being carried out by the relevant study groups, and report that to the next WTSA,

invites Member States

to contribute actively to the work to be carried out on this matter.

RESOLUTION 43 (Rev. Geneva, 2022)

Regional preparations for world telecommunication standardization assemblies

(Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) Resolution 58 (Rev. Busan, 2014) of the Plenipotentiary Conference, on strengthening of relations between ITU and regional telecommunication organizations and regional preparations for the Plenipotentiary Conference;

b) Resolution 25 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on strengthening the regional presence,

considering

a) that many regional telecommunication organizations and the six principal regional telecommunication organizations, namely the Asia-Pacific Telecommunity (APT), the European Conference of Postal and Telecommunications Administrations (CEPT), the Inter-American Telecommunications Commission (CITEL), the African Telecommunications Union (ATU), the Council of Arab Ministers of Telecommunication and Information represented by the Secretariat-General of the League of Arab States (LAS) and the Regional Commonwealth in the field of Communications (RCC), seek close cooperation with the Union and have coordinated their preparations for this and preceding assemblies;

b) that many common proposals have been submitted to this and preceding assemblies from administrations participating in the preparatory work of regional telecommunication organizations;

c) that this consolidation of views at regional level, together with the opportunity for interregional discussions prior to the assembly, has eased the task of reaching a consensus during the assembly;

d) that the burden of preparation for future assemblies is likely to increase;

e) that the coordination of preparations at regional level is consequently of great benefit to the Member States and Sector Members;

f) that greater efficiency of regional coordination and interaction at interregional level prior to future assemblies will help ensure their success;

g) that there is a need for regional telecommunication organizations to collaborate closely with relevant subregional organizations within their region;

h) that some regional organizations lack the necessary resources to organize adequately and participate in such preparations;

i) that there is a need for overall coordination of the interregional consultations,

recognizing

a) the benefits of regional coordination as already experienced in the preparation of plenipotentiary conferences, world radiocommunication conferences and world telecommunication development conferences;

b) that regional preparatory meetings for the World Telecommunication Standardization Assembly (WTSA) have helped in identifying and coordinating regional views on issues considered to be of particular relevance to each region, and in developing common regional proposals for submission to WTSAs,

taking into account

the efficiency benefits that WTSAs have gained from an increased amount and level of prior preparation by the Member States,

noting

a) that many regional telecommunication organizations have expressed the need for the Union to cooperate more closely with them;

b) that the relationship between ITU regional offices and regional telecommunication organizations has proved to be of great benefit,

resolves to instruct the Director of the Telecommunication Standardization Bureau

to maintain the organization, within the financial limitations established by the Plenipotentiary Conference, of at least one regional preparatory meeting per region, in close coordination with relevant regional organizations, with the assistance of regional offices when necessary, covering all Member States of ITU without exception, even if they do not belong to any of the six regional telecommunication organizations; the regional preparatory meetings should be the closest in time possible to the next WTSA, followed by an informal meeting of the chairmen and vice-chairmen of the regional preparatory meetings and other interested parties, to be held not earlier than six months prior to WTSA,

invites the Secretary-General, in cooperation with the Directors of the Bureaux of the three Sectors

1 to consult with Member States and regional and subregional telecommunication organizations on the means by which assistance can be provided in support of their preparations for future WTSAs, including support for the organization of a "Bridging the Standardization Gap Forum" per region to address major issues of the next WTSA of interest to developing countries[1];

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

2 on the basis of such consultations, to assist Member States and regional and subregional telecommunication organizations in such areas as:

i) the organization of informal regional and interregional preparatory meetings, and formal regional preparatory meetings if a region so requests;
ii) the identification of major issues to be resolved by the next WTSA;
iii) the development of coordination methods;
iv) the organization of information sessions on expected work for WTSA;

3 to submit, no later than the session of the ITU Council following WTSA, a report on feedback from Member States concerning WTSA regional preparatory meetings, their results and the application of this resolution,

invites Member States

to participate actively in the implementation of this resolution,

invites regional and subregional telecommunication organizations

1 to participate in coordinating and harmonizing the contributions of their respective Member States in order to generate common proposals where possible;

2 to take an active part in the preparation and holding of regional preparatory meetings for WTSA;

3 to take part in the preparatory meetings of other regional telecommunication organizations, at their invitation, and to convene, if possible, informal interregional meetings in order to exchange information and to arrive at interregional common proposals.

RESOLUTION 44 (Rev. Geneva, 2022)

Bridging the standardization gap between developing[1] and developed countries

(Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

considering

a) that Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference includes under the objectives of the ITU Telecommunication Standardization Sector (ITU-T) the promotion of active participation of the membership, in particular developing countries, in the definition and adoption of non-discriminatory international standards (ITU-T Recommendations) with a view to bridging the standardization gap;

b) Resolution 123 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on bridging the standardization gap between developing and developed countries;

c) Resolution 139 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the use of telecommunications/information and communication technologies (ICTs) to bridge the digital divide and build an inclusive information society;

d) Resolution 154 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the use of the six official languages of the Union on an equal footing;

e) Resolution 169 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the admission of academia to participate in the work of the Union;

f) Resolution 191 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the strategy for the coordination of efforts among the three Sectors of the Union;

g) Resolution 195 (Busan, 2014) of the Plenipotentiary Conference, on the implementation of the Smart Africa Manifesto;

h) Resolution 197 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on facilitating the Internet of Things and smart sustainable cities and communities;

i) Resolution 34 (Rev. Geneva, 2022) of this assembly, on voluntary contributions;

j) Resolution 67 (Rev. Geneva, 2022) of this assembly, on use in ITU-T of the languages of the Union on an equal footing,

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

recognizing

a) that the harmonious and balanced development of worldwide telecommunication facilities and services is of mutual advantage to the developing as well as the developed countries;

b) that there is a need to reduce the cost of equipment and of rolling out networks and facilities taking into account the needs and requirements of developing countries;

c) that the disparity between developing and developed countries in standardization has five components: disparity of voluntary standardization, disparity of mandatory technical regulations, disparity of conformity assessment, disparity in human resources skilled in standardization and disparity in effective participation in ITU-T activities;

d) that it is of high importance for developing countries to increase their participation in the establishment and widespread use of telecommunication standards, and to enhance their contribution in ITU-T study groups;

e) that developing countries would benefit from effective participation by their operators in ITU-T activities and that this participation by operators would contribute to enhancing capacity building in the developing countries, increase their competitiveness and support innovation in the markets of developing countries;

f) that coordination at national level in many developing countries needs to be more developed to handle ICT standardization activities in order to contribute to work in ITU-T and the regional groups of ITU-T study groups;

g) that the development of guidelines and the establishment of national standardization secretariats could enhance standardization activities at national level and the participation and contribution of developing countries in ITU-T study groups;

h) that developing countries would benefit from new services and applications enabled by the digital transformation provided by the emergence of key technologies, and from the building of the information society and progress towards sustainable development;

i) that interpretation service needs to be provided in some ITU-T meetings so as to contribute to bridging the standardization gap and ensure maximum involvement of all delegates, in particular those from developing countries, and help them to be fully aware of and engaged in standardization decisions that are taken in ITU-T meetings,

recognizing further

a) that the achievements of ITU-T in the standardization of transformative digital technologies will contribute towards achievement of the 2030 Agenda for Sustainable Development;

b) that while ITU has made significant progress in defining and bridging the standardization gap, developing countries are still encountering multifarious difficulties in ensuring their efficient participation in the work of ITU-T, in particular engaging in and following up the work of the ITU-T study groups, especially given budgetary limitations;

c) that actual participation by developing countries in ITU-T study group activities has been progressively increased, but it is often limited to the final approval and implementation stages, rather than the preparation of proposals elaborated in the various working groups;

d) that coordination at national level in many developing countries needs to be improved to handle ICT standardization activities in order to contribute to work in ITU-T;

e) that the biennial budget structure includes a separate expenditure line item for bridging the standardization gap activities, while at the same time voluntary contributions are being encouraged, and a management mechanism for this line item has been implemented by the Telecommunication Standardization Bureau (TSB) in close coordination with Telecommunication Development Bureau (BDT);

f) that ITU's programmes for fostering partnerships, under the patronage of ITU-T, continue to strengthen and expand the assistance ITU provides to its members, particularly developing countries;

g) the importance of having appropriate consultative frameworks for developing countries for the formulation and study of Questions, the preparation of contributions and capacity building;

h) that the structure and working methods of ITU-T study groups could serve to improve the level of developing-country participation in standardization activities;

i) that joint meetings of regional groups of different ITU-T study groups, in particular if concatenated with a regional workshop and/or a meeting of a regional standardization body and also meetings of the ITU regional counterparts, such as the Inter-American Telecommunication Commission (CITEL), the Regional Commonwealth in the field of Communications (RCC), the African Telecommunications Union (ATU), the Council of Arab Ministers of Telecommunication and Information represented by the Secretariat-General of the League of Arab States (LAS), the Asia-Pacific Telecommunity (APT) and the European Conference of Postal and Telecommunications Administrations (CEPT), will encourage the participation of developing countries in these meetings and increase the effectiveness of such meetings;

j) that holding ITU-T study group meetings in developing countries has shown potential to increase the participation of ITU-T members from the region in these meetings;

k) that ITU can further improve the active participation of developing countries in the standardization work of ITU-T in terms of both quality and quantity, through the role of the Telecommunication Standardization Advisory Group (TSAG) and ITU-T study group vice-chairmen and chairmen who are appointed on the basis of regional representation and can be charged with specific responsibilities;

l) that a mentor role in ITU-T study groups was created by TSAG for coordination with representatives from developed and developing countries with the objective of sharing information and best practices with regard to the application of ITU-T Recommendations in order to enhance standardization activities in developing countries and in the regional groups,

recalling

a) that Resolution 1353 of the ITU Council, recognizing that telecommunications/ICTs are essential components for developed and developing countries for achieving sustainable development, instructs the Secretary-General, in collaboration with the Directors of the Bureaux, to identify new activities to be undertaken by ITU to support the developing countries to achieve sustainable development through telecommunications and ICTs;

b) the relevant conclusions of the Global Standards Symposium;

c) that in certain regions there are regional institutions or organizations that undertake standardization work;

d) that some developing countries are unable to participate in the work of regional standardization organizations,

resolves

1 that the action plan annexed to this resolution, having the objective of bridging the standardization gap between developed and developing countries, should be continued and be reviewed on an annual basis to take into account the requirements of developing countries;

2 that ITU-T, in collaboration with the other Sectors, especially the ITU Telecommunication Development Sector (ITU-D), as appropriate, shall develop a programme to:

i) assist developing countries in developing strategies and methods that facilitate the process of linking their challenges and innovations to the standardization process in support of the digital transformation of society;

ii) assist developing countries in developing means to align their national industrial and innovation strategies towards the goal of achieving highest impact on their socio-economic ecosystems;

iii) assist developing countries in developing strategies for establishing test laboratories which are nationally, regionally and internationally recognized for emerging technologies;

3 that, subject to Council approval, there should be free online access to the manuals, handbooks, directives and other ITU material related to understanding and implementation of ITU-T Recommendations, particularly in the area of developing planning, operation and maintenance of telecommunication equipment and networks;

4 to support, within available or otherwise contributed resources, and on a case-by-case basis, the coordinated creation of regional groups of ITU-T study groups, in accordance with the approval or procedures set forth in Resolution 54 (Rev. Geneva, 2022) of this assembly, and encourage cooperation and collaboration of these groups with other regional standardization entities;

5 to maintain in the annual budget of the Union a separate expenditure line item for bridging the standardization gap activities, while at the same time voluntary contributions should be further encouraged;

6 that interpretation shall be provided, based on the requests of participants, at all study group and working party plenary meetings and the entire meeting of TSAG;

7 to encourage the participation of members, particularly Academia, from developing countries in ITU-T standardization activities,

resolves further that ITU regional offices

1 be engaged in the activities assigned by TSAG in order to further enhance the implementation of the action plan annexed to this resolution, promoting and coordinating standardization activities in their regions, including raising awareness among prospective Sector Members, Associates and Academia from developing countries, and providing the necessary assistance to the regional groups of ITU-T study groups;

2 assist, within the offices' budgets, the vice-chairmen of TSAG and ITU-T study groups appointed with specific responsibilities, including, among others, the following:

i) closely work with ITU members in the region in order to mobilize them to participate in ITU standardization activities to assist in bridging the standardization gap;

ii) make mobilization and participation reports to the ITU body concerning the region;

iii) prepare and submit a mobilization programme for the regions that they represent at the first meeting of TSAG or a study group, and send a report to TSAG;

iv) inform ITU members of programmes and initiatives within ITU-D that could assist in bridging the standardization gap;

3 organize and coordinate the activities of the regional groups of ITU-T study groups,

invites the ITU Council

1 in view of the above *resolves*, in particular *resolves 6*, to increase the ITU-T budgetary provisions for fellowships, interpretation and translation of documents for meetings of TSAG, ITU-T study groups and regional groups of ITU-T study groups;

2 to consider exemption from payment of the membership fees for a limited time of up to one full study period for new Academia members from developing countries in order to encourage them to get involved in ITU-T activities and the standardization process,

instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Directors of the Radiocommunication Bureau and the Telecommunication Development Bureau

within available resources,

1 to continue implementing the objectives of the action plan annexed to this resolution;

2 to encourage the formation of partnerships under the patronage of ITU-T as one of the means for financing and implementing the objectives of the action plan annexed to this resolution;

3 to consider, whenever possible, holding workshops concurrently with the meetings of their respective regional groups of ITU-T study groups, or organizing other workshops or events in coordination and collaboration with the Director of BDT and ITU regional offices alongside these meetings;

4 to assist developing countries with their studies, particularly in respect of their priority questions and towards developing and implementing ITU-T Recommendations;

5 to continue the activities of the implementation group established within TSB to organize work, mobilize resources, coordinate efforts and monitor work related to this resolution and the associated action plan;

6 to continue to carry out the necessary studies on the role of innovation management and innovation stimulation programmes on bridging the standardization gap between the developed and developing countries;

7 to include in the TSB budget proposal to the Council funds identified for the implementation of this resolution, taking into account financial constraints and existing and planned BDT activities;

8 to report on the implementation of this plan to future world telecommunication standardization assemblies and plenipotentiary conferences, with a view to reviewing this resolution and introducing the appropriate amendments in the light of implementation outcomes, as well as the budgetary adjustments needed;

9 to provide support and assistance to developing countries, if requested, in drafting/developing a set of guidelines on the application of ITU-T Recommendations at the national level in order to enhance their participation in ITU-T study groups, with the assistance of the ITU regional offices, for bridging the standardization gap;

10 to enhance the use of electronic channels such as webinars or e-learning for education and training on the implementation of ITU-T Recommendations, in close collaboration with the ITU Academy and other capacity-building initiatives of BDT;

11 to provide all necessary support and take all necessary measures for creating and ensuring the smooth functioning of the regional groups, and to facilitate the organization of regional group meetings and workshops for disseminating information and increasing understanding of new Recommendations, in particular for developing countries;

12 to report to the Council on the effectiveness of the regional groups of ITU-T study groups;

13 to conduct workshops and seminars, as appropriate, for disseminating information and increasing understanding of new ITU-T Recommendations and implementation guidelines for Recommendations, in particular for developing countries;

14 to ensure equal access to the ITU electronic meetings to the maximum extent possible and to provide remote participation, where possible, for more ITU-T workshops, seminars and forums, encouraging greater participation by developing countries;

15 to leverage existing ITU-D tools in order for developing countries to have greater involvement in ITU-T's standardization work;

16 to study the possibility of generating additional revenue for ITU-T activities on bridging the standardization gap, through identifying new financial resources not related to the voluntary contributions mentioned above,

instructs study groups of the ITU Telecommunication Standardization Sector and the Telecommunication Standardization Advisory Group

1 to be actively involved in the implementation of the programmes set forth in the action plan annexed to this resolution;

2 to consider including implementation guidelines for ITU-T Recommendations where these could provide advice to assist developing countries in adopting them, with emphasis on Recommendations having regulatory and policy implications;

3 to coordinate joint meetings of regional groups of ITU-T study groups,

further instructs the study groups

1 to take account of the specific characteristics of the telecommunication/ICT environment of the developing countries in establishing standards in the fields of planning, services, systems, operation, tariffs and maintenance, and to provide solutions relevant to developing countries wherever possible;

2 to take appropriate steps to have studies carried out on questions connected with standardization which are identified by world telecommunication development conferences or which are identified via specific studies or surveys targeting developing countries carried out by other ITU-T study groups;

3 to continue liaising with ITU-D study groups, where appropriate, when developing new or revised ITU-T Recommendations, on the specific needs and requirements of developing countries, in order to broaden the appeal and applicability of the Recommendations in those countries;

4 to identify the challenges that developing countries are facing with a view to bridging the standardization gap among Member States,

invites the Director of the Telecommunication Standardization Bureau

1 to work closely with the Directors of BDT and the Radiocommunication Bureau (BR) in order to encourage the formation of partnerships under the patronage of ITU-T as one of the means for financing the action plan;

2 to encourage Sector Members from the developed countries to promote the participation in ITU-T activities of their subsidiaries based in developing countries;

3 to develop mechanisms to support the effective participation by members, including telecommunication operators, from developing countries in standardization activities;

4 to consider, whenever possible, holding meetings of ITU-T study groups in developing countries,

invites regions and their Member States

1 to pursue, if necessary, the creation of regional groups of ITU-T study groups in in accordance with Resolution 54 (Rev. Geneva, 2022);

2 to take an active part in the activities of the regional groups of ITU-T study groups and support regional telecommunication organizations in setting up regional frameworks for the development of standardization activities;

3 to create regional standardization bodies, as appropriate, and encourage joint and coordinated meetings of such bodies with the regional groups of the ITU-T study groups in the respective regions, so that these standardization bodies act as an umbrella for such regional group meetings;

4 to develop draft terms of reference and working methods for regional groups, for approval by the parent study group;

5 to share information on utilizing ITU-T Recommendations;

6 to encourage the participation of their Sector Members and Associates, especially industry from developing countries, in ITU-T activities;

7 to host regional group and study group meetings and other ITU-T events in particular in developing countries,

encourages Member States and Sector Members

1 to communicate their standardization priorities via contributions and responses to ITU-T surveys;

2 to take the objectives set out in the action plan in the annex to this resolution into account in their participation in ITU-T.

Annex
(to Resolution 44 (Rev. Geneva, 2022))

Action plan for the implementation of Resolution 123 (Rev. Dubai, 2018) of the Plenipotentiary Conference

I Programme 1: Strengthening standards-making capabilities

1) Objective

- To improve the standards-making capabilities of developing countries.

2) Activities

- Developing guidelines to assist developing countries in their involvement in ITU-T activities, covering, but not limited to, ITU-T working methods, formulating draft Questions and making proposals.

- Creating methods to increase the access of developing countries to essential technical information in order to enhance their knowledge and capacity (i) to implement global standards, (ii) to effectively contribute to the work of ITU-T, (iii) to include their own specificities and necessities in the global standards-making process, and (iv) to influence global standards-making discussions by having active roles in ITU-T study groups, in close collaboration with other BDT capacity-building initiatives.

- Improving procedures and tools for remote participation via electronic means so as to enable experts in developing countries to participate actively in ITU-T meetings (including TSAG, study groups, focus groups, joint coordination activities, global standardization initiatives, among others), workshops and training, from their own countries.

- Conducting consultancy projects designed to support developing countries in the development of standardization plans, strategies, policies, etc. The outputs should be further transformed into best practices.

- Developing methods, tools and indicators for accurate measurement of the results and the level of effectiveness of the efforts and activities applied in bridging the standardization gap and providing statistics on the involvement of developing countries in the work and meetings of TSAG, ITU-T focus groups, ITU-T study groups and regional groups in addition to other ITU-T events.

- Working with Sector Members, and in particular manufacturers, academia and research and development organizations, on exchanging information on new technologies and requirements of developing countries, and on providing technical assistance to encourage the establishment of standardization programmes in academia and research and development organizations in the field of ICT.

II Programme 2: Assisting developing countries with respect to the application of standards

1) Objective

- To assist developing countries in:
  - Having a clear understanding of ITU-T Recommendations;
  - Enhancing the application of ITU-T Recommendations in developing countries.

2) Activities

- Assisting developing countries in:
  - Establishing a standardization secretariat to coordinate standardization activities and participation in ITU-T study groups;
  - Determining whether their existing national standards are consistent and in accordance with the current ITU-T Recommendations.
- Actions to be performed by TSB with BDT cooperation:
  - Developing guidelines on the application of ITU-T Recommendations, in particular on manufactured products and interconnection, with emphasis on Recommendations having regulatory and policy implications.
  - Providing advice and assistance for better utilization and adoption of ITU-T Recommendations in national standards.
  - Compiling and maintaining an up-to-date database with information on new standardized technologies, as well as products that are compliant with ITU-T Recommendations.
  - Organizing capacity-building events that enable better application of specific Recommendations and on methods of examining compliance of manufactured products with these Recommendations, in close collaboration with other BDT capacity-building initiatives.
  - Promoting the use of a standardization forum for "questions and answers on standards" where developing countries can raise questions concerning the understanding and application of Recommendations and seek advice from study group experts.
  - Providing assistance to developing countries in developing strategies for establishing test laboratories which are nationally, regionally and internationally recognized for emerging technologies, in coordination with other related actions in other ITU Sectors, especially ITU-D.
  - Continuing launching ITU-T initiatives and programmes that focus on the implementation of existing ITU-T Recommendations while exploring new topics of study, and encouraging the participation of developing countries in these initiatives and programmes.

III Programme 3: Human resources capacity building

1) Objective

- To increase the human resources capacity of developing countries in ITU-T and national standardization activities.

2) Activities

- Promoting the organization of events, seminars, workshops and study group meetings at the regional and global levels in order to promote standardization capacity building and the development of telecommunications/ICT in developing countries, in close collaboration with other BDT capacity-building initiatives.

- In close collaboration with BDT and BR, providing training courses on standardization to developing countries.

- Providing more internship, secondment and short-term employment, etc. opportunities for developing countries at ITU.

- Encouraging the election of more candidates from developing countries to TSAG and ITU-T study group chairmanship and vice-chairmanship positions.

- Encouraging secondment and short-term employment opportunities for experts from developing countries in test laboratories of international standards-development organizations and manufacturers, in particular in the area of conformance and interoperability testing.

- Organizing in-depth tutorials on understanding and implementation of ITU-T Recommendations.

- Providing guidance and support material to developing countries to assist them in developing and providing undergraduate and postgraduate courses on standardization in their universities.

- Offering, to the extent possible, through TSB, a greater number of fellowships to eligible developing countries to attend relevant ITU-T meetings.

- The Bridging the Standardization Gap (BSG) programme should take actions to ensure more participation of women and girls, and vulnerable groups, in standards-development in order to capture their requirements in standardization activities, especially in respect of emerging technologies, taking into account geographical and regional balance.

IV Programme 4: Fundraising for bridging the standardization gap

a) Contributions to the action plan through the following forms of partnerships and other means:

- Partnership contributions
- Additional budget allocated by ITU
- Voluntary contributions by developed countries
- Voluntary contributions by the private sector
- Voluntary contributions by others.

b) Management of funds by TSB:

- The Director of TSB, in close coordination with the Director of BDT, shall be responsible for the management of funds raised as above, which shall be used principally for achieving the objectives of these programmes.

c) Principles for the use of funds:

- Funds are to be used for ITU-related activities including, but not limited to, assistance and consultation, training of representatives of developing countries in ITU-T activities, as well as studying compliance examination, interconnection and interoperability programmes for developing countries.

RESOLUTION 47 (Rev. Dubai, 2012)

Country code top-level domain names

(Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012)

The World Telecommunication Standardization Assembly (Dubai, 2012),

recognizing

a) relevant parts of Resolution 102 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference;

b) Resolution 133 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference;

c) relevant outcomes of the two phases of the World Summit on the Information Society;

d) the evolving role of the World Telecommunication Standardization Assembly, in accordance with Resolution 122 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference,

considering

a) that issues persist in some cases with respect to the delegation of country code top-level domain names (ccTLD) to entities designated by national authorities;

b) that Member States represent the interests of the population of the country or territory for which a ccTLD has been delegated, as noted in *recognizing g)* of Resolution 102 (Rev. Guadalajara, 2010);

c) that countries should not be involved in decisions regarding another country's ccTLD, as noted in *recognizing i)* of Resolution 102 (Rev. Guadalajara, 2010);

d) that intergovernmental organizations have had, and should continue to have, a facilitating role in the coordination of Internet-related public policy issues;

e) that international organizations have also had, and should continue to have, an important role in the development of Internet-related technical standards and relevant policies;

f) that ITU has a record of successfully handling similar issues,

instructs ITU-T Study Group 2

to continue studies, and to work with Member States and Sector Members, in their respective roles, recognizing the activities of other appropriate entities, to review Member States' ccTLD experiences,

instructs the Director of the Telecommunication Standardization Bureau

to take appropriate action to facilitate the above and to report to the ITU Council annually regarding the progress achieved in this area,

invites Member States

to contribute to these activities,

further invites Member States

to take appropriate steps within their national legal frameworks to ensure that issues related to delegation of country code top-level domains are resolved.

RESOLUTION 48 (Rev. Geneva, 2022)

Internationalized (multilingual) domain names

(Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012, Geneva 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recognizing

a) relevant parts of Resolution 102 (Rev. Dubai, 2018) of the Plenipotentiary Conference;

b) Resolution 133 (Rev. Dubai, 2018) of the Plenipotentiary Conference;

c) relevant outcomes of the two phases of the World Summit on the Information Society(WSIS);

d) the evolving role of the World Telecommunication Standardization Assembly, in accordance with Resolution 122 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference;

e) the ITU strategic plan for 2008-2011 reflecting the important role of multilingualism in enabling the full participation of all countries in the work of ITU, in building a global information society that is open to all, and in achieving the goals and objectives of WSIS,

considering

a) that there needs to be further in-depth discussion of the political, economic and technical issues related to internationalized (multilingual) domain names arising out of the interaction between national sovereignty and the need for international coordination and harmonization;

b) that intergovernmental organizations have had, and should continue to have, a facilitating role in the coordination of Internet-related public policy issues;

c) that international organizations have also had, and should continue to have, an important role in the development of Internet-related technical standards and relevant policies;

d) that the ITU Telecommunication Standardization Sector has a record of successfully handling similar issues in a timely manner, especially as to the use of non-Latin character sets;

e) the ongoing activities of other relevant organizations,

resolves to instruct Study Group 16 of the ITU Telecommunication Standardization Sector and other relevant study groups

to continue to study internationalized (multilingual) domain names, and to continue to liaise and cooperate with appropriate entities, whether intergovernmental or non-governmental, in this area,

instructs the Director of the Telecommunication Standardization Bureau

to take appropriate action to facilitate the above and to report to the ITU Council annually regarding the progress achieved in this area,

invites Member States, Sector Members and regional groups concerned

to contribute to these activities.

RESOLUTION 49 (Rev. Hammamet, 2016)

ENUM

(Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

recognizing

a) Resolution 133 (Rev. Busan, 2014) of the Plenipotentiary Conference, in particular:

i) the continuing progress towards integration of telecommunications and the Internet;

ii) the existing role and sovereignty of ITU Member States with respect to allocation and management of their country code numbering resources as enshrined in Recommendation ITU-T E.164;

iii) the operative paragraph instructing the Secretary-General and the Directors of the Bureaux to take any necessary action to ensure the sovereignty of ITU Member States with regard to Recommendation ITU-T E.164 numbering plans whatever the application in which they are used;

b) the evolving role of the World Telecommunication Standardization Assembly, as reflected in Resolution 122 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference,

noting

a) the work of Study Group 2 of the ITU Telecommunication Standardization Sector (ITU-T) concerning ENUM;

b) the current unresolved issues concerning administrative control of the highest level Internet domain which will be used for ENUM,

resolves to instruct Study Group 2 of the ITU Telecommunication Standardization Sector

1 to study how ITU could have administrative control over changes that could relate to the international telecommunication resources (including naming, numbering, addressing and routing) used for ENUM;

2 to evaluate the current interim procedure for ENUM delegation, and report back to the Director of the Telecommunication Standardization Bureau,

instructs the Director of the Telecommunication Standardization Bureau

to take appropriate action to facilitate the above and to report to the ITU Council annually regarding the progress achieved in this area, including the continuation of further studies in relation to draft Recommendation ITU-T E.A-ENUM (new version), on principles and procedures for the administration of E.164 country codes for registration into the Domain Name System, and draft Recommendation ITU-T E.A-N/GoC (new version), on administrative procedures for ENUM for E.164 country codes and associated ICs for networks and GICs for groups of countries,

invites Member States

to contribute to these activities,

further invites Member States

to take appropriate steps within their national legal frameworks to ensure proper implementation of this resolution.

RESOLUTION 50 (Rev. Geneva, 2022)

Cybersecurity

(Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) Resolution 130 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the role of ITU in building confidence and security in the use of information and communication technologies (ICTs);

b) Resolution 174 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on ITU's role with regard to international public policy issues relating to the risk of illicit use of ICTs;

c) Resolution 179 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on ITU's role in child online protection;

d) Resolution 181 (Guadalajara, 2010) of the Plenipotentiary Conference, on definitions and terminology relating to building confidence and security in the use of ICTs;

e) Resolutions 55/63 and 56/121 of the United Nations General Assembly (UNGA), which established the legal framework on countering the criminal misuse of information technologies;

f) UNGA Resolution 57/239, on the creation of a global culture of cybersecurity;

g) UNGA Resolution 58/199, on the creation of a global culture of cybersecurity and the protection of essential information infrastructures;

h) UNGA Resolution 41/65, on principles relating to remote sensing of the Earth from outer space;

i) UNGA Resolution 70/125, on the outcome document of the high-level meeting of the General Assembly on the overall review of the implementation of the outcomes of the World Summit on the Information Society (WSIS);

j) Resolution 45 (Rev. Dubai, 2014) of the World Telecommunication Development Conference (WTDC), on mechanisms for enhancing cooperation on cybersecurity, including countering and combating spam;

k) Resolution 52 (Rev. Hammamet, 2016) of the World Telecommunication Standardization Assembly, on countering and combating spam;

l) Resolution 58 (Rev. Geneva, 2022) of this assembly, on encouraging the creation of national computer incident response teams, particularly in developing countries[1];

m) that ITU is the lead facilitator for WSIS Action Line C5 in the Tunis Agenda for the Information Society (Building confidence and security in the use of ICTs);

n) the cybersecurity-related provisions of the WSIS outcomes,

considering

a) the crucial importance of telecommunication/ICT infrastructure and its application to practically all forms of social and economic activity;

b) that the legacy public switched telephone network has a level of inherent security properties because of its hierarchical structure and built-in management systems;

c) that Internet Protocol (IP) networks provide reduced separation between user components and network components if adequate care is not taken in the security design and management;

d) that the converged legacy networks and IP networks are therefore potentially more vulnerable to intrusion if adequate care is not taken in the security design and management of such networks;

e) that cybersecurity is a cross-cutting issue, and the cybersecurity landscape is complex and dispersed, with many different stakeholders at the national, regional and global levels with responsibility for identifying, examining and responding to issues related to building confidence and security in the use of ICTs;

f) that the considerable and increasing losses which users of telecommunication/ICT systems have incurred from the growing problem of cybersecurity alarm all developed and developing nations of the world without exception;

g) that the fact, *inter alia*, that critical telecommunication/ICT infrastructures are interconnected at the global level means that inadequate infrastructure security in one country could result in greater vulnerability and risks in others and, therefore, cooperation is important;

h) that the number and methods of cyberthreats and cyberattacks are growing, as is dependence on the Internet and other networks that are essential for accessing services and information;

i) that standards can support the security aspects of Internet of things (IoT) and smart cities and communities;

j) that in order to protect global telecommunication/ICT infrastructures from the threats and challenges of the evolving cybersecurity landscape, coordinated national, regional and international action is required for prevention, preparation, response and recovery in respect of cybersecurity incidents;

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[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

k) the work undertaken and ongoing in ITU, including in ITU Telecommunication Standardization Sector (ITU-T) Study Group 17 and ITU Telecommunication Development Sector (ITU-D) Study Group 2, including the final report of ITU-D Study Group 1 Question 22/1-1, and under the Dubai Action Plan adopted by WTDC (Dubai, 2014);

l) that ITU-T has a role to play, within its mandate and competencies, in regard to *considering j)*,

considering further

a) that Recommendation ITU-T X.1205 provides a definition, a description of technologies, and network protection principles;

b) that Recommendation ITU-T X.805 provides a systematic framework for identifying security vulnerabilities, and Recommendation ITU-T X.1500 provides the cybersecurity information exchange (CYBEX) model and discusses techniques that could be used to facilitate the exchange of cybersecurity information;

c) that ITU-T and the Joint Technical Committee for information technology (JTC 1) of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), as well as several consortia and standards entities such as the World Wide Web consortium (W3C), the Organization for Advancement of Structured Information Standards (OASIS), the Internet Engineering Task Force (IETF) and the Institute of Electrical and Electronics Engineers (IEEE), among others, already have a significant body of published materials and ongoing work that is directly relevant to this topic, which needs to be considered;

d) the importance of ongoing work on security reference architecture for lifecycle management of e-commerce business data,

recognizing

a) the operative paragraph of Resolution 130 (Rev. Dubai, 2018) instructing the Director of the Telecommunication Standardization Bureau (TSB) to intensify work within existing ITU-T study groups;

b) that Resolution 71 (Rev, Dubai 2018) of the Plenipotentiary Conference adopted the strategic plan for 2020-23, including Strategic Goal 3 (Sustainability: Manage emerging risks, challenges and opportunities resulting from the rapid growth of telecommunications/ICT), under which the Union will focus on enhancing the quality, reliability, sustainability and resilience of networks and systems as well as building confidence and security in the use of telecommunications/ICTs;

c) that the ITU Global Cybersecurity Agenda (GCA) promotes international cooperation aimed at proposing strategies for solutions to enhance confidence and security in the use of ICTs, considering security aspects throughout the whole lifecycle of the standards-development process;

d) the challenges that States, particularly in developing nations, face in building confidence and security in the use of ICTs,

recognizing further

a) that cyberattacks such as phishing, pharming, scan/intrusion, distributed denials of service, web-defacements, unauthorized access, etc., are emerging and having serious impacts;

b) that botnets are being used to distribute bot-malware and carry out cyberattacks;

c) that sources of attacks are sometimes difficult to identify;

d) that critical cybersecurity threats in software and hardware may require timely vulnerability management and timely hardware and software updates;

e) that securing data is a key component of cybersecurity as data are often the target in cyberattacks;

f) that cybersecurity is one of the elements for building confidence and security in the use of telecommunications/ICTs,

noting

a) the vigorous activity and interest in the development of telecommunication/ICT security standards and Recommendations in Study Group 17, the lead ITU-T study group on security and identity management, and in other standardization bodies, including the Global Standards Collaboration (GSC) group;

b) that there is a need for national, regional and international strategies and initiatives to be harmonized to the extent possible, in order to avoid duplication and to optimize the use of resources;

c) the significant and collaborative efforts by and among governments, the private sector, civil society, the technical community and academia, within their respective roles and responsibilities, to build confidence and security in the use of ICTs,

resolves

1 to continue to give this work high priority within ITU-T, in accordance with its competencies and expertise, including promoting common understanding among governments and other stakeholders of building confidence and security in the use of ICTs at the national, regional and international level;

2 that all ITU-T study groups continue to evaluate existing and evolving new Recommendations, with respect to their robustness of design and potential for exploitation by malicious parties, and take into account new services and emerging applications to be supported by the global telecommunication/ICT infrastructure (including, but not limited to, for example, cloud computing and IoT, which are based on telecommunication/ICT networks), according to their mandates in Resolution 2 (Rev. Geneva, 2022) of this assembly;

3 that ITU-T continue to raise awareness, within its mandate and competencies, of the need to harden and defend information and telecommunication systems from cyberthreats and malicious cyberactivity, and continue to promote cooperation among appropriate international and regional organizations in order to enhance exchange of technical information in the field of information and telecommunication network security;

4 that ITU-T should raise global awareness regarding security in ICTs through the development of Recommendations and technical reports which support cybersecurity procedures, technical policies and standards frameworks;

5 that ITU-T should work with ITU-D, particularly in the context of ITU-D Question 3/2 (Securing information and communication networks: Best practices for developing a culture of cybersecurity);

6 that relevant ITU-T study groups should keep pace with the development of the new and emerging technologies, according to their mandates, in order to develop Recommendations, supplements and technical reports that help to overcome challenges related to security;

7 that ITU-T continue work on the development and improvement of terms and definitions related to building confidence and security in the use of telecommunications/ICTs, including the term cybersecurity;

8 that global, consistent and interoperable processes for sharing information related to incident response should be promoted;

9 that ITU-T study groups continue to liaise with standards organizations and other bodies active in this field and encourage the engagement of experts in ITU's activities in the area of building confidence and security in the use of ICTs;

10 that security aspects should be considered throughout the ITU-T standards-development process;

11 that secure, trusted and resilient telecommunication/ICT networks and services should be developed and maintained to enhance confidence in the use of ICT;

12 that Study Group 17 needs to develop cooperative security analysis and incident management frameworks;

13 that the resilience of ICT networks and systems should be considered as a priority in network and infrastructure development,

instructs Study Group 17

1 to promote studies on cybersecurity, including security for new services and emerging applications to be supported by the global telecommunication/ICT infrastructure;

2 to support the Director of TSB to maintain the ICT Security Standards Roadmap, which should include work items to progress standardization work related to security, and share this with relevant groups of the ITU Radiocommunication Sector (ITU-R) and ITU-D as the mission of the lead group for security;

3 to promote joint coordination activities on security among all relevant study groups and focus groups in ITU and other standards-development organizations;

4 to collaborate closely with all other ITU-T study groups, establish an action plan for assessing existing, evolving and new ITU-T Recommendations to counter security vulnerabilities, and continue to provide regular reports on security of telecommunications/ICT to the Telecommunication Standardization Advisory Group;

5 to define a general/common set of security capabilities for each phase of information system/network/application lifecycles, so that consequently security by design (security capabilities and features available by design) could be achieved for systems/networks/applications from day one;

6 to design one or more security architecture reference frameworks with security functional components which could be considered as the basis of security architecture design for various systems/networks/applications in order to improve the quality of Recommendations on security,

instructs the Director of the Telecommunication Standardization Bureau

1 to continue to maintain, in building upon the information base associated with the ICT Security Standards Roadmap and ITU-D efforts on cybersecurity, and with the assistance of other relevant organizations, an inventory of national, regional and international initiatives and activities to promote, to the maximum extent possible, the worldwide harmonization of strategies and approaches in this critically important area, including the development of common approaches in the field of cybersecurity;

2 to contribute to annual reports to the ITU Council on building confidence and security in the use of ICTs, as specified in Resolution 130 (Rev. Dubai, 2018);

3 to report to the Council on the progress of activities on the ICT Security Standards Roadmap;

4 to continue to recognize the role played by other organizations with experience and expertise in the area of security standards, and coordinate with those organizations as appropriate;

5 to continue the implementation and follow-up of relevant WSIS activities on building confidence and security in the use of ICTs, in collaboration with the other ITU Sectors and in cooperation with relevant stakeholders, as a way to share information and best practices on national, regional and international non-discriminatory cybersecurity-related initiatives globally;

6 to cooperate with the Secretary-General's GCA and other global or regional cybersecurity projects, as appropriate, in promoting capacity building and developing relationships and partnerships with various regional and international cybersecurity-related organizations and initiatives, as appropriate, and to invite all Member States, particularly developing countries, to take part in these activities and to coordinate and cooperate with these different activities;

7 to support the Director of the Telecommunication Development Bureau (BDT) in assisting Member States in the establishment of an appropriate framework among developing countries allowing rapid response to major incidents, and to propose an action plan to increase their protection, taking into account mechanisms and partnerships, as appropriate;

8 to support relevant ITU-T study group activities related to strengthening and building confidence and security in the use of ICTs;

9 to disseminate information to all stakeholders related to cybersecurity through the organization of training programmes, forums, workshops, seminars, etc., for policy-makers, regulators, operators and other stakeholders, especially from developing countries, to raise awareness and identify needs in collaboration with the Director of BDT,

invites Member States, Sector Members, Associates and Academia, as appropriate

1 to collaborate closely in strengthening regional and international cooperation, taking into account Resolution 130 (Rev. Dubai, 2018), with a view to enhancing confidence and security in the use of ICTs, in order to mitigate risks and threats;

2 to cooperate and participate actively in the implementation of this resolution and the associated actions;

3 to participate in relevant ITU-T study group activities to develop cybersecurity standards and guidelines in order to build confidence and security in the use of ICTs;

4 to utilize relevant ITU-T Recommendations and supplements;

5 to continue to contribute to Study Group 17 work on cyberrisk-management approaches.

RESOLUTION 52 (Rev. Hammamet, 2016)

Countering and combating spam

(Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

recognizing

a) relevant provisions of the basic instruments of ITU;

b) that the Declaration of Principles of the World Summit on the Information Society (WSIS) states in § 37 that "Spam is a significant and growing problem for users, networks and the Internet as a whole. Spam and cybersecurity should be dealt with at appropriate national and international levels";

c) that the WSIS Plan of Action states in § 12 that "Confidence and security are among the main pillars of the information society", and calls for "appropriate action on spam at national and international levels",

recognizing further

a) the relevant parts of Resolutions 130 (Rev. Busan, 2014) and 174 (Rev. Busan, 2014) of the Plenipotentiary Conference;

b) the report of the chairman of the two ITU WSIS thematic meetings on countering and combating spam, which advocated a comprehensive approach to combating spam, namely:

i) strong legislation

ii) the development of technical measures

iii) the establishment of industry partnerships to accelerate the studies

iv) education

v) international cooperation;

c) the relevant parts of Resolution 45 (Rev. Dubai, 2014) of the World Telecommunication Development Conference,

considering

a) that exchanging e-mails and other telecommunications over the Internet has become one of the main means of communication between people around the world;

b) that there are currently a variety of definitions for the term "spam";

c) that spam has become a widespread problem causing potential loss of revenue to Internet service providers, telecommunication operators, mobile telecommunication operators and business users;

d) that countering spam by technical means burdens affected entities, including network operators and service providers, as well as users who unwillingly receive such spam, with significant investments in networks, facilities, terminal equipment and applications;

e) that spam creates problems of information and telecommunication network security, and is increasingly being used as a vehicle for phishing and spreading viruses, worms, spyware and other forms of malware, etc.;

f) that spamming is used for criminal, fraudulent or deceptive activities;

g) that spam is a global problem, with different characteristics in different regions, which affects many stakeholders and, therefore, requires collaborative work and international cooperation to address it and find solutions;

h) that addressing the issue of spam is a matter of urgency;

i) that many countries, in particular developing countries[1], need help when it comes to countering spam;

j) that relevant Recommendations of the ITU Telecommunication Standardization Sector (ITU-T) and relevant information from other international bodies are available which could provide guidance for future development in this area, particularly with regard to lessons learned;

k) that technical measures to counter spam represent one of the elements of the approach mentioned in *recognizing further b)* above,

noting

the important technical work carried out to date in ITU-T Study Group 17, and in particular Recommendation ITU-T X.1231 and the ITU-T X.1240 series Recommendations,

resolves to instruct the relevant study groups

1 to continue to support ongoing work, in particular in Study Group 17, related to countering spam (e.g. e-mail) and to accelerate their work on spam in order to address existing and future threats within the remit and expertise of ITU-T, as appropriate;

2 to continue collaboration with the ITU Telecommunication Development Sector (ITU-D) and with the relevant organizations, including other relevant standards organizations (e.g. the Internet Engineering Task Force (IETF)), in order to continue developing, as a matter of urgency, technical Recommendations with a view to exchanging best practices and disseminating information through joint workshops, training sessions, etc.,

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

further instructs Study Group 17 of the ITU Telecommunication Standardization Sector

1 to report regularly to the Telecommunication Standardization Advisory Group on progress under this resolution;

2 to support ITU-D Study Group 2 on countering and combating spam in its work providing technical training sessions and workshop activities in different regions related to spam policy, regulatory and economic issues and their impact;

3 to continue its work on developing Recommendations, technical papers and other related publications,

instructs the Director of the Telecommunication Standardization Bureau

1 to provide all necessary assistance with a view to expediting such efforts, working collaboratively with relevant parties that combat spam with a view to identifying opportunities, raising awareness for such activities and identifying possible collaboration, as appropriate;

2 to initiate a study – including sending a questionnaire to the ITU membership –indicating the volume, types (e.g. e-mail spam, SMS spam, spam in IP-based multimedia applications) and features (e.g. different major routes and sources) of spam traffic, in order to help Member States and relevant operating agencies identify such routes, sources and volumes and estimate the amount of investment in facilities and other technical means to counter and combat such spam, taking into account work that has already been carried out;

3 to continue to cooperate with the Secretary-General's initiative on cybersecurity and with the Telecommunication Development Bureau in relation to any item concerning cybersecurity under Resolution 45 (Rev. Dubai, 2014), and to ensure coordination among these different activities;

4 to contribute to the report of the Secretary General to the ITU Council on the implementation of this resolution,

invites Member States, Sector Members, Associates and academia

to contribute to this work,

further invites Member States

1 to take appropriate steps to ensure that appropriate and effective measures are taken within their national and legal frameworks to combat spam and its propagation;

2 to work collaboratively with all relevant stakeholders to counter and combat spam.

RESOLUTION 54 (Rev. Geneva, 2022)

Regional groups of study groups of the ITU Telecommunication Standardization Sector

(Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

considering

a) that Article 14 of the ITU Convention authorizes the creation of study groups with a view to standardizing telecommunications on a worldwide basis;

b) that Article 17 of the ITU Constitution states that "the functions of the Telecommunication Standardization Sector shall be, bearing in mind the particular concerns of the developing countries, to fulfil the purposes of the Union relating to telecommunication standardization ...";

c) that Resolution 58 (Rev. Busan, 2014) of the Plenipotentiary Conference resolves that ITU should continue developing stronger relations with regional telecommunication organizations, including the organization of six ITU regional preparatory meetings for plenipotentiary conferences, as well as other Sector conferences and assembles as necessary;

d) that Resolution 123 (Rev. Dubai, 2018) of the Plenipotentiary Conference instructs the Secretary-General and the Directors of the three Bureaux to work closely with each other in pursuing initiatives that assist in bridging the standardization gap between developing[1] and developed countries, and to further collaborate with relevant regional organizations and support their work in this area;

e) that Resolution 191 (Rev. Dubai, 2018) of the Plenipotentiary Conference recognizes that the basic principle of cooperation and collaboration among the Sectors is to avoid duplication of the Sectors' activities and to ensure that work is carried out efficiently and effectively;

f) the following outcome for the ITU Telecommunication Standardization Sector (ITU-T) in the strategic plan for the Union for 2020-2023, adopted in Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference, focused on the promotion of active participation of the membership, in particular developing countries, in the definition and adoption of non-discriminatory international standards with a view to bridging the standardization gap:

- increased participation in the ITU-T standardization process, including attendance of meetings, submission of contributions, taking leadership positions and hosting of meetings/workshops, especially from developing countries;

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

g) that the work of certain study groups, particularly in relation to, among other things, tariff and accounting principles, international telecommunication/information and communication technology (ICT) economic and policy issues, next-generation networks, Internet of things and future networks, security, quality, mobility and multimedia, continues to be of considerable strategic significance for developing countries,

recognizing

a) that Article 43 of the Constitution (No. 194) states that "Member States reserve the right to convene regional conferences, to make regional arrangements and to form regional organizations, for the purpose of settling telecommunication questions which are susceptible of being treated on a regional basis ...";

b) that Article 14A of the Convention and Resolution 1 (Rev. Geneva, 2022) of this assembly both affirm the principal duties of the Telecommunication Standardization Advisory Group (TSAG) to "review priorities, programmes, operations, financial matters and strategies for activities in the Telecommunication Standardization Sector", "provide guidelines for the work of study groups" and "recommend measures, *inter alia*, to foster cooperation and coordination with other relevant bodies";

c) that Resolution 1 (Rev. Geneva, 2022) establishes the rules of procedure of ITU-T;

d) that Resolution 22 (Rev. Geneva, 2022) of this assembly authorizes TSAG to act between world telecommunication standardization assemblies and assigns TSAG responsibility for the ITU-T A-series Recommendations (Organization of the work of ITU-T);

e) the growing level of participation and involvement of developing countries in all the ITU-T study groups;

f) that specific regional groups have been successfully established within ITU-T Study Groups 2, 3, 5, 11, 12, 13, 17 and 20

g) that meetings of the above-mentioned regional groups of ITU-T study groups are held by ITU and can be supported by regional organizations and/or regional standardization bodies;

h) the satisfactory results obtained by the regional approach within the framework of the activities of the parent study groups;

i) that the activities of most of these regional groups have become increasingly important, and encompass a growing number of issues,

noting

a) the need to increase the participation of developing countries in the work of study groups, with a view to ensuring that their specific needs and concerns in bridging the standardization gap, within the mandate of ITU-T and its study groups, are better taken into account;

b) the need to improve and strengthen the organization and working methods of the ITU-T study groups in the interests of enhancing the participation of developing countries, to increase the efficiency and effectiveness of international standardization work and to improve synergies with other ITU Sectors;

c) the importance of having appropriate consultative frameworks for the formulation and study of Questions, the preparation of contributions and capacity building;

d) the need for developing countries to be more present and more active within ITU-T's standardization forums;

e) the need to encourage more inclusive participation in the work of ITU-T, e.g. by Academia, in accordance with Resolution 169 (Rev. Dubai, 2018) of the Plenipotentiary Conference, the private sector and experts working in the field of international standardization of telecommunications/ICTs, particularly from developing countries;

f) the budgetary limitations, especially in developing-country institutions, for attendance at ITU-T events of specific interest to them,

bearing in mind

that the six principal regional telecommunication organizations, namely the Asia-Pacific Telecommunity (APT), the European Conference of Postal and Telecommunications Administrations (CEPT), the Inter-American Telecommunications Commission (CITEL), the African Telecommunications Union (ATU), the Council of Arab Ministers of Telecommunication and Information represented by the Secretariat-General of the League of Arab States (LAS) and the Regional Commonwealth in the field of Communications (RCC), seek close cooperation with the Union, as delineated in Resolution 58 (Rev. Busan, 2014),

taking into consideration

a) the experiences and lessons learned by study groups and their regional groups regarding the operational as well as organizational set-up and working methods, consistent with the ITU-T rules of procedure in Resolution 1 (Rev. Geneva, 2022), which could serve to expand and improve the level of developing-country participation in international standardization activities and contribute to achieving the objectives of Resolution 123 (Rev. Dubai, 2018);

b) the specific process for approving Recommendations foreseen for the regional groups of ITU-T Study Group 3 in clause 9.2.1.1 of Resolution 1 (Rev. Geneva, 2022),

recognizing further

a) that a common and coordinated approach in regard to international standardization could serve to foster the promotion of standardization activities in developing countries;

b) that joint meetings of regional groups of different ITU-T study groups, in particular if concatenated with a regional workshop and/or a meeting of a regional organization and/or regional standardization body, could encourage the participation of developing countries in these meetings and increase the effectiveness of such joint meetings;

c) that, in developing countries, a few standardization experts are usually responsible for handling numerous standardization areas within their administrations, including issues that concern Questions under study simultaneously by a number of ITU-T study groups,

resolves

1 to support, on a case-by-case basis, to the extent practicable, the coordinated creation of regional groups of ITU-T study groups, with at least two supporting members from the region concerned that are committed to contributing actively on the topics assigned to the regional groups;

2 that ITU-T study groups develop terms of reference and working methods for these regional groups and inform TSAG for coordination among study groups;

3 that the composition of regional groups of ITU-T study groups is consistent with considering *c)*, and supported by the regional telecommunication organizations identified under *bearing in mind* of this resolution;

4 that representatives of Member States and Sector Members who belong to the region concerned may participate fully in the regional groups of ITU-T study groups;

5 that representatives of Associates and Academia that belong to a parent ITU-T study group, and belong to the region concerned, may participate in regional groups of that ITU-T study group, but should not participate in any decision-making or liaison activity, taking into account Resolution 169 (Rev. Dubai, 2018);

6 that meetings of regional groups of other study groups shall, in principle, be limited to delegates and representatives from Member States, Sector Members, Academia and Associates of the study group concerned in the region; however, each regional group may invite other participants to attend all or part of a meeting, to the extent that these other participants would be eligible to attend the meetings of the full study group;

7 to encourage cooperation of regional groups of ITU-T study groups with regional standardization entities (regional telecommunication organizations, regional standardization bodies, and so forth), especially with the regional telecommunication organizations identified under *bearing in mind* in this resolution, as well as the holding of meetings of regional groups of ITU-T study groups jointly with ITU workshops in the region,

invites the regions and their Member States

1 to pursue the creation of regional groups of parent ITU-T study groups in their respective regions, in accordance with *resolves* of this resolution, and to support meetings and activities of the regional groups, as appropriate, in coordination with the Telecommunication Standardization Bureau;

2 to develop draft terms of reference and working methods for these regional groups, which are to be consistent with and approved by the parent study group, as regards areas of concern to them;

3 to create regional standardization bodies, as appropriate, and encourage joint and coordinated meetings of such bodies with the regional groups of ITU-T study groups in their respective regions, so that these standardization bodies act as an umbrella for such regional group meetings; the regional group meetings should be held jointly with thematic ITU workshops being conducted in the region, whenever possible;

4 to propose candidates for regional group chairmanships and vice-chairmanships;

5 to encourage the candidacy of women for the regional group management positions;

6 to encourage eligible ITU-T members from the respective region to participate in the meetings of their regional groups, and to consider terminating a regional group when it is no longer required,

invites the regional groups thus created

1 to disseminate information about telecommunication standardization and encourage the involvement of developing countries in standardization activities in their regions, and to submit written contributions to the parent study group in which they work in accordance with approved terms of reference reflecting the priorities of their respective regions;

2 to cooperate closely with the relevant respective regional telecommunication organizations, standardization bodies and ITU regional offices, to create possible synergies and to report on their work in their regions to the relevant parent ITU-T study groups,

instructs study groups and the Telecommunication Standardization Advisory Group

1 to coordinate joint meetings of the regional groups of ITU-T study groups;

2 to consider and identify Questions of greatest interest to Member States and Sector Members from developing countries with a view to keeping them updated on the development of international standards in the context of the regional groups of ITU-T study groups,

instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Director of the Telecommunication Development Bureau

within the allocated or contributed resources that are available,

1 to provide all necessary support for creating and ensuring the smooth functioning of the regional groups of the ITU-T study groups;

2 to consider, whenever possible, holding events (workshops, forums, seminars, training, etc.) concurrently with meetings of the ITU-T regional groups, in the relevant regions, and vice versa;

3 to take all necessary measures to facilitate the organization of meetings of the regional groups of ITU-T study groups and workshops in the relevant regions,

calls upon the Director of the Telecommunication Standardization Bureau

to cooperate with the Director of the Telecommunication Development Bureau and with the Director of the Radiocommunication Bureau, as appropriate, in order to:

i) continue to provide specific assistance to regional groups of ITU-T study groups;

ii) encourage the use of electronic working methods to assist the members of the regional groups;

iii) take appropriate steps to facilitate meetings of regional groups in order to promote the necessary synergies among the three Sectors and thereby improve the effectiveness and efficiency of the study groups.

RESOLUTION 55 (Rev. Geneva, 2022)

Promoting gender equality in ITU Telecommunication Standardization Sector activities

(Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

considering

a) that while standardization plays an important role in globalization and the effective development of information and communication technologies (ICTs), statistically very few women participate in international standardization processes;

b) that the standardization work of ITU Telecommunication Standardization Sector (ITU-T) can be advanced most effectively through the active inclusion of women;

c) that there is a need to ensure that women participate actively and meaningfully in all ITU-T activities;

d) that the Telecommunication Standardization Bureau (TSB) has established the ITU Women in Standardization Expert Group (WISE), launched at the meeting of the Telecommunication Standardization Advisory Group (TSAG) in February 2016, dedicated to promoting women in standardization, telecommunications/ICTs and related fields and to recognize the men and women who have made a remarkable contribution in promoting the work of women in these fields,

noting

a) that ITU has adopted a Gender Equality and Mainstreaming (GEM) Policy, with the aim of becoming a model organization for gender equality that leverages the power of telecommunications/ICTs to empower both women and men;

b) the progress made by ITU in raising awareness on gender issues, specifically over the last decade, in increasing women's participation in and contribution to international forums, in studies, projects and training, and in the establishment of an internal Gender Task Force, as well as the successful establishment by ITU of an international "Girls in ICT" day to be held every year on the fourth Thursday of April;

c) the Gender Declaration approved at the World Radiocommunication Conference (Sharm El-Sheikh, 2019), which declared the commitment of the ITU Radiocommunication Sector to gender equality and balance, and which also declared that ITU Member States and Sector Members should encourage the adoption of proven measures to increase globally the number of women pursuing academic degrees at all levels in science, technology, engineering and mathematics (STEM) fields, particularly those related to ICTs;

d) Resolution 70 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on gender mainstreaming in ITU and promotion of gender equality and the empowerment of women through ICTs;

e) Resolution 48 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on human resources management and development and, in particular, its Annex 2, on facilitating the recruitment of women at ITU;

f) Resolution 55 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference, on mainstreaming a gender perspective for an inclusive and egalitarian information society;

g) Resolution 1187, adopted by the ITU Council at its 2001 session, on a gender perspective in ITU human resources management, policy and practice, which requests the Secretary-General to allocate appropriate resources, within existing budgetary limits, to establish a gender unit with full-time dedicated staff;

h) Resolution 1327, adopted by the Council at its 2011 session, on ITU's role in ICTs and the empowerment of women and girls;

i) that the Secretary-General has issued an updated ITU English Language Style Guide, which addresses the use of non-discriminatory language;

j) that ITU, in its strategic plan, includes gender issues with a view to debating and exchanging ideas to define, throughout the organization, a concrete action plan with deadlines and goals;

k) the ITU-UN Women Gender Equality and Mainstreaming – Technology (GEM-TECH) awards, which celebrate exceptional personal or institutional achievement and innovative strategies that harness ICTs for women's empowerment;

l) the recommendation in the 2016 United Nations Joint Inspection Unit report that the "Secretary-General present to the Council for endorsement at its 2017 session an action plan to complement the Gender Equality and Mainstreaming Policy, with specific targets, indicative timelines and monitoring measures to improve gender balance, especially at senior management levels, within each component of the Union, and report annually to the Council on its implementation",

recalling

a) that a fundamental principle of the United Nations Charter adopted by world leaders in 1945 is "equal rights of men and women";

b) United Nations Economic and Social Council (ECOSOC) Resolution E/2012/L.8, on mainstreaming a gender perspective into all policies and programmes in the United Nations system, which welcomed the development of the United Nations System-Wide Action Plan on Gender Equality and the Empowerment of Women (UN-SWAP), and the 60th session of the United Nations Commission on the Status of Women (March, 2016), which stressed the need to ensure women's full, equal and effective participation in all fields, and leadership at all levels of decision-making in the public and private sectors, and public, social, economic and political life;

c) the United Nations HeForShe initiative (2014) to involve men and boys in the promotion of gender equality;

d) the EQUALS Global Partnership, of which ITU is a founding member, which is made up of other United Nations agencies, governments, the private sector, academia and civil-society organizations, and which aims to reduce the gender digital divide in the world;

e) the United Nations International Gender Champion initiative and the ITU's Secretary-General's commitment to promote the Panel Parity Pledge,

recognizing

a) that society as a whole, particularly in the context of the information and knowledge society, will benefit from equal participation of women and men in policy-making and decision-making and from equal access to communication services for both women and men;

b) that the outcome document of the overall review of the World Summit on the Information Society acknowledged that a gender digital divide exists, called for immediate measures to achieve gender equality in Internet users by 2020, especially by significantly enhancing women's and girls' education and participation in ICTs, as users, content creators, employees, entrepreneurs, innovators and leaders, and reaffirmed a commitment to ensure women's full participation in decision-making processes related to ICTs;

c) that enhancing women's and girls' education and their participation in ICTs also contributes to the achievement of United Nations Sustainable Development Goal 5 (Achieve gender equality and empower all women and girls);

d) the 2013 report of the Working Group on Broadband and Gender of the Broadband Commission for Sustainable Development: Doubling digital opportunities – Enhancing the inclusion of women and girls in the information society,

resolves

1 that ITU-T continue efforts to ensure that all its policies, work programmes, information dissemination activities, publications, study groups, seminars, courses, assemblies and conferences reflect the commitment to gender equality, and promote gender balance:

i) for posts, including those at the Professional and higher levels in TSB;

ii) in the selection of chairmen, vice-chairmen and rapporteurs of the ITU-T study groups and of TSAG;

2 that high priority be accorded to gender mainstreaming in the management, staffing and operation of ITU-T, while taking into account geographical representation;

3 that ITU-T continue to support WISE,

instructs the Director of the Telecommunication Standardization Bureau

1 to take the necessary steps to continue implementing the ITU GEM Policy, including, supporting the implementation of recommendations from the Joint Inspection Unit relevant to gender mainstreaming, supporting the Gender Focal Points for ITU-T, and encouraging TSB staff to undertake relevant training;

2 to accelerate the integration of a gender perspective in the work of TSB in accordance with the principles already applied in ITU;

3 to accord high priority to gender mainstreaming in ITU-T management, financial assistance, staffing and operation;

4 to conduct an annual review on progress made in the Sector in advancing gender mainstreaming, including by circulating questionnaires and by collecting and reviewing statistics on ITU-T standardization activities by gender and region, in order to identify challenges to women's participation and subsequent solutions; and to share findings with TSAG and the next world telecommunication standardization assembly;

5 to encourage the participation of women in all aspects of ITU-T activities, and particularly the opportunity to participate in meetings, and support an increase in the number of women from all regions in ITU-T leadership positions by:

i) encouraging the membership to include women on their delegations, by, *inter alia*, including in all circulation letters the statement, "The membership is invited to include women on their delegations whenever possible";

ii) making the selection of women for TSB positions at the Professional and higher levels a top priority;

iii) providing training on participation in meetings, writing contributions and chairing meetings;

6 to enhance the ongoing work of WISE to ensure that all women have an opportunity to develop as ITU-T leaders;

7 to continue posting on a public-facing WISE webpage current information on the number of women attending Sector events, including administration or Sector Member affiliation and study group distribution, and identify the study groups in which women hold leadership positions;

8 to include gender balance as a factor in the distribution of financial assistance to attend ITU-T meetings where resources are available;

9 to join the ITU Secretary-General in participating in the Planet 50/50 initiative sponsored by UN Women to tackle invisible gender bias as a Geneva Gender Champion on behalf of ITU-T,

invites the Secretary-General

1 to comply with the reporting obligations, as required by UNSWAP, on ITU-T activities aimed at promoting gender equality and the empowerment of women;

2 to continue encouraging ITU staff to take account of the gender-neutral guidelines in the ITU English Language Style Guide and to avoid, as much as possible, the use of gender-specific terms,

invites Member States and Sector Members

1 to submit candidatures for chairman/vice-chairman posts in order to support the active involvement of women as well as men in standardization groups and activities and in their own administrations and delegations;

2 to actively support and participate in the work of TSB, to nominate experts for the ITU-T WISE group and to promote the use of ICTs for the economic and social empowerment of women and girls;

3 to encourage and actively support ICT education that encourages girls' and women's participation, and support all measures that will help prepare them for a professional career in ICT standardization;

4 to encourage greater participation of women delegates and foster their expertise;

5 to encourage the adoption of proven measures to increase globally the number of women pursuing academic degrees at all levels in STEM fields, particularly those related to telecommunication/ICT standardization.

RESOLUTION 58 (Rev. Geneva, 2022)

Encouraging the creation of national computer incident response teams, particularly for developing countries[1]

(Johannesburg, 2008; Dubai, 2012; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

considering

that Resolution 123 (Rev. Dubai, 2018) of the Plenipotentiary Conference instructs the Secretary-General and the Directors of the three Bureaux to work closely with each other in pursuing initiatives that assist in bridging the standardization gap between developing and developed countries,

recognizing

a) the highly satisfactory results obtained by the regional approach within the framework of Resolution 54 (Rev. Hammamet, 2016) of the World Telecommunication Standardization Assembly;

b) the increasing level of computer use and computer dependency in information and communication technologies (ICTs) within developing countries;

c) the increasing attacks and threat on ICT networks through computers;

d) the work carried out by the ITU Telecommunication Development Sector (ITU-D) under former Question 22/1 of ITU-D Study Group 1 and current Question 3/2 of ITU-D Study Group 2 on this subject,

noting

a) that there is still a low level of computer emergency preparedness within many countries, particularly developing countries;

b) that the high level of interconnectivity of ICT networks could be affected by the launch of an attack from networks of the less-prepared nations, which are mostly the developing countries;

c) the importance of having an appropriate level of computer emergency preparedness in all countries;

d) the need for establishment of computer incident response teams (CIRTs) on a national basis and the importance of coordination within and among the regions;

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

e) the work of Study Group 17 of the ITU Telecommunication Standardization Sector (ITU-T) in the area of national CIRTs, particularly for developing countries, and cooperation between them, as contained in the outputs of the study group,

bearing in mind

that well-functioning CIRTs in developing countries will serve to improve the level of developing countries' participation in world computer emergency response activities and contribute to achieving an effective global ICT infrastructure,

resolves

to support the creation of national CIRTs in Member States where CIRTs are needed and are currently absent,

instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Director of the Telecommunication Development Bureau

1 to identify best practices to establish CIRTs in line with the ITU toolkit;

2 to identify where national CIRTs are needed, particularly in developing countries, and encourage their establishment;

3 to collaborate with international experts and bodies to establish national CIRTs;

4 to provide support, as appropriate, within existing budgetary resources;

5 to facilitate collaboration between national CIRTs, such as capacity building and exchange of information, within an appropriate framework;

6 to take necessary action to progress implementation of this resolution,

invites the Member States

1 to consider the creation of a national CIRT as a high priority;

2 to collaborate with other Member States and with Sector Members,

invites Member States and Sector Members

to cooperate closely with ITU-T and ITU-D in this regard.

RESOLUTION 60 (Rev. Geneva, 2022)

Responding to the challenges of the evolution of the identification/ numbering system and its convergence with Internet Protocol-based systems/networks

(Johannesburg, 2008; Dubai, 2012; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recognizing

a) Resolution 133 (Rev. Dubai, 2018) of the Plenipotentiary Conference, with regard to the continuing progress towards integration of telecommunications and the Internet;

b) Resolutions 101 and 102 (Rev. Dubai, 2018) of the Plenipotentiary Conference;

c) the evolving role of the World Telecommunication Standardization Assembly, as reflected in Resolution 122 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference,

noting

a) the work in Study Group 2 of the ITU Telecommunication Standardization Sector (ITU-T), on investigating the evolutionary aspect of the numbering system, including the "future of numbering", considering next-generation networks (NGN) and future networks (FN) as the working environment of the numbering system in the future;

b) that the transition from traditional networks to Internet Protocol (IP)-based networks is taking place at a fast pace, whilst there is a transition to NGN and FN;

c) the emerging issues concerning administrative control for international telecommunication service-based numbers;

d) the forthcoming issues concerning the convergence of numbering, naming, addressing and identification (NNAI) systems along with the development of NGN and FNs, and associated issues concerning security, signalling, portability and migration;

e) the growing demand for numbering/identification resources for communications referred to as machine-to-machine (M2M);

f) the need for principles and a roadmap for the evolution of international telecommunication resources, which would be expected to help the timely, predictable deployment of advanced identification technologies,

resolves to instruct Study Group 2 of the ITU Telecommunication Standardization Sector, within the Sector's mandate

1 to continue studying, in liaison with the other relevant study groups, the necessary requirements for the structure and maintenance of telecommunication NNAI resources in relation to the deployment of future telecommunications/information and communication technologies (ICTs), including IP-based networks;

2 to ensure the continued development of the administrative requirements for the use of existing NNAI resource management systems;

3 to continue developing guidelines, as well as a framework, for the evolution of the international telecommunication NNAI system and its convergence with IP-based systems and use for emerging telecommunications/ICTs and services, in coordination with related study groups and associated regional groups, so that a basis for any new application can be provided,

instructs relevant study groups, and in particular Study Group 13 of the ITU Telecommunication Standardization Sector

1 to support the work of Study Group 2, in order to ensure that such applications are based on appropriate guidelines, as well as a framework, for the evolution of the international telecommunication numbering/identification system to meet the needs of emerging telecommunications/ICTs and services;

2 to help investigate the impact of emerging telecommunications/ICTs and services on the numbering/identification system,

instructs the Director of the Telecommunication Standardization Bureau

1 to take appropriate action to facilitate the foregoing work regarding the evolution of the international telecommunication NNAI system and its applications;

2 to share experiences in relation to this resolution,

invites Member States and Sector Members

1 to contribute to these activities, taking into consideration their national concerns and experiences;

2 to participate in and to contribute to regional groups discussing the issue and to promote the participation of developing countries[1] in those discussions.

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

RESOLUTION 61 (Rev. Geneva, 2022)

Countering and combating misappropriation and misuse of international telecommunication numbering resources

(Johannesburg, 2008; Dubai, 2012; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) Resolution 190 (Busan, 2014) of the Plenipotentiary Conference, on countering misappropriation and misuse of international telecommunication numbering resources, which urged the ITU Telecommunication Standardization Sector (ITU-T) to continue to study ways and means to improve the understanding, identification and resolution of misappropriation and misuse of ITU-T E.164 telephone numbers;

b) Resolution 29 (Rev. Geneva, 2022) of this assembly, on alternative calling procedures on international telecommunication networks, which (citing ITU Council Resolution 1099) urges ITU-T to develop, as soon as possible, the appropriate Recommendations concerning alternative calling procedures;

c) Recommendation ITU-T E.156, which sets out guidelines for ITU-T action on reported misuse of ITU-T E.164 numbering resources, Recommendation ITU-T E.156 Supplement 1, which provides a best-practice guide on countering misuse of ITU-T E.164 numbering resources, and Recommendation ITU-T E.156 Supplement 2, which provides a set of possible actions to counter misuse;

d) that one of the purposes of the Union is to foster collaboration among the membership for the harmonious development of telecommunications and to enable the offering of services at lowest cost,

noting

the number of cases reported, so far, to the Director of the Telecommunication Standardization Bureau (TSB) regarding misappropriation and misuse of ITU-T E.164 numbers,

recognizing

a) that the fraudulent misappropriation and misuse of national telephone numbers and country codes are harmful and impact revenue, quality of service and customer confidence;

b) that the blocking of calls by barring the country code to a country in order to avoid fraud is harmful;

c) that inappropriate activities causing loss of revenue are an important issue to continue to be studied;

d) relevant provisions of the Preamble to the ITU Constitution, which recognizes the sovereign right of each State to regulate its telecommunications;

e) that disputes regarding misuse and misappropriation of international numbering resources for geographic areas administered by Member States are for the Member States involved to resolve, with the assistance of the Director of TSB on request,

resolves to invite Member States

1 to ensure that ITU-T E.164 numbering resources are used only by the assignees and only for the purposes for which they were assigned, and that unassigned resources are not used;

2 to endeavour to ensure that operating agencies authorized by Member States release routing information to duly authorized agencies in cases of fraud or numbering misuse/misappropriation, in accordance with national law;

3 to encourage administrations, operating agencies and national regulators to collaborate and share information on fraudulent activities related to numbering misappropriation and misuse of international numbering resources, and to collaborate to counter and combat such activities;

4 to encourage all international telecommunication operators to enhance the effectiveness of ITU's role and to give effect to its Recommendations, particularly those of ITU-T Study Group 2, in order to promote a new and more effective basis to counter, combat and address fraudulent activities due to number misappropriation and misuse, which would help mitigate them and limit the negative effects of these fraudulent activities and the blocking of international calls;

5 to encourage administrations and international telecommunication operators to implement ITU-T Recommendations in order to mitigate the adverse effects of fraudulent number misappropriation and misuse, including blocking of calls to certain countries,

resolves further

1 that administrations and operating agencies authorized by Member States take, to the furthest extent practicable, all reasonable measures to provide information necessary to address issues related to number misappropriation and misuse;

2 that administrations and operating agencies authorized by Member States should take note of and consider, to the furthest extent practicable, the "Suggested guidelines for regulators, administrations and operating agencies authorized by Member States for dealing with number misappropriation", in accordance with the attachment to this resolution;

3 that Member States and national regulators should take note of instances of activities related to misappropriation and misuse of ITU-T E.164 international numbering resources that are notified through relevant ITU-T resources (e.g. the ITU-T Operational Bulletin) or directly to them;

4 to request Study Group 2 to continue to study all aspects and forms of misappropriation and misuse of numbering resources within its mandate, in particular of international country codes, with a view to amending Recommendation ITU-T E.156 and its supplements and guidelines to identify means to support countering and combating these activities;

5 to request ITU-T Study Group 3, in collaboration with Study Group 2, to develop definitions for inappropriate activities, including inappropriate activities causing loss of revenue, related to misappropriation and misuse of international numbering resources specified in the relevant ITU-T Recommendations, and to continue to study such matters;

6 to request Study Group 3 to continue to study the economic effects resulting from misappropriation and misuse of numbering resources, including call blocking.

Attachment
(to Resolution 61 (Rev. Geneva, 2022))

Suggested guidelines for regulators, administrations and operating agencies authorized by Member States for dealing with number misappropriation

In the interest of global development of international telecommunications, it is desirable for regulators, administrations and operating agencies authorized by Member States to cooperate with others and to take a collaborative and reasonable approach to avoid the blocking of country codes, where a preferable option is the selective blocking of particular international numbers, authorized on a case-by-case basis by national regulators.

Cooperation and subsequent actions would have to take account of the constraints of national regulatory frameworks and laws. It is recommended that the following guidelines be applied in country X (the location of the calling party), country Y (the country through which the call is routed) and country Z (the country to which the call was originally destined) regarding number misappropriation.

SCENARIO 1. Complaints generated by the destination side

Country X (location of call origination)	Country Y (country through which the call is routed)	Country Z (country to which the call was originally destined)
		On receipt of a complaint, the national regulator finds the information: name of the carrier from which the call originated, time of the call and called number, and passes this information to the national regulator in country X.
When a complaint is received, the first information that is required is the name of the carrier from which the call originated, the time of the call and the called number.		
Once the call details are known, the national regulator requests relevant information from the carrier from which the call originated, to determine the next carrier through which the call was routed.		
Once the relevant information has been found, the national regulator is to advise the national regulator of the next country of the call details (including the call detail record) and request the national regulator to request further information.	The national regulator asks the other carriers for relevant information. This process continues until the information on where the call was misappropriated is found.	
Cooperation from national regulators, as appropriate, to manage these issues.	Cooperation is required from entities involved, to attempt to bring a criminal case against the perpetrators.	Cooperation is encouraged between and among national regulators involved, to resolve these issues.

SCENARIO 2. Complaints received on the origination side

Country X (location of call origination)	Country Y (country through which the call is routed)	Country Z (country to which the call was originally destined)
On receipt of a complaint, the national regulator requires the name of the carrier from which the call originated, the time of the call and the called number. It also requires the name of the carrier to which the call is destined, the time of the call and the called number, and passes this information to the national regulator in country Z.		
Once the call details are known, the national regulator requests relevant information from the carrier from which the call originated, to determine the next carrier through which the call was routed.		
The national regulator may also advise the national regulator of the next country of the call details (including the call detail record) and, if needed, request the national regulator to request further information.	The national regulator may ask the other carriers for relevant information. This process may continue until all the countries through which the call is routed are advised.	
Cooperation from national regulators, as appropriate, to manage these issues. Inform the relevant national regulators on the measures taken.	Cooperation is required from entities involved.	Cooperation is encouraged between and among national regulators involved, to resolve these issues.

RESOLUTION 62 (Rev. Dubai, 2012)

Dispute settlement

(Johannesburg, 2008; Dubai, 2012)

The World Telecommunication Standardization Assembly (Dubai, 2012),

considering

a) that Internet penetration rates remain low in developing countries[1], in particular in comparison with the penetration rates of mobile telephony, and that the growth rates of Internet penetration in developing countries are also very low when compared with the growth rates of mobile telephony;

b) the increasing imbalance under the current circumstances between developed and developing countries, in terms of economic growth and technological progress;

c) that numerous explanations have been put forward to explain the phenomena mentioned above,

recognizing

a) that the continuing social and economic underdevelopment of a large part of the world is one of the most serious problems affecting not only the countries concerned, but also the international community as a whole;

b) that the development of telecommunication/information and communication technologies infrastructure and services is a precondition for social and economic development;

c) that the uneven access to telecommunication facilities globally results in a widening of the gap between the developed and the developing world in terms of economic growth and technological progress;

d) that many countries have agreed to the dispute settlement clause for interconnection in the World Trade Organization reference paper on the principles and definitions on the regulatory framework for the basic telecommunication services,

noting

the contribution from Study Group 3 of the ITU Telecommunication Standardization Sector (ITU-T) to the second meeting of the Internet Governance Forum;

resolves to instruct ITU-T Study Group 3

1 to expedite its work on international connectivity, in order to facilitate the implementation of relevant resolutions;

2 to collect data with respect to the implementation and practical effects of the implementation of relevant resolutions and ITU-T D-series Recommendations,

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

invites Member States

1 to encourage each party to include in a negotiation or agreement related to, or arising out of, international connectivity matters a dispute settlement clause in such agreements;

2 to encourage all operating agencies domiciled within their territories to implement relevant ITU-T Recommendations;

3 to contribute to ITU-T's further work in the areas mentioned in this resolution,

instructs the Director of the Telecommunication Standardization Bureau

1 to report annually to the ITU Council with respect to the implementation of this resolution;

2 to provide all necessary support, within the existing budget, to Study Group 3 for its further work on this matter.

RESOLUTION 64 (Rev. Geneva, 2022)

Internet Protocol address allocation and facilitating the transition to and deployment of Internet Protocol version 6

(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recognizing

a) Resolutions 101 (Rev. Dubai, 2018), 102 (Rev. Dubai, 2018) and 180 (Rev. Dubai, 2018) of the Plenipotentiary Conference, and Resolution 63 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference;

b) that the exhaustion of Internet Protocol version 4 (IPv4) addresses calls for acceleration of IPv4 to Internet Protocol version 6 (IPv6) migration, which becomes an important issue for Member States and Sector Members;

c) the result of the ITU IPv6 Group, which has carried out the work that was assigned to it;

d) that future work on IPv6 human capacity building is to be continued and led by the Telecommunication Development Bureau (BDT), in collaboration with other relevant organizations, if required,

noting

a) that Internet Protocol (IP) addresses are fundamental resources that are essential for the future development of IP-based telecommunication/information and communication technology (ICT) networks and for the world economy;

b) that many countries believe that there are historical imbalances related to IPv4 allocation;

c) that large contiguous blocks of IPv4 addresses are becoming scarce and that it is urgent to promote migration to IPv6;

d) the ongoing collaboration and coordination between ITU and relevant organizations on IPv6 capacity building in order to respond to the needs of Member States and Sector Members;

e) the progress towards adoption of IPv6 that has been made over the last few years,

considering

a) that, among the relevant stakeholders in the Internet community, there is a need to continue discussions related to IPv6 deployment and disseminate information in this regard;

b) that IPv6 deployment and migration is an important issue for Member States and Sector Members;

c) that many developing countries[1] are still facing challenges in the IPv4 to IPv6 transition process, including due to the limited technical skills in this area;

d) that there are Member States with sufficient technical skills in IPv6 that are nevertheless encountering a delay in the IPv4 to IPv6 transition due to various reasons;

e) that Member States have an important role to play in promoting the deployment of IPv6;

f) that prompt deployment of IPv6 is increasingly urgent on account of the rapid rate of depletion of IPv4 addresses;

g) that many developing countries want the ITU Telecommunication Standardization Sector (ITU-T) to become a registry of IP addresses in order to give the developing countries the option of obtaining IP addresses directly from ITU, while other countries prefer to use the current system;

h) that deployment of IPv6 facilitates Internet of things (IoT) solutions, which require a huge amount of IP addresses;

i) that new communication infrastructure such as 4G/LTE and 5G networks will require IPv6 support for better communication,

resolves

1 to instruct ITU-T Study Groups 2 and 3, each according to its mandate, to analyse statistics for the purpose of assessing the pace and geography of IPv6 address allocation and registration for interested members and, especially, developing countries, in collaboration with all relevant stakeholders;

2 to enhance the exchange of experiences and information with all stakeholders regarding the deployment of IPv6, with the aim of creating opportunities for collaborative efforts and the enhancement of technical skills, and to ensure that feedback exists to enrich ITU efforts to support the transition and deployment of IPv6,

instructs the Director of the Telecommunication Standardization Bureau, in close collaboration with the Director of the Telecommunication Development Bureau

1 to continue the ongoing activities between the Telecommunication Standardization Bureau and BDT, taking into consideration the involvement of those partners willing to participate and bring their expertise to assist developing countries with IPv6 migration and deployment, and respond to their regional needs as identified by BDT, taking into account Resolution 63 (Rev. Buenos Aires, 2017);

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

2 to update and maintain the website which provides information about global activities related to IPv6, in order to facilitate awareness-raising and highlight the importance of IPv6 deployment for the entire ITU membership and interested entities, as well as information related to training events being undertaken by ITU and relevant organizations (e.g. regional Internet registries (RIRs), network operator groups and the Internet Society (ISOC));

3 to promote awareness of the importance of IPv6 deployment, facilitate joint training activities, involving appropriate experts from the relevant entities, provide information, including roadmaps and guidelines, and assist in the continued establishment of IPv6 test-bed laboratories in developing countries in collaboration with appropriate relevant organizations, and to promote awareness of the need for IPv6 deployment with regard to IoT given the substantial demand for IP addresses for IoT devices;

4 to support BDT in relevant IPv6 training for engineers, network operators and content providers, mainly in developing countries, that can enhance their skills and which they can further apply to planning, deployment and operation at their respective organizations,

further instructs the Director of the Telecommunication Standardization Bureau

to report to the ITU Council and also to the 2024 world telecommunication standardization assembly, regarding the progress on action taken with respect to *resolves* above,

invites Member States and Sector Members

1 through the knowledge gained under this resolution, to promote specific initiatives at the national level which foster interaction with governmental, private and academic entities and civil society for the purposes of the information exchange necessary for the deployment of IPv6 in their respective countries;

2 to ensure that newly deployed network equipment, computer equipment and software have IPv6 capability, and to collaborate with relevant international organizations in this regard;

3 to consider committing to an IPv6 transition and communicating progress;

4 to build relevant IPv6 deployment plans,

invites Member States

1 to develop national policies to promote the technological update of systems, in order to ensure that the public services provided utilizing the IP protocol and the communications infrastructure and relevant applications of the Member States are compatible with IPv6;

2 to consider the possibility of national programmes to encourage Internet service providers (ISPs) and other relevant organizations to deploy IPv6;

3 to encourage, with support from the ITU regional offices, the RIRs and other regional organizations in coordinating research, dissemination and training actions with participation by governments, industry and the academic community in order to facilitate the deployment and adoption of IPv6 within their countries and in their region, and to coordinate initiatives between regions to promote its deployment worldwide;

4 to consider using government procurement requirements to encourage deployment of IPv6 among ISPs and other relevant organizations, if appropriate,

5 to share experiences regarding IPv6 deployment.

RESOLUTION 65 (Rev. Geneva, 2022)

Calling party number delivery, calling line identification and origin identification information

(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

concerned

a) that there appears to be a trend to either suppress or amend the transmission across international boundaries of calling party number (CPN), calling line identification (CLI) and origin identification (OI) information, in particular the country code and the national destination code;

b) that such practices have an unfavourable effect on security and economic issues, in particular for developing countries[1];

c) about the number of cases so far reported to the Director of the Telecommunication Standardization Bureau (TSB) on ITU-T E.164 numbering misappropriation and misuse related to CPN non-delivery or spoofing;

d) that work on this topic in Study Group 2 of the ITU Telecommunication Standardization Sector (ITU-T) needs to be expedited and expanded to cater for the changing environment of service delivery and network infrastructures, including emerging telecommunications/information and communication technologies and services, such as next-generation networks and future networks,

noting

a) relevant ITU-T Recommendations, in particular:

i) ITU-T E.156: Guidelines for ITU-T action on reported misuse of ITU-T E.164 number resources;

ii) ITU-T E.157: International calling party number delivery;

iii) ITU-T E.370: Service principles when public circuit switches international telecommunication networks interwork with IP-based networks;

iv) ITU-T E.164: The international public telecommunication numbering plan;

v) ITU-T I.251.3: Number identification supplementary services: Calling line identification presentation;

vi) ITU-T I.251.4: Number identification supplementary services: Calling line identification restriction;

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

vii) ITU-T I.251.7: Number identification supplementary services: Malicious call identification;

viii) ITU-T Q.731.x-series, concerning stage 3 descriptions for number identification supplementary services using Signalling System No. 7;

ix) ITU-T Q.731.7: Stage 3 description for number identification supplementary services using Signalling System No. 7: Malicious call identification (MCID);

x) ITU-T Q.764: Signalling System No. 7 – ISDN User Part signalling procedures;

xi) ITU-T Q.1912.5: Interworking between Session Initiation Protocol (SIP) and Bearer Independent Call Control protocol or ISDN User Part;

xii) ITU-T Q.3057: Signalling requirements and architecture for interconnection between trustable network entities;

b) relevant resolutions:

i) Resolution 61 (Rev. Geneva, 2022) of this assembly, on misappropriation and misuse of international telecommunication numbering resources;

ii) Resolution 21 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on measures concerning alternative calling procedures on international telecommunication networks;

iii) Resolution 29 (Rev. Geneva, 2022) of this assembly, on alternative calling procedures on international telecommunication networks;

c) No. 32 (Article 3.6) of the International Telecommunication Regulations (Dubai, 2012) (ITRs) regarding the provision of international CLI by the signatory Member States to the ITRs,

noting further

a) that some countries and regions have adopted national laws, directives and recommendations regarding CPN non-delivery and spoofing, and/or on ensuring confidence in OI, and that some countries have national data-protection and data-privacy laws, directives and recommendations;

b) that the CPN makes it possible to identify the party responsible for making the call;

c) that the presence of verification mechanisms for the various calling party identifiers may increase the reliability of the information transmitted,

reaffirming

that it is the sovereign right of each country to regulate its telecommunications and, as such, regulate the provision of CLI, CPN delivery and OI information, taking into account the Preamble to the ITU Constitution and the relevant provisions of the ITRs related to the provision of CLI information,

resolves

1 that international CPN delivery shall be provided on the basis of the relevant ITU-T Recommendations;

2 that international CLI and OI delivery shall be provided on the basis of the relevant ITU-T Recommendations where technically possible;

3 that the delivered CPN should contain at least either the calling party number or the specially allocated number of the operator/service provider responsible for making the call, so that a terminating country can identify the operator/service provider of the outgoing call, or identify the terminal that originates the call, before it is delivered from the originating country to that terminating country;

4 that the delivered CPN and the CLI, if delivered, shall include sufficient information to allow proper billing and accounting, for each international call;

5 that the OI information in a heterogeneous networking environment shall, where technically possible, be an identifier assigned to a subscriber by the originating service provider, or be replaced by a default identifier by the originating provider to identify the origin of the call, if specified by the administration;

6 that the CPN, CLI and OI information shall be transmitted transparently by transit networks (including hubs);

7 to encourage operators to make OI information, wherever applicable, CPN and CLI reliable and verifiable in order to combat spoofing and other forms of numbering misuse,

instructs

1 ITU-T Study Group 2, ITU-T Study Group 3 and, where required, ITU-T Study Groups 11 and 17 to further study the emerging issues of CPN delivery, CLI and OI information, in particular for a heterogeneous networking environment, including security methods and possible validation techniques;

2 the study groups concerned to expedite work on Recommendations that would provide additional detail and guidance for the implementation of this resolution;

3 the Director of TSB to report on the progress achieved by the study groups in implementing this resolution, which is intended to improve security and minimize fraud, and minimize technical harm as called for by Article 42 of the Constitution;

4 the Director of TSB to share information on country experiences regarding the implementation of this resolution, in a centralized location,

invites Member States

1 to contribute to this work, to share information regarding their experiences in implementing this resolution and to cooperate in the implementation of this resolution;

2 to consider developing, within their national regulatory and legal frameworks, guidelines or other means for implementing this resolution.

RESOLUTION 67 (Rev. Geneva, 2022)

Use in the ITU Telecommunication Standardization Sector of the languages of the Union on an equal footing and the Standardization Committee for Vocabulary

(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recognizing

a) the adoption by the Plenipotentiary Conference of Resolution 154 (Rev. Dubai, 2018), on the use of the six official languages of the Union on an equal footing, which instructs the ITU Council and the ITU General Secretariat on how to achieve equal treatment of the six languages and which appreciated the work accomplished by the ITU Coordination Committee for Terminology (ITU CCT) on the adoption and agreement of terms and definitions in the field of telecommunications/information and communication technologies in all the official languages of the Union;

b) Resolution 1386, adopted by the Council at its 2017 session, on ITU CCT, which consists of the Coordination Committee for Vocabulary (CCV) of the ITU Radiocommunication Sector (ITU-R) and the Standardization Committee for Vocabulary (SCV) of the ITU Telecommunication Standardization Sector (ITU-T) functioning in accordance with the relevant resolutions of the Radiocommunication Assembly and the World Telecommunication Standardization Assembly (WTSA), respectively, and representatives of ITU Telecommunication Development Sector (ITU-D), in close collaboration with the secretariat;

c) Resolution 1 (Rev. Geneva, 2022) of this assembly, on ITU-T rules of procedure;

d) the decisions of the Council centralizing the editing functions for languages in the General Secretariat (Conferences and Publications Department), calling upon the Sectors to provide the final texts in English only (this applies also to terms and definitions),

considering

a) that under Resolution 154 (Rev. Dubai, 2018), the Council is instructed to continue the work of the Council Working Group on Languages, in order to monitor progress and report to the Council on the implementation of that resolution;

b) the importance of providing information in all the official languages of the Union on an equal footing on ITU-T webpages,

c) that Council Resolution 1386 considers the importance of collaborating with other interested organizations about terms and definitions, symbols and other means of expression, units of measurement, etc., with the objective of standardizing such elements;

d) the difficulty of achieving agreement on definitions when more than one ITU study group is involved,

noting

a) that SCV was established in accordance with Resolution 67 (Johannesburg, 2008) of WTSA, on the initiation of SCV;

b) that SCV is a part of the joint ITU CCT in accordance with Council Resolution 1386,

resolves

1 that the ITU-T study groups, within their terms of reference, should continue their work on technical and operational terms and their definitions in English only;

2 that the work of standardizing vocabulary within ITU-T shall be based on the proposals made by the study groups in the English language, with the consideration and adoption of the translation into the other official languages as proposed by the General Secretariat, and that this shall be ensured by ITU CCT, which is composed of experts fluent in the official languages from all ITU Sectors, and persons designated by interested organizations and other participants in the work of ITU, in close collaboration with the General Secretariat and the Telecommunication Standardization Bureau (TSB) editor for the English language;

3 that, when proposing terms and definitions, the ITU-T study groups shall use the guidelines given in Annex B to the "Author's guide for drafting ITU-T Recommendations";

4 that, where more than one ITU-T study group is defining the same terms and/or concept, efforts should be made to select a single term and a single definition which is acceptable to all of the ITU-T study groups concerned;

5 that, when selecting terms and preparing definitions, the ITU-T study groups shall take into account the established use of terms and existing definitions in ITU, in particular those appearing in the online ITU Terms and Definitions database;

6 that TSB should collect all new terms and definitions which are proposed by the ITU study groups in consultation with ITU CCT, enter them in the online ITU Terms and Definitions database, and provide a search mechanism based on time ranges;

7 that the chairman and six vice-chairmen of SCV, each representing one of the official languages, should be nominated by WTSA;

8 that the terms of reference of SCV are given in the annex to this resolution,

instructs the Director of the Telecommunication Standardization Bureau

1 to continue to translate all Recommendations approved under the traditional approval process (TAP) in all the official languages of the Union;

2 to translate all reports of the Telecommunication Standardization Advisory Group (TSAG), and the reports of study group plenary meetings, in all the official languages of the Union;

3 to translate all ITU-T A-series Recommendations (ITU-T working methods) in all the official languages of the Union;

4 to translate all ITU-T guidelines on intellectual property rights;

5 to translate documents relating to the mandates and working methods of the Director of TSB's ad-hoc groups;

6 to include in the circular that announces the approval of a Recommendation an indication of whether it will be translated;

7 to continue the practice of translating ITU-T Recommendations approved under the alternative approval process (AAP), up to 2 000 pages, within the financial resources of the Union;

8 to monitor the quality of translation and associated expenses;

9 to bring this resolution to the attention of the Directors of the Radiocommunication Bureau and the Telecommunication Development Bureau;

10 to continue to explore all possible options for the provision of interpretation and the translation of available ITU documentation, in order to promote the use of the official languages of the Union on an equal footing during official meetings of ITU-T, in particular during study group meetings,

invites Member States

to cooperate with ITU in the refinement of the official language translation of terms and definitions at the request of ITU CCT,

instructs the Telecommunication Standardization Advisory Group

1 to consider the best mechanism for deciding which Recommendations approved under AAP shall be translated, in light of the relevant Council decisions;

2 to continue consideration of use of all the official languages of the Union on an equal footing in ITU publications and sites.

Annex
(to Resolution 67 (Rev. Geneva, 2022))

Terms of reference for the Standardization Committee for Vocabulary

1 To represent the interests of ITU-T in the ITU Coordination Committee for Terminology (ITU CCT).

2 To provide, through ITU CCT, consultation on terms and definitions for vocabulary work for ITU-T in the official languages, in close collaboration with the General Secretariat (Conferences and Publications Department), the TSB editor for the English language as well as the relevant study group rapporteurs for vocabulary, and to seek harmonization among all ITU-T study groups concerned regarding terms and definitions.

3 To liaise, through ITU CCT, with other organizations dealing with vocabulary work in the telecommunication field, for example the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) as well as the ISO/IEC Joint Technical Committee for information technology (ISO/IEC JTC 1), in order to eliminate duplication of terms and definitions.

4 To inform TSAG at least once per year of its activities and to report its results to the next WTSA.

RESOLUTION 68 (Rev. Hammamet, 2016)

Evolving role of industry in the ITU Telecommunication Standardization Sector

(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

recognizing

a) that Resolution 122 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference, on the evolving role of the World Telecommunication Standardization Assembly (WTSA), called also for the organization of the Global Standards Symposium (GSS);

b) the objective of Resolution 123 (Rev. Busan, 2014) of the Plenipotentiary Conference, on bridging the standardization gap between developed and developing countries[1];

c) that the ITU Telecommunication Standardization Sector (ITU-T) is a unique international standardization organization comprising 193 Member States, and over 520 Sector Members, Associates and academia from all over the world;

d) the important conclusions of GSS (Dubai, 2012), covering the two above-mentioned resolutions, in particular:

- to facilitate an exchange of views with high-level industry representatives on the standardization scenario and consider in ITU's work the evolution of the industry and user needs; and
- to carry out this work without affecting either the unique status of ITU as an intergovernmental United Nations agency that also incorporates other entities representing the private sector, the industry and the users, among others, or the traditional contribution-driven working procedures of ITU-T;

e) that since 2009 the Director of the Telecommunication Standardization Bureau (TSB) has organized six meetings of high-level, private-sector executives to discuss the standardization landscape, identifying and coordinating standards priorities and ways to best address the needs of the private sector;

f) that conclusions of chief technology officer (CTO) meetings have been reflected in official ITU-T communiqués and, when relevant, have been taken into account by the Telecommunication Standardization Advisory group (TSAG),

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

considering

a) that developing countries participate in the standardization activities almost only of ITU-T, and may not be able to participate in the increasingly fragmented global and/or regional standards development organizations (SDOs), as well as industry forums and consortia, or attend their meetings;

b) that ITU-T should continue to strengthen its role and evolve, as required by Resolution 122 (Rev. Guadalajara, 2010), and should repeat the gathering of private-sector executives, along the lines of GSS, but limited to the private sector, with the objective of strengthening the role of ITU-T by taking appropriate measures to respond to the needs of such executives in terms of their identified requirements and priorities for standardization activities within ITU-T, also taking into consideration the needs and concerns of developing countries;

c) that ITU-T should also encourage cooperation with other relevant SDOs,

noting

a) that, in order to encourage industry participation in ITU-T, standards-making in ITU-T should respond appropriately to the needs of the information and communication technology industry in a coordinated way;

b) that an essential part of the work in the development of technical standards (ITU-T Recommendations) is done by representatives of the information and communication technology industry;

c) that Recommendations proposed in response to those coordinated needs will increase ITU's credibility and will respond to the needs of countries by deploying optimized technical solutions and reducing the proliferation of such solutions, which will also have economic advantages for developing countries;

d) that TSAG has recognized the need for a strategy function in ITU-T and that the input of industry into that strategy is highly desired;

e) that TSB also organizes CxO meetings (executive meetings),

resolves to instruct the Director of the Telecommunication Standardization Bureau

1 to continue to organize meetings for industry executives, e.g. CTO group meetings, in order to assist in identifying and coordinating standardization priorities and subjects;

2 to bring the needs of developing countries to those meetings by consulting them prior to the meetings and to encourage the participation of local industry representatives;

3 to encourage participation in the CTO group of a wide representation of industry, from the ITU-T Sector Members from all regions;

4 to develop effective mechanisms to organize participation by industry representatives in those meetings (for example, having a stable composition and regular participation in the group by the CTO or alternate);

5 to continue to include the conclusions of the CTO group meetings in an official ITU-T communiqué;

6 to take the conclusions of the CTO group into account in ITU-T work, especially in the strategy function of TSAG and in the ITU-T study groups as appropriate;

7 to produce a regular report to TSAG on the follow-up of the CTO conclusions;

8 to produce a report to the next WTSA, assessing the outcomes of the CTO group over the period and examining the need to continue or enhance its activities,

encourages Sector Members from developing countries

to participate at the level of their executives in the CTO meetings, and to raise proposals in regard to their priority standardization areas as well as standardization priorities and needs of developing countries.

RESOLUTION 69 (Rev. Hammamet, 2016)

Non-discriminatory access and use of Internet resources and telecommunications/information and communication technologies

(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

considering

that one of the purposes of ITU laid down in Article 1 of the ITU Constitution is "to maintain and extend international cooperation among all its Member States for the improvement and rational use of telecommunications of all kinds",

considering further

a) the outcome documents of the World Summit on the Information Society (WSIS), Geneva 2003 and Tunis 2005, including the WSIS Declaration of Principles, especially §§ 11, 19, 20, 21 and 49 thereof;

b) the United Nations Human Rights Council resolution on the promotion, protection and enjoyment of human rights on the Internet (A/HRC/20/L.13);

c) Resolution 20 (Rev. Hyderabad, 2010) of the World Telecommunication Development Conference;

d) Resolution 102 (Rev. Busan, 2014) of the Plenipotentiary Conference;

e) Resolution 64 (Rev. Busan, 2014) of the Plenipotentiary Conference;

f) United Nations General Assembly (UNGA) Resolution 70/125, on the outcome document of the high-level meeting of the General Assembly on the overall review of the implementation of the WSIS outcomes;

g) the WSIS+10 High-Level Event outcomes (Geneva, 2014), which were submitted as an input into the overall review of WSIS by UNGA, especially those related to transfer of know-how and technology and to non-discriminatory access, within the framework of the required activities in this regard,

noting

that § 48 of the WSIS Declaration of Principles recognized that: "The Internet has evolved into a global facility available to the public and its governance should constitute a core issue of the information society agenda. The international management of the Internet should be multilateral, transparent and democratic, with the full involvement of governments, the private sector, civil society and international organizations. It should ensure an equitable distribution of resources, facilitate access for all and ensure a stable and secure functioning of the Internet, taking into account multilingualism",

recognizing

a) that the second phase of WSIS (Tunis, November 2005) identified ITU as the possible moderator/facilitator for the following WSIS action lines from the Plan of Action: C2 (Information and communication infrastructure) and C5 (Building confidence and security in use of ICTs);

b) that the Plenipotentiary Conference (Busan, 2014) entrusted the ITU Telecommunication Standardization Sector (ITU-T) with a range of activities aimed at implementing the WSIS (Tunis, 2005) outcomes, a number of those activities having to do with Internet-related issues;

c) Resolution 102 (Rev. Busan, 2014), on ITU's role with regard to international public policy issues pertaining to the Internet and the management of Internet resources, including domain names and addresses;

d) that management of the registration and allocation of Internet domain names and addresses must fully reflect the geographical nature of the Internet, taking into account an equitable balance of interests of all stakeholders;

e) Resolution 64 (Rev. Busan, 2014), on non-discriminatory access to modern telecommunication/information and communication technology (ICT) facilities, services and applications, including applied research and transfer of technology, on mutually agreed terms;

f) Resolution 20 (Rev. Hyderabad, 2010), on non-discriminatory access to telecommunication/ICT facilities, services and related applications;

g) Opinion 1 of the fourth World Telecommunication/ICT Policy Forum, on Internet-related public policy matters, and the Lisbon Consensus 2009 on the same matters,

taking into account

a) that ITU-T is dealing with technical and policy issues related to Internet protocol (IP)-based networks, including the Internet and next-generation networks;

b) that a number of the resolutions of this assembly deal with Internet-related issues;

c) the global and open nature of the Internet as a driving force in accelerating progress towards development in its various forms;

d) that discrimination in accessing the Internet could greatly affect the developing countries[1];

e) that ITU-T is playing a key role in bridging standardization gap between developed and developing countries,

resolves to invite Member States

1 to refrain from taking any unilateral and/or discriminatory actions that could impede another Member State from accessing public Internet sites and using resources, within the spirit of Article 1 of the Constitution and the WSIS principles;

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

2 to report to the Director of the Telecommunication Standardization Bureau (TSB) on any incident of the kind referred to in *resolves* 1 above,

instructs the Director of the Telecommunication Standardization Bureau

1 to integrate and analyse the information on incidents reported from Member States;

2 to report this information to Member States, through an appropriate mechanism;

3 to report to the Telecommunication Standardization Advisory Group (TSAG) on progress on this resolution, in order for TSAG to evaluate the effectiveness of its implementation;

4 to report on progress on this resolution to the next world telecommunication standardization assembly,

instructs the Secretary-General

to report annually to the ITU Council on progress on this resolution,

invites the Directors of the Telecommunication Standardization Bureau, Radiocommunication Bureau and Telecommunication Development Bureau

to contribute to the report on progress on this resolution,

invites the ITU membership

to submit contributions to the ITU-T study groups that contribute to the prevention and avoidance of such practices.

RESOLUTION 70 (Rev. Geneva, 2022)

Telecommunication/information and communication technology accessibility for persons with disabilities and persons with specific needs

(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recognizing

a) Resolution 175 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on telecommunication/information and communication technology (ICT) accessibility for persons with disabilities, including age-related disabilities, and persons with specific needs;

b) Resolution 58 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference (WTDC), on telecommunication/ICT accessibility for persons with disabilities and persons with specific needs, and WTDC Resolution 17 (Rev. Buenos Aires, 2017), on implementation of regionally approved initiatives at the national, regional, interregional and global levels;

c) Resolution ITU-R 67 (Rev. Sharm el-Sheikh, 2019) of the ITU Radiocommunication Assembly, on telecommunication/ICT accessibility for persons with disabilities and persons with specific needs;

d) the mandate of and work carried by the Joint Coordination Activity on Accessibility and Human Factors (JCA-AHF), and in particular ITU Telecommunication Standardization Sector (ITU-T) actions to increase cooperation with other United Nations organizations and activities, as well as all United Nations specialized agencies, in order to raise awareness about ICT accessibility in the framework of standardization, and ITU-T actions aimed at upholding JCA-AHF;

e) studies carried out by ITU-T study groups, in particular ITU-T Study Group 16, on the accessibility of multimedia systems and services for persons with disabilities and persons with specific needs;

f) studies under Question 7/1 of the ITU Telecommunication Development Sector (ITU-D), on access to telecommunication/ICT services by persons with disabilities and other persons with specific needs;

g) the mandate of JCA-AHF for the purposes of awareness-raising, advice, assistance, collaboration, coordination and networking;

h) the activity carried out by the Internet Governance Forum (IGF) Dynamic Coalition on Accessibility and Disability (DCAD) for the purposes of maximizing the benefits of electronic communications and online information through the Internet for all sectors of the global community;

i) the activity carried out by the Council Working Group on international Internet-related public policy issues on issues related to access to the Internet for persons with disabilities and specific needs;

j) ongoing work in the ITU Radiocommunication Sector (ITU-R) in accordance with Resolution ITU-R 67 (Rev. Sharm el-Sheikh, 2019);

k) the publication by the Telecommunication Standardization Advisory Group of the guide for ITU study groups: Considering end-user needs in developing Recommendations;

l) the publication of Recommendation ITU-T F.930, on multimedia telecommunication relay services,

considering

a) that the World Health Organization estimates that more than one billion of the world's population live with some form of disability, of whom almost 200 million experience considerable difficulty in their daily lives, and it is to be expected that, in the future, disabilities will rise because of the increasing population of older persons and the risk that disability is greater among older persons;

b) that the United Nations has moved from a health and welfare perspective to an approach based on human rights, which recognizes that persons with disabilities are people first, and that society places barriers upon them as opposed to their disabilities, and which includes the goal of full participation in society by persons with disabilities (Resolution 175 (Rev. Dubai, 2018));

c) that maximizing the accessibility and usability of telecommunication/ICT services, products and terminals through universal design will increase their uptake by all persons, including persons with disabilities and older persons, and thereby increase revenues;

d) that United Nations General Assembly (UNGA) Resolution 61/106, adopting the Convention on the Rights of Persons with Disabilities, requests the United Nations Secretary-General (§ 5) "… to implement progressively standards and guidelines for the accessibility of facilities and services of the United Nations system, taking into account relevant provisions of the Convention, in particular when undertaking renovations";

e) the importance of cooperation between governments, the private sector and relevant organizations to promote affordable access possibilities,

recalling

a) § 18 of the Tunis Commitment, made at the second phase of the World Summit on the Information Society (Tunis, 2005): "We shall strive unremittingly, therefore, to promote universal, ubiquitous, equitable and affordable access to ICTs, including universal design and assistive technologies, for all people, especially those with disabilities, everywhere, to ensure that the benefits are more evenly distributed between and within societies, …"[1];

b) the Phuket Declaration on Tsunami Preparedness for Persons with Disabilities (Phuket, 2007), which emphasizes the need for inclusive emergency warning and disaster management systems using telecommunication/ICT facilities based on open, non-proprietary, global standards;

c) Article 12 of the International Telecommunication Regulations,

taking into account

a) Resolution 44 (Rev. Geneva, 2022) of this assembly, on bridging the standardization gap between developing[2] and developed countries, and Resolution 18 (Rev. Geneva, 2022) of this assembly, on strengthening coordination and cooperation among the three ITU Sectors on matters of mutual interest;

b) Resolution GSC-17/26 (revised), on user needs, considerations and involvement, agreed upon at the 17th Global Standards Collaboration meeting (Jeju, Republic of Korea, 2013);

c) publications of the Special Working Group on Accessibility (ISO/IEC JTC 1 SWG – Accessibility) of the Joint Technical Committee for information technology (JTC 1) of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), as well as the Mandate 376 project teams, identifying user needs and developing a comprehensive inventory of existing standards as part of the ongoing effort to identify areas where research or new standards work is needed;

d) the activities of Study Group 16, which is the lead study group on telecommunication/ICT accessibility for persons with disabilities, and ITU-T Study Group 2 for the part relating to human factors;

e) activities relating to the development of new standards (e.g. ISO TC 159, JTC 1 SC35, IEC TC100, ETSI TC HF, and W3C WAI), and the implementation and maintenance of existing standards (e.g. ISO 9241-171);

f) the joint efforts of ITU and the Global Initiative for Inclusive ICTs (G3ICT), including the development of the Model ICT accessibility policy;

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[1] Geneva Declaration of Principles §§ 13 and 30; Geneva Plan of Action §§ 9 (e) and (f), 12 and 23; Tunis Commitment §§ 18 and 20; Tunis Agenda for the Information Society §§ 90 (c) and (e).

[2] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

g) the Model ICT accessibility policy report (November 2014), the release of the report "Making TV accessible" on the occasion of the International Day of Persons with Disabilities (3 December 2011), the report on "Making Mobile Phones and Services Accessible to Persons with Disabilities" (August 2012), and the e-Accessibility Policy Toolkit for Persons with Disabilities (February 2010);

h) various international, regional and national efforts to develop or revise guidelines and standards for telecommunication/ICT accessibility, compatibility and usability by persons with disabilities,

resolves

1 that Study Group 16 shall continue giving high priority to work on the relevant Questions, Recommendation ITU-T F.790, the guide for ITU-T study groups on telecommunication accessibility guidelines for older persons and persons with disabilities, and Recommendation ITU-T F.791, on accessibility terms and definitions;

2 that ITU-T study groups should consider aspects of universal design in their work, including the drafting of non-discriminatory standards, service regulations and measures for all persons, including persons with disabilities and older persons, with cross-cutting user-protection actions;

3 that all ITU-T study groups utilize the Telecommunications Accessibility Checklist, which makes it possible to incorporate the principles of universal design and accessibility;

4 that ITU workshops be held to inform about the progress in the work and the results achieved by the study groups in charge of ICT accessibility before the next world telecommunication standardization assembly,

instructs the Director of the Telecommunication Standardization Bureau

1 to report to the ITU Council on the implementation of this resolution;

2 to contribute to the development of an ITU-wide internship programme for persons with disabilities who have expertise in the field of ICTs, so as to build capacity among persons with disabilities in the standards-making process and to raise awareness within ITU-T of the needs of persons with disabilities;

3 that ITU-T employ the technical papers FSTP-AM "Guidelines for accessible meetings" and FSTP-ACC-RemPart "Guidelines for supporting remote participation for all", as appropriate, to make it possible for persons with disabilities to be able to attend ITU meetings and events,

invites the Director of the Telecommunication Standardization Bureau

1 to work collaboratively on accessibility-related activities with the Directors of the Radiocommunication Bureau and the Telecommunication Development Bureau, taking into account JCA-AHF, in particular concerning awareness and mainstreaming of telecommunication/ICT accessibility standards, reporting findings to the Council as appropriate;

2 to work collaboratively on accessibility-related activities with ITU-D, in particular developing programmes that enable developing countries to introduce services that allow persons with disabilities to utilize telecommunication services effectively;

3 to work collaboratively and cooperatively with other standardization organizations and entities, in particular in the interest of ensuring that ongoing work in the field of accessibility is taken into account, in order to avoid duplication;

4 to work collaboratively and cooperatively with disability organizations in all regions to ensure that the needs of the disabled community are taken into account in all standardization matters;

5 to continue JCA-AHF, and any other accessibility coordination functions and advisory function within ITU-T, in order to assist the Director of the Telecommunication Standardization Bureau in reporting the findings of the review of ITU-T services and facilities;

6 to consider using accessibility resources in the meetings organized by ITU-T in order to encourage the participation of persons with disabilities and persons with specific needs in the standardization process;

7 to consider the possibility of organizing, jointly with ITU-D and with the involvement of other standardization organizations and entities, coaching and training for developing countries on working with disability organizations;

8 to identify and document examples of best and good practices for accessibility in the field of telecommunications/ICT for dissemination among ITU Member States and Sector Members;

9 to review the accessibility of ITU-T services and facilities, and consider making changes, where appropriate, pursuant to UNGA Resolution 61/106, in the Convention on the Rights of Persons with Disabilities, and report to the Council on these matters,

instructs the Telecommunication Standardization Advisory Group

1 to revise the guide for ITU study groups: Considering end-user needs in developing Recommendations;

2 to consider how study groups facilitate, in their respective work, the implementation of new software, services and proposals enabling all persons with disabilities and persons with specific needs to effectively use telecommunication/ICT services, and relevant guidelines for end-user needs, in order specifically to include the needs of persons with disabilities and persons with specific needs, and to update the guide on a regular basis, based on contributions from Member States and Sector Members as well as the ITU-T study groups, as appropriate,

invites Member States and Sector Members

1 to consider developing, within their national legal frameworks, guidelines or other mechanisms to enhance the accessibility, compatibility and usability of telecommunication/ICT services, products and terminals;

2 to support the introduction of services or programmes, including telecommunication relay services[3], to enable persons with hearing and speech disabilities to utilize telecommunication services that are functionally equivalent to telecommunication services for persons without disabilities;

3 to participate actively in accessibility-related studies in ITU-R, ITU-T and ITU-D, and to encourage and promote self-representation by persons with disabilities in the standardization process so as to ensure their experiences, views and opinions are taken into account in all the work of study groups;

4 to consider designating focal points for the implementation and monitoring of this resolution;

5 to encourage the provision of differentiated and affordable service plans for persons with disabilities in order to increase the accessibility and usability of telecommunications/ICT for these persons;

6 to encourage the development of applications for telecommunication products and terminals to increase the accessibility and usability of telecommunications/ICT for persons with visual, auditory, verbal and other physical and cognitive disabilities;

7 to encourage regional telecommunication organizations to contribute to the work and consider implementing the results achieved in the study groups and the workshop on this topic;

8 to encourage industry to consider accessible features when designing telecommunication devices and services.

[3] Telecommunication relay services enable users of different modes of communication (e.g. text, sign, speech) to interact by providing convergence between the modes of communication, usually through human operators called communication assistants.

RESOLUTION 72 (Rev. Geneva, 2022)

Measurement and assessment concerns related to human exposure to electromagnetic fields

(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016, Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) Resolution 176 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on measurement and assessment concerns related to human exposure to electromagnetic fields (EMF);

b) Resolution 62 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference, on measurement concerns related to assessment and measurement of human exposure to EMF,

considering

a) the importance of telecommunications/information and communication technologies (ICTs) for political, economic, social and cultural progress;

b) that, in the framework of telecommunications/ICTs to help bridge the digital divide between developed and developing countries[1], a significant part of the infrastructure needed involves various wireless technologies and the installation of base stations in the appropriate measure to ensure quality of service;

c) that there is a need to inform the public of the levels of EMF from different radio-frequency (RF) sources, and of the limits of safe exposure from these sources, in a scientific and objective manner through measurements and other standardized methodologies, as well as of the potential effects of EMF exposure;

d) that an enormous amount of research has been carried out regarding wireless systems and health, and many independent expert committees have reviewed this research;

e) that the World Health Organization (WHO) has the expertise and competency in the health field to assess the impact of radio waves on the human body;

f) that WHO advocates exposure limits that were established by international organizations such as the International Commission on Non-Ionizing Radiation Protection (ICNIRP);

g) that ITU works closely with WHO on matters related to human exposure to EMF;

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

h) that ITU has a mechanism for verifying compliance with radio-signal levels by calculating and measuring the field strength and power density of these signals;

i) that the considerable development of the use of the RF spectrum has resulted in an increase in the sources of EMF emission in a given geographical area;

j) that regulatory authorities in many developing countries urgently need information on methods of assessing and measuring human exposure to RF-EMF, in order to put in place national regulations to protect populations;

k) that ICNIRP[2], the Institute of Electrical and Electronics Engineers (IEEE)[3] and the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) have developed guidelines for EMF exposure limits and that many administrations have adopted national regulations based on those guidelines;

l) that most developing countries do not have the necessary tools to measure and assess the impact of radio waves on the human body;

m) relevant resolutions, recommendations and reports of the ITU Telecommunication Standardization Sector (ITU-T), the ITU Radiocommunication Sector (ITU-R) and the ITU Telecommunication Development Sector (ITU-D) related to human exposure to EMF;

n) that there is continuous advancement in wireless communication technologies and ongoing work in the ITU Sectors related to such advancements and also the concomitant EMF exposure aspect, and that active coordination and collaboration between the Sectors and other specialized and expert organizations in this field are important to avoid duplication of efforts,

recognizing

a) the work done within ITU-R study groups on radio-wave propagation, electromagnetic compatibility and related aspects, including measurement methods;

b) the work done within ITU-T Study Group 5 on techniques for RF measurement and assessment;

c) that Study Group 5, in establishing methodologies for assessing human exposure to RF energy, cooperates with many participating standards organizations;

d) that the ITU EMF Guide, in its digital version, also available in a mobile-phone application, is updated as ITU and/or WHO receive information and/or results of research,

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[2] ICNIRP Guidelines for limiting exposure to EMF (100 kHz to 300 GHz), 2020.

[3] IEEE Std C95.1™-2019, IEEE Standard for safety levels with respect to human exposure to electric, magnetic and electromagnetic Fields, 0 Hz to 300 GHz.

recognizing further

a) that some publications about EMF effects on health create doubt among the population, increasing the perception of the risk they involve;

b) that, in the absence of regulation and accurate, complete information, people become concerned about long-term exposure to EMF, due to their perception of risk, and are likely to oppose the deployment of radio installations in their neighbourhoods, demanding the enactment of restrictive municipal rules that affect the deployment of wireless networks;

c) that Study Group 5, in particular, has elaborated Recommendations on the technical measurement and environment management of EMF that help to diminish risk perception within the population;

d) that the development of these Recommendations has made it possible to significantly decrease the cost of measurement equipment and to leverage the results through social communication;

e) that advanced equipment used for measuring human exposure to RF energy is expensive;

f) that implementing such measurement and assessment is essential for many regulatory authorities, in particular in developing countries, in order to monitor the limits for human exposure to RF energy, and that they are called upon to ensure those limits are met in order to license different services;

g) the importance of EMF emission assessment when implementing policies in some countries,

noting

a) that other national, regional and international standards-development organizations (SDOs) are carrying out activities related to human exposure to EMF;

b) the urgent need for regulatory bodies in many developing countries to obtain information on EMF measurement and assessment methodologies in regard to human exposure to RF energy, in order to establish or reinforce national regulations to protect their citizens;

c) that collaborative efforts between stakeholders are key in fostering adequate public awareness on EMF and health,

resolves

to invite ITU-T, in particular Study Group 5, to expand and continue its work and support in this domain, including, but not limited to:

i) developing new and/or updating existing reports and Recommendations, taking into account the advancements in wireless technologies, advances in measurement/assessment methodologies and best practices, in close coordination with other ITU Sectors and relevant specialized organizations in this field;

ii) publishing and disseminating its technical reports, as well as developing ITU-T Recommendations to address these issues;

iii) developing, promoting and disseminating information and training resources related to this topic through the organization of training programmes, workshops, forums and seminars for regulators, operators and any interested stakeholders from developing countries;

iv) studying EMF exposure assessment from both intentional and unintentional or ambient (such as wireless power transfer) sources associated with new and emerging technologies, including Internet of Things and International Mobile Telecommunications systems, as well as the results of measurement, evaluation, monitoring, calculations and overview of the impact on EMF levels;

v) continuing to cooperate and collaborate with other organizations working on this topic and to leverage their work (ICNIRP, 2020; IEEE C95.1, 2019), in particular with a view to assisting the developing countries in the establishment of standards and in monitoring compliance with these standards, especially on telecommunication installations and terminals;

vi) collaborating with ICT experts, the research community and other relevant stakeholders to study the EMF aspects of telecommunications/ICTs, including emerging ones, potentially also using emerging ICT technologies to study these EMF aspects;

vii) cooperating on these issues with ITU-R study groups, and with ITU-D Study Group 2 in the framework of EMF measurements to assess human exposure and other relevant issues;

viii) coordinating and cooperating with various international organizations specialized in health matters, SDOs and organizations recognized by United Nations agencies dealing with the harmonization of exposure guidelines, in order to generate consistent protocols for assessing exposure to RF-EMF;

ix) strengthening coordination and cooperation with WHO, ICNIRP, IEEE, ISO/IEC and other relevant organizations on guidelines and limits for human exposure to EMF so that any publications relating to human exposure to EMF are circulated to Member States as soon as they are issued,

instructs the Director of the Telecommunication Standardization Bureau, in close collaboration with the Directors of the other two Bureaux

within the available financial resources,

1 to support the development of reports identifying the needs of developing countries on the issue of assessing human exposure to EMF, and to submit the reports as soon as possible to Study Group 5 for its consideration and action in accordance with its mandate;

2 to regularly update the ITU-T portal on EMF activities, including, but not limited to, the ITU EMF Guide, its mobile application, links to websites, the global portal on ICTs and the environment and flyers;

3 to hold workshops in developing countries with presentations and training on the use of equipment employed in assessing human exposure to RF energy;

4 to appoint experts in the field of assessment and measurement of exposure to EMF to assist developing countries in the formulation of their strategies in this area;

5 to extend support for developing countries while they establish their national and/or regional centres equipped with test benches for continuous monitoring of EMF levels, especially in selected areas where the public has concerns, and transparently provide the data to the general public, using, among other things, the modalities set out in Resolutions 44 (Rev. Geneva, 2022) and 76 (Rev. Geneva, 2022) of this assembly and Resolution 177 (Rev. Dubai, 2018) of the Plenipotentiary Conference, in the context of the development of regional test centres;

6 to invite Study Group 5 to coordinate and cooperate with various international organizations such as WHO, ICNIRP, IEC, IEEE and other relevant international and regional organizations in the harmonization of exposure thresholds globally and to generate consistent measurement protocols;

7 to report to the next world telecommunication standardization assembly on measures taken to implement this resolution,

invites Member States and Sector Members

1 to contribute actively to the work of Study Group 5 by providing relevant and timely information, in order to assist developing countries in providing information and addressing measurement and assessment concerns related to human exposure to EMF radiated by intentional and unintentional sources;

2 to conduct periodic reviews to ensure that ITU-T Recommendations related to exposure to EMF are followed;

3 to cooperate and share expertise and resources between developed and developing countries in order to help government administrations, especially in developing countries, to reinforce or establish an appropriate regulatory framework for protecting people and the environment from non-ionizing radiation;

4 to encourage the use of ITU-T Recommendations, in particular the K-series and its supplements, to build national standards for measuring and assessing EMF levels, and to inform the public of compliance with those standards,

further invites Member States

1 to adopt suitable measures included in the relevant ITU Recommendations and international standards in order to ensure compliance with exposure limits to protect health against the adverse effect of EMF;

2 to encourage administrations to follow the ICNIRP 2020 Guidelines or the IEEE 95.1 2019 Standard;

3 to assess the impact and potential changes in accordance with the relevant ITU Recommendations and international standards on EMF.

RESOLUTION 73 (Rev. Geneva, 2022)

Information and communication technologies, environment, climate change and circular economy

(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) Resolution 66 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference, on information and communication technology (ICT) and climate change;

b) Resolution 70/1 of the United Nations General Assembly (UNGA), on transforming our world: the 2030 Agenda for Sustainable Development;

c) UNGA Resolution 75/231, which recognizes the potential benefits for countries to transform their economies to promote sustainable consumption and production patterns, by engaging with partners to integrate or implement concepts such as circular economy and Industry 4.0 for more sustainable industrial activity and manufacturing systems, according to national plans and priorities;

d) Resolution 182 (Rev. Busan, 2014) of the Plenipotentiary Conference, on the role of telecommunications/ICTs in regard to climate change and the protection of the environment;

e) Resolution 1353, adopted by the ITU Council at its 2012 session, which recognizes that telecommunications/ICTs are essential components for developed and developing countries[1] in achieving sustainable development, and instructs the Secretary-General, in collaboration with the Directors of the Bureaux, to identify new activities to be undertaken by ITU to support developing countries in achieving sustainable development through telecommunications/ICTs,

recognizing

a) that ICTs are essential for monitoring climate, monitoring and protecting natural ecosystems, data gathering and rapid information transfer relating to the risks of climate change, and that adequate telecommunication networks are essential in ensuring that communications reach people and the appropriate relief organizations;

b) that low-cost sustainable ICT solutions with reduced carbon footprint are an urgent requirement;

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

c) that climate change largely affects:

i) countries located along coastal areas and those surrounded by oceans and seas, as well as inland areas that are susceptible to wildfires and drought;

ii) countries whose economies rely on agricultural investments;

iii) countries with weak capacity or lack of meteorological-support infrastructure and technical systems for the mitigation of climate-change effects,

resolves

1 to continue and further develop the ITU-T work programme initially launched in December 2007 on ICTs, climate change and circular economy, as a high priority, in order to contribute to the wider global efforts to moderate climate change, as part of the United Nations processes;

2 to take into account the progress already made in the international symposia on ICTs, environment, climate change and circular economy, held in various parts of the world[2], by distributing their outcomes as widely as possible;

3 to continue to maintain and update the ITU-T Global Portal on ICTs, environment, climate change and circular economy, extending its features by developing an electronic and interactive forum to share information and to disseminate ideas, standards and best practices on the relationships between ICTs and environmental sustainability, experiences and practices for disclosure, labelling schemes and recycling facilities;

4 to promote the development and adoption of Recommendations for enhancing the use of ICTs to serve as a potent and cross-cutting tool to assess and reduce greenhouse gas (GHG) emissions, optimize energy and water consumption, minimize e-waste and improve e-waste management across economic and social activities;

5 to increase awareness and promote information sharing on the role of ICTs in enhancing environmental sustainability, in particular by promoting the use of more energy-efficient[3] devices and networks and more efficient working methods, as well as ICTs that can be used to replace or displace technologies/uses that have higher energy consumption;

6 to work towards the reductions in emissions of GHGs arising from the use of ICTs that are necessary to meet the goals of the United Nations Framework Convention on Climate Change (UNFCCC);

7 to work towards a reduction of the adverse environmental impact of environmentally unfriendly materials used in ICT products;

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[2] Kyoto, Japan, 15-16 April 2008; London, United Kingdom, 17-18 June 2008; Quito, Ecuador, 8-10 July 2009; Seoul Virtual Symposium, 23 September 2009; Cairo, Egypt, 2-3 November 2010; Accra, Ghana, 7-8 July 2011; Seoul, Republic of Korea, 19 September 2011; Montreal, Canada, 29-31 May 2012, Turin, Italy, 6-7 May 2013; Kochi, India, 15 December 2014; Nassau, Bahamas, 14 December 2015; and Kuala Lumpur, Malaysia, 21 April 2016.

[3] With respect to efficiency, promotion of efficient use of materials used in ICT devices and network elements should also be a consideration.

8 to bridge the standardization gap by providing technical assistance to countries in developing their national green ICT action plans, and develop a reporting mechanism in order to support countries in implementing their plan;

9 to set up e-learning programmes on Recommendations related to ICTs, environment, climate change and circular economy;

10 to work towards supporting cities and the ICT sector in harnessing ICTs to combat climate change and reach net zero;

11 to work towards identifying the environmental protection requirements of ICTs and developing strategic frameworks for assessing their environmental impacts;

12 to support using ICTs to facilitate climate-change mitigation and adaptation efforts as well as building climate-resilient infrastructures;

13 to work towards the implementation of circular economy in cities and human settlements in order to enhance their sustainability,

instructs the Telecommunication Standardization Advisory Group

1 to coordinate the activities of ITU-T study groups in relation to their review of relevant standardization activities of other standards-development organizations (SDOs) and facilitate collaboration between ITU and those SDOs in order to avoid duplication of, or overlap in, international standards;

2 to ensure that study groups carry out a review of all future Recommendations in order to assess their implications and the application of best practices from the standpoint of protection of the environment, climate change and circular economy;

3 to consider further possible changes to working procedures in order to meet the objective of this resolution, including extending the use of electronic working methods to reduce the impact on climate change, such as paperless meetings, virtual conferencing, teleworking, etc.,

instructs all study groups of the ITU Telecommunication Standardization Sector

1 to cooperate with ITU-T Study Group 5 to develop appropriate Recommendations on ICTs, environment and climate-change issues within the mandate and competence of ITU-T, including, for example, telecommunication networks used for monitoring and adapting to climate change, disaster preparedness, signalling and quality of service issues, taking into account any economic impact on all countries and in particular on developing countries;

2 to identify best practices and opportunities for new applications using ICTs to foster environmental sustainability, and to identify appropriate actions;

3 to identify and promote best practices towards implementing environmentally friendly policies and practices, and to share use cases and key success factors;

4 to identify initiatives which support consistently successful and sustainable approaches that will result in cost-effective application;

5 to identify and promote successful new energy-efficient technologies using renewable energy or alternative energy sources that are proven to work for both urban and rural telecommunication sites;

6 to liaise with the relevant study groups of the ITU Radiocommunication Sector and the ITU Telecommunication Development Sector and promote liaison with other SDOs and forums in order to avoid duplication of work, optimize the use of resources and accelerate the availability of global standards,

instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Directors of the other Bureaux

1 to report on progress on the application of this resolution annually to the Council and to the next world telecommunication standardization assembly;

2 to keep up to date the calendar of events relevant to ICTs, environment, climate change and circular economy, based on proposals by the Telecommunication Standardization Advisory Group and in close collaboration with the other two Sectors;

3 to launch pilot projects, aimed at bridging the standardization gap, on environmental sustainability issues, in particular in developing countries;

4 to support the development of reports on ICTs, environment, climate change and circular economy, taking into consideration relevant studies, in particular the ongoing work of Study Group 5, including issues related to, *inter alia*, circular economy, green data centres, smart buildings, green ICT procurement, cloud computing, energy efficiency, smart transportation, smart logistics, smart grids, water management, adaptation to climate change and disaster preparedness, and how the ICT sector contributes to annual reductions in GHG emissions, and submit the reports as soon as possible to Study Group 5 for its consideration;

5 to organize forums, workshops and seminars for developing countries in order to raise awareness and identify their particular needs and challenges in regard to environmental, climate-change and circular-economy issues;

6 to develop, promote and disseminate information and training programmes on ICTs, climate change, environment and circular economy;

7 to report on progress of the Joint Task Force of ITU, the World Meteorological Organization (WMO) and the United Nations Educational, Scientific and Cultural Organization Intergovernmental Oceanographic Commission (IOC-UNESCO) to investigate the potential of using submarine telecommunication cables for ocean and climate monitoring and disaster warning;

8 to promote the ITU-T Global Portal on ICTs, environment, climate change and circular economy and its use as an electronic forum for the exchange and dissemination of ideas, experience and best practices on ICTs, environment, climate change and circular economy;

9 to assist countries that are vulnerable to climate-change impact, with specific emphasis on developing countries:

i) located along coastal areas and those surrounded by oceans and seas, as well as inland areas that are susceptible to wildfires and drought;

ii) whose economies rely on agricultural investments;

iii) with weak capacity or lack of meteorological-support infrastructure and technical systems for the mitigation of climate-change effects,

invites the Secretary-General

to continue to cooperate and collaborate with other entities within the United Nations in formulating future international efforts to address protection of the environment and climate change and support vulnerable countries in projects towards mitigation, adaptation and resilience efforts as well as climate-change preparedness plans, contributing to the achievement of the goals of the 2030 Agenda for Sustainable Development,

invites Member States, Sector Members and Associates

1 to continue to contribute actively to Study Group 5 and other ITU-T study groups on ICTs, environment, climate change and circular economy;

2 to continue or initiate public and private programmes that include ICTs, environment, climate change and circular economy, giving due consideration to relevant ITU-T Recommendations and relevant work;

3 to share best practices and raise awareness of the benefits associated with the use of green ICTs in accordance with relevant ITU Recommendations;

4 to promote the integration of ICT, climate, environmental and energy policies in order to improve environmental performance and enhance energy efficiency and resource management;

5 to integrate the use of ICTs into national adaptation plans so as to make use of ICTs as an enabling tool for addressing the effects of climate change;

6 to liaise with their national counterparts responsible for environmental issues in order to support and contribute to the wider United Nations process on climate change, by providing information and developing common proposals related to the role of telecommunications/ICTs in mitigating and adapting to the effects of climate change, so that they can be taken into consideration within UNFCCC.

Enhancing participation of Sector Members[1] from developing countries[2] in the work of the ITU Telecommunication Standardization Sector

(Johannesburg, 2008; Dubai, 2012; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the strategic plan for the Union for 2020-2023;

b) the spirit of Resolution 123 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on bridging the standardization gap between developing and developed countries;

c) the objectives of Resolutions 44 and 54 (Rev. Geneva, 2022) of this assembly,

taking into account

that Resolution 170 (Rev. Busan, 2014) of the Plenipotentiary Conference, on admission of Sector Members from developing countries to participate in the work of the ITU Radiocommunication Sector (ITU-R) and the ITU Telecommunication Standardization Sector (ITU-T), which sets the level of financial contribution for Sector Members from developing countries at one sixteenth of the value of a contributory unit for Sector Members for defraying Union expenses,

recognizing

a) that the participation by operators from developing countries in standardization activities is low;

b) that the majority of these operators are subsidiaries of developed countries' telecommunication companies which are already Sector Members;

c) that the strategic objectives of Sector Members from developed countries participating in ITU-T activities do not necessarily include the participation of their subsidiary entities;

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[1] Such Sector Members from developing countries shall not be affiliated in any way to any Sector Member of a developed country, and shall be limited to those Sector Members of developing countries (including the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition) having an income per capita according to the United Nations Development Programme not exceeding a threshold to be determined.

[2] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

d) that those developing country telecommunication operators are placing particular emphasis on information and communication technology operation and infrastructure deployment, instead of active participation in standardization activities;

e) that Article 1 of the ITU Constitution establishes that the Union will facilitate the worldwide telecommunication standardization process with a satisfactory quality of service, and will promote and enhance participation of entities and organizations in the activities of the Union and foster fruitful cooperation and partnership between them and Member States for the fulfilment of the overall objectives as embodied in the purposes of the Union,

considering

a) that relevant entities or organizations from developing countries are interested in ITU-T standardization work, and would be willing to join if more favourable financial conditions existed for their participation in the work of ITU-T;

b) that the aforementioned entities or organizations could have a relevant role in research and development of new technologies, and that the participation of entities from developing countries in the work of ITU-T helps to bridge the standardization gap;

c) that this participation by Sector Members would contribute to enhancing capacity building in the developing countries, increase their competitiveness, and support innovation in the markets of developing countries,

resolves

1 to encourage the adoption of the necessary measures and mechanisms to enable new Sector Members from developing countries to join ITU-T and to be entitled to take part in the work of the ITU-T study groups and other groups within ITU-T;

2 to encourage Sector Members from the developed countries to promote the participation in ITU-T activities of their subsidiaries established in developing countries,

invites Member States

to encourage their Sector Members to participate in ITU-T activities.

RESOLUTION 75 (Rev. Geneva, 2022)

The ITU Telecommunication Standardization Sector's contribution in implementing the outcomes of the World Summit on the Information Society, taking into account the 2030 Agenda for Sustainable Development

(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

considering

a) the relevant outcomes of both phases of the World Summit on the Information Society (WSIS);

b) United Nations General Assembly (UNGA) Resolution 70/1, on transforming our world: the 2030 Agenda for Sustainable Development;

c) UNGA Resolution 70/125, on the outcome document of the high-level meeting of the General Assembly on the overall review of the implementation of WSIS outcomes;

d) the WSIS+10 Statement on the implementation of WSIS outcomes and WSIS+10 vision for WSIS beyond 2015, adopted at the ITU-coordinated WSIS+10 High-Level Event (Geneva, 2014) and endorsed by the Plenipotentiary Conference (Busan, 2014), which was submitted as an input into the overall review of WSIS by UNGA;

e) the relevant resolutions and decisions related to the implementation of relevant outcomes of both phases of WSIS and to international Internet-related public policy issues adopted by the Plenipotentiary Conference:

i) Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the strategic plan for the Union for 2020-2023;

ii) Resolution 101 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on Internet Protocol (IP)-based networks;

iii) Resolution 102 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on ITU's role with regard to international public policy issues pertaining to the Internet and the management of Internet resources, including domain names and addresses;

iv) Resolution 130 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on strengthening the role of ITU in building confidence and security in the use of information and communication technologies (ICTs);

v) Resolution 131 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on measuring ICTs to build an integrating and inclusive information society;

vi) Resolution 133 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the role of administrations of Member States in the management of internationalized (multilingual) domain names;

vii) Resolution 139 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the use of telecommunications/ICTs to bridge the digital divide and build an inclusive information society;

viii) Resolution 140 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on ITU's role in implementing the outcomes of WSIS and in the overall review by UNGA of their implementation;

ix) Resolution 178 (Guadalajara, 2010) of the Plenipotentiary Conference, on ITU's role in organizing the work on technical aspects of telecommunication networks to support the Internet;

x) Resolution 200 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the Connect 2030 Agenda for global telecommunications/ICT, including broadband, for sustainable development;

f) the opinions of the World Telecommunication/ICT Policy Forum;

g) the role of the ITU Telecommunication Standardization Sector (ITU-T) in ITU implementation of relevant WSIS outcomes, adaptation of ITU's role and development of telecommunication standards in building the information society, including ITU's lead facilitation role in the WSIS implementation process, as a moderator/facilitator for implementing Action Lines C2, C5 and C6 and participating with other stakeholders, as appropriate, in the implementation of Action Lines C1, C3, C4, C7, C8, C9 and C11 and all other relevant action lines and other WSIS outcomes, within the financial limits set by the Plenipotentiary Conference;

h) that, despite the previous decade's achievements in ICT connectivity, many forms of digital divide remain, both between and within countries, and between women and men, that need to be addressed through, among other actions, strengthened enabling policy environments and international cooperation to improve affordability, access, education, capacity building, multilingualism, cultural preservation, investment and appropriate financing, as well as measures to improve digital literacy and skills and to promote cultural diversity;

i) that the management of the Internet encompasses both technical and public policy issues and should involve all stakeholders and relevant intergovernmental and international organizations in accordance with §§ 35 *a)-e)* of the Tunis Agenda for the Information Society, as well as § 57 of the outcome document of the 2015 high-level meeting of the General Assembly on the overall review of the implementation of the WSIS outcomes,

considering further

a) that ITU has a pivotal role in providing a global perspective in regard to the information society;

b) that the Council Working Group on WSIS and the Sustainable Development Goals (SDGs) (CWG-WSIS&SDG), in accordance with Resolution 140 (Rev. Dubai, 2018) and with Resolution 1332, first adopted by the ITU Council at its 2011 session and last modified at its 2019 session, open to all the ITU membership, constitutes an effective mechanism for facilitating Member State inputs on ITU implementation of relevant WSIS outcomes and the 2030 Agenda for Sustainable Development;

c) that the Council Working Group on international Internet-related public policy issues (CWG-Internet), in accordance with Resolution 1336, first adopted by the Council at its 2011 session and last modified at its 2019 session, open to Member States only, with open consultation of all stakeholders, was created in order to promote enhanced cooperation and to foster the participation of governments in addressing international Internet public policy issues;

d) that there is a perceived need to improve coordination, dissemination and interaction: (i) by avoiding duplication of efforts through focused coordination between ITU's relevant study groups that deal with international Internet public policy issues and technical aspects of telecommunication networks to support the Internet; (ii) by disseminating relevant international Internet public policy information to the ITU membership, the General Secretariat and the Bureaux; (iii) by promoting enhanced cooperation and technical-oriented interaction between ITU and other relevant international organizations and entities,

recognizing

a) the commitment of ITU to implementing relevant WSIS outcomes and the WSIS vision beyond 2015, as one of the most important goals for the Union;

b) that the 2030 Agenda for Sustainable Development has substantial implications for the activities of ITU,

recognizing further

a) that all governments should have an equal role and responsibility for international Internet governance and for ensuring the stability, security and continuity of the Internet, while also recognizing the need for development of public policy by governments in consultation with all stakeholders, as expressed in § 68 of the Tunis Agenda;

b) the potential of ICTs to achieve the 2030 Agenda for Sustainable Development and other internationally agreed development goals;

c) that increased connectivity, innovation and access played a critical role in enabling progress on the SDGs;

d) the need to promote greater participation and engagement in Internet governance discussions of governments, the private sector, civil society, international organizations, the technical and academic communities and all other relevant stakeholders from developing countries[1];

e) the need for enhanced cooperation in the future, to enable governments, on an equal footing, to carry out their roles and responsibilities in international public policy issues pertaining to the Internet, but not in the day-to-day technical and operational matters that do not impact on international public policy issues, as expressed in § 69 of the Tunis Agenda;

f) that, using relevant international organizations, such cooperation should include the development of globally applicable principles on public policy issues associated with the coordination and management of critical Internet resources, in which regard the organizations responsible for essential tasks associated with the Internet are called upon to contribute to creating an environment that facilitates this development of public policy principles, as expressed in § 70 of the Tunis Agenda;

g) that §§ 69 to 71 of the Tunis Agenda called for the process towards enhanced cooperation to be started by the United Nations Secretary-General, involving all relevant organizations by the end of the first quarter of 2006, to involve all stakeholders in their respective roles, to proceed as quickly as possible consistent with legal process, and to be responsive to innovation; and for relevant organizations to commence a process towards enhanced cooperation involving all stakeholders, proceeding as quickly as possible and responsive to innovation; and for the same relevant organizations to be requested to provide annual performance reports;

h) that various initiatives have been implemented and some progress has been made in relation to the process towards enhanced cooperation detailed in §§ 69 to 71 of the Tunis Agenda and that UNGA, in Resolution 70/125, called for continued dialogue and work on the implementation of enhanced cooperation, which is already under way in accordance with § 65 of that resolution,

taking into account

a) Resolution 30 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference (WTDC), on the role of the ITU Telecommunication Development Sector in implementing the WSIS outcomes, taking into account the 2030 Agenda for Sustainable Development;

b) Resolution ITU-R 61 (Rev. Sharm el-Sheikh, 2019) of the Radiocommunication Assembly, on the ITU Radiocommunication Sector's contribution in implementing the WSIS outcomes and the 2030 Agenda for Sustainable Development;

c) the programmes, activities and regional initiatives being carried out in accordance with the decisions of WTDC-17 for bridging the digital divide;

d) the relevant work already accomplished and/or to be carried out by ITU under the guidance of CWG-WSIS&SDG and CWG-Internet,

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

noting

a) Resolution 1332, first adopted by the Council at its 2011 session and last modified at its 2019 session, on ITU's role in the implementation of the WSIS outcomes and the 2030 Agenda for Sustainable Development;

b) Resolution 1334, first adopted by the Council at its 2011 session and last modified at its 2015 session, on ITU's role in the overall review of the implementation of the WSIS outcomes;

c) Resolution 1344, first adopted by the Council at its 2012 session and last modified at its 2015 session, on the modality of open consultation for CWG-Internet;

d) Resolution 1336, first adopted by the Council at its 2011 session and last modified at its 2019 session, on CWG-Internet,

noting further

that the ITU Secretary-General created the ITU WSIS&SDG Task Force, whose role is to formulate strategies and coordinate ITU's policies and activities in relation to the WSIS process and the 2030 Agenda for Sustainable Development, and that this task force is chaired by the Deputy Secretary-General, as noted by Council Resolution 1332,

resolves

1 to continue ITU-T's work on the implementation of WSIS outcomes and the WSIS vision beyond 2015 and follow-up activities within its mandate;

2 that ITU-T should contribute to achievement of the objectives of the 2030 Agenda for Sustainable Development, through and in harmony with the WSIS framework;

3 that ITU-T should carry out the activities under *resolves* 1 and 2 above in cooperation with other relevant stakeholders, as appropriate;

4 that the relevant ITU-T study groups should consider in their studies the output of CWG-WSIS&SDG and CWG-Internet,

instructs the Director of the Telecommunication Standardization Bureau

1 to provide CWG-WSIS&SDG with a comprehensive summary of ITU-T activities on implementation of the WSIS outcomes, taking into account the 2030 Agenda for Sustainable Development;

2 to ensure that concrete objectives and deadlines for activities in connection with WSIS outcomes, taking into account the 2030 Agenda for Sustainable Development, are developed and reflected in the operational plans of ITU-T in accordance with Resolution 140 (Rev. Dubai, 2018) and Council Resolution 1332;

3 in implementing the WSIS outcomes, taking into account the 2030 Agenda for Sustainable Development, within the mandate of ITU-T, to pay special attention to the needs of the developing countries;

4 to provide information on emerging trends based on ITU-T activities;

5 to take appropriate action to facilitate the activities for implementation of this resolution;

6 to submit contributions to the relevant annual reports of the ITU Secretary-General on these activities,

invites Member States, Sector Members, Associates and Academia

1 to submit contributions to relevant ITU-T study groups and to the Telecommunication Standardization Advisory Group, where appropriate, and contribute to CWG-WSIS&SDG on implementing WSIS outcomes, taking into account the 2030 Agenda for Sustainable Development within the ITU mandate;

2 to support and collaborate with the Director of the Telecommunication Standardization Bureau in implementing relevant WSIS outcomes, taking into account the 2030 Agenda for Sustainable Development, in ITU-T;

3 to submit contributions to CWG-WSIS&SDG,

invites Member States

to submit contributions to CWG-Internet,

invites all stakeholders

1 to participate actively in ITU WSIS implementation activities, including in ITU-T, to support achieving the 2030 Agenda for Sustainable Development, as appropriate;

2 to participate actively in the online and physical open consultations of CWG-Internet.

RESOLUTION 76 (Rev. Geneva, 2022)

Studies related to conformance and interoperability testing, assistance to developing countries[1], and a possible future ITU Mark programme

(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) that Resolution 123 (Rev. Dubai, 2018) of the Plenipotentiary Conference instructs the Secretary-General and the Directors of the three Bureaux to work closely with each other in order to step up actions intended to reduce the standardization gap between developing and developed countries;

b) that Resolution 200 (Rev. Dubai, 2018) of the Plenipotentiary Conference resolves to reaffirm a shared global vision for the development of the telecommunication/information and communication technology (ICT) sector, including broadband, for sustainable development under the Connect 2030 Agenda, envisaging "an information society, empowered by the interconnected world, where telecommunications/ICTs enable and accelerate social, economic and environmentally sustainable growth and development for everyone";

c) that Article 17 of the ITU Constitution, while providing that the functions of the ITU Telecommunication Standardization Sector (ITU-T) shall fulfil the purposes of the Union relating to telecommunication standardization, stipulates that ITU-T perform such functions "bearing in mind the particular concerns of the developing countries";

d) the efforts and outputs of the ITU-T Conformity Assessment Steering Committee (CASC) under the leadership of ITU-T Study Group 11;

e) Resolution 177 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on conformance and interoperability (C&I),

recognizing

a) that interoperability of international telecommunication networks was the main reason for creating the International Telegraph Union in 1865, and that this remains one of the main goals in the ITU strategic plan;

b) that emerging technologies such as Internet of Things (IoT), International Mobile Telecommunications-2020 (IMT-2020), etc. have increasing requirements for C&I testing;

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

c) that conformity assessment is the accepted way of demonstrating that a product adheres to an international standard, and conformity assessment continues to be important in the context of World Trade Organization members' international standardization commitments under the Agreement on Technical Barriers to Trade;

d) that conformance testing does not guarantee interoperability but could increase the chance of interoperability of equipment conforming to ITU-T Recommendations, particularly during the development phase;

e) that technical training and institutional capacity development for testing and certification are essential issues for countries to improve their conformity assessment processes, to promote the deployment of advanced telecommunication networks and to increase global connectivity;

f) that it is not appropriate for ITU itself to enter into certification and testing of equipment and services that many regional and national standards bodies also provide for conformance testing;

g) that CASC has been set up for the purpose of developing a procedure for the recognition of ITU experts and elaborating detailed procedures for the implementation of a test laboratory recognition procedure in ITU-T;

h) that ITU-T has a Product Conformity Database and is progressively populating it with details of ICT equipment having undergone testing for conformity with ITU-T Recommendations;

i) that the ITU C&I programme contains four pillars namely: 1) conformity assessment, 2) interoperability events, 3) human resource capacity building, and 4) assistance in the establishment of test centres and C&I programmes in developing countries;

j) that providing for interoperability should be an important consideration when developing future ITU-T Recommendations;

k) that testing for conformity with ITU-T Recommendations should help in efforts to address combating counterfeit ICT products;

l) that enhancing Member States' capabilities for conformance assessment and testing and the availability of national and regional conformance assessment testing facilities may help combat counterfeit telecommunication/ICT devices and equipment;

m) that C&I testing can facilitate the interoperability of certain emerging technologies such as IoT and IMT-2020,

considering

a) that Resolution 177 (Rev. Dubai, 2018) recognized further that a decision concerning the implementation of the ITU Mark would be postponed until Pillar 1 (conformity assessment) has reached a more mature stage of development;

b) that there are numerous complaints that equipment is often not fully interoperable with other equipment;

c) that interoperability testing could increase the chances of end-to-end interoperability of equipment from different manufacturers, and would assist developing countries in the choice of solutions;

d) the importance, especially to developing countries, of ITU assuming a leading role in the implementation of the ITU C&I programme, with ITU-T taking lead responsibility for Pillars 1 and 2, and the ITU Telecommunication Development Sector (ITU-D) for Pillars 3 and 4;

e) that the remote testing of equipment and services using virtual laboratories may enable countries, especially those with economies in transition and developing countries, to conduct C&I testing, while at the same time facilitating the exchange of experience among technical experts taking into account the positive results achieved in implementing the ITU pilot project for the creation of such laboratories;

f) priorities of members, especially developing countries, to combat and deter counterfeit devices,

noting

a) that C&I requirements to support testing are essential components for developing interoperable equipment that is based on ITU-T Recommendations;

b) that considerable practical experience exists within the ITU-T membership regarding the production of relevant testing requirements and the testing procedures on which the actions proposed in this resolution are based;

c) the need to assist developing countries in facilitating interoperability, which can help in reducing the cost of systems and equipment procurement by operators, particularly in the developing countries, in order to enhance product quality and safety;

d) that when interoperability experiments or testing are not performed, users may suffer from the lack of interconnection performance between equipment from different manufacturers;

e) that availability of equipment tested as per ITU-T Recommendations for C&I may provide the basis for achieving a greater choice of solutions, greater competitiveness and more economies of scale,

taking into account

a) that some ITU-T members carry out testing activities, including ITU-T study group pilot projects, to assess C&I;

b) that ITU standardization resources are limited, and C&I testing requires specific technical infrastructure;

c) that a diverse set of expertise is required for developing C&I test suites, C&I testing standardization, product development and product testing;

d) that it is of advantage if regional and national accreditation and certification bodies conduct the C&I testing;

e) that collaboration with a range of external conformity assessment bodies (including accreditation and certification) is necessary;

f) that some forums, consortia and other organizations have already established certification programmes,

resolves

1 to continue working on the pilot projects that encourage conformity with ITU-T Recommendations, in order to gain experience and identify requirements and methodologies in the development of test suites;

2 that Study Group 11 continue to coordinate the Sector's activities related to the ITU C&I programme across all study groups;

3 that Study Group 11 continue to undertake activities within the C&I programme, including pilot projects on conformance/interoperability testing;

4 to continue working with accreditation bodies to recognize testing laboratories with competence to test in accordance with ITU-T Recommendations;

5 to encourage collaboration between ITU-T and ITU-D on the four pillars of the ITU C&I programme, each according to its responsibilities;

6 that conformance testing requirements shall provide for verification of the parameters defined in the current and future ITU-T Recommendations as determined by the study groups developing the Recommendations, and for interoperability testing to take into account user needs and consider market demand, as appropriate;

7 to continue to develop a set of methodologies and procedures for remote testing using virtual laboratories;

8 that ITU-T could hold interoperability testing events as needed to promote the interoperability of equipment conforming to ITU-T Recommendations;

9 that ITU, being a world standardization body, can address the impediments to harmonization and growth of worldwide telecommunications and promote the visibility of ITU standards (ensure interoperability), by means of having an ITU testing mark regime, taking into account the technical and legal implications, if any, and/or any revenue-generating possibilities, and taking into consideration *recognizing f)*,

invites Member States and Sector Members of the ITU Telecommunication Development Sector

1 to evaluate and assess the risks and various costs resulting from the lack of C&I tests, particularly in developing countries, and share necessary information and recommendations to avoid losses, based on best practices;

2 to collaborate at regional level (especially developing countries) on the establishment of C&I test facilities through having different testing facilities located in different countries and making use of mutual recognition agreements and arrangements,

instructs the Director of the Telecommunication Standardization Bureau

1 to continue consultations and assessment studies in all regions, taking into consideration the needs of each region, on implementation of the action plan endorsed by the ITU Council, including, in collaboration with the Director of the Telecommunication Development Bureau (BDT), the recommendations on human capacity building and assistance in the establishment of test facilities in developing countries;

2 to implement the action plan agreed by the Council at its 2012 session and revised at its 2014 session, in cooperation with the Director of BDT;

3 considering *resolves* 9, to accelerate the implementation of Pillar 1, so as to ensure gradual and smooth accomplishment of the other three pillars and the possible implementation of the ITU Mark;

4 to continue implementing the ITU C&I programme, including the testing laboratory database and informative pilot conformity product database, identifying product conformance and origin, in cooperation with the Director of BDT, and in consultation with each region;

5 to publish an annual plan of C&I activities which could attract more members' participation;

6 to facilitate the development and implementation of an ITU-T C&I test laboratory recognition procedure;

7 to involve experts and external entities as appropriate;

8 to provide progress reports on the activities carried out under the action plan to the Council for its consideration and required actions;

9 to facilitate the interoperability testing events in order to achieve the interoperability of equipment conforming to ITU-T Recommendations,

instructs the study groups

1 to accelerate accomplishing the pilot projects started by ITU-T study groups and continue to identify existing ITU-T Recommendations that are candidates for C&I testing, taking into account the needs of the membership, and that are capable of providing end-to-end interoperable services on a global scale, adding to their content, if necessary, specific requirements within their scope;

2 to prepare the ITU-T Recommendations identified in *instructs the study groups* 1 above, with a view to conducting C&I tests as appropriate;

3 to continue and enhance cooperation, as appropriate, with interested stakeholders, including other standards-development organizations, forums and consortia, in order to optimize studies to prepare test specifications, taking into account user needs and in consideration of the market demand for a conformity assessment programme;

4 to submit to CASC a list of ITU-T Recommendations which could be candidates for the certification scheme, taking into account market needs,

instructs the ITU Telecommunication Standardization Sector Conformity Assessment Steering Committee

to study and define an ITU procedure to recognize testing laboratories that are competent to test according to ITU-T Recommendations, in collaboration with existing accreditation bodies,

invites the ITU Council

to consider the Director's report referred to in *instructs the Director of the Telecommunication Standardization Bureau* 8 above,

invites Member States and Sector Members

1 to contribute to the implementation of this resolution by, including, but not limited to:

i) actively providing requirements for testing activities on C&I through contributions to related study groups;

ii) considering potential collaboration on future C&I activities;

iii) contributing to the Product Conformity Database;

2 to encourage national and regional testing entities to assist ITU-T in implementing this resolution.

RESOLUTION 77 (Rev. Hammamet, 2016)

Enhancing the standardization work in the ITU Telecommunication Standardization Sector for software-defined networking

(Dubai, 2012; Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

considering

a) that, with the development and trend towards maturity of software-defined networking (SDN) technology, many organizations are involved in SDN standardization, including those developing open-source solutions;

b) that many SDN-related standards activities are still ongoing in various ITU Telecommunication Standardization Sector (ITU-T) study groups;

c) the fact that SDN will profoundly change the telecommunication and information and communication technology (ICT) industry's landscape in the decades to come, and may bring multiple benefits to the telecommunication/ICT industry;

d) the rapidly growing interest of a significant number of ITU members in the application of SDN in the telecommunication/ICT industry;

e) that the Joint Coordination Activity on SDN (JCA-SDN) under the ITU-T Telecommunication Standardization Advisory Group (TSAG) was established in June 2013, and that JCA-SDN is coordinating standardization work on SDN and related technical topics within ITU-T, as well as communication between ITU-T study groups and outside organizations;

f) that new technologies such as network function virtualization (NFV) have been emerging, which may support SDN by providing the virtualized infrastructure upon which the SDN software can operate;

g) that the SDN orchestrator will provide the important bond between a wide range of technologies that enable cloud-based network and telecommunication services, at the same time recognizing the work of other organizations such as the European Telecommunications Standards Institute (ETSI) Network Functions Virtualisation Industry Specification Group (NFV ISG), the Open Orchestrator project (OPEN-O) and the ETSI Open-Source NFV Management and Orchestration (MANO) project (OSM);

h) Resolution 139 (Rev. Busan, 2014) of the Plenipotentiary Conference, on telecommunications/ICT to bridge the digital divide and build an inclusive information society;

i) Resolution 199 (Busan, 2014) of the Plenipotentiary Conference, on promoting efforts for capacity building on SDN in developing countries,

noting

a) that ITU-T should play a prominent role in the development of the above-mentioned system of deployable SDN standards;

b) that a standards ecosystem should be created, with ITU-T at its centre,

recognizing

a) that ITU-T has unmatched advantages when it comes to requirements and architecture standards;

b) that a solid foundation is required to continue developing and enhancing SDN requirements and architecture standards, so that the whole set of standards may be built through an industry-wide synergy,

resolves to instruct study groups of the ITU Telecommunication Standardization Sector

1 to continue and enhance collaboration and cooperation with different standards development organizations (SDOs), industry forums, and open-source software projects on SDN, as appropriate, taking into account the outcome of TSAG work on open source;

2 to continue to expand and accelerate the work on SDN standardization, especially carrier SDN;

3 to research the advancement of emerging technology such as NFV container/docker to evolve the SDN technology;

4 to continue to develop the ITU-T SDN standards to enhance interoperability between the controller products;

5 to consider the potential implications of the SDN orchestrator layer for ITU-T operation supporting system (OSS) related work,

instructs Study Group 13

to continue the JCA-SDN work, to coordinate and help plan the work so as to ensure that ITU-T SDN standardization is progressed in a well-coordinated manner and more efficiently among relevant study groups, to study the SDN-related work programmes (including NFV, programmable networks and network as a service) in ITU-T study groups, as well as in other SDOs, forums and consortia, for use in its coordination function, and to provide information on this work for use by the relevant study groups in planning their work,

instructs the Telecommunication Standardization Advisory Group

to examine the matter, consider the input of study groups and take the necessary actions, as appropriate, with a view to deciding on the necessary SDN standardization activities in ITU-T, with the following actions:

- to continue coordination and assistance in SDN standardization across different ITU-T study groups effectively and efficiently;
- to continue collaboration with other SDN-related standards bodies and forums;

- to coordinate the work on technical issues of SDN across the study groups according to their areas of expertise;
- to define a clear strategic vision for SDN standardization and an important active role that ITU-T should play,

instructs the Director of the Telecommunication Standardization Bureau

1 to provide the necessary assistance with a view to expediting such efforts, in particular using any opportunity within the allocated budget to exchange opinions with the telecommunication/ICT industry, including through the chief technology officer (CTO) meetings under Resolution 68 (Rev. Hammamet, 2016) of this assembly, and in particular to promote participation of the industry in SDN standardization work in ITU-T;

2 to conduct workshops, with other relevant organizations, for capacity building on SDN, so that the gap in technology adoption in developing countries may be bridged at the early stages of implementation of SDN-based networks, and to organize the annual SDN&NFV workshop with open-source solutions representation to share the progress in SDN/NFV standards and real experience in the current carrier network,

invites Member States, Sector Members, Associates and academia

to submit contributions for developing SDN standardization in ITU-T.

RESOLUTION 78 (Rev. Geneva, 2022)

Information and communication technology applications and standards for improved access to e-health services

(Dubai, 2012; Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) Resolution 183 (Rev. Busan, 2014) of the Plenipotentiary Conference, on telecommunication/information and communication technology (ICT) applications for e-health;

b) Resolution 65 (Rev. Dubai, 2014) of the World Telecommunication Development Conference, on improving access to health-care services by using ICTs;

c) United Nations General Assembly Resolution 70/1, on transforming our world: the 2030 Agenda for Sustainable Development,

recognizing

a) Goal 3 of the Sustainable Development Goals (SDG 3): To ensure healthy lives and promote well-being for all, at all ages;

b) that in many countries the population is ageing rapidly;

c) that innovative approaches, using advances in ICTs, can also greatly facilitate the implementation of SDG 3, particularly for rural, remote and underserved areas, and in developing countries[1];

d) that ICTs are transforming the delivery of health care through low-cost e-health applications that provide health-care access for the poor;

e) the importance of safeguarding patients' rights and privacy;

f) that there are national legislative and regulatory discussions relating to e-health and e-health applications and that this is an area of rapid evolution,

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

considering

a) that the World Summit on the Information Society, which was held in two phases (Geneva, 2003 and Tunis, 2005), included e-health in the Geneva Plan of Action as one of the important ICT applications, and stated the following: "Promote collaborative efforts of governments, planners, health professionals, and other agencies along with the participation of international organizations for creating a reliable, timely, high-quality and affordable health care and health information systems and for promoting continuous medical training, education, and research through the use of ICTs, while respecting and protecting citizens' right to privacy. … Encourage the adoption of ICTs to improve and extend health care and health information systems to remote and underserved areas and vulnerable populations, recognizing women's roles as health providers in their families and communities";

b) that the World Health Organization (WHO) approved in May 2005 Resolution WHA58.28 on e-health, stressing: "… that e-health is the cost-effective and secure use of information and communication technologies in support of health and health-related fields, including health-care services, health surveillance, health literature, and health education, knowledge and research";

c) that WHO and ITU have a key role in strengthening coordination between interested parties in all technical areas for the standardization of e-health applications and uses of e-health protocols;

d) the pressing need for the provision of safe, prompt, efficient and effective health care through the use of ICT in e-health;

e) that e-health applications and the ICT applications supporting them are already extensive, but far from fully optimized and integrated, especially for rural, remote and underserved areas;

f) the importance of maintaining momentum so that the potential advantages of telecommunication/ICT technologies in the health-care sector are supported by appropriate and secure regulatory, legal and policy frameworks in both the telecommunication and the health sectors,

noting

a) ongoing work and studies in Study Group 2 of the ITU Telecommunication Development Sector (ITU-D) under Question 2/2, on information and telecommunications/ICT for e-health;

b) ongoing work and studies in Study Group 16 of the ITU Telecommunication Standardization Sector (ITU-T) under Question 28/16, on multimedia framework for e-health applications;

c) that ICT standards for health care were deemed to be an issue of major importance at the 13th session of the Global Standards Collaboration (GSC-13);

d) that ICT standards relating to health care have to be adapted as needed to suit the conditions in each Member State, and this will require strengthening of capacity building and increased support;

e) ongoing work in ITU-D to reduce the digital divide in the area of e-health;

f) ongoing work and studies in ITU-T Study Group 20, related to e-health;

g) ongoing work in relevant standards-development organizations, including the International Organization for Standardization Technical Committee on health informatics (ISO TC 215), in the area of e-health,

recognizing further

a) the importance of telecommunication/ICT standardization in e-health services to promote interoperability to make health care more inclusive and to realize the full potential of ICTs in strengthening health-care systems;

b) that, for health-care providers, system interoperability between information systems is critical and fundamental, in particular in developing countries, for delivering quality health care and reducing its costs;

c) that telecommunications/ICTs play significant roles in providing quality e-health services to rural, remote and underserved areas, and in addressing challenges in public health emergencies,

resolves to instruct the Director of the Telecommunication Standardization Bureau, in collaboration with the Director of the Telecommunication Development Bureau and the Director of the Radiocommunication Bureau

1 to consider with priority the enhancement of telecommunication/ICT initiatives in e-health and to coordinate their related standardization activities;

2 to continue and further develop ITU activities on telecommunication/ICT applications for e-health in order to contribute to the wider global efforts concerning e-health;

3 to work collaboratively with WHO, academia and other relevant organizations on activities related to e-health in general and to this resolution in particular;

4 to organize seminars and workshops on e-health for developing countries and gauge the needs of the developing countries, which are the countries with the greatest need for e-health applications,

instructs Study Groups 16 and 20 of the ITU Telecommunication Standardization Sector, each according to its mandate, in collaboration with the relevant study groups, particularly Study Groups 11 and 17 of the ITU Telecommunication Standardization Sector

1 to identify and document examples of best practice for e-health in the field of telecommunications/ICTs, for dissemination among ITU Member States and Sector Members;

2 to coordinate activities and studies relating to e-health among the relevant study groups, focus groups and other relevant groups in ITU-T, the ITU Radiocommunication Sector (ITU-R) and ITU-D, in order in particular to foster awareness of telecommunication/ICT standards pertaining to e-health;

3 for ensuring the broad deployment of e-health services in diverse operating conditions, to study communication protocols relating to e-health, especially among heterogeneous networks;

4 within the current mandate of the ITU-T study groups, to give priority to the study of security standards (e.g. for communications, services, network aspects and service scenarios for databases and record handling, identification, integrity and authentication) relating to e-health, taking into account *recognizing e),*

invites Member States

to consider, as appropriate, the development and/or enhancement of frameworks, which may include legislation, regulations, standards, codes of practice and guidelines, to enhance the development of telecommunication/ICT services, products and terminals for e-health and e-health applications, particularly to address public health emergencies, within the scope of Resolution 130 (Rev. Dubai, 2018) of the Plenipotentiary Conference,

encourages Member States, Sector Members, Associates and Academia

to participate actively in ITU-T studies on e-health, including effective solutions for addressing public health emergencies, and to support e-health services for ageing populations, persons with disabilities and persons with specific needs, through the submission of contributions and by other appropriate means.

RESOLUTION 79 (Rev. Geneva, 2022)

The role of telecommunications/information and communication technologies in handling and controlling e-waste from telecommunication and information technology equipment and methods of treating it

(Dubai, 2012, Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) Resolution 182 (Rev. Busan, 2014) of the Plenipotentiary Conference, on the role of telecommunications/information and communication technologies (ICTs) in regard to climate change and the protection of the environment;

b) Resolution 66 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference, on ICT and climate change;

c) § 19 of the Hyderabad Declaration (2010), stating that the formulation and implementation of policies for proper disposal of e-waste are of great importance;

d) the Basel Convention (March, 1989) on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, which characterizes certain wastes resulting from electrical and electronic assemblies as hazardous;

e) § 20 of Action Line C7 (E-environment) of the Geneva Plan of Action of the World Summit on the Information Society (Geneva, 2003), calling for governments, civil society and the private sector to be encouraged to initiate actions and implement projects and programmes for sustainable production and consumption and the environmentally safe disposal and recycling of discarded hardware and components used in ICT;

f) the Nairobi Declaration on the Environmentally Sound Management of Electrical and Electronic Waste, and the adoption by the ninth Conference of the Parties to the Basel Convention of the Work Plan for the Environmentally Sound Management of E-waste, focusing on the needs of developing countries[1],

considering

a) that, owing to the progress in telecommunications and information technology, consumption of and demand for electrical and electronic equipment has been continuously increasing and this in turn has led to a marked increase in the amount of e-waste, which has had a negative impact on the environment and health, particularly in the developing countries;

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

b) that ITU and relevant stakeholders (such as the United Nations Environment Programme and the United Nations Development Programme for the Basel Convention) have a key role in strengthening coordination between interested parties to study the effects of e-waste;

c) Recommendation ITU-T L.1000 of the ITU Telecommunication Standardization Sector (ITU-T), on the universal power adapter and charger solution for mobile terminals and other handheld ICT devices, and Recommendation ITU-T L.1100, on the procedure for recycling rare metals in ICT goods,

recognizing

a) that governments have an important role to play in limiting e-waste by formulating appropriate strategies, policies and legislation;

b) that most of the e-waste from the telecommunication/ICT sector, particularly obsolete user devices like mobile phones, end up in the informal sector without formal disposal procedures;

c) that telecommunications/ICT can make a major contribution to alleviating the impact of e-waste;

d) that ongoing work and studies in ITU-T Study Group 5 under Question 7/5, on e-waste, circular economy and sustainable supply-chain management, may include aspects of environmental protection and sustainable design/manufacture and recycling of ICT equipment/facilities;

e) the various and current efforts in developing countries and regions related to e-waste management, notwithstanding the challenges that still persist;

f) the inadequate awareness of how to effectively manage e-waste in developing countries;

g) the impact of counterfeit ICT devices on e-waste generation;

h) the role of the circular economy in reducing the global volume of e-waste and moving from the traditional linear production/consumption pattern to one that is sustainable;

i) that there is a lack of tools for measuring the environmental impacts of e-waste and for assessing the environmental impact of telecommunications/ICTs;

j) that the informal sector remains the predominant sector for handling e-waste in developing countries;

k) that sustainable management of e-waste is essential to achieve the United Nations Sustainable Development Goals;

l) ongoing work in Study Group 2 of the ITU Telecommunication Development Sector (ITU-D) under Question 6/2, on ICTs and the environment, studying strategies to develop a responsible approach to, and comprehensive treatment of, telecommunication/ICT waste,

recognizing further

a) that large quantities of used, old, obsolete and unserviceable telecommunication/ICT hardware and equipment are exported to developing countries for supposed reuse;

b) that many developing countries are suffering from severe environmental hazards, such as water pollution and health risks, due to e-waste, including from the influx of new telecommunications/ICTs;

c) that the availability of counterfeit telecommunication/ICT hardware and equipment in developing countries exacerbates the challenge of handling and controlling e-waste,

resolves to instruct the Director of the Telecommunication Standardization Bureau, in collaboration with the Director of the Telecommunication Development Bureau

1 to pursue and strengthen the development of ITU activities in regard to handling and controlling e-waste from telecommunication and information technology equipment and methods of treating it;

2 to assist developing countries to undertake proper assessment of the magnitude/quantity of e-waste generated in a harmonized manner;

3 to address the handling and controlling of e-waste and to contribute to global efforts designed to deal with the increasing hazards which arise therefrom;

4 to work in collaboration with the relevant stakeholders, including academia and relevant organizations, and to coordinate activities relating to e-waste among the ITU study groups, focus groups and other relevant groups;

5 to organize seminars and workshops to enhance awareness of the hazards and sustainable management of e-waste, particularly in developing countries, and gauge the needs of the developing countries, which are the countries that suffer most from the hazards of e-waste;

6 to assist developing countries and facilitate their work in the implementation of circular-economy principles,

instructs Study Group 5 of the ITU Telecommunication Standardization Sector, in collaboration with the relevant ITU study groups

1 to develop and document examples of best practice for handling and controlling e-waste resulting from telecommunications/ICT and methods of treating and recycling it, for dissemination among ITU Member States and Sector Members;

2 to develop Recommendations, methodologies and other publications relating to sustainable management of e-waste resulting from telecommunication/ICT equipment and products, and appropriate guidelines on implementation of these Recommendations;

3 to study the impact of used telecommunication/ICT equipment and products brought into developing countries and give appropriate guidance, taking into account *recognizing further* above, to assist developing countries,

invites Member States

1 to take all necessary measures to handle and control e-waste in order to mitigate the hazards which can arise from used telecommunication/ICT equipment;

2 to cooperate with each other in this area;

3 to incorporate e-waste management policies/processes, including their tracking, collection and disposal, in their national ICT strategies and take adequate measures in this regard;

4 to raise public awareness on the environmental hazards of e-waste,

encourages Member States, Sector Members and Academia

to participate actively in ITU-T studies on e-waste, through the submission of contributions and by other appropriate means.

Acknowledging the active involvement of the membership in the development of ITU Telecommunication Standardization Sector deliverables

(Dubai, 2012; Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

recognizing

a) that the Plenipotentiary Conference adopted Resolution 66 (Rev. Busan, 2014), which recognizes that the copyright held by the Union on its publications cannot be breached;

b) that the World Telecommunication Standardization Assembly adopted Resolution 71 (Rev. Dubai, 2012),

considering

a) that the ITU Telecommunication Standardization Sector (ITU-T) has been encouraging and facilitating the involvement of academia, universities and associated research establishments, seeking to set up a broader forum for discussions on established and innovative technologies;

b) that the productivity of professionals from academia, universities and associated research establishments is constantly evaluated;

c) that, in general, the evaluation of professionals, in particular from academia, universities and associated research establishments, takes the form of evaluating items such as books, papers published, research projects accomplished, approval of their project proposals by funding agencies and their career-development programmes;

d) that neither the authorship of contributions to study group deliverables nor the editorship of Recommendations and other study group deliverables are currently considered in the evaluation of the productivity of professionals, in particular from academia, universities and associated research establishments;

e) that the acknowledgement of contributors will promote greater participation and membership;

f) the General Patent Statement and Licensing Declaration established by Recommendation ITU-T A.1,

resolves

that it is important to acknowledge significant contributors to the work of ITU-T,

instructs the Director of the Telecommunication Standardization Bureau

to acknowledge the value of active participation of the membership, in particular academia, universities and their associated research establishments, in the standardization activities of ITU, by collaborating closely with Member States and their respective bodies that formulate public policies in areas such as education, science, technology, industry and commerce in order to highlight the importance of contribution to ITU-T study group deliverables,

instructs the Telecommunication Standardization Advisory Group

to establish criteria that guide study groups to clearly acknowledge contributors to the development of study group deliverables,

instructs the study groups of the ITU Telecommunication Standardization Sector

to acknowledge contributors to the development of study group deliverables, in particular those from academia, universities and associated research establishments, based on the criteria established by the Telecommunication Standardization Advisory Group (TSAG),

invites Member States

to collaborate with ITU-T and to encourage research funding organizations and/or research institutions in their countries to acknowledge the criteria established by TSAG in the evaluation of the productivity of professionals from academia, universities and associated research establishments.

RESOLUTION 83 (Hammamet, 2016)

Evaluation of the implementation of resolutions of the World Telecommunication Standardization Assembly

(Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

recognizing

a) that the resolutions adopted by this assembly contain many instructions to the Telecommunication Standardization Advisory Group (TSAG) and the Telecommunication Standardization Bureau, and invitations to Member States, Sector Members, Associates and academia;

b) the sovereignty of Member States in the implementation of resolutions,

noting

a) that it is in the common interest of the ITU Telecommunication Standardization Sector (ITU-T) membership that resolutions of the World Telecommunication Standardization Assembly (WTSA):

i) be known, recognized and applied by all;

ii) be implemented to promote the development of telecommunications and for bridging the digital divide, taking into consideration the concerns of developing countries[1];

b) that Article 13 of the ITU Convention provides that WTSA may assign specific matters within its competence to TSAG,

considering

that TSAG shall submit proposals to improve the efficiency of operation of ITU-T,

resolves to invite Member States and Sector Members

1 to indicate, as part of the preparatory meetings for WTSA, the status of implementation of the resolutions adopted for the previous study period;

2 to make proposals to improve the implementation of resolutions,

instructs the Director of the Telecommunication Standardization Bureau, in collaboration with Directors of the other Bureaux

to take the necessary actions to assess the implementation of WTSA resolutions by all parties concerned,

instructs the Director of the Telecommunication Standardization Bureau

to take account of the implementation of WTSA resolutions and submit an assessment report to TSAG.

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

RESOLUTION 84 (Rev. Geneva, 2022)

Studies concerning the protection of users of telecommunication/ information and communication technology services

(Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) Resolution 196 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on protecting telecommunication service users/consumers;

b) Resolution 188 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on combating counterfeit telecommunication/information and communication technology (ICT) devices;

c) Resolution 189 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on assisting Member States to combat and deter mobile device theft;

d) Resolution 64 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference, on protecting and supporting users/consumers of telecommunication/ICT services;

e) the International Telecommunication Regulations,

recognizing

a) the United Nations Guidelines for Consumer Protection;

b) that, in order to achieve its own objectives, the Union must, among other things, promote standardization of telecommunications worldwide, ensuring a satisfactory quality of service (QoS);

c) § 13 *e)* of the Geneva Plan of Action of the World Summit on the Information Society, which states that governments should continue to update their domestic consumer-protection laws to respond to the new requirements of the information society,

considering

a) that counterfeit telecommunication/ICT devices may negatively impact on security and QoS for users;

b) that consumer-related laws, policies and practices limit fraudulent, deceitful and unfair business conducts, and such protections are indispensable for building consumer trust and establishing a more equitable relationship between telecommunication/ICT entrepreneurs and consumers;

c) that the Internet permits the introduction of new applications in telecommunication/ICT services based on its highly advanced technology, such as cloud computing, e-mail and text messaging, voice over IP, video and real-time TV (IPTV) over the Internet, which continue to record high levels of use, even though there are challenges regarding QoS and uncertainty of origin;

d) that the QoS of networks should be consistent with ITU Telecommunication Standardization Sector (ITU-T) Recommendations and other recognized international standards;

e) that telecommunications/ICTs can offer new and substantial benefits to consumers, including convenience and access to a broad range of goods and/or services, and the ability to collect and compare information about these goods and/or services;

f) that consumer trust in telecommunications/ICTs is bolstered by the continuous development of transparent, effective consumer-protection mechanisms that limit the presence of fraudulent, deceitful or unfair business practices;

g) that education and dissemination of information on the consumption and use of telecommunication/ICT products and services must be encouraged;

h) that access to telecommunications/ICTs must be open and affordable;

i) that a number of countries are introducing conformity-assessment regimes and procedures based on applicable ITU-T Recommendations, leading to better QoS/quality of experience, and to higher probability of interoperability of equipment, services and systems;

j) that the migration of legacy networks to next-generation networks will affect point of interconnection, QoS and other operational aspects, which will also have an effect on costs to the end user,

noting

a) the importance of keeping users and consumers informed about the basic characteristics, quality, security and rates of the different services offered by operators, and of other protection mechanisms promoting consumer and user rights;

b) that landlocked countries pay higher overall costs for access than neighbouring countries in coastal areas;

c) that the issue of accessibility of telecommunication/ICT services and the establishment of fair costs depend on different factors,

resolves

1 to continue developing relevant ITU-T Recommendations in order to provide solutions ensuring and protecting the rights of users/consumers of telecommunication/ICT services, notably in the areas of quality, security and tariff mechanisms;

2 that ITU-T, through its study groups, continue close collaboration with the ITU Telecommunication Development Sector (ITU-D) and its study groups on issues associated with protection of telecommunication/ICT service users/consumers, as appropriate;

3 that the study groups concerned should expedite work on Recommendations that would provide additional detail and guidance for the implementation of this resolution;

4 that ITU-T Study Group 3, where appropriate with ITU-T Study Groups 2, 11, 12, 17 and 20, within their mandates, should carry out studies, including on standards for protection and user-centric considerations regarding users/consumers of telecommunication/ICT services;

5 that Study Group 3 should liaise with ITU-D Study Group 1 on the issues associated with best practices in the field of protection of users/consumers of telecommunication/ICT services,

invites the Director of the Telecommunication Standardization Bureau, in collaboration with the Director of the Telecommunication Development Bureau

1 to make efforts to implement Resolution 196 (Rev. Dubai, 2018);

2 to encourage active participation of developing countries[1] in the relevant ITU-T study groups and strengthen relations with other standards-development organizations involved in resolving issues associated with protection of telecommunication/ICT service users/consumers;

3 to contribute to the relevant initiatives on the protection of users/consumers, provided that this does not overlap with or duplicate activities of the other Sectors,

invites Member States

to consider the creation of an enabling environment in which telecommunication operators can provide telecommunication/ICT services for their users, with the appropriate level of quality, confidence and security, and which stimulates competitive, fair and affordable prices, in order in general to protect users/consumers of telecommunication/ICT services,

invites Member States, Sector Members, Associates and Academia

1 to contribute to this work by submitting contributions to the relevant ITU-T study groups on Questions related to the protection of users of telecommunication/ICT services, and to collaborate on implementing this resolution;

2 to collaborate and promote cooperation with relevant stakeholders, at regional and international levels, while promoting user-centric considerations on matters associated with protection of users/consumers of telecommunication/ICT services.

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economic in transition.

RESOLUTION 85 (Hammamet, 2016)

Strengthening and diversifying the resources of the ITU Telecommunication Standardization Sector

(Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

considering

a) Article 28 of the ITU Constitution and Article 33 of the ITU Convention, pertaining to the finances of the Union;

b) Resolution 158 (Rev. Busan, 2014) of the Plenipotentiary Conference, instructing the Secretary-General to study possible new measures to generate additional revenue for the Union;

c) Resolution 34 (Rev. Dubai, 2012) of the World Telecommunication Standardization Assembly, on voluntary contributions;

d) Resolution 44 (Rev. Hammamet, 2016) of this assembly, on bridging the standardization gap between developed and developing countries[1], which describes the sources from which funds will be raised for the purpose of bridging the standardization gap,

noting

a) the deliberations of the 2016 session of the ITU Council, on international numbering resources (INRs) and the identification of other possible sources of revenue for the ITU Telecommunication Standardization Sector (ITU-T), in the course of which the secretariat indicated that it would be difficult to present a balanced budget for 2018-2019 unless new sources of revenue are identified;

b) the recommendation of the 2016 session of the Council that a study be presented to its 2017 session, identifying all possible sources of revenue for the Union without restriction to INR,

observing

a) that, while the work and activities of ITU-T are continually increasing, the resources allocated to the Sector may be insufficient to cover fully all the work, activities and studies it carries out;

b) that Union revenues, which rely upon the contributions of Member States and Sector Members, have been in continuous decline;

c) that ITU-T revenues must be increased by increasing and diversifying revenue sources,

resolves to instruct the Director of the Telecommunication Standardization Bureau

to participate in the study referred to in *noting b)* above, for possible new measures to generate additional revenue for ITU-T, including revenues that may be obtained from INR and conformance and interoperability testing.

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

Facilitating the implementation of the Smart Africa Manifesto

(Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

recalling

a) Resolution 195 (Busan, 2014) of the Plenipotentiary Conference, on implementation of the Smart Africa Manifesto;

b) Resolution 197 (Busan, 2014) of the Plenipotentiary Conference, on facilitating the Internet of things to prepare for a globally connected world;

c) that it is of high importance that developing countries[1] actively participate in and contribute to the development of telecommunication/information and communication technology (ICT) standards,

considering

a) Resolution 30 (Rev. Busan, 2014) of the Plenipotentiary Conference, on special measures for the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition;

b) that, under the strategic plan for the Union for 2016-2019, the ITU Telecommunication Standardization Sector (ITU-T) is to work to "provide support and assistance to developing countries in bridging the standardization gap in relation with standardization matters, information and communication network infrastructure and applications, and relevant training materials for capacity building, taking into account the characteristics of the telecommunication environment of the developing countries";

c) that various industrial sectors, such as energy, transportation, health, agriculture, disaster management, public safety and home networking, rely on emerging communications networks and technologies;

d) that Resolution 1353 of the ITU Council recognizes that telecommunications/ICTs are essential components for developed and developing countries for achieving sustainable development, and instructs the Secretary-General, in collaboration with the Directors of the Bureaux, to identify new activities to be undertaken by ITU to support the developing countries in achieving sustainable development through telecommunications and ICT,

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

taking into account

the mandate of the Smart Africa secretariat, which is in line with the Union's objectives for developing countries,

recognizing

a) that Smart Africa member states, partner organizations and industries working on various projects need standards;

b) that ITU-T is responsible for the standardization work relating emerging technologies,

resolves to invite study groups of the ITU Telecommunication Standardization Sector

1 to develop ITU-T Recommendations aimed at implementing emerging technologies, with a special focus on developing countries;

2 to collaborate with the Smart Africa office in regard to standards relating to emerging technologies, with more emphasis on use cases and scenarios for developing countries through regional meetings, forums, workshops, etc.,

instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Director of the Telecommunication Development Bureau

1 to establish mechanisms for collaboration and cooperation between ITU-T study groups and the Smart Africa office in the development of standards;

2 to continue supporting the Smart Africa Manifesto in accordance with Resolution 195 (Busan, 2014);

3 to provide assistance to Smart Africa and African regional groups from within the assigned budget in order to support pilot projects aimed at speeding up the implementation of ITU standards and Recommendations;

4 to strengthen training and guide Smart Africa member states, partner organizations and industries in their adoption of ITU-T standards.

RESOLUTION 87 (Hammamet, 2016)

Participation of the ITU Telecommunication Standardization Sector in the periodic review and revision of the International Telecommunication Regulations

(Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

recalling

a) Article 25 of the ITU Constitution, on world conferences on international telecommunications (WCIT);

b) No. 48 in Article 3 of the ITU Convention, on other conferences and assemblies;

c) Resolution 4 (Dubai, 2012) of WCIT, on periodic review of the International Telecommunication Regulations (ITR);

d) Resolution 146 (Rev. Busan, 2014) of the Plenipotentiary Conference, on periodic review and revision of the ITR;

e) Resolution 1379 of the ITU Council, on the Expert Group on the International Telecommunication Regulations (EG-ITR),

recognizing

a) that, as stated in Resolution 146 (Rev. Busan, 2014), the ITU Telecommunication Standardization Sector (ITU-T) has most of the work relevant to the ITR,

b) the importance of ITU-T study groups' input to the ITU-T contributory process to EG-ITR, as appropriate and where necessary,

considering

a) that ITU-T is playing an important role in resolving new and emerging issues arising from the changing global international telecommunication/information communication technology environment;

b) that all Member States as well as ITU-T Sector Members should have the opportunity to contribute to further work on the ITR,

resolves to instruct the Director of the Telecommunication Standardization Bureau

1 to undertake the necessary activities within the Director's field of competence in order to fully implement Resolution 146 (Rev. Busan, 2014) and Council Resolution 1379;

2 to submit the result of these activities to EG-ITR,

instructs the Telecommunication Standardization Advisory Group

to provide advice to the Director of the Telecommunication Standardization Bureau consistent with Resolution 146 (Rev. Busan, 2014) and Council Resolution 1379,

invites Member States and Sector Members

to participate in and contribute to the implementation of this resolution.

International mobile roaming

(Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

considering

a) the results of the ITU High-Level Workshop on international mobile roaming (IMR), held in Geneva on 23-24 September 2013;

b) the results of the ITU Global Dialogue on IMR, held in Geneva on 18 September 2015;

c) that the tasks undertaken in the ITU Telecommunication Standardization Sector (ITU-T) cover Recommendations, conformity assessment and matters having policy or regulatory implications;

d) that the economy is increasingly dependent on reliable, cost-effective, competitive and affordable mobile communications technology on a global scale;

e) that wholesale IMR tariffs are decoupled from underlying costs, which may have an effect on retail rates, including inconsistent and arbitrary charges;

f) that a competitive international telecommunication market may not exist if significant differences persist between national prices and IMR prices;

g) that there are differences in costs between countries and regions,

noting

a) that Recommendation ITU-T D.98 is an agreement concluded between Member States and Sector Members in 2012;

b) that Recommendation ITU-T D.97 contains possible approaches to the reduction of excessive roaming rates, highlighting the need to encourage competition in the roaming market, educate consumers and consider appropriate regulatory actions such as the introduction of caps on roaming rates,

resolves

that ITU-T Study Group 3 must continue to study the economic effects of IMR rates,

instructs the Director of the Telecommunication Standardization Bureau

1 to organize initiatives, in collaboration with the Director of the Telecommunication Development Bureau (BDT), to raise awareness of the benefits to the consumer of lowering IMR rates;

2 to propose cooperative approaches to foster the implementation of Recommendations ITU-T D.98 and ITU-T D.97, and to lower IMR rates among the Member States, by promoting capacity-building programmes, workshops and guidelines for international cooperation agreements,

invites Member States

1 to take measures towards the implementation of Recommendations ITU-T D.98 and ITU-T D.97;

2 to collaborate in the efforts to lower IMR rates by taking regulatory measures when applicable.

RESOLUTION 89 (Rev. Geneva, 2022)

Promoting the use of information and communication technologies to bridge the financial inclusion gap

(Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) that financial inclusion is a key enabler for reducing poverty and boosting prosperity: around 1.7 billion people globally do not have access to formal financial services and women account for 56 per cent of the unbanked;

b) that, according to the Global Findex Report of the World Bank, more than half of adults in the poorest 40 per cent of households in developing countries[1] were still without accounts in 2017 and, moreover, the gender gap in bank-account ownership is not significantly narrowing: in 2011, 47 per cent of women and 54 per cent of men had an account; in 2014, 58 per cent of women had an account, compared with 65 per cent of men; and in 2017, 65 per cent of women had an account, compared with 72 per cent of men;

c) that one way to bridge this financial inclusion gap is through information communication technology (ICT), particularly mobile technologies;

d) that digital financial services have resulted in a dramatic increase in financial inclusion;

e) that digital financial services increase income and social participation in developing countries for women, girls and vulnerable groups, thereby reducing inequalities;

f) Resolution 55 (Rev. Geneva, 2022) of this assembly, on promoting gender equality in ITU Telecommunication Standardization Sector (ITU-T) activities;

g) that the purposes of the Union include to foster collaboration among the membership for the harmonious development of telecommunications, sharing of best practices and enabling services to be offered at lowest possible cost;

h) the persistence of the digital divide and the financial inclusion gap;

i) Resolution 1353, adopted by the ITU Council at its 2012 session, which recognizes that telecommunications and ICTs are essential components for developed and developing countries in achieving sustainable development, and instructs the Secretary-General, in collaboration with the Directors of the Bureaux, to identify new activities to be undertaken by ITU to support developing countries in achieving sustainable development through telecommunications and ICTs;

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

j) Resolution 70 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on mainstreaming a gender perspective in ITU and promotion of gender equality and the empowerment of women through telecommunications/ICTs;

k) Resolution 175 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on telecommunication/ICT accessibility for persons with disabilities and persons with specific needs;

l) Resolution 184 (Guadalajara, 2010) of the Plenipotentiary Conference, on facilitating digital inclusion initiatives for indigenous peoples;

m) Resolution 204 (Dubai, 2018) of the Plenipotentiary Conference, on use of ICTs to bridge the financial inclusion gap,

recognizing

a) that ITU-T Study Group 3 has been involved in the study of mobile financial services through its Rapporteur Group on mobile financial services in collaboration with relevant standards-development organizations (SDOs);

b) the work undertaken by the ITU-T Focus Group on Digital Financial Services and the ITU-T Focus Group on Digital Currency including Digital Fiat Currency;

c) the work done by relevant ITU-T study groups on digital financial services during the last study period,

considering

a) that the issue of access to financial services is one of global concern and requires global collaboration;

b) United Nations General Assembly Resolution 70/1 of 25 September 2015, on transforming our world: the 2030 Agenda for Sustainable Development, recognizing that it builds on the Millennium Development Goals and seeks to complete their unfinished business, and stressing the importance of the implementation of this new ambitious agenda, which has poverty eradication at its core and aims at promoting the economic, social and environmental dimensions of sustainable development;

c) that this Agenda, *inter alia*, undertakes the adoption and implementation of policies to increase financial inclusion and therefore integrates financial inclusion into several targets associated with the Sustainable Development Goals and their means of implementation;

d) that stable digital financial services are important for expanding financial inclusion, and this requires cooperation, as relevant, from consumers, businesses, policy-makers and regulators;

e) the need for regulators from the telecommunication and financial services sectors to collaborate with one another and with, *inter alia,* their finance ministries and other stakeholders, and to share best practices, since digital financial services encompass areas which fall under the purview of all parties,

noting

a) the target of universal financial access set by the World Bank, and that this goal had not been achieved globally by 2020, yet providing access to a transaction account or electronic instrument to store money and send and receive payments is a basic building block for people to manage their financial lives;

b) that interoperability is, *inter alia*, an important element to enable electronic payments in a convenient, affordable, fast, seamless and secure way through a transaction account: indeed, the need for interoperability was also one of the findings of the Task Force on payment aspects of financial inclusion (PAFI) convened by the Committee on Payments and Market Infrastructures (CPMI) and the World Bank Group, which identified required improvements to existing payment systems and services in order to further increase financial inclusion, recognizing that implementation of existing standards and best practices should be a priority;

c) that, despite the increase in financial inclusion and scaling up of mobile-money services in emerging economies over the past five years, digital financial inclusion still remains a challenge and efforts to roll out standards and systems to support digital financial services will thus need to be continued and accelerated;

d) the importance of affordability of digital financial services, especially for developing countries and people in low-income households, for achieving financial inclusion;

e) the increased interest in using mobile financial services and digitizing government-to-person payments and applications of emerging technologies to advance financial inclusion to better target those in need,

resolves

1 to continue and further develop the ITU-T work programme, including the ongoing work in relevant ITU-T study groups, in order to contribute to the wider global efforts to enhance financial inclusion, as part of the United Nations processes;

2 to conduct studies and develop standards and guidelines in the areas of interoperability, digitization of payments, consumer protection, quality of service, big data, security of digital financial service transactions, and telecommunications/ICTs related to digital financial services where such studies, standards and guidelines do not duplicate efforts taking place in other institutions and relate to the mandate of the Union;

3 to encourage collaboration between telecommunication regulators and financial services authorities to develop and implement standards and guidelines, including consumer-protection guidance;

4 to encourage the use of innovative digital tools and technologies, as appropriate, to advance financial inclusion,

instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Directors of the other Bureaux

1 to report on progress on the implementation of this resolution annually to the Council, and to the World Telecommunication Standardization Assembly;

2 to support the development of reports and best practices on digital financial inclusion, taking into consideration relevant studies, where clearly within the mandate of the Union and not duplicative of work for which other SDOs and institutions are responsible;

3 to establish a platform or, where possible, connect to those already existing, for peer learning, dialogue and experience-sharing in digital financial services among countries and regions, regulators from the telecommunication and financial services sectors, industry experts and international and regional organizations;

4 to organize workshops and seminars for the ITU membership in collaboration with other relevant SDOs, academia and institutions with primary responsibility for standards-development, implementation and capacity building in the area of financial services, in order to raise awareness and identify regulators' particular needs and challenges in enhancing financial inclusion and in respect of applications of emerging technologies in digital finance, and to share lessons learned from different regions,

instructs the relevant study groups of the ITU Telecommunication Standardization Sector

1 to organize the necessary work and studies in order to expand and accelerate the work on digital financial services, starting with their first meeting in the next study period;

2 to coordinate and collaborate with other relevant SDOs and institutions with primary responsibility for standards development, implementation and capacity building in the area of financial services, and with other groups within ITU;

3 to develop technical standards and guidelines that will help developing countries take advantage of emerging technologies related to digital financial services;

4 to develop technical standards and guidance for developing countries to assess the security of their digital financial service infrastructure related to telecommunications,

invites the Secretary-General

to continue to cooperate and collaborate with other entities within the United Nations and other relevant entities in formulating future international efforts for effectively addressing financial inclusion,

invites Member States, Sector Members and Associates

1 to continue to contribute actively to ITU-T study groups on issues related to use of ICTs to enhance financial inclusion, within the mandate of the Union;

2 to promote the integration of ICTs, financial services and consumer protection policies in order to enhance usage of digital financial services with the objective of increasing financial inclusion,

invites Member States

1 to develop and implement national strategies to address financial inclusion as a matter of priority and to leverage ICTs to bring financial services to the unbanked;

2 to include policies for women and girls and vulnerable groups on financial inclusion and security for digital financial services in their national telecommunication/ICT and financial inclusion strategies;

3 to undertake reforms that will leverage ICTs to achieve gender equality within the objectives of this resolution and enhance financial inclusion for women and girls and vulnerable groups;

4 to increase coordination, as appropriate, among national regulatory authorities, in order to remove obstacles preventing non-bank service providers from accessing payment system infrastructures and financial service providers from accessing communications channels, and to foster conditions for affordable and more secure transfer of remittances in both source and recipient countries, including by promoting competitive and transparent market conditions;

5 to contribute to global efforts designed to deal with enhancing the cybersecurity and resilience of the digital finance ecosystem through adoption of international standards and industry best practices;

6 to share international experiences in the use of the telecommunication/ICT-related unique identifiers and improve national identification systems, noting that such systems can allow people who lack formal education and/or are undocumented to establish a unique digital identity that a financial institution can use;

7 to consider eliminating or reducing regulatory fees and levies in the cost of ownership of a mobile connection for the poorest households, thereby ensuring that hard-to-reach populations, such as women and girls and vulnerable groups, have affordable access to mobile connections for the use of financial services;

8 to encourage telecommunication/ICT-related measures to facilitate interoperability of digital financial services.

RESOLUTION 90 (Hammamet, 2016)

Open source in the ITU Telecommunication Standardization Sector

(Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

recalling

a) § 10e) and § 23o) of the Geneva Plan of Action of the World Summit on the Information Society (WSIS);

b) § 29) of the Tunis Commitment of WSIS;

c) § 49) of the Tunis Agenda for the Information Society of WSIS;

d) Resolution 44 (Rev. Hammamet, 2016) of this assembly, on bridging the standardization gap between developing[1] and developed countries;

e) Resolution 58 (Rev. Dubai, 2014) of World Telecommunication Development Conference, which resolves to invite Member States to promote and undertake research and development of ICT-accessible equipment, services and software, with emphasis on free and open-source software and affordable equipment and services,

resolves

that the Telecommunication Standardization Advisory Group (TSAG) continue to work on the benefits and disadvantages of the implementation of open-source projects in relation with the work of the ITU Telecommunication Standardization Sector (ITU-T), as appropriate,

instructs all applicable study groups of the ITU Telecommunication Standardization Sector, within available financial resources

1 to provide inputs to TSAG enquiries on open source as listed in TSAG Report 8, July 2016;

2 to consider output from TSAG on open source, in order to study the value of using open source to develop reference implementations of ITU-T Recommendations, as appropriate;

3 considering the output of the studies under *instructs* 2 above, to continue using open source as appropriate;

4 to support the use of open-source projects in their work, as appropriate, taking into account the outcome of the TSAG study;

5 to continue engaging with open-source projects,

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

instructs the Director of the Telecommunication Standardization Bureau

1 to provide open source related training (e.g. tutorials, seminars, workshops) to ITU-T participants, in collaboration with open-source communities and the Telecommunication Development Bureau, taking into account the ITU-T objective to bridge the standardization gap and digital gender gap and the budgetary constraints of the Union;

2 to submit a report to TSAG annually on progress achieved in implementing this resolution,

instructs the Telecommunication Standardization Advisory Group

to continue fulfilling of the outcomes of TSAG Report 8 concerning open source,

invites the ITU Council Working Group on financial and human resources

to evaluate any potential financial implications for the Union of implementing this resolution,

invites the ITU membership

to contribute to the implementation of this resolution.

RESOLUTION 91 (Rev. Geneva, 2022)

Enhancing access to an electronic repository of information on numbering plans published by the ITU Telecommunication Standardization Sector

(Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

considering

a) that electronic access to information on certain numbering plans has been implemented by the Telecommunication Standardization Bureau (TSB);

b) that enhancing electronic access would be advantageous for Member States and international telecommunication operators or operating agencies, to help improve the reliability of telecommunication networks and services they carry and help improve revenue assurance for operators, and may assist in countering misuse of international telecommunication numbering resources,

noting

a) that the ITU Telecommunication Standardization Sector (ITU-T) must play a lead role in the development and maintenance of the electronic repository referred to in this resolution;

b) that requirements have to be studied and established for populating such an electronic repository;

c) that Recommendation ITU-T E.129 invites all national regulatory bodies to inform ITU of their national numbering plans (that is, allotted and allocated resources);

d) the high demand for numbering, naming, addressing and identification (NNAI) resources due to the advent of new and emerging technologies and applications (e.g. Internet of things, machine-to-machine communication and innovative global networks and services);

e) that reliable information about reserved, assigned and allocated NNAI resources for each country is an important issue for ensuring global telecommunication interconnectivity,

resolves to instruct Study Group 2 of the ITU Telecommunication Standardization Sector

to study this matter on the basis of contributions received and information from TSB and to organize the necessary work in order to determine the requirements for electronic access to a repository of numbering resources reserved, assigned or allocated to each operator/service provider (to the extent available) within every country, including presentation of E.164 national numbering plans on the basis of Recommendation ITU-T E.129, and international numbering resources assigned by the Director of TSB,

instructs the Director of the Telecommunication Standardization Bureau

1 to provide the necessary assistance for ITU members by furnishing details of existing information resources relating to the presentation of national numbering plans and international numbering resources;

2 based on the results of the above-mentioned Study Group 2 studies, to organize and maintain such an electronic repository as described above, within the allocated budget,

invites Member States, Sector Members, Associates and Academia

to submit, to meetings of Study Group 2 and the Telecommunication Standardization Advisory Group, contributions with a view to the organization of such an electronic repository,

encourages Member States

pursuant to the relevant ITU-T Recommendations, to present information on their national numbering plans and amendments thereto in a timely manner, so as to ensure that the electronic repository remains up to date.

RESOLUTION 92 (Rev. Geneva, 2022)

Enhancing the standardization activities in the ITU Telecommunication Standardization Sector related to non-radio aspects of international mobile telecommunications

(Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

considering

a) that International Mobile Telecommunications (IMT) is the root name that encompasses all IMT systems and their further development, including IMT-2000, IMT-Advanced and IMT-2020 and beyond, collectively (see Resolution ITU-R 56 (Rev. Geneva, 2015) of the Radiocommunication Assembly);

b) that IMT systems (including IMT-2020 and beyond) have contributed to global economic and social development, and are intended to provide telecommunication services on a worldwide scale, regardless of location, network or terminal used;

c) that Recommendation 207 (Rev. Sharm el-Sheikh, 2019) of the World Radiocommunication Conference, on the future development of IMT for 2020 and beyond, is foreseen to enhance, *inter alia*, data rates in comparison with currently deployed IMT systems;

d) that there is growing interest in adopting emerging technologies and solutions based on the standards of IMT-based open radio access networks;

e) that IMT systems (including IMT-2020 and beyond) are being utilized and will be utilized widely in the near future to build a user-centred information ecosystem, and this will make a positive and important contribution to the United Nations Sustainable Development Goals;

f) that the ITU Telecommunication Standardization Sector (ITU-T) is actively continuing its studies on non-radio aspects of standardization for IMT systems (including IMT-2020 and beyond);

g) that the development of a roadmap for all standards activities relating to IMT in the ITU Radiocommunication Sector (ITU-R) and ITU-T, in order to independently manage and advance their work on IMT and to coordinate it so as to ensure full alignment and harmonization of the work programmes within a complementary framework, is an efficient means of achieving progress in both Sectors, and that such a roadmap concept facilitates the communication of issues relating to IMT with organizations external to ITU;

h) that the ITU-T study groups and ITU-R have had, and continue to have, effective informal coordination via liaison activity with respect to the development of Recommendations relating to IMT for both Sectors;

i) that Resolution 43 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference (WTDC) acknowledged the continuous need to promote IMT systems (including IMT-2020 and beyond) throughout the world, and in particular in developing countries[1];

j) that the ITU-R Handbook on Global Trends in International Mobile Telecommunications defines IMT and provides general guidance to relevant parties on issues related to the deployment of IMT systems and for the introduction of their IMT-2000 and IMT-Advanced networks, as well as IMT-2020;

k) that Study Group 1 of the ITU Telecommunication Development Sector (ITU-D) is involved in activities closely coordinated with ITU-T Study Group 13 and ITU-R Study Group 5 in order to identify the factors influencing the effective development of broadband, including IMT systems (including IMT-2020 and beyond), for developing countries;

l) that IMT systems (including IMT-2020 and beyond) are now being evolved to provide diverse usage scenarios and applications such as enhanced mobile broadband, massive machine-type communications and ultra-reliable and low-latency communications, and a substantial number of countries have started implementing these;

m) that some ITU-T study groups are conducting work and developing Recommendations related to non-radio aspects of IMT-2020 under the lead of Study Group 13;

n) that Study Group 13 has taken a lead role on non-radio aspects of IMT-2020 project management coordination across all ITU-T study groups and progressed the study of network aspects of IMT-2020, which includes studies on network requirements and functional architecture; network softwarization, including software-defined networking, network slicing and orchestration; fixed-mobile convergence; and emerging network technologies for IMT-2020;

o) that Study Group 13 established the Joint Coordination Activity for IMT-2020 and beyond (JCA IMT-2020) to coordinate ITU-T's IMT-2020 standardization work with focus on non-radio aspects within ITU-T and to coordinate communication with standards-development organizations (SDOs), consortia and forums also working on IMT-2020-related standards;

p) that JCA IMT-2020 is maintaining a roadmap for IMT-2020 standardization which addresses ongoing and published specifications from ITU, other relevant SDOs, consortia and forums;

q) that the Focus Group on IMT-2020 (FG IMT-2020) concluded its activities and reported to its parent study group, Study Group 13, on high-level network architecture, network softwarization, end-to-end quality of service (QoS), mobile fronthaul/backhaul and emerging new technologies;

r) that Study Group 13 established the Focus Group on Machine Learning for Future Networks including 5G (FG-ML5G) to conduct an analysis of machine learning for future networks in order to identify relevant gaps and issues in standardization activities related to this topic;

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[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

s) that ITU-T Study Group 11 has progressed the study of signalling and control protocol aspects of IMT-2020, which includes studies on protocols supporting control and management technologies; signalling requirements and protocols for network attachment, including mobility and resource management; protocols supporting distributed content networking and information-centric networking; and protocol testing;

t) that ITU-T Study Group 17 has continued addressing threats and vulnerabilities, which affect efforts to build confidence and security in the use of IMT-2020 systems; this includes studies on security and trust frameworks, guidelines and capabilities for IMT-2020 networks and edge computing,

noting

a) Resolution 18 (Rev. Geneva, 2022) of this assembly, on principles and procedures for the allocation of work to, and coordination between, ITU-R and ITU-T;

b) WTDC Resolution 59 (Rev. Buenos Aires, 2017), on strengthening coordination and cooperation among the three ITU Sectors on matters of mutual interest,

resolves to invite the Telecommunication Standardization Advisory Group

1 to facilitate coordination of the standardization activities related to the non-radio side of IMT systems (including IMT-2020 and beyond) among all relevant study groups, focus groups, joint coordination activities, etc.;

2 to strengthen and accelerate activities related to the development and deployment of IMT systems based on standards for open and interoperable network technologies and solutions, such as non-radio aspects of IMT systems for access networks, particularly recognizing challenges in developing countries;

3 to ensure collaboration among relevant ITU-T study groups and with relevant SDOs and forums and consortia for open and interoperable network technologies and solutions, including non-radio aspects of IMT systems for access networks;

4 to encourage, in cooperation with Study Group 13 and other relevant study groups, collaboration with other SDOs on a wide range of issues associated with the non-radio aspects of IMT systems,

instructs study groups of the ITU Telecommunication Standardization Sector

1 to strengthen collaboration and coordination on standardization activities in respect of IMT systems (including IMT-2020 and beyond) with other relevant standards organizations, in order to ensure a productive and practical standards solution for the global ICT industry;

2 to promote efficient and effective standardization work on the non-radio aspects of IMT systems, including IMT-2020 and beyond, as well as applications of relevant network technologies;

3 to promote ITU-T standardization work on the requirements of developing countries related to IMT in general and IMT-2020 in particular;

4 to be responsible for the development and annual reporting of ITU-T's standards strategy on IMT,

instructs Study Group 3 of the ITU Telecommunication Standardization Sector

to consider the ITU-T studies related to, *inter alia*, regulatory and economic questions relevant to IMT systems, including IMT-2020 and beyond, within its mandate,

instructs Study Group 5 of the ITU Telecommunication Standardization Sector

to pursue promoting the studies on standardization activities related to IMT environmental requirements, including energy efficiency,

instructs Study Group 11 of the ITU Telecommunication Standardization Sector

to continue promoting the studies on standardization activities related to the non-radio aspects of IMT signalling requirements, protocols and testing frameworks, specifications, methodologies, capabilities, and interoperability for IMT systems (including IMT-2020 and beyond),

instructs Study Group 12 of the ITU Telecommunication Standardization Sector

to continue promoting the studies on standardization activities of service, QoS and quality of experience related to the non-radio aspects of IMT systems (including IMT-2020 and beyond),

instructs Study Group 13 of the ITU Telecommunication Standardization Sector

1 to maintain the roadmap of, and continue promoting, IMT standardization activities in ITU-T, which should include work items to progress standardization work related to the non-radio aspects of IMT systems (including IMT-2020 and beyond), and share this with relevant groups of ITU-R and ITU-D and external organizations, such as through coordination work ensured by JCA IMT-2020;

2 to maintain and update on an annual basis the supplement to the ITU-T Recommendation containing the current version of the IMT-2020 standardization roadmap;

3 to continue promoting the studies on non-radio aspects of IMT system (including IMT-2020 and beyond) network requirements and architecture, including network softwarization (e.g. non-radio aspects of Cloud radio access network, multi-access edge computing, etc.); network slicing; network capability openness, including open network interconnection and exposure; network management and orchestration; terrestrial (e.g. fixed-mobile) and non-terrestrial (e.g. satellite) convergence; emerging network technology; and the use of machine learning;

4 to promote JCA IMT-2020 and beyond and to continue coordinating the standardization activities of IMT systems (including IMT-2020 and beyond) among all relevant study groups, focus groups and other SDOs,

instructs Study Group 15 of the ITU Telecommunication Standardization Sector

to continue promoting the studies on non-radio aspects of IMT's transport network (e.g. fronthaul and backhaul) standardization activities, including network requirements, architecture, function and performance, characteristics, enabling technologies, management and control, synchronization, etc., for IMT systems (including IMT-2020 and beyond),

instructs Study Group 17 of the ITU Telecommunication Standardization Sector

1 to continue promoting the studies on standardization activities related to network and applications security for IMT-2020 and beyond;

2 to promote coordination and collaboration with ITU-R and other SDOs, such as the 3rd Generation Partnership Project System Aspects working group 3 (3GPP SA3), on security aspects of IMT-2020 and beyond, in the course of development of the relevant specifications or ITU-T Recommendations,

instructs the Director of the Telecommunication Standardization Bureau

1 to bring this resolution to the attention of the Directors of the Radiocommunication Bureau and the Telecommunication Development Bureau;

2 to continue conducting seminars and workshops on non-radio aspects of IMT, the standards strategy, technical solutions and network applications, taking into account specific national and regional requirements,

encourages the Directors of the three Bureaux

1 to investigate new ways to improve the efficiency of ITU work on IMT, and to examine the possibility of establishing an observatory for IMT-2020 and beyond, including appropriate guidelines if needed, taking into account budgetary considerations;

2 to promote studies on standardization activities related to regulatory and economic questions relevant to accommodating non-radio aspects of IMT-2020 systems and beyond use cases, and to encouraging and supporting market growth, innovation, collaboration and ICT infrastructure investment;

3 to develop guidance on the economic drivers for IMT-2020 deployment,

invites Member States, Sector Members, Associates and Academia

1 to participate actively in the standardization activities of ITU-T on developing Recommendations on non-radio aspects of IMT systems (including IMT-2020 and beyond);

2 to share non-radio standards strategy, network evolution experience and application cases of IMT systems (including IMT-2020 and beyond) in relevant seminars and workshop events.

RESOLUTION 93 (Hammamet, 2016)

Interconnection of 4G, IMT-2020 networks and beyond

(Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

recognizing

a) that, currently, most of the telecommunication operators in the world are migrating from circuit-switched networks to packet-switched networks, and most of them have already established Internet protocol (IP)-based networks for delivering most of their services using a new concept "all over IP";

b) that, currently, long-term evolution (LTE) is used on the access stratum of operators' networks as one of the technologies for delivering voice-over-IP services (VoLTE);

c) that network architectures, roaming principles, numbering issues and charging and security mechanisms that are being used in circuit-switched networks are in most cases not suitable for interconnection of IP-based networks (e.g. 4G, IMT-2020 and beyond) to be used for providing voice and video services;

d) that the interconnection of IP-based networks needs to be agreed among all Member States in order to prevent the appearance of new issues related to numbering, roaming, charging and security, to name a few;

e) that VoLTE interconnection as well as other types of interconnection of packet-based networks will require translation from ITU-T E.164 number format to the Universal Resource Identifier (URI), which may be considered as a common identifier of IP-based networks to be used for voice and video communications;

f) that ENUM is one of the possible solutions to be used for E.164/URI translation for such interconnections;

g) that Resolution 49 (Rev. Hammamet, 2016) of this assembly instructs Study Group 2 of the ITU Telecommunication Standardization Sector (ITU-T) to study how ITU could have administrative control over changes that could relate to the international telecommunication resources (including naming, numbering, addressing and routing) used for ENUM;

h) that Resolution 133 (Rev. Busan, 2014) of the Plenipotentiary Conference instructs the Secretary-General and the Directors of the Bureaux to take any necessary action to ensure the sovereignty of ITU Member States with regard to Recommendation ITU-T E.164 numbering plans, whatever the application in which they are used;

i) that Resolution 76 (Rev. Hammamet, 2016) of this assembly instructs the Director of the Telecommunication Standardization Bureau to continue to conduct as necessary exploratory activities in each region in order to identify and prioritize the problems faced by developing countries[1] related to achieving interoperability of telecommunication/information and communication technology (ICT) equipment and services,

considering

a) that ENUM is not commonly used around the globe for E.164/URI transfer, and some operators have their private solutions;

b) that some alliances of operators are developing guidelines for interconnection of VoLTE-based networks but there is still no agreed option to be used for such interconnection;

c) that the development of interconnection procedures for IP-based networks to be used for providing voice and video services needs to be carried out on an international basis;

d) that development of the conformance and interoperability requirements to support testing of protocols and technologies used for such interconnection is an essential component for developing interoperable equipment that is based on ITU-T Recommendations,

taking into account

a) that, according to the communiqué of the chief technology officers (CTO) meeting which ITU-T conducted in Budapest (October 2015), "*CTOs encouraged ITU-T to initiate studies – including studies on accessibility, data formats, and control and management aspects – with the goal of enabling the global interoperability of such high-quality services, inviting contributions to these studies from operators and related industry experts as well as relevant SDOs*";

b) that, according to the summary report of the ITU Workshop on voice and video services interoperability over fixed-mobile hybrid environments, including IMT-Advanced (LTE) (December 2015, Geneva), "*further ITU standardization activities should focus on the deployment of signalling protocols for VoLTE interconnection, emergency calls on VoLTE-based networks and numbering issues*";

c) the work of ITU-T Study Group 11 on a framework for interconnection of VoLTE/ViLTE-based networks, which aims to specify common requirements regarding the interconnection of VoLTE/ViLTE-based networks;

d) that the development of standards relating to a framework for interconnection of VoLTE/ViLTE-based networks is one of the subjects of the established collaboration agreement between ITU-T Study Group 11 and ETSI TC INT;

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

e) the successful work of the ITU-T Focus Group on IMT-2020,

resolves

that ITU-T Recommendations to address network architectures, roaming principles, numbering issues, charging and security mechanisms as well as interoperability and conformance testing for interconnection of 4G, IMT-2020 networks and beyond shall be progressed as quickly as possible,

instructs the Director of the Telecommunication Standardization Bureau

1 to continue to conduct, as necessary, exploratory activities among telecommunication operators in order to identify and prioritize the problems related to achieving interconnection of IP-based networks such as 4G, IMT-2020 and beyond;

2 to submit the results of these activities to the ITU Council for its consideration and required action,

instructs the study groups

1 to identify as soon as possible future ITU-T Recommendations that need to be developed associated with the interconnection of 4G, IMT-2020 networks and beyond;

2 to cooperate, as appropriate, with interested stakeholders and alliances in order to optimize studies on this particular subject,

further instructs Study Group 11

to develop ITU-T Recommendations which specify the framework and signalling architectures to be used for establishing interconnection of 4G, IMT-2020 networks and beyond to achieve interoperability worldwide

further instructs Study Group 2

to develop ITU-T Recommendations which specify the ENUM architecture to be used for interconnection of 4G, IMT-2020 networks and beyond, including administrative control that could relate to the international telecommunication resources (including naming, numbering, addressing and routing),

invites Member States and Sector Members

to contribute to the implementation of this resolution,

invites Member States

to encourage telecommunication operators to assist ITU-T in implementing this resolution.

Standardization work in the ITU Telecommunication Standardization Sector for cloud-based event data technology

(Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016)

recalling

the relevant provisions of Article 1 of the ITU Constitution, in particular No. 17, which stipulates that the Union is to promote the adoption of measures for ensuring the safety of life through the cooperation of telecommunication services,

considering

a) the importance of cockpit voice recorder (CVR)/flight data recorder (FDR) as tools for increasing aviation safety;

b) the growing interest in event data recorders (EDR) to improve the safety and quality of life in all industries, e.g. EDR for transportation (automated driving), digital fault recorder (DFR) for utilities (smart grid, smart water management), and cardiac event recorder (CER) for healthcare (connected medical devices/implants);

c) the important role of cloud computing as an enabler of network access to a scalable and elastic pool of shareable physical or virtual resources with self-service provisioning and administration on demand;

d) the need for ensuring information security in cloud computing and the Internet of things (IoT),

noting

a) that the ITU Telecommunication Standardization Sector (ITU-T) should play a leading role in the development of standards for EDR application in cloud computing and IoT;

b) that a standards ecosystem should be created, with ITU-T at its centre,

recognizing

a) the successful conclusion of the ITU-T Focus Group on aviation applications of cloud computing for flight data monitoring (FG AC), studying the feasibility of using cloud computing in an aviation context and of streaming flight data;

b) the relevant achievements of ITU-T Study Groups 13 (cloud computing, big data analytics), 16 (intelligent transport systems (ITS), connected healthcare/e-health), 17 (cloud-computing security) and 20 (IoT and its applications, with an initial focus on smart cities and communities);

c) that ITU-T has unmatched advantages when it comes to requirements and architecture standards;

d) that foundation work on EDR requirements and architecture standards be initiated so that a set of standards may be developed through industry-wide synergy,

resolves to instruct Study Groups 13, 16, 17 and 20 of the ITU Telecommunication Standardization Sector

1 to evaluate existing, evolving and new Recommendations with respect to cloud-based event data technology;

2 to make recommendations to the Telecommunication Standardization Advisory Group on how to address the topics that are outside the mandate of the study groups,

instructs the Telecommunication Standardization Advisory Group

to drive a concerted effort across relevant study groups to accelerate standardization work on cloud-based event data technology,

instructs the Director of the Telecommunication Standardization Bureau

1 to provide the necessary assistance to speed up standardization work on cloud-based event data technology and to encourage participation and contributions from Member States, particularly developing countries;

2 to organize (a) workshop(s) to collect requirements and inputs on this topic from a wide range of various stakeholders,

invites Member States, Sector Members, Associates and academia

to submit contributions for developing standards for cloud-based event data technology.

RESOLUTION 95 (Rev. Geneva, 2022)

ITU Telecommunication Standardization Sector initiatives to raise awareness on best practices and policies related to service quality

(Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

considering

a) that, in accordance with No. 13 in Article 1 of the ITU Constitution, the Union shall in particular "facilitate the worldwide standardization of telecommunications, with a satisfactory quality of service";

b) the provisions of the Constitution and the ITU Convention relating to strategic policies and plans;

c) the strategic plan for the Union for 2020-2023, approved in Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference;

d) that one of the strategic goals under the strategic plan is to bridge the standardization gap for an inclusive information society and enable the provision of broadband access for all, leaving no one offline,

recalling

a) that Resolution 200 (Rev. Dubai, 2018) of the Plenipotentiary Conference defines, among the Connect 2020 global telecommunication/information and communication technology (ICT) goals and targets, Goal 2: Inclusiveness – Bridge the digital divide and provide broadband for all;

b) that Resolution 196 (Rev. Dubai, 2018) of the Plenipotentiary Conference instructs the Director of the Telecommunication Development Bureau to bring to the attention of decision-makers and national regulatory authorities the importance of keeping users/consumers informed about the quality of the different services offered by operators, and of other protection mechanisms promoting user/consumer rights;

c) that Resolution 196 (Rev. Dubai, 2018) invites Member States, Sector Members and Associates to make contributions that allow the dissemination of best practices and policies related to service quality;

d) that Resolution 196 (Rev. Dubai, 2018) invites the Member States to promote policies that foster the provision of telecommunication/ICT services in a manner that delivers suitable quality to the users/consumers of telecommunication/ICT services, based, *inter alia*, on Recommendations of the ITU Telecommunication Standardization Sector (ITU-T);

e) that Resolution 131 (Rev. Dubai, 2018) of the Plenipotentiary Conference resolves that ITU should strengthen its coordination with other relevant international organizations involved in the collection of telecommunication/ICT-related statistical data, and establish a standardized set of indicators through the Partnership on Measuring ICT for Development, improving the quality, comparability, availability and reliability of telecommunication/ICT data and indicators and fostering the development of strategies and national, regional and international public policy in the area of telecommunications/ICTs,

recognizing

a) that the transparent and collaborative collection and dissemination of quality indicators and statistics that measure and provide comparative analyses of advancements in the use and adoption of ICTs continue to be a major factor for supporting socio-economic growth;

b) that quality indicators and their analysis provide governments and stakeholders with a mechanism to better understand key drivers of telecommunication/ICT adoption and assist in ongoing national policy formulation;

c) that broadband plays a fundamental role in fulfilling the United Nations Sustainable Development Goals and so information gathering and mapping is critical for developing and making informed decisions, and empowering users,

taking into account

a) Resolution 101 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on Internet Protocol (IP)-based networks;

b) the Dubai Declaration under the theme "Broadband for sustainable development", adopted by the World Telecommunication Development Conference in 2014;

c) Resolution 140 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on ITU's role in implementing the outcomes of the World Summit on the Information Society and the 2030 Agenda for Sustainable Development,

noting

a) that ITU-T Study Group 12 is the lead study group on quality of service (QoS) and quality of experience (QoE), assigned with the task of coordinating QoS and QoE activities within ITU-T and with other standards-development organizations and forums, and developing frameworks to improve collaboration;

b) that Study Group 12 is the parent group for the QoS Development Group (QSDG),

acknowledging

a) the relevant work being conducted by QSDG on operational and regulatory discussions on QoS and QoE, and its important role in fostering collaboration between operators, technical solutions suppliers and regulators in an open debate on new strategies to deliver better quality of services to users;

b) the continuing work on the impact of counterfeit and substandard telecommunication/ICT devices on QoS and QoE, and the ongoing cooperation between study groups on the subject,

resolves that the ITU Telecommunication Standardization Sector

1 continue to develop the necessary Recommendations on performance, QoS and QoE, in particular for broadband networks and services;

2 in close collaboration with the ITU Telecommunication Development Sector (ITU-D), develop initiatives to raise awareness of the importance of keeping users informed about the quality of the services offered by operators;

3 in close collaboration with ITU-D and the ITU regional offices, provide references that assist developing[1] and least developed countries in establishing a national quality-measurement framework suitable to perform QoS and QoE measurement;

4 organize workshops, training programmes and further initiatives to promote wider participation of regulators, operators and suppliers in the international debate on service quality and raise awareness of the importance of QoS and QoE measurement,

instructs the Director of the Telecommunication Standardization Bureau

in order to implement *resolves* 2 and 4 above, to continue to support the activities of QSDG for open operational and regulatory discussions among regulators, operators and suppliers about new strategies to deliver better QoS and QoE to users,

instructs the Director of the Telecommunication Standardization Bureau, in close collaboration with the Director of the Telecommunication Development Bureau

1 to assist developing and least developed countries in identifying human and institutional capacity-building opportunities for establishing national quality-measurement frameworks;

2 to conduct activities in each region in order to identify and prioritize the problems faced by developing and least developed countries related to the provision of acceptable service quality to users;

3 based on results of *instructs* 2 above, to assist developing and least developed countries in elaborating and implementing actions to improve service quality and keep users informed,

instructs study groups of the ITU Telecommunication Standardization Sector, according to their mandate

1 to elaborate Recommendations providing guidance to regulators in regard to defining strategies and testing methodologies to monitor and measure QoS and QoE, in particular for broadband networks and services;

2 to study QoS and QoE evaluation scenarios, measurement strategies, mapping, visualization and testing tools, and publication mechanisms, to be adopted by regulators and operators;

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

3 to study and provide guidance to regulators in regard to sampling methodologies for QoS measurements at the local, national and global level;

4 to provide references relating to minimal satisfactory key performance and key quality indicators for evaluating the quality of services;

5 to implement strategies to raise participation of developing and developed countries from all regions in all their activities,

invites the membership

1 to collaborate with ITU-T in implementing this resolution;

2 to participate in Study Group 12 and QSDG initiatives by providing contributions, expertise, knowledge and practical experiences relating to the work of Study Group 12.

RESOLUTION 96 (Hammamet, 2016)

ITU Telecommunication Standardization Sector studies for combating counterfeit telecommunication/information and communication technology devices

(Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

recalling

a) Resolution 188 (Busan, 2014) of the Plenipotentiary Conference, on combating counterfeit telecommunication/information and communication technology (ICT) devices;

b) Resolution 177 (Rev. Busan, 2014) of the Plenipotentiary Conference, on conformance and interoperability (C&I);

c) Resolution 176 (Rev. Busan, 2014) of the Plenipotentiary Conference, on human exposure to and measurement of electromagnetic fields (EMF);

d) Resolution 79 (Dubai, 2014) of the World Telecommunication Development Conference (WTDC), on the role of telecommunications/ICT in combating and dealing with counterfeit telecommunication/ICT devices;

e) Resolution 47 (Rev. Dubai, 2014) of WTDC, on enhancement of knowledge and effective application of ITU Recommendations in developing countries[1], including C&I testing of systems manufactured on the basis of ITU Recommendations;

f) Resolution 72 (Rev. Hammamet, 2016) of this assembly, on measurement concerns related to human exposure to EMF;

g) Resolution 62 (Rev. Dubai, 2014) of WTDC, on measurement concerns related to human exposure to EMF;

h) Resolution 182 (Rev. Busan, 2014) of the Plenipotentiary Conference, on the role of telecommunications/ICT in regard to climate change and the protection of the environment;

i) that this assembly has adopted Resolution 76 (Rev. Hammamet, 2016), on studies related to conformance and interoperability testing, assistance to developing countries, and a possible future ITU Mark programme;

j) Resolution 79 (Dubai, 2012) of the World Telecommunication Standardization Assembly, on the role of telecommunications/information and communication technologies in handling and controlling e-waste from telecommunication and information technology equipment and methods of treating it,

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

recognizing

a) the noticeably growing sales and circulation of counterfeit and tampered telecommunication/ICT devices in the markets, which have an adverse impact on governments, manufacturers, vendors, operators and consumers through: loss of revenues, erosion of brand value/intellectual property rights and reputation, network disruptions, poor quality of service (QoS) and potential hazard to public health and safety as well as the environmental e-waste;

b) that counterfeit and tampered telecommunication/ICT devices may negatively impact on security and privacy for users;

c) that counterfeit and tampered telecommunication/ICT devices often contain illegal and unacceptable levels of hazardous substances, threatening consumers and the environment;

d) that some countries have conducted awareness campaigns on counterfeit and tampered device issues and deployed successful solutions including regulations in their markets to deter the spread of counterfeit and tampered telecommunication/ICT devices, which could be taken by other countries as useful experiences and case studies;

e) that countries face significant challenges in finding effective solutions to combat counterfeit and tampered telecommunication/ICT devices, given the innovative and creative ways used by persons engaged in this illicit activity to evade enforcement/legal measures;

f) that ITU's Conformity and Interoperability and Bridging Standardization Gap programmes are intended to add value, by bringing clarity to standardization processes and product conformity with international standards;

g) that providing interoperability, safety and reliability should be a key objective of ITU Recommendations;

h) the ongoing work of ITU Telecommunication Standardization Sector (ITU-T) Study Group 11 as the leading expert in the study of combating counterfeit and tampered telecommunication/ICT devices at ITU;

i) that industry initiatives have been created to coordinate activity between operators, manufacturers and consumers,

recognizing further

a) that some countries, with the growing market for mobile devices, rely on unique device identifiers, such as International Mobile Equipment Identity (IMEI) in the Equipment Identity Register (EIR), to limit and deter the proliferation of counterfeit and tampered mobile devices;

b) that, as stated in Resolution 188 (Busan, 2014), Recommendation ITU-T X.1255, which is based on the digital object architecture, provides a framework for discovery of identity management information,

noting

a) that individuals or entities engaged in manufacturing and trading of counterfeit and tampered telecommunication/ICT devices are continually developing and enhancing their capabilities and means of illegal activities to circumvent Member States' and other affected parties' legal and technical efforts to combat counterfeit and tampered products and telecommunication/ICT devices;

b) that supply and demand economics for counterfeit and tampered telecommunication/ICT products complicate attempts to tackle the global black/grey market, and that no single solution is easily envisaged,

aware

a) of the current work and studies of ITU-T Study Group 11, which is conducting study of methodologies, guidelines and best practices, including the use of unique telecommunication/ICT device identifiers, for combating counterfeit and tampered telecommunication/ICT products;

b) of the current work and studies in ITU-T Study Group 20, on Internet of things (IoT), IoT identity management and the increasing importance of IoT devices to the society;

c) of the ongoing work under *instructs ITU-D Study Group 2, in collaboration with the relevant ITU study groups* of Resolution 79 (Dubai, 2014);

d) that there is ongoing cooperation with standards development organizations (SDOs), the World Trade Organization (WTO), the World Intellectual Property Organization (WIPO), the World Health Organization (WHO) and the World Customs Organization (WCO) on matters related to counterfeit and tampered products;

e) that governments play an important role in combating the manufacture and international trade of counterfeit and tampered products including telecommunication/ICT devices, by formulating appropriate strategies, policies and legislation;

f) that tampering with unique telecommunication/ICT device identifiers diminishes the effectiveness of solutions adopted by countries,

considering

a) the conclusions of the ITU Events on combating counterfeit and tampered telecommunication/ICT devices (Geneva, 17-18 November 2014 and 28 June 2016);

b) the conclusions of the Technical Report on Counterfeit ICT Equipment adopted by Study Group 11 at its meeting in Geneva on 11 December 2015;

c) that, in general, telecommunication/ICT devices that do not comply with a country's applicable national conformity processes and regulatory requirements or other applicable legal requirements should be considered unauthorized for sale and/or activation on telecommunication networks of that country;

d) that a counterfeit telecommunication/ICT device is a product that explicitly infringes the trademark, copies hardware or software designs, or infringes brand or packaging rights of an original or authentic product and, in general, infringes applicable national and/or international technical standards, regulatory requirements or conformity processes, manufacturing licensing agreements, or other applicable legal requirements;

e) that a reliable unique identifier shall be unique for each equipment it aims to identify, can only be assigned by a responsible management entity and should not be changed by unauthorized parties;

f) that tampered telecommunication/ICT devices are devices that have components, software, a unique identifier, an item protected by intellectual property rights or a trademark tentatively or effectively altered without the explicit consent of the manufacturer or its legal representative;

g) that some countries have started implementing measures that aim to deter counterfeit and tampered telecommunication/ICT devices based on an identification mechanism, which can also be effective for the control of tampered telecommunication/ICT devices;

h) that tampering telecommunication/ICT devices, especially the ones that clone a legitimate identifier, may diminish the effectiveness of solutions adopted by the countries when addressing counterfeiting ;

i) that a framework for discovery and management of identity information can assist in combating counterfeiting and tampering of telecommunication/ICT devices;

j) that ITU and other relevant stakeholders have key roles to play in fostering coordination between the parties concerned in order to study the impact of counterfeit and tampered telecommunication/ICT devices and the mechanism for limiting their use, and to identify ways of dealing with them both internationally and regionally;

k) the importance of maintaining user connectivity,

resolves

1 to explore ways and means to combat and deter telecommunication/ICT device counterfeiting and tampering in order to protect industry, governments and consumers from counterfeit and tempered telecommunication/ICT devices;

2 that Study Group 11 should be the lead study group in the area of combating counterfeit and tampered telecommunication/ICT devices,

instructs the Director of the Telecommunication Standardization Bureau, in close collaboration with the Director of the Telecommunication Development Bureau

1 to organize workshops and events across the ITU regions to promote the work in this field, involving all stakeholders and raising awareness of the impact of counterfeit and tampered telecommunication/ICT devices;

2 to assist developing countries in preparing human resources to combat the spread of counterfeit and tampered telecommunication/ICT devices, by providing capacity-building and training opportunities;

3 to work in close collaboration with relevant stakeholders, such as WTO, WIPO, WHO and WCO, on activities relating to combating counterfeit and tampered telecommunication/ICT devices, including restricting the trading, export and circulation of these telecommunication/ICT devices internationally;

4 to coordinate activities relating to combating counterfeit and tampered telecommunication/ICT devices through study groups, focus groups and other related groups;

5 to assist Member States in taking the necessary actions to apply relevant ITU-T Recommendations for combating counterfeit and tampered telecommunication/ICT devices, including the use of conformity assessment systems,

instructs the Director of the Telecommunication Standardization Bureau

1 to collaborate with industry associations, consortia and forums to identify possible technological measures, both software and hardware, that may be developed to deter tampering and the use and spread of counterfeit and tampered telecommunication/ICT devices;

2 to submit the results of these activities to the ITU Council for its consideration and required action;

3 to involve experts and external entities as appropriate;

instructs the Director of the Telecommunication Standardization Bureau, in close collaboration with the Directors of the Radiocommunication and Telecommunication Development Bureaux

1 to assist Member States in addressing their concerns with respect to counterfeit and tampered telecommunication/ICT devices, through information sharing at regional or global level, including conformity assessment systems;

2 to assist all the membership, considering relevant ITU-T Recommendations, in taking the necessary actions to prevent or detect the tampering with and/or duplication of unique telecommunication/ICT device identifiers, interacting with other SDOs related to these matters,

instructs Study Group 11 of the ITU Telecommunication Standardization Sector, in collaboration with other study groups concerned

1 to continue developing Recommendations, technical reports and guidelines to address the problem of counterfeit and tampered ICT equipment and to support the Member States in anti-counterfeiting activities;

2 to collect, analyse and exchange information about counterfeiting and tampering practices in the ICT sector, and how ICTs could be used as a tool to combat them;

3 to study existing as well as new reliable, unique, persistent and secure identifiers, in collaboration with ITU-T Study Groups 2, 17 and 20, that have the potential to be used in combating counterfeit and tampered products and telecommunication/ICT devices, including their scope of application and level of security in the context of their possible duplication/cloning;

4 to develop methods of assessing and verifying identifiers used for purposes of combating counterfeit production;

5 with the involvement of relevant standardization organizations, to develop mechanisms as appropriate for identifying counterfeit production, by means of unique identifiers that are resistant to duplication and respond to confidentiality/security requirements;

6 to study possible solutions, including frameworks to discover identity management information, that could support combating of counterfeit and tampered telecommunication/ICT devices;

7 to identify a list of technologies/products, used for testing conformance with ITU-T Recommendations, in order to help in efforts to combat counterfeit ICT production,

invites Member States

1 to take all necessary measures, including collaboration, cooperation and exchange of experiences and expertise with other Member States, to combat counterfeit and tampered telecommunication/ICT devices in a country/region, as well as globally;

2 to adopt national legal and regulatory frameworks to combat counterfeit and tampered telecommunication/ICT devices;

3 to consider measures to mitigate the import, circulation and sale of counterfeit and tampered telecommunication ICT/devices from the market;

4 to consider solutions to be used to differentiate between authentic/genuine and counterfeit or tampered telecommunication/ICT devices, e.g. establishing a centralized national reference database of authorized equipment;

5 to conduct awareness campaigns for consumers on the adverse impact of counterfeit and tampered products and telecommunication/ICT devices on the environment and on their own health, as well as on the degraded reliability, QoS and performance of such telecommunication/ICT devices,

invites Sector Members

to collaborate with governments, administrations and telecommunication regulators in combating counterfeit and tampered telecommunication/ICT devices,

invites all the membership

1 to participate actively in ITU studies relating to combating counterfeit and tampered telecommunication/ICT devices by submitting contributions;

2 to take the necessary actions to prevent or detect tampering of unique telecommunication/ICT device identifiers, in particular regarding cloned telecommunication/ICT devices;

3 to collaborate and share expertise in this area.

RESOLUTION 97 (Rev. Geneva, 2022)

Combating mobile telecommunication device theft

(Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) Resolution 196 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on protecting telecommunication service users/consumers;

b) Resolution 189 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on assisting Member States to combat and deter mobile device theft;

c) Resolution 188 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on combating counterfeit telecommunication/information and communication technology (ICT) devices;

d) Resolution 174 (Rev. Busan, 2014) of the Plenipotentiary Conference, on ITU's role with regard to international public policy issues relating to the risk of illicit use of ICTs;

e) Resolution 79 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference (WTDC), on the role of telecommunications/ICTs in combating and dealing with counterfeit telecommunication/ICT devices;

f) WTDC Resolution 64 (Rev. Buenos Aires, 2017), on protecting and supporting users/consumers of telecommunication/ICT services,

recognizing

a) that governments and industry have implemented actions to deter and combat mobile device theft;

b) that the theft of user-owned mobile devices may lead to the criminal use of telecommunication/ICT services and applications, resulting in economic losses for the lawful owner and user;

c) that measures to combat mobile device theft adopted by some countries rely on unique device identifiers, such as International Mobile Equipment Identity, and therefore tampering with (changing without authorization) unique identifiers can diminish the effectiveness of these solutions;

d) that some solutions to combat counterfeit telecommunication/ICT devices can also be used to combat the use of stolen telecommunication/ICT devices, in particular those devices whose unique identifiers have been tampered with for the purpose of re-introducing them to the market;

e) that studies on combating counterfeiting, including of telecommunication/ICT devices, and the systems adopted on the basis on those studies, can facilitate the detection and blocking of devices and prevention of their further use,

considering

that technological innovation driven by ICTs has significantly modified the ways in which people access telecommunications,

aware

a) of the related ongoing work in ITU Telecommunication Standardization Sector (ITU-T) Study Group 11 on combating counterfeit and mobile device theft;

b) of the related ongoing work in ITU-T Study Group 17 on security;

c) of the related ongoing work in ITU-T study groups on applying emerging technologies for distributed information sharing solutions,

resolves

1 that ITU-T should explore all applicable solutions and develop ITU-T Recommendations to combat and deter mobile device theft and its negative effects, offering all interested parties a forum for encouraging discussion, member cooperation, the exchange of best practices and guidelines and the dissemination of information on combating mobile device theft;

2 that ITU-T should, in collaboration with the relevant standards organizations, develop solutions to address the problem of replication of unique identifiers;

3 that Study Group 11 should be the lead study group in ITU-T on activities relating to combating mobile telecommunication device theft,

instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Directors of the Radiocommunication Bureau and Telecommunication Development Bureau

1 to compile and share information on best practices developed by industry or governments and promising trends in combating mobile device theft, especially from regions where the rate of mobile phone theft has fallen, including statistics on their effectiveness;

2 to facilitate, in collaboration with industry organizations and standards-development organizations (SDOs), the standardization and dissemination of Recommendations, technical reports and guidelines to combat mobile device theft and its negative effects, specifically regarding the exchange of identifiers of mobile devices reported stolen or lost, and to prevent lost or stolen mobile devices from accessing mobile networks;

3 to consult with the Sector's relevant study groups, manufacturers of mobile devices, manufacturers of telecommunication network components, operators, telecommunication SDOs as well as developers of promising technologies related to these matters, in order to identify existing and future technological measures, both software and hardware, to mitigate the consequences of the use of stolen mobile devices;

4 to provide assistance, within ITU-T's expertise and within available resources, as appropriate, in cooperation with relevant organizations, to Member States, if so requested, in order to reduce mobile device theft and the use of stolen mobile devices in their countries;

5 to share information and experiences on how to control tampering (unauthorized changing) of unique mobile telecommunication/ICT device identifiers and prevent tampered devices from accessing mobile networks,

instructs Study Groups 11 and 17 of the ITU Telecommunication Standardization Sector, within their mandates and in collaboration with other interested study groups

1 to develop Recommendations, technical reports and guidelines to address the problem of mobile telecommunication device theft and its negative effects;

2 to study any possible solutions to combat the use of stolen mobile telecommunication devices with tampered (changed without authorization) identities and to prevent them from accessing the mobile network;

3 to study any technologies that can be used as a tool for combating mobile telecommunication device theft;

4 to draw up a list of identifiers used in mobile telecommunication/ICT devices,

invites Member States and Sector Members

1 to take all necessary measures, including raising awareness, in order to combat mobile telecommunication device theft and its negative effects;

2 to cooperate and share expertise in this area;

3 to participate actively in ITU studies relating to the implementation of this resolution by submitting contributions;

4 to take the necessary actions to prevent or discover and control tampering (unauthorized changing) of unique mobile telecommunication/ICT device identifiers and prevent tampered devices from accessing mobile networks.

RESOLUTION 98 (Rev. Geneva, 2022)

Enhancing the standardization of Internet of Things and smart cities and communities for global development

(Hammamet, 2016; Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) Resolution 197 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on promoting the development of the Internet of things (IoT) and smart sustainable cities and communities (SC&C);

b) Resolution 66 (Rev. Sharm el-Sheikh, 2019) of the Radiocommunication Assembly, on studies related to wireless systems and applications for the development of IoT;

c) Resolution 85 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference, on facilitating IoT and SC&C for global development;

d) the Global Pulse initiative launched by the United Nations Secretary-General to promote opportunities to use big data for sustainable development and humanitarian action;

e) the objectives of the ITU Telecommunication Standardization Sector (ITU-T) in Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference, and in particular Objective T.5, which mandates ITU-T to extend and facilitate cooperation with international, regional and national standardization bodies;

f) Recommendation ITU-T Y.4000/Y.2060, on overview of IoT, which defines IoT as "a global infrastructure for the information society, enabling advanced services by interconnecting (physical and virtual) things based on existing and evolving interoperable information and communication technologies";

g) Recommendation ITU-T Y.4702, on common requirements and capabilities of device management in IoT, which establishes common requirements and capabilities of device management in IoT for different application scenarios,

considering

a) that it is expected that the development of IoT technologies will make it possible to connect billions of devices to the network, impacting almost all aspects of daily life;

b) the importance of IoT in contributing to achievement of the 2030 Agenda for Sustainable Development, in particular recalling Sustainable Development Goal 11 (SDG 11) (Make cities and human settlements inclusive, safe, resilient and sustainable);

c) that various industrial sectors, such as energy, transportation, health and agriculture, are collaborating for the development of IoT and SC&C applications and services across verticals;

d) that IoT and SC&C can be key enablers for the information society and offer the opportunity to transform the urban infrastructure, taking advantage, among other things, of the efficiencies of smart buildings and transport systems, and smart water management, working together with services for the benefit of users;

e) that SC&C can use IoT to discover and respond to regional and/or global crises such as natural disasters and epidemics/pandemics;

f) that research and development in IoT can help to improve global development, delivery of basic services and monitoring and evaluation programmes in different sectors;

g) that IoT involves various stakeholders and areas, which may require coordination and cooperation;

h) that IoT has evolved into a wide variety of applications with different aims and requirements, as a result of which it is necessary to work in coordination with other international standardization bodies and other related organizations in order to integrate better standardization frameworks;

i) that technical standards as well as public-private partnerships should reduce the time and cost for implementing IoT with benefits in terms of economies of scale;

j) that ITU-T should play a leading role in the development of IoT-related and SC&C-related standards;

k) the importance of collaboratively assessing and standardizing IoT and SC&C data interoperability;

l) that IoT and SC&C may have an impact in many areas, which may require further cooperation between national, regional and international entities concerned on relevant aspects in order to maximize the benefits of IoT;

m) that in IoT and SC&C environments, connected devices and applications represent a diverse range of ecosystems;

n) that security aspects are a key component in the development of a reliable and secure IoT ecosystem,

recognizing

a) that industry forums, standards-development organizations (SDOs) and partnership projects are developing technical specifications for IoT;

b) the role of the ITU Radiocommunication Sector (ITU-R) in conducting studies on the technical and operational aspects of radio networks and systems for IoT;

c) the role of the ITU Telecommunication Development Sector (ITU-D) in encouraging telecommunication/information and communication technology (ICT) development at the global level, and in particular the relevant work carried out by ITU-D study groups;

d) that the purpose of the Joint Coordination Activity on Internet of things and smart cities and communities (JCA-IoT and SC&C), under the leadership of ITU-T Study Group 20, is to coordinate the work on IoT and SC&C within ITU, and to seek cooperation from external bodies working in the field of IoT and SC&C;

e) that much progress has been made in efforts to develop collaboration between ITU-T and other organizations, such as, but not limited to, active participation in different committees and working groups of Joint Technical Committee 1 of the International Organization for Standardization and the International Electrotechnical Commission (ISO/IEC JTC 1) and of the European Telecommunications Standards Institute (ETSI), and there has also been collaboration with forums such as oneM2M, the Alliance for Internet of Things Innovation and the LoRa Alliance, and collaboration on intelligent transport system (ITS) communication standards;

f) that Study Group 20 is responsible for studies and standardization work relating to IoT and its applications, including SC&C;

g) that Study Group 20 is also a platform where the ITU-T membership, including Member States, Sector Members, Associates and Academia, can come together to exert an impact on the drafting of international standards for IoT and their implementation;

h) that United for Smart Sustainable Cities (U4SSC) is a United Nations initiative coordinated by ITU, the United Nations Economic Commission for Europe (UNECE) and the United Nations Human Settlements Programme (UN-Habitat) to achieve SDG 11;

i) that U4SSC is supporting cities to leverage the full potential of ICT in sustainable development,

resolves to instruct Study Group 20 of the ITU Telecommunication Standardization Sector

1 to develop ITU-T Recommendations aimed at implementing IoT and SC&C, including, but not limited to, on issues related to emerging technologies and vertical industries;

2 to continue, within its mandate, to work with a special focus on the design of a roadmap and harmonized and coordinated international telecommunication standards for the development of IoT, taking into account the needs of each region and Member States, as well as the wide variety of use cases and applications, and the need for IoT to be open and adaptable, and fostering a competitive environment;

3 to collaborate with IoT-related standards organizations and other stakeholders such as industry forums and associations, consortia and SDOs, as well as other relevant ITU-T study groups, taking into account relevant work;

4 to collate, evaluate, assess and share IoT use cases from the interoperability and standardization standpoints for data and information exchange,

instructs the Director of the Telecommunication Standardization Bureau

1 to provide necessary assistance in order to take advantage of every opportunity, within the assigned budget, to promote quality standardization work in a timely manner, and to communicate with telecommunication and ICT industries in order to promote their participation in ITU-T's standardization activities on IoT and SC&C;

2 to carry out, in collaboration with Member States and cities, pilot projects in cities related to SC&C key performance indicator (KPI) assessment activities, aimed at facilitating the deployment and implementation of IoT and SC&C standards worldwide;

3 to continue to support U4SSC, and share its deliverables with Study Group 20 and other study groups concerned;

4 to promote and encourage the implementation of U4SSC KPIs as a standard for smart sustainable cities' self-assessment in collaboration with Member States;

5 to continue encouraging cooperation with other international SDOs, industry forums, other related organizations, and global projects and initiatives, in order to increase the development of international telecommunication standards and reports that facilitate the interoperability of IoT services,

instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Directors of the Telecommunication Development Bureau and the Radiocommunication Bureau

1 to prepare reports considering, in particular, the needs of developing countries[1] in terms of the study of IoT and its applications, sensor networks, services and infrastructure, taking into account the results of work being done in ITU-R and ITU-D to ensure coordination of efforts;

2 to provide support to Member States in implementing U4SSC KPIs for smart sustainable cities;

3 to foster joint work among ITU Sectors in order to discuss the various aspects related to the development of the IoT ecosystem and solutions for SC&C, in the context of the achievement of the SDGs and within the framework of the World Summit on the Information Society;

4 to continue disseminating ITU publications on IoT and SC&C, as well as organizing forums, seminars and workshops on the subject, taking into account the needs of developing countries in particular;

5 to support Member States, especially developing countries, in the organization of forums, seminars and workshops on IoT and SC&C to promote innovation, development and growth in IoT technologies and solutions;

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

6 to report to the next world telecommunication standardization assembly on progress made in the organization of forums, seminars and workshops dedicated to developing the capacity of developing countries;

7 to assist developing countries in the implementation of Recommendations, technical reports and guidelines related to IoT and SC&C,

invites the ITU Telecommunication Standardization Sector membership

1 to submit contributions and continue participating actively in the work of Study Group 20 and in the studies on IoT and SC&C being conducted by ITU-T;

2 to develop master plans and exchange use cases and best practices in order to promote the IoT ecosystem, as well as SC&Cs, and to promote social development and economic growth in order to achieve the SDGs;

3 to cooperate and exchange experiences and knowledge related to this topic;

4 to support and organize forums, seminars and workshops on IoT in order to promote innovation, development and growth in IoT technologies and solutions;

5 to take necessary measures to facilitate the growth of IoT in relation to areas such as the establishment of standards.

Consideration of organizational reform of the ITU Telecommunication Standardization Sector study groups

(Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) No. 105 of the ITU Constitution and No. 197 of the ITU Convention;

b) Resolution 151 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on improvement of results-based management in ITU,

considering

a) the provisions of the Constitution and Convention related to strategic goals and objectives of the Union;

b) the strategic objectives and goals of the ITU Telecommunication Standardization Sector (ITU-T) and their implementation criteria, set out in Annex 1 to Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference;

c) Resolution 122 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference, on the evolving role of the World Telecommunication Standardization Assembly (WTSA);

d) Resolution 2 (Rev. Geneva, 2022) of this assembly, on ITU-T study group responsibilities and mandates;

e) § 44 of the Declaration of Principles of the World Summit on the Information Society, emphasizing that standardization is one of the essential building blocks of the information society,

recognizing

a) that, since the standardization landscape has changed significantly, ITU-T should consider if and how to adapt to the rapidly changing circumstances in line with the expectations of public and private-sector participants through, among other aspects, a review of the study group structure and a thorough analysis of organizational reform of ITU-T study groups;

b) that reaching a re-engineered ITU-T study group structure requires that it be a consequence and the result of a clear and a thorough analysis that will allow mandates to address the evolution of telecommunications/ information and communication technologies;

c) that a re-engineered ITU-T study group structure needs to increase the efficiency of collaboration within ITU and with other organizations,

noting

the discussions in the Telecommunication Standardization Advisory Group (TSAG) meetings that have resulted in the action plan proposed to this assembly by TSAG entitled "Draft action plan for the analysis of ITU-T study group restructuring",

resolves

1 to implement the action plan for the analysis of ITU-T study group restructuring that was produced by TSAG;

2 that TSAG has the responsibility to manage the analysis of ITU-T study group restructuring based upon contributions to TSAG from Member States and ITU-T Sector Members;

3 that the output of the possible reform and review is guidance for the next WTSA and its implementation is not mandatory,

instructs the Telecommunication Standardization Advisory Group

1 to undertake, monitor and guide the work through a rapporteur group or other appropriate group, and make a progress report on the analysis at each TSAG meeting;

2 to provide a progress report on the analysis to the study groups after each TSAG meeting;

3 to submit a report with recommendations for consideration by the next WTSA,

instructs study groups

1 to consider the progress reports from TSAG;

2 to review and share feedback, as appropriate, on the progress reports to TSAG,

instructs the Director of the Telecommunication Standardization Bureau

to provide the necessary assistance to TSAG in the implementation of this resolution,

invites ITU Member States and Sector Members

to participate in and contribute to the implementation of this resolution.

RESOLUTION 100 (Geneva, 2022)

A common emergency number for Africa

(Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) that Resolution 136 (Rev. Dubai, 2018) of the Plenipotentiary Conference encourages Member States to explore the possibility of introducing a globally harmonized emergency number to supplement existing domestic emergency numbers, taking into account the relevant ITU-T Recommendations;

b) that Recommendation ITU-T E.161.1 provides that a Member State that is planning to introduce an emergency number could use either 112 or 911; and that a Member State that is planning to introduce a second alternative emergency number could use either 112 or 911, or both, which should be routed to the existing emergency number;

c) that Resolution 34 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference invites Member States to consider introducing, in addition to their existing emergency numbers, a harmonized national/regional number for access to emergency services, taking into account the relevant ITU-T Recommendations,

considering

a) that not all Member States in Africa are using 112 as the single emergency number selected for the first time;

b) that not all Member States in Africa are using 911 as a secondary alternative emergency number;

c) that there appears to be a trend to use numbers other than 112 and/or 911 for emergency communication by Member States in Africa;

d) that such practices have an unfavourable effect on ease of access to emergency services for citizens of the African continent who move from one country to another;

e) that such practices have an unfavourable effect on ease of access to emergency services for citizens from other parts of the world, since the numbers being used to access emergency services are not similar to what they are used to, i.e. 112 or 911;

f) that some Member States in Africa have not implemented Recommendation ITU-T E.161.1,

noting

a) relevant ITU-T Recommendations, in particular:

i) Recommendation ITU-T E.161.1: Guidelines to select Emergency Number for public telecommunication networks;

ii) Recommendation ITU-T E.161.1 Amendment 1: Guidelines to select Emergency Number for public telecommunication networks;

iii) Recommendation ITU-T E.101: Definitions of terms used for identifiers (names, numbers, addresses and other identifiers) for public telecommunication services and networks in the ITU-T E-series Recommendations;

iv) ITU-T Q-series Recommendations – Supplement 47: Emergency services for IMT-2000 networks – Requirements for harmonization and convergence;

v) Recommendation ITU-T E.164 – Supplement 6: Guidelines for identifying and selecting globally harmonized numbers;

b) relevant resolutions:

i) Resolution 136 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the use of telecommunications/information and communication technologies for humanitarian assistance and for monitoring and management in emergency and disaster situations, including health-related emergencies, for early warning, prevention, mitigation and relief, in particular *encourages Member States* 7;

ii) Resolution 2 (Dubai, 2012) of the World Conference on International Telecommunications, on globally harmonized national number for access to emergency services,

noting further

a) that some countries and regions have adopted national laws, directives and recommendations regarding the use of emergency numbers;

b) that some mobile devices have been hard-coded with either 112 and/or 911;

c) that there is no provision for the Telecommunication Standardization Bureau (TSB) to provide assistance to countries trying to implement Recommendation ITU-T E.161.1;

d) that there is no provision for TSB to provide technical assistance to countries trying to set up emergency numbers,

reaffirming

that it is the sovereign right of each country to regulate its telecommunications and, as such, regulate the provision of emergency services,

resolves to instruct the Director of Telecommunication Standardization Bureau in cooperation with the Director of the Telecommunications Development Bureau

1 to provide technical assistance to Member States in Africa in the implementation of a common emergency number in line with Recommendation ITU-T E.161.1;

2 to report to the World Telecommunication Standardization Assembly on the progress achieved in implementing this resolution, which is intended to improve access to emergency services,

invites Member States particularly in the Africa region

to implement the provisions of Recommendation ITU-T E.161.1 and, in particular, to consider whether 112 or 911 should be used as a single primary emergency number, or 112 and 911 should be used as secondary alternative emergency numbers.

OPINION 1 (Dubai, 2012)

Practical application of network externality premium

(Dubai, 2012)

The World Telecommunication Standardization Assembly (Dubai, 2012),

considering

a) the Tunis Agenda for the Information Society (Tunis, 2005);

b) Resolution 22 (Rev. Antalya, 2006) of the Plenipotentiary Conference, on the distribution of revenues in the provision of international telecommunications services;

c) the approval by the World Telecommunication Standardization Assembly (Johannesburg, 2008) (WTSA-08) of Recommendation ITU-T D.156, on network externalities,

noting

that some Member States have expressed reservations on this Recommendation and requested that clarification be made on some issues and a practical model be developed to calculate the value of the network externality premium,

considering further

a) the approval by Study Group 3 of the ITU Telecommunication Standardization Sector (ITU-T) in May 2010 of Annex A to Recommendation ITU-T D.156, on the practical implementation of Recommendation ITU-T D.156, which provides answers to questions that had been raised;

b) the approval by Study Group 3 in September 2012 of Annex B to Recommendation ITU-T D.156, on determination of the value of the network externality premium, which offers a practical method of calculating this premium,

is of the opinion that

in view of the progress achieved so far within Study Group 3, the Member States concerned may wish to review the respective positions adopted at WTSA-08 and possibly withdraw the reservations regarding Recommendation ITU-T D.156,

invites Member States

to take all measures necessary for the effective implementation of Recommendation ITU-T D.156,

invites the Council

at its 2013 session, to report on this subject to the 2014 plenipotentiary conference, in accordance with Resolution 22 (Rev. Antalya, 2006).

Resolutions suppressed by WTSA-20

RESOLUTION 35 (Rev. Hammamet, 2016)

Appointment and maximum term of office for chairmen and vice-chairmen of study groups of the Telecommunication Standardization Sector and of the Telecommunication Standardization Advisory Group

(Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016)

RESOLUTION 45 (Rev. Hammamet, 2016)

Effective coordination of standardization work across study groups in the ITU Telecommunication Standardization Sector and the role of the ITU Telecommunication Standardization Advisory Group

(Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016)

RESOLUTION 59 (Rev. Dubai, 2012)

Enhancing participation of telecommunication operators from developing countries[1]

(Johannesburg, 2008; Dubai, 2012)

RESOLUTION 66 (Rev. Dubai, 2012)

Technology Watch in the Telecommunication Standardization Bureau

(Johannesburg, 2008; Dubai, 2012)

PART II

ITU-T A-series Recommendations and Supplements: Organization of the work of the ITU Telecommunication Standardization Sector[1]

[1] This publication includes all A-series Recommendations and Supplements that were in force at the end of WTSA-20. It is noted that TSAG may modify, delete or approve A-series Recommendations, and that the latest in-force versions may be found at http://www.itu.int/rec/T-REC-A.

Recommendation ITU-T A.1

Working methods for study groups of the ITU Telecommunication Standardization Sector

1 Study groups and their relevant groups

1.1 Frequency of meetings

1.1.1 Study groups meet to facilitate the approval of Recommendations. Such meetings shall only be held with the approval of the Director of the Telecommunication Standardization Bureau (TSB), and with due consideration of the physical and budgetary capabilities of the ITU Telecommunication Standardization Sector (ITU-T). To minimize the number of meetings required, every effort should be made to resolve questions by correspondence (No. 245 of the ITU Convention).

1.1.2 In the establishment of the work programme, the timetable of meetings must take into account the time required for participating bodies (administrations of Member States and other duly authorized entities) to react and prepare contributions. Meetings should not be held more frequently than is necessary to make effective progress and should take into account TSB's capabilities to provide the necessary documentation.

1.1.3 Meetings of study groups having common interests or dealing with problems possessing affinities should, if possible, be arranged so as to enable participating bodies to send one delegate or representative to cover several meetings. As far as possible, the arrangement chosen should enable the study groups meeting during the period to exchange any information they may require without delay. Furthermore, it should enable specialists from all over the world in the same or related subjects to have direct contacts with each other of benefit to their organizations. It should likewise enable the specialists concerned to avoid leaving their home countries too often.

1.1.4 The timetable of meetings shall be prepared and communicated to participating bodies well in advance (one year), to give them time to study problems and submit contributions within the prescribed time-limits and to give TSB time to distribute the contributions. In this way, study group chairmen and delegates will be given the opportunity to consider the contributions in advance, thus helping to make meetings more efficient and reduce their length. A study group chairman, in conjunction with the Director, may schedule short additional study group or working party meetings for the purpose of making the consent, determination or decision, as appropriate, on a draft new or revised Recommendation.

1.1.5 Subject to physical and budgetary limitations and in consultation with the Director, the work of the study groups should be on a continuous basis and dissociated from the interval between world telecommunication standardization assemblies (WTSA).

1.2 Coordination of work

1.2.1 A joint coordination activity (JCA) may be formed to coordinate work relating to more than one study group. Its primary role is to harmonize planned work effort in terms of subject matter, time-frames for meetings and publication goals (see clause 5).

1.3 Preparation of studies and meetings

1.3.1 At the beginning of each study period, an organization proposal and an action plan for the study period shall be prepared by each study group chairman with the help of TSB. The plan should take into account any priorities and coordination arrangements recommended by the Telecommunication Standardization Advisory Group (TSAG) or decided by WTSA.

How the proposed action plan is implemented will depend upon the contributions received from the members of ITU-T and the views expressed by participants in the meetings.

1.3.2 A collective letter with an agenda of the meeting, a draft work plan and a listing of the Questions or proposals under the general areas of responsibility to be examined shall be prepared by TSB with the help of the chairman.

The work plan should state which items are to be studied on each day, but it must be regarded as subject to change in the light of the rate at which work proceeds. Chairmen should try to follow it as far as possible.

This collective letter should be received by bodies participating in the activities of particular ITU-T study groups, as far as practicable, two months before the beginning of the meeting. The collective letter shall include registration information for these bodies to indicate participation in the meeting. Each Member State administration, Sector Member, Associate, Academia member and regional or international organization should send to TSB a list of its participants at least one month before the start of the meeting. In the event that names cannot be provided, the expected number of participants should be indicated. Such information will facilitate the registration process and the timely preparation of registration materials. Individuals who attend the meeting without pre-registration may experience a delay in receiving their documents.

If the meeting in question has not been previously planned and scheduled, a collective letter should be received at least three months before the meeting.

1.3.3 If an insufficient number of contributions or notification of contributions has been submitted, no meeting should be held. The decision whether to cancel a meeting or not shall be taken by the Director, in agreement with the chairman of the study group or working party concerned.

1.4 Conduct of meetings

1.4.1 The chairman shall direct the debates during the meeting, with the assistance of TSB.

1.4.2 The chairman is authorized to decide that there shall be no discussion on Questions on which insufficient contributions have been received.

1.4.3 Questions which have not elicited any contributions should not be placed on the final agenda of the meeting, and according to provisions of 7.4.1 of [WTSA Res. 1], may be deleted if no contributions have been received for the previous two study group meetings.

1.4.4 Study groups and working parties may set up ad hoc groups (which should be as small as possible and are subject to the normal rules of the study group or working party) during their meetings, to study Questions allocated to those study groups and working parties.

1.4.5 For projects involving more than one study group, baseline documents may be prepared in order to provide the basis for coordinated study among the various study groups. The term "baseline document" refers to a document which contains the elements of common agreement at a given point in time.

1.4.6 Chairmen will ask, during each meeting, whether anyone has knowledge of intellectual property rights issues[1], including patents, copyright for software or text, marks, the use of which may be required to implement or publish the Recommendation being considered. The fact that the question was asked shall be recorded in the working party or study group meeting report, along with any affirmative responses.

1.4.7 Study groups shall establish and maintain a work programme, which includes target dates for consenting or determining each draft Recommendation. The work programme is available in a database which is searchable from the study group website. For each work item under development, the database contains the Recommendation number (or provisional mnemonic designation), the title, scope, editor, timing, priority, identification of any liaison relationships, any editor assigned, the location of the most recent text, the approval process and the status for documents in the approval process. The database is updated to reflect progress or completion of work, re-planning of in-progress items, or addition of new work items.

The decision to add a new work item to the work programme shall be documented in the report of the meeting using the template in Annex A. Note that this may not be necessary to document the continuation of existing work (e.g., an amendment or revision of an existing Recommendation).

A work item may be considered for discontinuation from the work programme if it has not given rise to any contribution in the time interval of the previous two study group meetings.

1.5 Liaison statements

1.5.1 The following information shall be included in outgoing liaison statements prepared at study group, working party or rapporteur group meetings. When necessary, between scheduled meetings, the liaison statement may be prepared by an appropriate correspondence process and approved by the study group chairman in consultation with the study group management team.

- List the appropriate Question numbers of the originating and destination study groups.

[1] See https://www.itu.int/ipr.

- Identify the study group, working party or rapporteur group meeting at which the liaison statement was prepared.

- Include a concise title appropriate to the subject matter. If this is in reply to a liaison statement, make this clear, e.g., "Reply to liaison statement from (*source and date*) concerning ...".

- Identify the study group(s) and working party(ies) (*if known*) or other standards organizations to which it has been sent. *(A liaison statement can be sent to more than one organization.)*

- Indicate the level of approval, e.g., study group or working party, or state that the liaison statement has been agreed at a rapporteur group meeting.

- Indicate if the liaison statement is sent for action *or* comment *or* information. *(If sent to more than one organization, indicate this for each one.)*

- If action is requested, indicate the date by which a reply is required.

- Include the name and address of the contact person.

The text of the liaison statement should be concise and clear, using a minimum of jargon.

An example of the information required in a liaison statement is shown in Figure 1-1.

Question(s):	4		**Meeting, date:**	London, 2-6 October 2017
Study Group:	15	**Working Party:**	1	
Source:	ITU-T SG15, Rapporteur group for Q4/15			
Title:	LS/o/r on Object identifier registration – Reply to liaison statement from Q11/17 (Geneva, 5-9 February 2017)			
LIAISON STATEMENT				
For action to:	ITU-T Q11/17			
For information to:	ITU-R SG11, ISO/IEC JTC 1/SC 6			
Approval:	Q4/15 rapporteur group meeting (London, 6 October 2017)			
Deadline:	22 January 2018			
Contact:	John Jones, rapporteur for Q4/15 ABC Company USA			Tel: +1 576 980 9987 Fax: +1 576 980 9956 E-mail: jj@abcco.com

Figure 1-1 – Example of the information required in a liaison statement

1.5.2 Liaison statements should be forwarded to the appropriate destinations as soon after the meeting as possible. Copies of all liaison statements should also be sent to the chairmen of the study groups and working parties involved for information and to TSB for processing.

1.6 Correspondence activities

A correspondence activity on a particular topic may be authorized to be conducted via e-mail between meetings. Each correspondence activity should have specified terms of reference. A convener is appointed to moderate the e-mail discussion and prepare a report to a subsequent meeting. A correspondence activity should normally conclude no later than the contribution deadline of the meeting to which it is expected to report (see also clause 2.3.3.5).

1.7 Preparation of reports of study groups, working parties or joint working parties, and Recommendations

1.7.1 A report on the work done during a meeting of a study group, working party or joint working party shall be prepared by TSB. Reports of meetings not attended by TSB should be prepared under the responsibility of the chairman of the meeting. This report should set out the results of the meeting and the agreements reached in a condensed form and should identify the points left to the next meeting for further study. The number of annexes to the report should be kept to a strict minimum by means of cross-references to contributions, reports, etc., and references to material in the documentation of a study group or working party. It would be desirable to have a concise summary of contributions (or equivalent) considered by the meeting.

The report should concisely present the following: organization of work; references to and possible summary of contributions and/or documents issued during a meeting; main results, including status of new and/or revised Recommendations consented, determined or under development; directive for future work; planned meetings of working parties, sub-working parties and rapporteur groups; and condensed liaison statements endorsed at the study group or working party level. The table showing the status of Recommendations from the report is used to update the work programme database (see clause 1.4.7).

1.7.2 To assist TSB in this task, the study group or working party may arrange for delegates to draft some parts of the report. TSB should coordinate this drafting work. If necessary, the meeting will set up an editorial group to improve the texts of draft Recommendations in the official languages of the Union.

1.7.3 If possible, the report shall be submitted for approval before the end of the meeting; otherwise, it shall be submitted to the chairman of the meeting for approval.

1.7.4 When existing and already translated ITU-T texts have been used for some parts of the report, a copy of the report annotated with references to the original sources should also be sent to TSB. If the report contains ITU-T figures, the ITU-T reference number should not be deleted even if the figure has been modified.

1.7.5 Individual reports of meetings should be accessible online to appropriate users as soon as electronic versions of these documents are available to TSB.

1.7.6 ITU-T participating bodies are authorized to transmit study group or working party reports and documents to any experts they consider it expedient to consult, except where the study group or working party concerned has specifically decided that its report, or a document, is to be treated as confidential.

1.7.7 The report of a study group's first meeting in the study period shall include a list of all the rapporteurs appointed. This list shall be updated, as required, in subsequent reports.

1.8 Definitions

1.8.1 Terms defined elsewhere

NOTE – [b-ITU-T A.13] describes procedures and defines terms related to non-normative publications in addition to those defined in clause 1.8.2.

This Recommendation uses the following term defined elsewhere:

1.8.1.1 **Question** ([WTSA Res. 1]): Description of an area of work to be studied, normally leading to the production of one or more new or revised Recommendations.

1.8.2 Terms defined in this Recommendation

This Recommendation defines the following terms:

1.8.2.1 **amendment**: Changes or additions to an already published ITU-T Recommendation.

NOTE – If an amendment forms an integral part of the Recommendation, approval of the amendment follows the same approval procedure as the Recommendation; otherwise (e.g., when all changes are in appendices), it is agreed by the study group.

1.8.2.2 **annex**: Material (e.g., technical detail or explanation) that is necessary to the overall completeness and comprehensibility of a Recommendation, and is therefore considered an integral part of the Recommendation.

NOTE 1 – As an annex is an integral part of the Recommendation, approval of an annex follows the same approval procedure as the Recommendation.

NOTE 2 – In common ITU-T | ISO/IEC texts, this element is called an "integral annex".

1.8.2.3 **appendix**: Material that is supplementary to and associated with the subject matter of a Recommendation but is not essential to its completeness or comprehensibility.

NOTE 1 – An appendix is not considered to be an integral part of the Recommendation and thus it does not require the same approval procedure as the Recommendation; agreement by the study group is sufficient. See [b-ITU-T A.13] for the case of an appendix agreed separately from its base Recommendation.

NOTE 2 – In common ITU-T | ISO/IEC texts, this element is called a "non-integral annex".

1.8.2.4 **clause**: Single-digit or multiple-digit numbered text passages.

1.8.2.5 **corrigendum**: Corrections to an already published ITU-T Recommendation.

NOTE 1 – Approval of a corrigendum follows the same approval procedure as an amendment.

NOTE 2 – In common ITU-T | ISO/IEC texts, this element is called a "technical corrigendum".

1.8.2.6 **erratum**: Corrections of publication and editorial errors in an already published ITU-T Recommendation. An erratum is published by TSB with the concurrence of the study group Chairman, in consultation with other relevant parties.

1.8.2.7 **normative reference**: The whole or parts of another document where the referenced document contains provisions which, through reference to it, constitute provisions to the referring document.

1.8.2.8 **text**: The "text" of Recommendations is understood in a broad sense. It may contain printed or coded text and/or data (such as test images, graphics, software, etc.).

1.8.2.9 **work item**: An assigned piece of work, which is identifiable with a Question and which has specific or general objectives, which will result in a product, such as a Recommendation, for publication by ITU-T.

1.8.2.10 **work programme**: A list of work items that are owned by a study group.

1.9 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[ITU-T A.2] Recommendation ITU-T A.2 (2012), *Presentation of contributions to the ITU Telecommunication Standardization Sector*.

[ITU-T A.5] Recommendation ITU-T A.5 (2019), *Generic procedures for including references to documents of other organizations in ITU-T Recommendations*.

[ITU-T A.7] Recommendation ITU-T A.7 (2016), *Focus groups: Establishment and working procedures*.

[ITU-T A.11] Recommendation ITU-T A.11 (2012), *Publication of ITU-T Recommendations and World Telecommunication Standardization Assembly proceedings*.

[ITU-T A.25] Recommendation ITU-T A.25 (2019), *Generic procedures for incorporating text between ITU-T and other organizations*.

[PP Res. 66] Plenipotentiary Conference Resolution 66 (Rev. Dubai, 2018), *Documents and publication of the Union*.

[WTSA Res. 1] WTSA Resolution 1 (Rev. Hammamet, 2016), *Rules of procedure of the ITU Telecommunication Standardization Sector*.

[WTSA Res. 2] WTSA Resolution 2 (Rev. Hammamet, 2016), *ITU Telecommunication Standardization Sector study group responsibility and mandates*.

[WTSA Res. 18] WTSA Resolution 18 (Rev. Hammamet, 2016), *Principles and procedures for the allocation of work to, and strengthening coordination and cooperation among, the ITU Radiocommunication, ITU Telecommunication Standardization and ITU Telecommunication Development Sectors*.

[WTSA Res. 22] WTSA Resolution 22 (Rev. Hammamet, 2016), *Authorization for the Telecommunication Standardization Advisory Group to act between world telecommunication standardization assemblies*..

[WTSA Res. 45] WTSA Resolution 45 (Rev. Hammamet, 2016), *Effective coordination of standardization work across study groups in the ITU Telecommunication Standardization Sector and the role of the ITU Telecommunication Standardization Advisory Group*.

[WTSA Res. 54] WTSA Resolution 54 (Rev. Hammamet, 2016), *Creation of, and assistance to, regional groups*.

2 Study group management

2.1 Study group structure and distribution of work

2.1.1 Study group chairmen shall be responsible for the establishment of an appropriate structure for the distribution of work and the selection of an appropriate team of working party chairmen and shall take into account the advice provided by the members of the study group as well as the proven competence, both technical and managerial, of the candidates.

2.1.2 A study group may entrust a Question, a group of Questions or the maintenance of some existing Recommendations within its general area of responsibility to a working party.

2.1.3 Where the scope of the work is considerable, a study group may decide to further divide the tasks assigned to a working party to sub-working parties.

2.1.4 Working parties and sub-working parties should be set up only after thorough consideration of the Questions. Proliferation of working parties, sub-working parties or any other subgroups should be avoided.

2.1.5 A study group may exceptionally, by agreement with other relevant study group(s) and taking account of any advice from TSAG and the Director of TSB, entrust a joint working party with Questions or parts of Questions of common interest to the study groups concerned. This study group shall act as the parent study group for the joint working party and shall coordinate and have responsibility for the work concerned. The contributions used as a basis for discussion in the joint working party shall be sent exclusively to those registered in the joint working party. Only the reports shall be sent to all participating bodies of the study groups concerned.

NOTE – Two or more study groups may decide to progress work on topics of common interest through joint meetings of their rapporteur groups.

2.1.6 As the promotion of study group activities is an essential element in any ITU-T marketing plan, each study group chairman, supported by other study group leaders and subject matter experts, is encouraged to establish, maintain and participate in a promotion plan, coordinated with TSB, whose emphasis is the dissemination of study group information to the telecommunication community. Such study group information dissemination should cover, but is not limited to, new work initiatives and significant accomplishments regarding technologies and technical solutions.

2.2 Joint coordination activities

See clause 5.

2.3 The roles of rapporteurs

2.3.1 The chairmen of study groups and working parties (including joint working parties) are encouraged to make most effective use of the limited resources available by delegating responsibility to rapporteurs for the detailed study of individual Questions or small groups of related Questions, parts of Questions, terminology, or amendment of existing Recommendations. Responsibility for review and approval of the results resides with the study group or working party.

2.3.2 Liaison between ITU-T study groups or with other organizations can be facilitated by rapporteurs or by the appointment of liaison rapporteurs.

2.3.3 The following guidelines should be used as a basis within each study group or working party to define the roles of rapporteurs, associate rapporteurs and liaison rapporteurs; however, they may be adjusted following careful deliberation of the need for change and with the approval of the relevant study group or working party.

2.3.3.1 Specific persons should be appointed as rapporteurs to be responsible for progressing the study of those Questions, or specific study topics, that are felt to be likely to benefit from such appointments. The same person may be appointed as rapporteur for more than one Question, or topic, particularly if the Questions, parts of Questions, terminology, or amendment of existing Recommendations concerned are closely related.

2.3.3.2 Rapporteurs may be appointed (and their appointments may be terminated) at any time with the agreement of the competent working party, or of the study group, where the Question(s) are not allocated to a working party. The term of the appointment relates to the work that needs to be done rather than to the interval between WTSAs. If the related Question is modified by WTSA, for continuity purposes, the rapporteur may, at the discretion of the new study group chairman, continue to progress the relevant work until the next meeting of the study group.

2.3.3.3 Where the work so requires, a rapporteur may propose the appointment of one or more associate rapporteurs, liaison rapporteurs or editors, whose appointments should then be endorsed by the relevant working party (or study group). Again, these appointments may be made or terminated at any time in accordance with the work requirements. An associate rapporteur assists the rapporteur, either in general or to deal with a particular point or area of study in a Question. A liaison rapporteur assists the rapporteur by ensuring there is effective liaison with other groups, by attending meetings of other designated groups to advise and assist in an official capacity, by correspondence with such groups or by any other means considered appropriate by the rapporteur. In the event that a liaison rapporteur is not appointed, the responsibility to ensure effective liaison resides with the rapporteur. The editor assists the rapporteur in the preparation of the text of draft Recommendations or other publications.

2.3.3.4 Rapporteurs, and their associate and liaison rapporteurs as well as the editors, play an indispensable role in coordinating increasingly detailed and often highly technical study. Consequently, their appointment should be primarily based on their expertise in the subject to be studied.

2.3.3.5 As a general principle, work by correspondence (including electronic messaging and telephone communications) is preferred (see also clause 1.6) and the number of meetings should be kept to a strict minimum, consistent with the scale and milestones agreed by the parent group. Where possible, meetings in related areas of study or within a work area covered by a JCA should be coordinated. In any case, this work should proceed in a continuous fashion between meetings of the parent group.

2.3.3.6 The rapporteur's responsibilities are:

a. to coordinate the detailed study in accordance with guidelines established at working party (or study group) level;

b. to the extent authorized by the study group, to act as a contact point and source of expertise for the allocated study topic with other ITU-T, ITU Radiocommunication Sector (ITU-R) and ITU Telecommunication Development Sector (ITU-D) study groups, other rapporteurs, other international organizations and other standards organizations (where appropriate) and TSB;

c. to adopt methods of work (correspondence, including the use of the TSB EDH system, meetings of experts, etc.) as considered appropriate for the task;

d. in consultation with the collaborators for the study topic, to review and update the work programme, which should be approved and reviewed periodically by the parent group (see clause 1.4.7);

e. to ensure that the parent working party (or study group) is kept well informed of the progress of the study, particularly of work proceeding by correspondence or otherwise outside of the normal study group and working party meetings;

f. in particular, to submit a progress report (e.g., of a rapporteur's meeting or editor's work) to each of the parent group's meetings (see suggested format in Appendix I), in the form of a TD to be submitted as soon as possible (see clause 3.3.3);

g. to submit, where possible, as separate TDs each draft new or revised Recommendation planned for consent or determination (or draft document planned for agreement), at least six weeks prior to the parent group's meeting;

h. to give the parent working party or study group and TSB adequate advance notice of the intention to hold any meetings of experts (see clause 2.3.3.10), particularly where such meetings are not included in the original programme of work;

i. to establish a group of active "collaborators" from the working party (or study group) where appropriate, with an updated list of those collaborators being given to TSB at each working party meeting;

j. to delegate the relevant functions from the list above to associate rapporteurs and/or liaison rapporteurs, as necessary.

2.3.3.7 The basic goal of each rapporteur is to assist the study group or working party in developing new and revised Recommendations to meet changing requirements in telecommunication techniques and services. However, it must be clearly understood that rapporteurs should not feel under any obligation to produce such texts unless a thorough study of the Question reveals a clear need for them. If it turns out that this is not the case, the work should be concluded with a simple report to the parent group establishing that fact.

2.3.3.8 Rapporteurs are responsible for the quality of their texts, submitted by the study group for publication. They shall be involved in the final review of that text prior to it being submitted to the publication process. This responsibility extends only to text in the original language and should take into account applicable time constraints. (See [ITU-T A.11] on the publication of ITU-T Recommendations.)

2.3.3.9 Rapporteurs should normally base any draft new or substantially revised Recommendations on written contribution(s) from ITU-T members (see also clause 1.4.7).

2.3.3.10 In conjunction with their work planning, rapporteurs must give advance notice of any meetings they arrange, not only to the collaborators on their Question or project, but also to the study group and working party (see clause 2.3.3.11) and to TSB. TSB is not required to circulate collective letters for meetings below working party level. The intention to hold rapporteur group meetings, along with details of the issues to be studied, should be agreed in principle and publicized with as much notice as possible (normally at least two months) at study group or working party meetings (for inclusion in their reports) and via the study group webpage, for example.

2.3.3.11 TSB will post a convening letter for rapporteur group meetings (using a TSB-defined template), normally at least two months prior to the meeting, on the study group webpage, as provided by the study group. Visa support should be provided by the meeting host.

2.3.3.12 Rapporteurs should prepare a meeting report for each rapporteur group meeting held and submit it as a TD to the next study group or working party meeting. See clause 3.3 for submission and processing of TDs, and in particular clause 3.3.3.

This report should include the date, venue and chairman, an attendance list with affiliations, the agenda of the meeting, a summary of technical inputs, a summary of results and the liaison statements sent to other organizations.

Rapporteurs will ask, during each meeting, whether anyone has knowledge of intellectual property rights issues, including patents, copyright for software or text, marks, the use of which may be required to implement or publish the Recommendation being considered. The fact that the question was asked shall be recorded in the meeting report, along with any affirmative responses.

2.3.3.13 Rapporteur group meetings, as such, should not be held during working party or study group meetings. However, rapporteurs may be called upon to chair those portions of working party or study group meetings that deal with their particular area of expertise. In these cases, rapporteurs must recognize that the rules of the working party and study group meetings then apply and the more relaxed rules described above, particularly those that relate to document approvals and submission deadlines, would not apply.

2.3.3.14 The parent working party (or study group) must define clear terms of reference for each rapporteur. The general direction to be followed in the study should be discussed, reviewed as necessary and agreed periodically by the parent group.

2.3.3.15 When meetings are arranged to be held outside ITU premises, participants should not be charged for meeting facilities, unless agreed in advance by the study group. Meeting charges should be an exceptional case and only done if, for example, the study group is of the opinion that a meeting charge is necessary for the work to proceed properly. However, no participant should be excluded from participation if he or she is unwilling to pay the charge. Additional services offered by the host shall be voluntary, and there shall be no obligation on any of the participants resulting from these additional services.

3 Submission and processing of contributions

3.1 Submission of contributions

3.1.1 Member States and other duly authorized entities registered with a study group or its relevant group should submit their contributions to current studies via electronic means, in accordance with guidance from the Director of TSB (see clause 3.2.6).

3.1.2 (*clause intentionally left blank*)

3.1.3 These contributions shall contain comments or results of experiments and proposals designed to further the studies to which they relate.

3.1.4 Contributors are reminded, when submitting contributions, that early disclosure of patent information is desired, as contained in the statement on Common Patent Policy for ITU-T/ITU-R/ISO/IEC (available at the ITU-T website). Patent declarations are to be made using the "Patent Statement and Licensing Declaration Form for ITU-T/ITU-R Recommendation | ISO/IEC Deliverable" available at the ITU-T website. See also clause 3.1.5.

3.1.5 A general patent statement and licensing declaration may be submitted using the form available at the ITU-T website. The purpose of this form is to give patent holders the voluntary option of making a general licensing declaration relative to patented material contained in any of their contributions. Specifically, the submitter of the licensing declaration declares its willingness to license, in case part(s) or all of any proposals contained in contributions submitted by the organization are included in ITU-T Recommendation(s) and the included part(s) contain items that have been patented or for which patent applications have been filed and whose use would be required to implement ITU-T Recommendation(s).

The general patent statement and licensing declaration is not a replacement for the individual (per Recommendation) patent statement and licensing declaration but is expected to improve responsiveness and early disclosure of the patent holder's compliance with the Common Patent Policy for ITU-T/ITU-R/ISO/IEC.

3.1.6 By making a contribution, contributors acknowledge, to the best of their knowledge, that material such as text, diagrams, etc., submitted as their contribution to the work of ITU-T has no restriction[2] in order to permit the normal distribution of this material for discussions within the appropriate ITU-T study groups and other groups and possible use, in whole or in part, with or without modification, in any resulting ITU-T Recommendations that are published (see [PP Res. 66]).

3.1.7 If a contribution proposes to make normative reference to, or to incorporate text, diagrams, etc. from a document from a source qualified according to [ITU-T A.5], the source document should be clearly identified in the contribution, allowing [ITU-T A.5] or [ITU-T A.25] to be followed in the case the study group reaches consensus on such a proposal.

3.1.8 A contributor submitting copyrighted software for incorporation in the draft Recommendation is required to submit a software copyright statement and licensing declaration form available at the ITU-T website. The form must be provided to TSB at the same time that the contributor submits the copyrighted software[3].

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[2] Restrictions include, but are not limited to, copyright ownership by other entities.

[3] See https://www.itu.int/ipr.

3.1.9 The full text of contributions that are to be considered at a study group or working party meeting shall reach TSB at least 12 calendar days before the meeting.

3.2 Processing of contributions

3.2.1 Contributions received at least two months before a meeting may be translated (see clause 3.2.2) and will be posted in the original and, if applicable, in translated languages, on the web as soon as practicable after they are received. They will be printed and distributed at the beginning of the meeting only to the participants present who request paper copies.

3.2.2 If a chairman, in agreement with the participants of his or her study group (or working party), states that the study group (or working party) is willing to use documents in the original language, no translations will be made.

3.2.3 Contributions received by the Director less than two months but not less than 12 calendar days before the date set for the opening of a meeting cannot be translated.

3.2.4 Contributions should be posted on the web no more than three working days after they are received by the secretariat.

3.2.5 Contributions received by the Director less than 12 calendar days before the meeting will not appear on the agenda of the meeting, will not be distributed and will be held for the next meeting. Contributions judged to be of extreme importance may be admitted by the Director at shorter notice. The final decision as to their consideration by the meeting shall be taken by the study group (or working party).

3.2.6 The Director should insist that contributors follow the rules established for the presentation and form of documents set out in clause 2 of [ITU-T A.2], and the timing given in clause 3.1.9. A reminder should be sent out by the Director whenever appropriate.

3.2.7 The Director, with the agreement of the study group chairman, may return to the contributor any document that does not comply with the general directives set out in [ITU-T A.2], so that it may be brought into line with those directives.

3.2.8 Contributions shall not be included in reports as annexes, but should be referenced as needed.

3.2.9 Contributions should, as far as possible, be submitted to a single study group. If, however, a member submits a contribution that it believes is of interest to several study groups, it should identify the study group primarily concerned; a single sheet giving the title of the contribution, its source and a summary of its contents will be issued to the other study groups by the member. This single sheet will be numbered in the series of contributions of each study group to which it is issued.

3.3 TDs

3.3.1 TDs should be provided to TSB in electronic format. TSB shall post electronically those TDs submitted as electronic files as soon as they become available; those submitted as paper copies will be posted as soon as practicable. Printed copies may be provided upon request to persons with disabilities and specific needs.

3.3.2 Extracts from reports of other study group meetings or from reports of chairmen, rapporteurs or drafting groups shall be published as TDs.

3.3.3 TDs input before the start of the study group or working party meeting, including documents from the ITU secretariat, should be posted on the relevant page of the website not later than three working days from the date on which they are received by the secretariat, to ensure their availability not later than seven calendar days before the start of the meeting. This deadline shall not extend to administrative documents or reports on events that have taken place less than 21 calendar days before the start of the meeting, nor to proposals from chairmen and convenors of ad hoc groups, compilations of proposals prepared by chairmen or the secretariat, or documents specifically requested by the meeting. Reports on events that have taken place less than 21 calendar days before the start of the meeting should normally be posted on the relevant page of the website not later than two calendar days before the beginning of the discussion of the item in question at the meeting, unless otherwise agreed by the meeting.

3.3.4 TDs can be produced during the meeting.

3.3.5 Chairmen and vice-chairmen of study groups and working parties may at any time submit inputs as TDs to their study group or working party, including, in particular, proposals likely to accelerate the debates.

3.4 Electronic access

3.4.1 TSB will post electronically all documents (e.g., contributions, TDs (including liaison statements)) as soon as electronic versions of these documents are available. Appropriate search facilities for posted documents should be provided (see also clause 3.3.3).

3.5 Other document types

As the work of the ITU-T and its groups progresses, various types of output materials might result, in addition to Recommendations and other texts previously described. This clause addresses the types of texts that are in use within ITU-T, other than those defined in [WTSA Res. 1] or clause 1.8.2 of this Recommendation. Other types of ITU-T documents include non-WTSA proceedings (e.g., Kaleidoscope), tutorials, e-learning and web-based guides. These document types do not require agreement by a study group and do not have working methods described by an A-series Recommendation.

4 Other ITU-T groups

4.1 Overview

In addition to study groups, other groups operate to carry forward the mission of the ITU-T. This clause documents the types of groups other than study groups that exist within ITU-T.

4.2 Focus group (FG)

The objective of focus groups is to help advance the work of the ITU Telecommunication Standardization Sector (ITU-T) study groups and to encourage the participation of members of other standards organizations, including experts and individuals who may not be members of ITU. Focus group activities may include an analysis of gaps between current Recommendations and expected Recommendations, and provide material for consideration in the development of Recommendations. Their working methods are documented in [ITU-T A.7].

4.3 Intersector Rapporteur Group (IRG)

Intersector Rapporteur Groups (IRGs) are established to coordinate the progress of specific topics of mutual interest between sectors of the ITU. For a given topic, IRGs encourage the collaboration between ITU-T study groups and groups from other ITU sectors on work items unique to each study group. See [WTSA Res. 18] for more details.

4.4 Joint Coordination Activity (JCA)

A Joint Coordination Activity (JCA) is formed to coordinate activities on topics of relevance across ITU-T Study Groups. They report their progress either to TSAG or to a particular study group. Where FGs are typically formed to study forward-looking topics, report results, and dissolve, JCAs are envisioned as tools for coordination between study groups. Like FGs, JCAs do not write Recommendations. Their working methods are documented in clause 5.

4.5 Regional Group (RG)

For information on regional groups see [WTSA Res. 54].

4.6 ITU-T group types for collaborating with other SDOs

Several groups within ITU-T have been formed to support joint efforts between ITU-T and other standards development organizations (SDOs) on the development of common or aligned specifications or standards. The working methods of these groups vary, as does the documentation regarding how new instances of such groups are formed. In some cases, such groups seek to align the timing by which standards development progresses through two processes, such as ITU-T and another SDO. In other cases, participation in the collaborative effort is not limited to a specific SDO. See [b-ITU-T A.sup5] for more information.

4.7 Additional ITU-T groups

In addition to the group types documented above, additional groups exist that operate with working methods distinct from those documented above. [WTSA Res. 22] *resolves* 1 *e)* provides more information. TSAG and study groups should terminate inactive groups.

5 Joint coordination activities

5.1 A joint coordination activity (JCA) is a tool for management of the work programme of ITU-T when there is a need to address a broad subject covering the area of competence of more than one study group (see also [WTSA Res. 45]). A JCA may help to coordinate the planned work effort in terms of subject matter, time-frames for meetings, collocated meetings where necessary and publication goals including, where appropriate, release planning of the resulting Recommendations.

The establishment of a JCA aims mainly at improving coordination and planning. The work itself will continue to be conducted by the relevant study groups and the results are subject to the normal approval processes within each study group. A JCA may identify technical and strategic issues within the scope of its coordination role, but will not perform technical studies nor write Recommendations. A JCA may also address coordination of activities with recognized standards development organizations (SDOs) and forums, including periodic discussion of work plans and schedules of deliverables. The study groups take JCA suggestions into consideration as they carry out their work.

5.2 Any group (study group or TSAG) may propose that a JCA be established. The proposal to establish a JCA should first be discussed within the proposing group's management team, then among the relevant study group chairmen and the TSAG chairman. Discussions may be held with external SDOs and forum leaders.

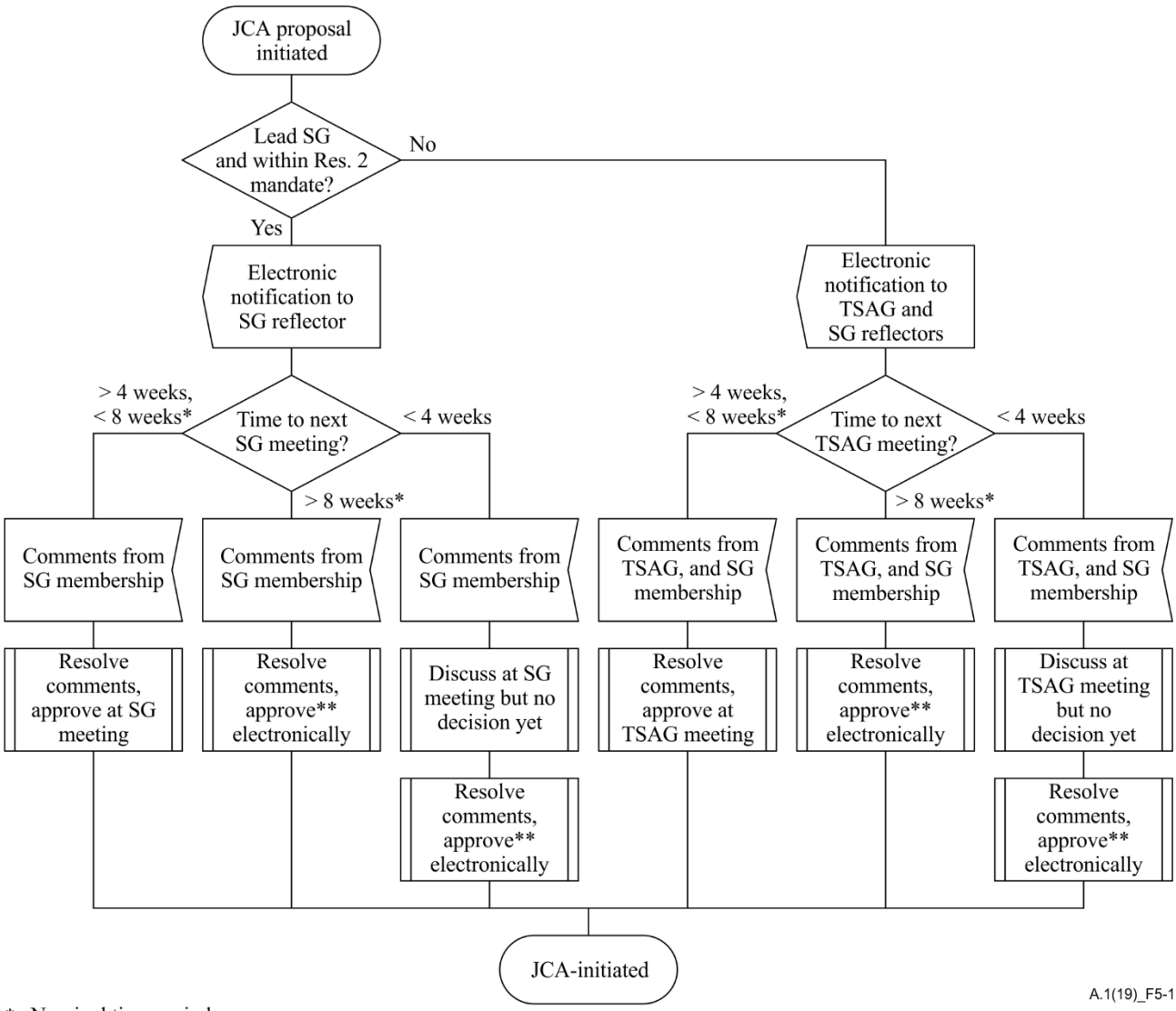
If the study group proposing the establishment of the JCA has been designated as the lead study group by WTSA or TSAG according to Section 2 of [WTSA Res. 1], and if the subject is under their responsibility and mandate as described in [WTSA Res. 2], then the study group may establish a JCA on its own authority. If a study group meeting is pending within the next two months, then an electronic notification[4] proposing the JCA, including the terms of reference (including scope, objectives and anticipated lifetime) and the chairman, is published four weeks prior to the study group meeting, giving opportunity for the membership to give their position at the meeting. If this is done at least four weeks prior to the study group meeting, following the resolution of any comments, the JCA may be established by the study group by consensus at its meeting. If a study group meeting is not pending within the next two months, then an electronic notification as above is sent for the membership to give their position by electronic response. If the notification is sent less than four weeks before the study group meeting, no decision is taken at the study group meeting; the decision may be taken four weeks after the notification, excluding the meeting time. If necessary, the proposal is adjusted taking into consideration comments received and made available to the study group electronically for decision with a further four-week interval. If there are no substantive comments, the JCA is considered approved. TSAG will be informed for review, possible comment, and endorsement. TSAG may consider the terms of reference of the JCA in the context of the overall work programme of ITU-T and may provide comments to modify the terms of reference.

[4] This electronic notification should be sent to the general e-mail reflector for the proposing study group and should also be a TD to the next meeting of the study group.

Where the lead study group has not yet been designated by WTSA or TSAG for the subject, or where the subject for the JCA is a broad subject potentially falling under the responsibility and mandate of a number of study groups as described in [WTSA Res. 2], then the proposal has to be made available to the membership for consideration. If a TSAG meeting is pending within the next two months, then an electronic notification[5] proposing the JCA, including the terms of reference (including scope, objectives and anticipated lifetime) and the chairman, is published four weeks prior to the TSAG meeting, giving opportunity for the membership to give their position at the meeting. If this is done at least four weeks prior to the TSAG meeting, following the resolution of any comments, the JCA may be established by TSAG by consensus at its meeting. If a TSAG meeting is not pending within the next two months, then an electronic notification as above is sent for the membership to give their position by electronic response. If the notification is sent less than four weeks before the TSAG meeting, no decision is taken at the TSAG meeting; the decision may be taken four weeks after the notification, excluding the meeting time. If necessary, the proposal is adjusted taking into consideration comments received and made available to the membership electronically for decision with a further four-week interval. If there are no substantive comments, the JCA is considered approved. The decision includes the designation of the group responsible (a study group or TSAG), the terms of reference (including scope, objectives and anticipated lifetime) and the chairman.

Figure 5-1 provides a schematic of the alternatives in proposing and approving the creation of a JCA.

[5] This electronic notification should be sent to the general e-mail reflector for the potentially involved study groups and TSAG, and should also be a TD to the next meeting of TSAG.



* Nominal time period.

** If there are no substantive comments, the JCA is considered approved. If the JCA proposal is modified per comments received, it is again circulated for a four-week review. If there are no substantive comments, the JCA is considered approved.

Figure 5-1 – Alternatives in proposing and approving the creation of a JCA

5.3 JCAs are open, but (to restrict their size) should primarily be limited to official representatives from the relevant study groups that are responsible for work covered by the scope of the JCA. A JCA may also include invited experts and invited representatives of other SDOs and forums, as appropriate. All participants should confine inputs to a JCA to the purpose of the JCA.

5.4 The establishment of a JCA is to be announced in a TSB circular, which should include the terms of reference of the JCA, the chairman of the JCA, and the study group responsible for the JCA.

5.5 JCAs should work primarily by correspondence and electronic meetings. Any physical meeting considered necessary should be convened by the chairman of the JCA. Physical meetings should be supported by conferencing capabilities where possible, and both physical and electronic meetings should be scheduled as far as practicable at times that will provide maximum opportunity for broad participation. It is anticipated that physical meetings will be in conjunction with the involved study group meetings (in which case it is reflected in the collective letter for that study group) as far as practicable, but if a separate meeting is to be held, it is to be announced at least four weeks in advance by an (electronic) collective invitation letter.

5.6 Inputs to the work of a JCA should be sent to the JCA chairman and to the concerned TSB counsellor, and the latter will make these available to the members of the JCA.

5.7 JCAs may submit proposals to the relevant study groups to achieve alignment in the development of related Recommendations and other deliverables by the respective study groups. A JCA may also issue liaison statements.

5.8 JCA input and output documents and reports are made available to the ITU-T membership. Reports are issued after each JCA meeting. TSAG may monitor JCA activities through these reports.

5.9 TSB will provide support for a JCA, within available resource limits.

5.10 A JCA may be terminated at any time if the involved study groups agree that the JCA is no longer required. A proposal to do so, including justification, may be submitted by any study group involved or by TSAG, and examined for decision by the study group responsible for the JCA, after consulting the involved study groups and TSAG (via electronic means, if a TSAG meeting is not pending in the near future). A JCA will be reviewed at the first TSAG meeting following the WTSA. A specific decision must be taken on the continuation of the JCA, potentially with adjusted terms of reference.

Annex A

Template to describe a proposed new Recommendation in the work programme

(This annex forms an integral part of this Recommendation.)

Question:		/	**Proposed new ITU-T Recommendation**	**<Meeting date>**	
Reference and title:	Recommendation ITU-T <X.xxx> "Title"				
Base text:	<C nnn> or <TD nnnn>			**Timing:**	<Month-Year>
Editor(s):	<Name, membership, e-mail address>			**Approval process:**	<AAP or TAP>
Scope (defines the intent or object of the Recommendation and the aspects covered, thereby indicating the limits of its applicability):					
Summary (provides a brief overview of the purpose and contents of the Recommendation, thus permitting readers to judge its usefulness for their work):					
Relations to ITU-T Recommendations or to other standards (approved or under development):					
Liaisons with other study groups or with other standards bodies:					
Supporting members that are committing to contributing actively to the work item:					
<Member States, Sector Members, Associates, Academia>					

Appendix I

Rapporteur progress report format

(This appendix does not form an integral part of this Recommendation.)

The following format is recommended for the progress reports of rapporteurs to enable a maximum transfer of information to all concerned:

a) brief summary of contents of report;

b) conclusions or Recommendations sought to be endorsed;

c) *status of work with reference to work plan, including baseline document if available;*

d) draft new or draft revised Recommendations;

e) draft liaison in response to or requesting action by other study groups or organizations;

f) reference to contributions considered part of assigned study and summary of contributions considered at rapporteur group meetings (see Note);

g) reference to liaison statements from other organizations;

h) *major issues remaining for resolution and draft agenda of future approved meeting, if any;*

i) response to question on knowledge of intellectual property rights issues, including patents, copyright for software or text, marks;

j) list of attendees at all meetings held since last progress report.

A meeting report shall clearly indicate in its title the Question number, meeting venue and meeting date. In general, the title shall be of the form "Rapporteur Report Qx/x".

Any draft Recommendations produced shall be presented as separate TDs (one document per Recommendation). The title of the TD shall be of the form "Draft new Recommendation ITU-T X.x: abc", where "abc" stands for the title of the draft Recommendation, or "Draft revised Recommendation ITU-T X.x: abc", or "Draft Amendment 1 to Recommendation ITU-T X.x: abc", etc.

A progress report shall not be used as a vehicle to violate the rules concerning the submission of contributions that are inappropriate to the assigned study task.

NOTE – The progress report may make reference to the meeting reports (see clause 2.3.3.12) in order to avoid duplication of information.

Bibliography

[b-ITU-T A.13] Recommendation ITU-T A.13 (2019), *Non-normative ITU-T publications, including Supplements to ITU-T Recommendations*.

[b-ITU-T A.sup5] ITU-T A-series Recommendations – Supplement 5 (2016), *Guidelines for collaboration and exchange of information with other organizations*.

Recommendation ITU-T A.2

Presentation of contributions to the ITU Telecommunication Standardization Sector

(1984; 1988; 1993; 1996; 2000; 2004; 2008; 2012)

1 With regard to the presentation of contributions to the study of Questions assigned to the ITU Telecommunication Standardization Sector (ITU-T), the following general directives should be applied:

a) Contributions should be concisely drafted, avoiding unnecessary details, tables or statistics that make no direct contribution to the study of a Question. They should be clearly written with a view to being universally understood, i.e. they should be as codified as possible, use international terminology and avoid the technical jargon peculiar to the author's country. Contributors should use the units, letter symbols and graphical symbols of the international system of units (SI) as supported by the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). In addition, Coordinated Universal Time (UTC) should be used to designate time.

b) A contribution should not, as a rule, exceed about 2500 words (requiring no more than five printed pages to be distributed), nor should it include more than three pages of figures (making eight pages in all). It should be accompanied by an abstract that is no more than 150-200 words, and which summarizes the aim of the contribution and its technical content. Whenever possible, a section with the heading Rationale (or Discussion) should be used for the main text, which sets forth the essential information required for justifying the proposals or conclusions of the contribution. The contribution should end with a Proposal or, if not feasible, a Conclusion (both if required). For self-explanatory proposals, the rationale section may be omitted. These directives do not apply to draft Recommendations.

c) Documents of purely theoretical interest that are not directly related to the Questions under study should not be submitted.

d) Articles that have been or are to be published in the technical press should not be submitted to ITU-T, unless they relate directly to Questions under study.

e) Passages of an unduly commercial nature included in a contribution may be deleted by the Director of the Telecommunication Standardization Bureau (TSB) in agreement with the chairman; the author of the contribution shall be advised of any such deletions.

Detailed guidelines recommended for the preparation of contributions are provided in Appendix I. Details on the presentation of ITU-T texts can be found in the "Author's Guide for drafting ITU-T Recommendations" (referred to as "Guide" in the following).

2 With regard to the submission of contributions and TDs (including liaison statements), all documents to ITU-T should, as far as possible, be sent using electronic means; if no such facilities are available to the contributor, submission of paper only copies is acceptable.

Electronic submission facilities include e-mail and the ITU web-based interface. Detailed information and instructions for these methods are maintained by TSB on the ITU-T website and disseminated periodically via TSB circular.

If contributions are submitted as paper documents, they shall be addressed to TSB and copied to the study group chairmen and vice-chairmen, working party chairmen and concerned rapporteur(s).

3 Contributions should be printable in A4 format, as far as possible. The first page must have the standard layout of ITU-T contributions. Drafts must be in one or more of the official and working languages of the Union. When existing ITU-T texts already translated have been used in some parts of a contribution, a copy of the contribution with a precise reference to the original sources also should be sent to TSB. If ITU-T figures are used in the contributions, the ITU-T number must not be deleted, but if the figure has been modified, the abbreviation "mod" should be added after the number. If not required by further development of the text, use of colours in the text of contributions or other submitted documents should be avoided.

4 If a contribution contains electronic material (software, test data, etc., referred to herein as "software"), it should be attached to the text sent to TSB.

Contributors are encouraged to submit formal language descriptions as electronic attachments.

Appendix I

Detailed guidelines for the preparation of contributions relative to the study of ITU-T Questions

(This appendix does not form an integral part of this Recommendation.)

NOTE – These guidelines will be updated by TSB as necessary. The updated version will be maintained on the ITU-T website and issued in a TSB circular.

The guidelines in this appendix supplement the general directives set out in Recommendation ITU-T A.2. For ease of reference, they are organized under relevant headings in two categories: one deals with the contents of the contribution and the other with the mechanics of its presentation.

I.1 Contents of contribution

A contribution should be clear, concise and comprehensive in itself. It should start with the Heading and the Abstract, which are independent sections. The main text of the contribution should contain two sections: Rationale (or Discussion) and Proposal (or Conclusion). Supplementary sections such as annexes, if necessary, should follow the main text. The guidelines for the structure of the main text do not apply to draft Recommendations or to submission by rapporteurs.

I.1.1 *Heading* – The heading of a contribution submitted to TSB should provide:

- study group Question number(s) that the contribution is addressing;
- place and date of the meeting to which the contribution is directed;
- study group and working party to which the contribution should be submitted;
- source of the contribution: originating country and/or organization;
- title of the contribution;
- contact information for the contribution originator and/or representative: name, organization, country, telephone, fax and e-mail address.

A template that defines the recommended heading format is available (under "Guides, Tools, and Templates") on the ITU-T study group and TSAG websites.

I.1.2 *Abstract* – The abstract should outline clearly and concisely the aim (for example, proposal for a new Recommendation) and the content (proposals and/or conclusions of the contribution). In addition, it should enable prospective readers to determine quickly whether the contribution contains information in their area of interest and, often, which working party(ies) should review the contribution. This is a very important part of the document and would normally be prepared after the other sections are written. An abstract should not exceed 150-200 words. It should be understandable by other study groups and not just the intended readers of the contribution.

I.1.3 *Rationale (Discussion)* – This section should provide discussion, reasons and justification for the proposals or conclusions. It develops the theme, describing the methods used and the observations or findings, and comments on their significance.

I.1.4 *Proposal (Conclusion)* – The main text should end with a conclusion that, whenever possible, should be in the form of a concrete proposal indicating the intended disposition of the contribution. It would be useful to make the following distinction between Proposal and Conclusion, so that a standard approach to their application may be adopted. The heading Proposal should be used when the section offers suggestions for acceptance (such as solutions, plans and changes the contributor expects to be implemented) and when decisions or actions are requested. The heading Conclusion should be used when it is merely informational, such as summarizing observations and no decision about a course of action is expected. If both appear in a contribution, the proposals should follow the conclusions.

I.1.5 *Supplementary Sections* – Supporting or more detailed information that might interrupt the flow of ideas in the main text should be placed in the sections containing annexes, appendices, references and attachments. A solid line can be used to separate such sections from the main text. "The Guide" describes the distinction between the uses of Annex and Appendix.

I.2 Mechanics and presentation

I.2.1 *Clause numbering* – The contribution should be structured logically and, whenever clarity and flow demand, hierarchically, with discrete clauses and subclauses for presenting different levels of detail. Different clauses and subclauses in the main text should be designated with decimal numbers, adhering as much as possible to the hierarchical numbering system recommended for ITU-T texts (see "Guide"); for example, 1.1, 1.2.3. Examples for numbering the supplementary sections are A.1.1 of Annex A and VI.3.4 of Appendix VI.

I.2.2 *Page numbering* – The title page should be left unnumbered. All the following pages should be numbered consecutively from page 2, including tables, annexes, appendices or attachments. Page numbers should normally be centred at the top of the page. Each page should include the document number (if available) immediately below the page number. It is useful to show the total number of pages with the page number, e.g. 2 of 10.

I.2.3 *Figures and diagrams* – Figures and diagrams must be clear and legible when printed in A4 format.

I.2.4 *Formulae* – Mathematical formulae should only be presented for explaining texts. Details of how they are derived should be avoided.

I.2.5 *Quotations* – Simple reference to the document number or paragraph number of an existing text or key phrase should be used instead of lengthy quotes. Material available elsewhere in ITU-T should not be reproduced or quoted at length. Excerpts or brief summaries may be included in the contribution when it is known that the members of the ITU-T study group do not have ready access to such material.

I.2.6 *References* – Reference to other ITU-T contributions or Recommendations should be made by using the official document number, e.g. COM 14-10. If the referenced contribution belongs to a previous study period, this fact should be noted as well.

References to standards other than ITU or ISO/IEC publications or standards should conform to the requirements of Recommendation ITU-T A.5. Other publications not covered by Recommendation ITU-T A.5 may be referenced in a Bibliography.

(See "Guide" for more information on references and bibliographies.)

I.2.7 *Revision to existing text* – If a contribution proposes modifications to an existing text, e.g., draft Recommendation, the portions of the text to be modified should be clearly shown with revision marks. Adequate indications shall also be given to identify any changes proposed with regard to the previous version of the same text.

Such change indications could be made, for example, by strikethrough, underlining and by vertical revision bars (|) appearing at the margin of the page.

Recommendation ITU-T A.4

Communication process between the ITU Telecommunication Standardization Sector and forums and consortia

(1996; 2000; 2002; 2006; 2007; 2012)

1 Introduction

The purposes of the International Telecommunication Union are contained in Article 1 of the Constitution. These include the aim "to promote, at the international level, the adoption of a broader approach to the issues of telecommunications in the global information economy and society, by cooperating with other world and regional intergovernmental organizations, and those non-governmental organizations concerned with telecommunications".

Also noted are the challenges faced by the Union in achieving its purposes in the changing telecommunication environment, both in the period covered by the Strategic Plan for the Union for 1995-1999 and in the following period, as stated in Resolution 1 (Plenipotentiary Conference, Kyoto, 1994). The Annex to Resolution 1 elaborates the Strategic Plan. For the Standardization Sector, its strategy includes recognition of the growing influence of industry forums, and a specific goal to develop appropriate agreements and cooperative relationships with other organizations, including forums. Among the priorities identified for the Sector is the objective "to continue to cooperate with other global and regional standardization organizations and industry forums to harmonize the development and implementation of global telecommunication standards".

In order to facilitate the development of cooperative relationships with forums, and to encourage information exchange, it is deemed necessary to provide guidance on the means of communication. In particular, it is of benefit to establish procedures for use when structuring the communications process between ITU-T and forums and consortia.

WTSA decides that the following procedures be applied.

2 Procedures

Study group chairmen are encouraged to engage in two-way communication, where appropriate, with representatives of forums/consortia, and to invite presentation to their study groups of the work of the forums/consortia, as identified by the study group.

In addition, procedures have been introduced for a formal communication process between ITU-T (or one or more of the study groups) and forums/consortia that qualify according to the criteria in Annex A. The communication process permits document exchange between ITU-T and qualified forums/consortia. Establishing a communication process provides a framework for ongoing communications, in order to:

- prevent inadvertent duplication of effort, while allowing each organization to pursue its own mandate;

- provide authoritative information regarding one organization's dependencies on the other's work;
- exchange information on topics of mutual interest.

2.1 Establishment of the communication process

Establishment of a communication process with a forum/consortium should be considered on a case-by-case basis, and should be evaluated with due care and diligence using the set of criteria in Annex A. Normally, the process is established at the study group level. In the case of groups associated with one or more study groups, the evaluation and decision to proceed should be carried out by the lead study group. To avoid multiple requests to a forum/consortium for information pertaining to the criteria in Annex A, and to facilitate evaluation by study groups, the Director of TSB should make the request to the forum/consortium and subsequently make a preliminary analysis of the response. A schematic diagram of the communication process is provided in Appendix I.

2.1.1 Communication process initiated by an ITU-T study group

If a study group considers that it is beneficial to establish a communication process with a forum/consortium, the study group should first check the ITU-T A.4-qualified organizations list (see 2.3) and obtain the Director's analysis. The study group shall review the analysis and make a decision whether or not to communicate with the forum/consortium. If the forum/consortium in question is not on the list, the study group chairman asks the Director to request the forum/consortium to provide the information and fill in the questionnaire relating to the qualifying criteria set forth in Annex A. The Director performs a preliminary analysis of the forum/consortium and transmits it to the affected study group(s), which shall review the analysis and make a decision whether or not to communicate. Any areas of concern should be immediately shared with other interested study group chairmen and the Director. If the study group decides to approve, the study group chairman shall establish the communication process. The study group chairman should facilitate the process as described in 2.2.

2.1.2 Communication process initiated by a forum/consortium

If a forum/consortium wishes to establish a communication process with a study group, that study group should first check the ITU-T A.4-qualified organizations list (see 2.3) and obtain the Director's analysis. The study group shall review the analysis and make a decision whether or not to communicate with the forum/consortium. If the forum/consortium is not on the list, the procedure described for this case in 2.1.1 is applied. Any areas of concern should immediately be shared with other interested study group chairmen and the Director. If the study group decides to approve, the communication process can be established. The study group chairman should facilitate the process as described in 2.2.

If a forum/consortium contacts the Director of TSB to establish a communication process with ITU-T, the Director should first determine whether it is appropriate for:

a) ITU-T (for related policy issues); or

b) one or more study groups (for topics relating to their work).

In case *a)*, the Director evaluates the forum/consortium according to the criteria in Annex A. If the Director decides to approve, he shall establish the communication process and inform TSAG and all study groups.

In case *b)*, the Director performs a preliminary analysis and transmits it to the affected study group(s), which shall proceed as outlined in the first paragraph of 2.1.2. If multiple study groups are involved, the decision of each study group should be communicated to the others, to TSAG and to the Director of TSB.

2.2 Communication process once established

2.2.1 Documents sent to ITU-T A.4-qualified forums/consortia

A proposal to send a liaison statement to an ITU-T A.4-qualified forum/consortium can arise from work by a rapporteur group, working party or study group. The decision to send such information is made by the study group chairman in consultation with the relevant working party chairman, and, if arising from a study group meeting, with the agreement of the study group. The documentation is sent to the forum/consortium by TSB on behalf of the study group.

When necessary, between scheduled meetings, the liaison statement may be prepared by an appropriate correspondence process and approved by the study group chairman in consultation with the study group management.

2.2.2 Documents received from ITU-T A.4-qualified forums/consortia

Documents submitted to ITU-T by qualified forums/consortia should conform to criterion 8 in Annex A. These documents are not issued as Contributions. As soon as they arrive they are made available, with the agreement of the study group chairman for advance consideration by the relevant group. Moreover, they are issued as a document to the relevant group with a reference to the originating forum/consortium, i.e. as a Temporary Document at a study group or working party meeting, or as a document at a rapporteur meeting. In the latter case, the receipt and disposition of the document received should be recorded in the report of the rapporteur meeting.

2.3 ITU-T A.4-qualified organizations list

The Director of TSB is requested to maintain an up-to-date ITU-T A.4-qualified list of the forums/consortia that are under evaluation and/or have been approved for the communication process, including identification of the study groups concerned, and make it available online.

2.4 Copyright arrangements

The subject of modifications to texts and arrangements for royalty-free copyright licenses, including the right to sub-license, for texts accepted by either ITU-T or by forums/consortia and their publishers and others, is a matter to be agreed upon between TSB and the particular forums/consortia. However, the originating organization retains the copyright for its texts.

Annex A

Qualifying criteria for forums/consortia communication process

(This annex forms an integral part of this Recommendation.)

NOTE – An administration may require that "communications" to ITU-T or its study groups, from a forum/consortium within that administration's jurisdiction, follow its established national procedures.

Forum/consortium attributes	Desired characteristics
1) Objectives/relationship of work to ITU-T work	Objectives should refer to use of International Standards/Recommendations, or to the provision of input into international standards organizations, especially ITU-T.
2) Organization: – legal status; – geographic scope; – secretariat; – nominated representative.	 – should indicate in which country/countries it has legal status; – should be global (i.e., should involve more than one region of the world); – permanent secretariat should exist; – should be willing to nominate a representative.
3) Membership (openness)	– forums/consortia membership criteria should not preclude any party with material interest, especially ITU Member States and Sector Members; – membership should comprise a significant representation of telecommunication interests.
4) Technical subject areas	Should be relevant to a particular study group(s) or ITU-T as a whole.
5) IPR Policy and Guidelines on: *a)* patent; *b)* software copyright (if applicable); *c)* marks (if applicable); and *d)* copyright.	 *a)* should be consistent with "Common Patent Policy for ITU-T/ITU-R/ISO/IEC" and "Guidelines for Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC"*; *b)* should be consistent with "ITU-T Software Copyright Guidelines"*; *c)* should be consistent with "ITU-T Guidelines related to the inclusion of Marks in ITU-T Recommendations"; *d)* ITU and ITU Member States and Sector Members should have the right to copy for standardization-related purposes (see also Rec. ITU-T A.1 with regard to copying and distribution).
6) Working methods/processes	– should be well-documented; – should be open and fair; – should support competition; – should explicitly consider anti-trust issues.
7) Outputs	– outputs available to ITU-T should be identified; – process for ITU-T to obtain outputs should be identified.

Continued

Forum/consortium attributes	Desired characteristics
8) Documents submitted to ITU-T	– should contain no proprietary information (no distribution restriction); – should indicate source within the forum/consortium (e.g., committee, subcommittee, etc.); – should indicate degree of stability of the document (e.g., preliminary, mature, stable, proposed date of adoption, etc.); – should indicate degree of approval of document (i.e., per cent of total forum membership involved and per cent of total forum membership that approved the document).

*) Particularly, licences must be offered on a non-discriminatory basis on reasonable terms and conditions (whether free of charge or with monetary compensation) to both members and non-members.

Appendix I

Establishment of a process for cooperation and exchange of information under Rec. ITU-T A.4

(This appendix does not form an integral part of this Recommendation.)

	1	2	3	4
	Initiation	**Evaluation**	**Decision**	**Process once established**
	(includes questionnaire in Annex A)	according to the criteria		= implementation
2.1.1	Initiation of the request by an SG	The SG checks the ITU-T A.4-qualified list and reviews the analysis; if not on the list, see 2.1.2 *b)*	The SG decides to communicate	Communication process put into practice by the SG
2.1.2	Initiation of the request by a forum to an SG	The SG checks the ITU-T A.4-qualified list and reviews the analysis; if not in the list, see 2.1.2 *b)*	The SG makes a decision to approve communication	Communication process put into practice by the SG
2.1.2 *a)*	Initiation of the request by a forum to the Director for related policy issues	Evaluation by the Director	The Director decides to approve and informs TSAG + SGs	Communication process put into practice by the Director

(continued)

	1	2	3	4
	Initiation	**Evaluation**	**Decision**	**Process once established**
	(includes questionnaire in Annex A)	according to the criteria		= implementation
2.1.2 *b)*	Initiation of the request by a forum to the Director for SG issues	The Director performs a preliminary analysis, the SG reviews the analysis	The SG decides to communicate, the SG informs other SGs, TSAG and the Director	Communication process put into practice by the SG
		Director adds forum under evaluation to the list	Director indicates on the list that forum is ITU-T A.4-qualified	

Recommendation ITU-T A.5

Generic procedures for including references to documents of other organizations in ITU-T Recommendations

1 Scope

This Recommendation provides generic procedures for normatively referencing the documents of other organizations in ITU-T Recommendations. Annex B provides the criteria to qualify a referenced organization. Clauses 6 and 7 describe the procedures in detail. Annex A provides the format for documenting a study group or working party decision with respect to making the reference. Specific information regarding qualified organizations can be found on the ITU-T website.

NOTE – These generic procedures do not apply to references to standards produced by ISO and IEC. The long-standing ability to make such references continues unchanged.

The case of ITU-T accepting texts, in part or in whole, from another organization is addressed in [ITU-T A.25].

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[ITU-T A.1] Recommendation ITU-T A.1 (2019), *Working Methods for Study Groups of the ITU Telecommunication Standardization Sector (ITU-T).*

[ITU-T A.25] Recommendation ITU-T A.25 (2019), *Generic Procedures for Incorporating Text Between ITU-T and other Organizations*.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following term defined elsewhere:

3.1.1 normative reference [ITU-T A.1]: The whole or parts of another document where the referenced document contains provisions which, through reference to it, constitute provisions to the referring document.

3.2 Terms defined in this Recommendation

This Recommendation defines the following terms:

3.2.1 approved document: An official output (such as a standard, a specification, an implementation agreement, etc.) which has been formally approved by an organization.

3.2.2 non-normative reference: The whole or parts of a document where the referenced document has been used as supplementary information in the preparation of the Recommendation or to assist the understanding or use of the Recommendation, and to which conformance is not necessary.

3.2.3 referenced organization: An organization for which an ITU-T study group identifies the need to make a specific reference (either normative or non-normative) to one of its documents.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

AAP Alternative Approval Process

TAP Traditional Approval Process

5 Conventions

None.

6 Generic procedures for including references to documents of other organizations in ITU-T Recommendations

6.1 An ITU-T study group or a member of a study group may identify the need to make a specific reference (either normative or non-normative) to a document from another organization within a specific draft Recommendation. It is preferred that, rather than making reference to an entire document from an outside organization, reference be made to only the specific section(s) concerned.

The requirements of clauses 6.2 to 6.5 do not apply for non-normative references, since such referenced documents are not considered to be an integral part of an ITU-T Recommendation. They are documents that add to the reader's understanding but are not essential to the implementation of, or compliance with, the Recommendation.

6.2 For normative references, a member submits a contribution, or the rapporteur or editor submits a TD, to the study group or working party providing information, as outlined in clauses 6.2.1 to 6.2.10.

The study group or working party evaluates this information and decides whether to make the reference. The format for documenting the study group or working party decision is given in Annex A.

Specific criteria for the qualification of the considered organization are provided in Annex B. The list of those qualified organizations is on the Databases page of the ITU-T website[1].

6.2.1 A clear description of the document considered for reference (type of document, title, number, version, date, etc.).

6.2.2 Status of approval. Referencing a document that has not yet been approved by the referenced organization can lead to confusion; thus, normative referencing is usually limited to approved documents. If absolutely necessary, such a reference can be made where cooperative work requiring cross-references is being approved by ITU-T and another organization in approximately the same time-frame.

6.2.3 Justification for the specific reference.

6.2.4 Current information about intellectual property rights[2] (patents, copyrights for software, marks) issues, if any, related and specific to the proposed normative reference. Relevant documents should be attached.

6.2.5 Other information that might be useful in describing the "quality" of the document (e.g., whether products have been implemented using it, whether conformance requirements are clear, whether the specification is readily and widely available).

6.2.6 The degree of stability or maturity of the document (e.g., length of time it has existed).

6.2.7 Relationship, if relevant, with other existing or emerging documents in ITU-T or in other standards development organizations.

6.2.8 When a document is to be referenced in an ITU-T Recommendation, all explicit references within the referenced document should also be listed.

6.2.9 Qualification of referenced organization (per clause 7). This need only be done the first time a document from the referenced organization is being considered for referencing and only if such qualification information has not been documented already.

6.2.10 A full copy of the existing document. No reformatting is necessary. The objective is to have referenced documents available via the web at no cost, so that the study group or working party may proceed with its evaluation. Accordingly, if a document to be referenced is available in this manner, it is sufficient for the contributing member to provide its exact location on the web. On the other hand, if the document is not available in this manner, a full copy must be provided (in electronic format if permissible by the referenced organization, otherwise in paper format).

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[1] The current website is: https://www.itu.int/en/ITU-T/extcoop/Pages/sdo.aspx.
[2] See: https://www.itu.int/ipr.

6.3 For normative references only, the study group or working party evaluates the above information and comes to its conclusions based on the usual consensus process. The decision of the study group or working party shall be documented using the format in Annex A. This requirement must be completed, at the latest, one day before the time the Recommendation is proposed for determination under the traditional approval process (TAP) or consent under the alternative approval process (AAP).

If there is consensus, the study group or working party report may simply note that the procedures of Recommendation ITU-T A.5 have been satisfied and provide a pointer to the document where the full details reside.

6.4 If a new normative reference is added as the result of the resolution of comments submitted during an AAP last call, the information outlined in clauses 6.2.1 to 6.2.10 shall be provided by the rapporteur or editor and published as a TD before the draft Recommendation goes for additional review. The TD shall be mentioned in the information provided for the additional review.

NOTE – If the referenced organization is not already qualified according to the criteria in Annex B, an additional review is not initiated, and the draft Recommendation is submitted for approval to a study group meeting, where clause 7 is applied.

6.5 If a new normative reference is added as the result of the resolution of comments submitted during an AAP additional review or during a TAP consultation, or if concerns are expressed during an AAP additional review about a new normative reference added as the result of the resolution of comments submitted during an AAP last call, clause 6.3 applies when the draft Recommendation is submitted for approval to a study group meeting.

6.6 If the study group or working party decides to make the normative reference, it should be introduced with the standard text provided in clause 2 of the "Author's guide for drafting ITU-T Recommendations"[3].

NOTE – In the case of texts produced jointly by ITU-T and ISO/IEC JTC 1, it is recognized that clause 6.6 of the "Rules for presentation of ITU-T | ISO/IEC common texts"[4] applies.

7 Qualification of referenced organizations

7.1 To ensure the continued quality of the ITU-T Recommendations, it is necessary to evaluate the document being proposed for normative reference, and it is also necessary for the study group or working party to consider the referenced organization according to the criteria set out in clauses 7.1.1, 7.1.2 and 7.1.3.

[3] The Author's guide can be downloaded from: http://handle.itu.int/11.1002/plink/8306947125.
[4] The document can be found at: https://www.itu.int/en/ITU-T/about/groups/Documents/Rules-for-presentation-ITU-T-ISO-IEC.pdf.

7.1.1 Qualification of the referenced organization by a study group or working party according to Annex B, based on an explicit assessment of the intellectual property rights (IPR) policies by the ITU secretariat, shall be conducted before considering a normative reference from that organization. If the referenced organization has already been qualified according to the criteria in Annex B (or previously to Recommendation ITU-T A.4 or Recommendation ITU-T A.6), the evaluation may not need to be repeated, and only a note of the result is required.

7.1.2 In addition, the referenced organization should have a process by which its output documents are published and regularly maintained (i.e., reaffirmed, revised, withdrawn, etc.).

7.1.3 The referenced organization should also have a document change control process, including a clear, unambiguous document numbering scheme. In particular, a feature to look for is that updated versions of a given document be distinguishable from the earlier versions.

7.2 Qualification of an organization according to the criteria in Annex B is reviewed on a regular basis by study groups that need to make normative references to documents of that organization. In particular, if the patent policy of that organization has changed, it is important to check that the new patent policy is consistent with the Common Patent Policy for ITU-T/ITU-R/ISO/IEC and the Guidelines for the Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC[5].

7.3 For the case of a proposed referenced document jointly owned by multiple organizations in a partnership project that is not a legal entity, the partnership project is considered to be qualified according to the criteria in Annex B if each organization is itself qualified according to the criteria in Annex B. A reference to the ITU-T A.5 justification shall be included in any Circular announcing a TAP consultation or any announcement for an AAP Last Call.

[5] See https://www.itu.int/ipr.

Annex A

Format for documenting a study group or working party decision

(This annex forms an integral part of this Recommendation.)

The decision of the study group or working party with respect to making the normative reference must be documented in the meeting report using the following format (called A.5 justification for a normative reference):

1) Clear description of the document:

   (type of document, title, number, version, date, etc.).

2) Status of approval.

NOTE – Only approved documents should be considered.

3) Justification for the specific reference.

4) Current information about intellectual property rights (including patents, copyrights for software, marks) issues, if any, related to the proposed normative reference. Relevant documents should be attached.

5) Other useful information describing the "quality" of the document:

   (e.g., length of time it has existed, whether products have been implemented using it, whether conformance requirements are clear, whether the specification is readily and widely available).

6) The degree of stability or maturity of the document.

7) Relationship, if relevant, with other existing or emerging documents in ITU-T or in other standards development organizations.

8) When a document is referenced in an ITU-T Recommendation, all normative references within that referenced document should also be listed.

NOTE – A separate review is not required for all of these normative references. However, the referenced organization, if different from ISO or IEC, needs to be qualified under Annex B (and previously under Recommendation ITU-T A.4 or Recommendation ITU-T A.6). If the referenced organization for a normative reference is not qualified, a qualification under Annex B should be performed first. In addition, if the draft ITU-T Recommendation is planned for approval under the traditional approval process (TAP) found in [b-WTSA Res. 1], all normative references in the referenced document should be reviewed.

9) Qualification of referenced organization.

NOTE – This needs to be done only the first time that a document from the referenced organization is being considered for referencing, and only if such qualification information has not already been documented or if it has changed.

   9.1) Qualification under Annex B.

   9.2) Document publication and maintenance process.

   9.3) Document change control process.

10) Location of a full copy of the document.

11) Other (for any supplementary information).

Annex B

Criteria for qualifying organizations

(This annex forms an integral part of this Recommendation.)

The decision of the study group or working party with respect to qualifying an organization must be documented in the meeting report using the following format (called A.5 qualification of an organization):

Organization attributes	Desired characteristics
1) Objectives/relationship of work to ITU-T work	Should refer to development, adoption, implementation and use of national, regional or international standards, or to the provision of input into international standards organizations, especially ITU-T.
2) Organization: – legal status; – geographic scope; – accreditation; – secretariat; – nominated representative.	 – should indicate in which country/countries it has legal status; – should indicate the scope of the standards of the organization; – should indicate the accrediting entity; – should identify the permanent secretariat; – should nominate a representative.
3) Membership/participation (openness)	– should describe the membership/participation model; – membership/participation criteria should not preclude any party with material interest, especially ITU Member States and Sector Members. If it has been identified that the criteria preclude or restrict any party with material interest to be a member of the other organization, this will be indicated; – membership/participation should comprise a significant representation of telecommunication interests; otherwise, an explanation will be provided.
4) Technical subject areas	Should be relevant to a particular study group(s) or ITU-T as a whole.
5) Intellectual Property Rights Policy and Guidelines on: a) patents; b) software copyright (if applicable); c) marks (if applicable); and d) copyright	 a) should be consistent with the "Common Patent Policy for ITU-T/ITU-R/ISO/IEC" and the "Guidelines for Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC"*; b) should be consistent with the "ITU-T Software Copyright Guidelines"*; c) should be consistent with the "ITU-T Guidelines related to the inclusion of Marks in ITU-T Recommendations"; d) ITU and ITU Member States and Sector Members should have the right to copy for standardization-related purposes (see also [ITU-T A.1] with regard to copying and distribution, or [ITU-T A.25] with regard to incorporation, with or without modification). Relevant IPR policy documents of the referenced organization shall be attached to this table for the record.
6) Working methods/processes	– should be documented; – should be open, fair and transparent; – should document anti-trust policy.

Continued

Organization attributes	Desired characteristics
7) Outputs	– should identify outputs available to ITU-T; – should identify the process for ITU-T to obtain outputs.

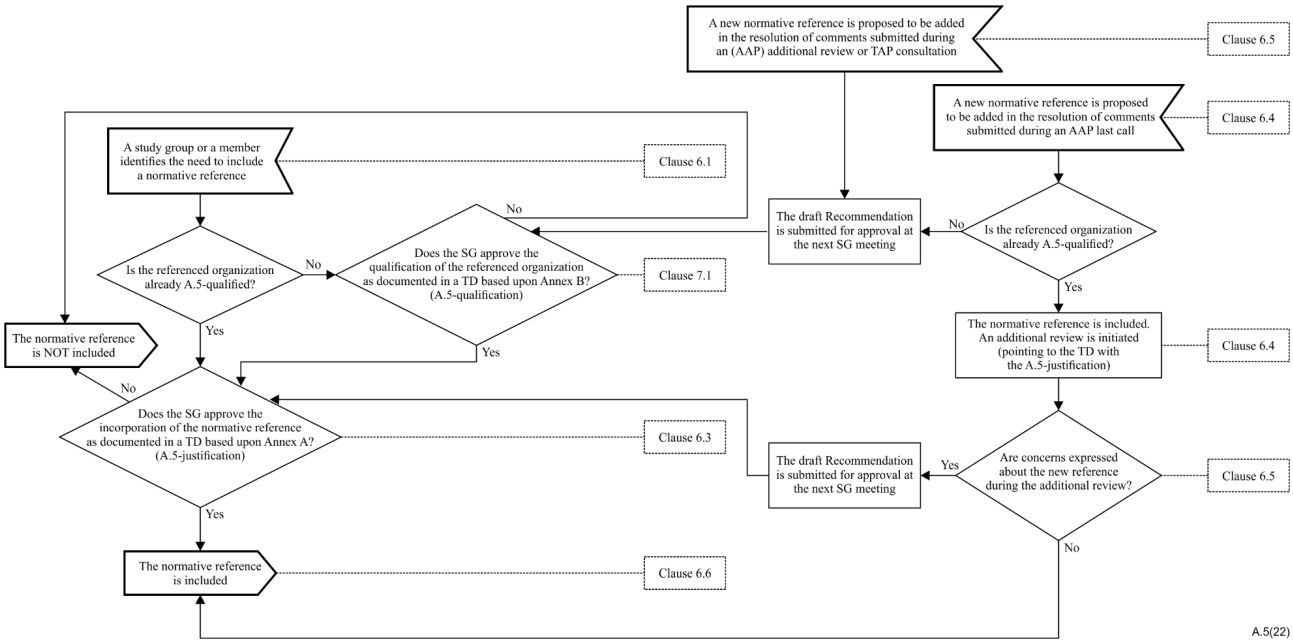
* Particularly, licences must be offered on a non-discriminatory basis and on reasonable terms and conditions (whether free of charge or with monetary compensation) to both members and non-members.

Appendix I

Workflow for including a normative reference to a document from another organization

(This appendix does not form an integral part of this Recommendation.)

This (informative) workflow helps visualizing the different cases where a normative reference can be included. In any case, clauses 6 and 7 prevail.



Bibliography

[b-WTSA Res. 1] WTSA Resolution 1 (Rev. Geneva, 2022), *Rules of Procedure of the ITU Telecommunication Standardization Sector*.

Recommendation ITU-T A.6

Cooperation and exchange of information between the ITU Telecommunication Standardization Sector and national and regional standards development organizations

(1998; 2000; 2002; 2006; 2007; 2012)

1 Scope

In order to facilitate the development of cooperative relationships with national and regional standards development organizations, and to encourage cooperation and information exchange, procedures are provided, founded on the basis of reciprocity, for use when structuring the cooperation and information exchange process.

"National and regional standards development organizations", referred to as "standards development organizations" (SDOs) in the text that follows, are those organizations that develop standards recognized and implemented at the national and/or regional level. In this Recommendation, the term "approved document" refers to an official output of a standards development organization that has been formally approved. The term "draft document" refers to an output, which is still in draft form.

2 Procedures

Study groups are encouraged to make use of documents, both approved and in draft form, provided by standards development organizations, as appropriate. Similarly, standards development organizations are encouraged to make use of draft or approved ITU-T Recommendations. This Recommendation contains procedures for formal cooperation and exchange of information between ITU-T study groups and standards development organizations that qualify, according to the criteria in Annex A. In particular, this Recommendation addresses the case of an organization accepting texts, in part or in whole, from another organization. The case of normative referencing is addressed in Recommendation ITU-T A.5. Establishing a communication process provides a framework for ongoing communications to:

- prevent inadvertent duplication of effort, while allowing each organization to pursue its own mandate;
- provide authoritative information regarding one organization's dependencies on the other's work;
- exchange information on topics of mutual interest.

2.1 Establishment of the process for cooperation and exchange of information

Establishment of a process for cooperation and exchange of information between ITU-T study groups and standards development organizations should be considered on a case-by-case basis, and should be evaluated with due care and diligence using the set of criteria in Annex A. For ITU-T, the process is established at the study group level; for standards development organizations, the process is established at the appropriate level. To avoid multiple requests to a standards development organization for information pertaining to the criteria in Annex A, and to facilitate evaluation by study groups, the Director of TSB makes such requests, and subsequently makes an analysis of the responses to verify that the organizations meet the relevant criteria. A schematic diagram of the process is provided in Appendix I.

2.1.1 Exchange of information initiated by an ITU-T study group

If a study group considers that it is beneficial to establish an exchange of information or documents with a standards development organization, the study group should first consult the ITU-T A.6-qualified organizations list (see 2.3) and obtain an analysis of that standards development organization from the Director. The study group reviews the analysis and decides whether or not to communicate with the standards development organization. If the standards development organization in question is not on the list, the study group chairman asks the Director to request the standards development organization to provide the information and fill in the questionnaire relating to the qualifying criteria set forth in Annex A. The Director performs a preliminary analysis of the standards development organization and transmits it to the affected study group(s), which shall review the analysis and make a decision whether or not to communicate. Any areas of concern should be immediately shared with other interested study group chairmen and the Director. If the study group decides to approve, the study group chairman establishes the cooperation document acceptance and exchange processes in accordance with 2.2.

2.1.2 Exchange of information initiated by a national or regional standards development organization

If a standards development organization contacts the Director of TSB to establish an exchange of information or documents with ITU-T, the Director should first determine whether the exchange of information or documents is relevant to:

a) the ITU-T Sector (for related policy issues); or

b) one or more study groups (for topics relating to their work).

In case *a)*, the Director evaluates the standards development organization according to the criteria in Annex A. If the Director decides to approve, he establishes the exchange and informs TSAG and all ITU-T study groups.

In case *b)*, the Director performs an analysis and transmits it to the affected study group(s), which shall review the analysis and make a decision whether or not to communicate. If multiple study groups are involved, the decision of each study group should be communicated to the others, to the TSAG and to the Director of TSB.

2.2 Process for cooperation and exchange of information once the process is established

2.2.1 Documents sent to ITU-T A.6-qualified national and regional standards development organizations

A standards development organization may accept, in whole or in part, the text of a draft or approved ITU-T Recommendation, as all or part of the text of its draft document, with or without modification to the ITU-T text.

When a standards development organization decides to accept ITU-T texts, it notifies TSB about the actions taken concerning those texts. The use, acceptance or reproduction of such texts by the standards development organization is subject to the copyright arrangements set out in 2.4.

A proposal to send a liaison statement to an ITU-T A.6-qualified standards development organization can arise from work by a rapporteur group, working party or study group. The decision to send such information is made by the study group chairman in consultation with the relevant working party chairman, and, if arising from a study group meeting, with the agreement of the study group. The text is sent to the standards development organization by TSB on behalf of the study group.

When necessary, between scheduled meetings, the liaison statement may be prepared by an appropriate correspondence process and approved by the study group chairman in consultation with the study group management.

2.2.2 Documents received from ITU-T A.6-qualified national and regional standards development organizations

An ITU-T study group may accept from an ITU-T A.6-qualified standards development organization, in whole or in part, the text of a draft document, or an approved document, as all or part of the text of a draft ITU-T Recommendation, with or without modification to the text.

When an ITU-T study group decides to accept texts from an ITU-T A.6-qualified standards development organization, it notifies the organization about the actions taken concerning those texts. The use, acceptance or reproduction of such texts by the ITU-T study group is subject to the copyright arrangements set out in 2.4.

Documents submitted to the ITU-T study groups by ITU-T A.6-qualified standards development organizations should conform to criterion 8) in Annex A.

These documents are not issued as Contributions. As soon as they arrive they are made available, with the agreement of the study group chairman, for advance consideration by the relevant group. Moreover, they are issued as a document to the relevant group with a reference to the originating standards development organization, i.e. as a Temporary Document at a study group or working party meeting, or as a document at a rapporteur meeting. In the latter case, the receipt and disposition of the document received should be recorded in the report of the rapporteur meeting.

2.3 ITU-T A.6-qualified organizations list

The Director of TSB is requested to maintain an up-to-date ITU-T A.6-qualified organizations list and associated analyses of the national and regional standards development organizations that are under evaluation and/or have been approved for cooperation and exchange of information, including identification of the study groups concerned, and make it available online.

2.4 Copyright arrangements

The subject of modifications to texts and arrangements for royalty-free copyright licenses, including the right to sub-license, for texts accepted by either ITU-T or by ITU-T A.6-qualified standards development organizations and their publishers and others, is a matter to be agreed upon between TSB and the particular standards development organization. However, the originating organization retains the copyright for its texts.

2.5 Electronic document exchange

Where possible, the exchange of documents will be in electronic format. Questions of electronic links to enable document exchange is to be agreed upon by the Secretariats of the organizations concerned.

Annex A

Qualifying criteria for cooperation and exchange of information process with national and regional standards development organizations

(This annex forms an integral part of this Recommendation.)

NOTE – An administration may require that cooperation and exchange of information with ITU-T or its study groups, by a national or regional standards development organization within that administration's jurisdiction, follow its established national procedures.

National or regional standards development organization attributes	Desired characteristics
1) Objectives/relationship of work to ITU-T work	Objectives should be the development, adoption and implementation of standards and the provision of input into international standards organizations, especially ITU-T.
2) Organization: – legal status; – accreditation; – secretariat; – nominated representative.	 – should indicate in which country/countries it has legal status; – should indicate the accrediting entity; – should identify the permanent secretariat; – should identify a representative.
3) Membership (openness)	– national or regional standards development organization membership criteria should not preclude any party with material interest; – membership should comprise a significant representation of telecommunications interests.
4) Technical subject areas	Should be relevant to a particular study group(s) or ITU-T as a whole.
5) IPR Policy and Guidelines on: *a)* patents; *b)* software copyright (if applicable); *c)* marks (if applicable); and *d)* copyright;	 *a)* should be consistent with "Common Patent Policy for ITU-T/ ITU-R/ISO/IEC" and "Guidelines for Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC"*); *b)* should be consistent with "ITU-T Software Copyright Guidelines"*); *c)* should be consistent with "ITU-T Guidelines related to the inclusion of Marks in ITU-T Recommendations"; *d)* ITU and ITU Member States and Sector Members should have the right to copy for standardization-related purposes (see also Rec. ITU-T A.1 with regard to copying and distribution).
6) Working methods/processes	– should be well-documented; – should be open and fair; – should support competition; – should explicitly consider anti-trust issues.
National or regional standards development organization attributes	Desired characteristics
7) Outputs	– outputs available to ITU-T should be identified; – process for ITU-T to obtain outputs should be identified.

Continued

National or regional standards development organization attributes	Desired characteristics
8) Documents submitted to ITU-T	– should indicate source within the national or regional standards development organization (e.g. committee, subcommittee, etc.); – should indicate degree of stability of the document (e.g. preliminary, mature, stable, proposed date of adoption, etc.); – should indicate status of document (i.e. working document, draft, interim or approved standard).

* Particularly, licences must be offered on a non-discriminatory basis on reasonable terms and conditions (whether free of charge or with monetary compensation) to both members and non-members.

Appendix I

Establishment of a process for cooperation and exchange of information under Rec. ITU-T A.6

(This appendix does not form an integral part of this Recommendation.)

	1		2		3		4
	Initiation		**Evaluation**		**Decision**		**Process once established**
	(includes questionnaire in Annex A)		according to the criteria				= implementation
2.1.1	Initiation of the request by an SG		The SG checks the ITU-T A.6-qualified list and reviews the analysis (if not on the list, see 2.1.2 *b)*		The SG decides to communicate		Communication process put into practice by the SG
2.1.2 *a)*	Initiation of the request by an SDO to the Director for related policy issues		Evaluation by the Director		The Director decides to approve and informs TSAG + SGs		Communication process put into practice by the Director
2.1.2 *b)*	Initiation of the request by an SDO to the Director for SG issues		The Director performs a preliminary analysis, the SG reviews the analysis		The SG decides to communicate, the SG informs other SGs TSAG and the Director		Communication process put into practice by the SG
			Director adds the SDO under evaluation to the list		Director indicates on the list that the SDO is ITU-T A.6-qualified		

Recommendation ITU-T A.7

Focus groups: Establishment and working procedures

(2000; 2002; 2004; 2006; 2008; 2012, 2016)

1 Scope

The objective of focus groups is to help advance the work of the ITU Telecommunication Standardization Sector (ITU-T) study groups and to encourage the participation of members of other standards organizations, including experts and individuals who may not be members of ITU. Focus group activities may include an analysis of gaps between current Recommendations and expected Recommendations, and provide material for consideration in the development of Recommendations.

Procedures and working methods are established to facilitate the financing of focus groups, the completion of work on a well-defined topic and the documentation of the results.

The process of establishment is described in order to help identify, in a timely and collaborative manner, all study groups concerned by the scope of a potential focus group, and to agree on a study group or the Telecommunication Standardization Advisory Group (TSAG) as the parent group.

The management of a focus group is placed under the responsibility of a parent group (study group or TSAG), in association with other involved study groups in the case where the work area of the focus group overlaps with the responsibility and the mandate of those study groups (see clause 2.2).

2 Establishment, terms of reference and leadership

Within the ITU-T standardization working structure, the establishment procedures of a focus group should be progressed in a transparent manner.

For each step of the establishment process, the compliance of the focus group proposal with all clauses of this Recommendation should be ensured, and all decisions are to be made by consensus.

2.1 Establishment

A focus group is established to help advance the work of ITU-T study groups.

To justify the establishment of a focus group, the following basic criteria shall be fulfilled to their full extent:

- There is a significant interest in the subject and a need to help advance the work of the ITU-T study groups
- The subject is not already addressed by work underway in ITU-T study groups, or cannot currently be handled by a study group
- There should normally be at least four members (i.e., Member States, or Sector Members from different Member States) who commit to actively support the new focus group.

Attention should be paid to distinguishing between the following two situations:

a) Topic is within the mandate of one study group

When the terms of reference of the focus group fall within the mandate of a single study group, that study group has the necessary authority to approve the formation of a focus group and become its parent group (see clause 2.1.1), provided that the chairman of this study group consults with the chairmen of all possibly impacted study groups. If there is any doubt that all the topics fall under the responsibility and mandate of only this study group, the decision of such an establishment should be referred to TSAG.

b) Topic is within the mandate of multiple study groups

When the terms of reference of the focus group fall within the mandate of multiple study groups, TSAG has the necessary authority to approve the formation of a focus group (see clause 2.1.2) and to become its parent group or appoint a study group as the parent group.

The study group or TSAG, when receiving the written contribution, should check to see which study group could best address the proposed activity for the focus group. The study group dealing with the proposal for a focus group that contains topics felt as potentially falling under the responsibility and mandate of one or more other study groups remains responsible for the consultation with the other relevant study group chairmen and for informing TSAG and the Director of TSB. The whole procedure for consultation should be kept responsive and fast by using, as often as possible, consultation of relevant parties by e-mail and teleconferencing tools, rather than physical meetings.

In all cases, the Director of TSB and the chairman of TSAG are to be kept duly advised during the establishment procedure.

The establishment of a focus group and its first meeting will be announced according to clause 12 by the Director of TSB in cooperation with the parent group.

2.1.1 Establishment by a study group

2.1.1.1 Establishment at a study group meeting

For establishment at a study group meeting, the submission of a proposal to set up a focus group on a specific topic, including terms of reference, should take the form of a written contribution submitted at least twelve calendar days before that study group meeting.

In the case that all topics fall without doubt, within the work area of this study group, the establishment will be discussed during this meeting, and may be decided at the same meeting.

If views are expressed that the proposed topic overlaps with the mandate of another study group, the chairman of the study group to which the proposal is addressed will send the proposal to the chairman of TSAG. The chairman of TSAG will then proceed as described in clauses 2.1.2.1 or 2.1.2.2 below.

2.1.1.2 Establishment between study group meetings

Exceptionally, in response to urgent marketplace needs, a focus group may be established between study group meetings for the purpose of studying technical issues (i.e., those that have no regulatory or policy implications).

The proposal, including terms of reference, to set up a focus group on a specific technical topic (within the mandate of the parent group) may be sent by any member to the chairman of an appropriate study group selected by the initiators according to the foreseen work content. The chairman coordinates the first review of the proposal with the vice-chairmen and the chairmen of working parties of the study group. If the proposal to establish the focus group is agreed, the proposal, with completed terms of reference, will be posted on the ITU website and distributed to the study group e-mail distribution list, allowing four weeks for comments.

In the absence of unresolved comments, the study group chairman may decide the immediate establishment of the focus group. As far as possible, the chairman should seek to resolve comments by correspondence; however, if this is not possible, the decision to approve the establishment of the focus group is to be deferred to the next meeting of the study group.

If views are expressed that the proposed focus group overlaps with the mandate of another study group, the chairman of the study group to which the proposal is addressed will send the proposal to the chairman of TSAG. The chairman of TSAG will then proceed as described in clauses 2.1.2.1 or 2.1.2.2.

2.1.2 Establishment by TSAG

2.1.2.1 Establishment at a TSAG meeting

For establishment at a TSAG meeting, the submission of a proposal to set up a focus group on a specific topic, including terms of reference, should take the form of a written contribution submitted at least twelve calendar days before that TSAG meeting.

The TSAG plenary can decide to establish the focus group and designate the parent group or be its parent group.

This way of proceeding can also be adopted to decide on cases transmitted according to clause 2.1.1.2 above, when the schedule of the TSAG meeting is compatible with a timely response, whereby the proposal must be available for the members at least twelve calendar days before the meeting.

2.1.2.2 Establishment between TSAG meetings

Exceptionally, in response to urgent marketplace needs, a focus group may be established between TSAG meetings for the purpose of studying technical issues (i.e., those that have no regulatory or policy implications).

A proposal to set up a focus group on a specific technical topic, including draft terms of reference, may be submitted by any member to the chairman of TSAG.

The chairman of TSAG coordinates the first review of the proposal with the vice-chairmen and working party chairmen of TSAG and chairmen of all study groups. If the proposal to set up a focus group is agreed, the proposal, with completed terms of reference and the nomination of the parent group, will be posted on the ITU-T website and distributed to the TSAG e-mail distribution list, allowing four weeks for comments.

In the absence of unresolved comments, the chairman of TSAG may decide the immediate establishment of the focus group. As far as possible, the chairman of TSAG should seek to resolve comments by correspondence; however, if this is not possible, the decision to approve establishment of the focus group is deferred to the next meeting of TSAG.

This way of proceeding can also be adopted to decide on cases transmitted according to clause 2.1.1.2 above, when the schedule of the TSAG meetings is not deemed to be compatible with a timely response.

2.2 Terms of reference

The topic for a particular focus group is to be well defined (prior to approval), and the terms of reference must include the scope of actions, a plan of action, the expected deliverables and the time schedules for completion.

The relationship of this work to that of the parent group must be indicated, in addition to relationships with other ITU study groups, standards organizations, forums and consortia, etc., and the degree of urgency of the specific topic. The justification that the intended activity cannot be handled as efficiently by study groups should be given.

It is expected that a focus group will complete its work in a short period of time, typically 9-12 months, following approval of its formation. In appropriate circumstances, and subject to review and approval by the parent group, the term and scope of a focus group may be extended.

During the life of the focus group, its terms of reference cannot be modified by the focus group itself. Any proposal to modify the terms of reference is to be submitted as a written contribution to the parent group for its consideration and approval.

If more than one study group is involved (i.e., the topic falls under the responsibility and mandate of one or more other study groups), a possible modification of the terms of reference (including scope) should be discussed with the other involved study groups before a decision is taken.

Extension of the lifetime requires a decision of the parent group (with no reservations by the other involved study groups in the case where a topic falls under the responsibility and mandate of one or more other study groups). The focus group will automatically stop if the parent group does not agree to extend the lifetime of the focus group.

2.3 Leadership

A chairman and vice-chairman are initially appointed by the parent group. If needed, after the initial establishment of the focus group, subsequent management appointments will be made by the focus group, and the parent group informed accordingly. Appointment of chairman and vice-chairman shall be primarily based upon demonstrated competence both in technical content of the parent group and in the management skills required.

Member States and ITU-T Sector Members will provide the chairmanship, but vice-chairmanships can be open to ITU-T Associates and academia, as well as to external experts.

A focus group chairman who is unable to carry out his or her duties is replaced by one of the vice-chairmen, who is chosen and appointed by the parent group at its next meeting. If none of the vice-chairmen is an ITU member, the parent group calls for candidates and the chairman is appointed at the next meeting of the parent group.

3 Focus group working procedures

3.1 Participation

Any individual from a country that is a member of ITU and who is willing to contribute actively to the work may participate in a focus group. This includes individuals who are also members of international, regional and national organizations.

Participation in focus groups shall not be used as an alternative to ITU membership.

A list of participants is to be maintained by the focus group for reference purposes. This list will include information for persons with disabilities on how their participation shall be facilitated.

Participation in focus groups that have impacts on strategic, structural and/or operational aspects of ITU-T is limited to ITU-T members.

4 Financing of focus groups and their meetings

Financing of meetings and their preparation is accomplished by volunteer hosting in a similar manner to rapporteur groups, or on the basis of financial arrangements determined by the focus group, provided there is no incremental increase in expenditure and no adverse impact on the normal work of the study groups and TSAG, except for encouraging the participation of persons with disabilities in accordance with *resolves* 3 and 4 of Resolution 175 (Guadalajara, 2010) of the Plenipotentiary Conference, and for supporting the participation of representatives of developing countries[1] in accordance with *resolves* 3 of Resolution 123 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference.

5 Administrative support

Focus groups can establish their own method of providing and financing administrative support between meetings.

Where administrative services are requested from TSB, there shall be no incremental increase in expenditure and no adverse impact on the normal work of the study groups and TSAG, except for encouraging the participation of persons with disabilities in accordance with *resolves* 3 and 4 of Resolution 175 (Guadalajara, 2010) of the Plenipotentiary Conference, and for supporting the participation of representatives of developing countries in accordance with *resolves* 3 of Resolution 123 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference.

6 Meeting logistics

The frequency and location of meetings is decided by each focus group. Electronic document handling methods should be used as much as possible to advance the work rapidly (e.g., by using electronic conferences and the World Wide Web). Participation of persons with disabilities, including the provision of electronic documents in accessible formats, shall be encouraged in accordance with Resolution 175 (Guadalajara, 2010) of the Plenipotentiary Conference.

7 Working language

The language to be used will be mutually agreed by the focus group participants. However, any communication with the parent group shall preferably be in English or one of the other ITU official languages.

8 Technical contributions

Any participant may submit a technical contribution directly to the focus group, in accordance with the time schedule adopted. A template for contributions can be found on the ITU-T website. Electronic document transfer methods should be used whenever possible.

[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

9 Intellectual property rights

The Common Patent Policy for ITU-T/ITU-R/ISO/IEC is to be used.

The chairman of a focus group should announce this during every meeting and record all responses in the meeting report.

The copyright provisions in Recommendation ITU-T A.1 are to be followed.

10 Deliverables – approval and distribution

Deliverables can be in the form of technical specifications, reports on standards gap analysis results, base material for the development of draft Recommendations, etc., and are expected to form input to the advanced work of the parent group. The focus group will send all of its deliverables to the parent group for further consideration (see also clause 7). The deliverables shall be published as TDs of the parent group in accordance with clause 3.3.3 of Recommendation ITU-T A.1, but no later than four calendar weeks before the meeting of the parent group.

For the sake of clarity, all the output/deliverables of a focus group should be posted on the parent group's website, whether or not one or more study groups are involved.

10.1 Approval of deliverables

Approval shall be obtained by consensus.

10.2 Printing and distribution of deliverables

Focus groups may select the method of printing and distribution of deliverables, including the target audience. Deliverables to the parent group, including progress reports, will be processed as TDs by the parent group.

NOTE – A focus group may, at its discretion, share working documents via liaison statements.

All costs must be covered by the focus group. ITU-T will not be expected to offer any printing and distribution services free of charge, except for progress reports submitted according to clause 11 below, and deliverables to study groups.

11 Progress reports

Focus group progress reports are to be provided at each meeting of the parent group meeting at least twelve calendar days before the meeting and transmitted in copy to all involved study groups. They will be posted in the form of TDs.

These progress reports to the parent group should include the following information:

- an updated work plan, including a schedule of planned meetings;
- status of work with reference to the work plan, including a list of outputs and the study groups for which they are intended;
- summary of contributions considered by the focus group;
- list of attendees at all meetings held since the last progress report.

The parent group chairman should keep TSAG advised of the progress of the focus group.

12 Meeting announcements

The establishment of a focus group will be announced in cooperation with the parent group via ITU publications and other means, including communication with other organizations and/or experts, technical journals and the World Wide Web.

The first meeting of a focus group will be arranged by the parent group and the initially appointed chairman.

The schedule of subsequent meetings of a focus group will be decided by the focus group. The process of announcing meetings can be decided by the focus group and will be published at least six weeks in advance on the ITU website.

13 Working guidelines

Focus groups may develop additional, internal working guidelines, as required.

Appendix I

Guidelines for the efficient transfer of focus group deliverables to its parent group

(This appendix does not form an integral part of this Recommendation.)

I.1 Scope

The guidelines in this appendix are intended to facilitate the efficient transfer of deliverables from focus groups (FGs) aimed at being base material for the development of draft ITU-T Recommendations or Supplements.

Focus groups are a flexible tool for progressing new work. According to the core text of this Recommendation, focus group deliverables can be in the form of technical specifications, reports on standards gap analysis results or base material for the development of draft Recommendations.

Such flexibility may allow focus groups to develop a wide range of deliverables with the involvement of external stakeholders. However, this flexibility can sometimes be a shortcoming, as their deliverables may not be structured or contain material ready to be used as specifications, or their development is not sufficiently coordinated with the parent group to ensure a speedy handling at study groups, after completion of the deliverables by focus groups.

I.2 Streamlining the transfer of deliverables by focus groups and their approval by study groups

The following streamlining guidance is provided:

NOTE 1 – It should be noted that not all focus groups aim at producing base material for the development of draft Recommendations or Supplements. In many cases, it is acceptable that a focus group will produce other types of deliverables – such as ex ante standardization studies, roadmaps and gap analyses.

1) ITU-T focus groups should be created with terms of reference and working guidelines that clearly indicate the expected deliverables to be developed, including, but not limited to, formatted base material for the Study Group's development and approval of a draft ITU-T Recommendation or Supplement.

2) Where appropriate, deliverables of a focus group should be prepared and formatted in a manner that facilitates their development and adoption by the parent group into draft Recommendations or Supplements (e.g., base material formatted in the structure of an ITU-T Recommendation).

3) Where appropriate and necessary, the parent group of the focus group should provide coordination for the timely transfer of focus group deliverable(s) to the appropriate study group(s). This is expected to be required especially in instances where the deliverable(s) of a focus group has an unclear destination study group or multiple destination study groups.

4) Experts leading the work within a focus group should have experience in developing ITU-T Recommendations or Supplements. Additionally, training should be provided to the focus group management and participants on the ITU-T working methods.

5) Focus group deliverables aimed as future ITU-T Recommendations or Supplements should follow the *Author's Guide for drafting ITU-T Recommendations* and their content must have content that is expected for ITU-T Recommendations or Supplements.

NOTE 2 – The *Author's Guide for drafting ITU-T Recommendations* can be found in the ITU website at http://itu.int/go/trecauthguide.

6) Drafts of focus group deliverables aimed as future ITU-T Recommendations or Supplements should be shared with the parent group on a regular basis. When focus group deliverables aimed as future ITU-T Recommendations or Supplements would fall under the responsibility of different study groups, the focus group should share their deliverables with the relevant groups as soon as possible.

7) Once mature, focus group deliverables aimed as future ITU-T Recommendations or Supplements are approved by the focus group for transmission to the parent group for action.

Recommendation ITU-T A.8

Alternative approval process for new and revised ITU-T Recommendations

1 General

1.1 Recommendations of the ITU Telecommunication Standardization Sector (ITU-T) will be approved using this alternative approval process (AAP), except Recommendations that have policy or regulatory implications, which will be approved using the traditional approval process (TAP) found in Resolution 1 of the World Telecommunication Standardization Assembly (WTSA).

The competent study group may also seek approval at a World Telecommunication Standardization Assembly (WTSA).

1.2 In accordance with the ITU Convention, the status of Recommendations approved is the same for both AAP and TAP methods of approval.

2 Process

2.1 Study groups should apply the AAP described below for seeking the approval of draft new and revised Recommendations as soon as they have been developed to a sufficiently mature state. See Figure 1 for the sequence of events.

3 Prerequisites

3.1 Upon request of the study group chairman, the Director of the Telecommunication Standardization Bureau (TSB) shall announce the intention to apply AAP and to initiate the last call set out in this Recommendation (see clause 4). Such action shall be based upon consent at a study group or working party meeting or, exceptionally, at a WTSA, that a draft Recommendation is sufficiently mature for such action. At this stage, the draft Recommendation is considered to have "CONSENT". The Director shall include a summary of the draft Recommendation in the announcement. Reference shall be provided to the documentation where the text of the draft new or revised Recommendation to be considered may be found. This information shall be made available to all Member States and Sector Members.

3.2 The text of the draft new or revised Recommendation must be available to TSB in a final edited form at the time that the Director makes the announcement of the intended application of the AAP set out in this Recommendation. Any associated electronic material included in the Recommendation (e.g., software, test vectors, etc.) must also be made available to TSB at the same time. A summary that reflects the final edited text of the draft Recommendation must also be provided to TSB, in accordance with clause 3.3.

3.3 Such a summary should be prepared in accordance with the Author's Guide for drafting ITU-T Recommendations[1]. This summary is a brief outline of the purpose and content of the new or revised draft Recommendation and, where appropriate, the intent of the revisions. No Recommendation shall be considered as complete and ready for approval without this summary statement.

3.4 Approval may only be sought for a draft new or revised Recommendation within the study group's mandate as defined by the Questions allocated to it, in accordance with No. 192 of the Convention. Alternatively, or additionally, approval may be sought for amendment of an existing Recommendation within the study group's responsibility and mandate.

3.5 Where a draft new or revised Recommendation falls within the mandate of more than one study group, the chairman of the study group proposing the approval should consult and take into account the views of any other study group chairmen concerned before proceeding with the application of this approval procedure.

3.6 Recommendations are to be elaborated in accordance with the Common Patent Policy for ITU-T/ITU-R/ISO/IEC available at https://www.itu.int/ipr. For example:

3.6.1 Any party participating in the work of ITU-T should, from the outset, draw the attention of the Director of TSB to any known patent or to any known pending patent application, either of their own or of other organizations. The "Patent Statement and Licensing Declaration" form from the ITU-T website is to be used.

3.6.2 ITU-T non-member organizations that hold patent(s) or pending patent application(s), the use of which may be required in order to implement an ITU-T Recommendation, can submit a "Patent Statement and Licensing Declaration" to TSB using the form available at the ITU-T website.

3.7 In the interests of stability, once a new or revised Recommendation has been approved, approval should not normally be sought within a reasonable period of time for any further amendment of that new text or that revised portion, respectively, unless the proposed amendment complements rather than changes the agreement reached in the previous approval process, or a significant error or omission is discovered. As a guideline, in this context "a reasonable period of time" would be at least two years, in most cases.

Amendments that correct defects may be approved, in accordance with clause 7.1.

[1] The Author's guide can be downloaded from: http://handle.itu.int/11.1002/plink/8306947125.

4 Last call and additional review

4.1 The last call encompasses the four-week period and procedures beginning with the Director's announcement of the intention to apply the alternative approval process (clause 3.1).

4.2 If TSB has received a statement(s) indicating that the use of intellectual property, protected by one or more copyright(s) or patent(s), issued or pending, may be required in order to implement a draft Recommendation, the Director shall post this information on the ITU-T website.

4.3 The Director of TSB shall advise the Directors of the other two Bureaux that Member States and Sector Members are being asked to comment on the approval of a proposed new or revised Recommendation.

4.4 During the last call, should any Member State or Sector Member be of the opinion that the draft new or revised Recommendation should not be approved, they should advise their reasons for disapproving and indicate the possible changes that would facilitate further consideration and approval of the draft new or revised Recommendation. TSB will make the comments available to the membership of ITU-T.

4.4.1 If no comments, other than comments indicating typographical error(s) (misspelling, syntactical and punctuation mistakes, etc.), are received by the end of the last call, the draft new or revised Recommendation is considered as approved, and the typographical errors are corrected.

4.4.2 If comments, other than those indicating typographical errors, are received by the end of the last call, the study group chairman, in consultation with TSB, makes the judgement whether:

1) a planned study group meeting is sufficiently close to consider the draft Recommendation for approval, in which case the procedures in clause 4.6 regarding approval at a study group meeting are applied; or

2) to save time and/or because of the nature and maturity of the work, comment resolution should be initiated under the direction of the study group chairman. This will be accomplished by appropriate study group experts, via electronic correspondence or at meetings. Revised, edited draft text is prepared, as appropriate, and the procedures beginning in clause 4.4.3 are applied.

4.4.3 If comments other than typographical amendments are received at the end of the last call process, the rapporteur, with the assistance of the editor, shall, normally within two weeks of the end of the last call, compile all such comments in a single document, for example in the form of a table (see Annex A), to be used as the basis for completion of the comment resolution process.

4.4.4 After comment resolution is completed, and the revised and edited draft text is made available, the study group chairman, in consultation with TSB, makes the judgement whether:

a) a planned study group meeting is sufficiently close to consider the draft Recommendation for approval, in which case the procedures in clause 4.6 are applied; or

b) to save time and/or because of the nature and maturity of the work, an additional review should be initiated, in which case the procedures in clause 4.5 are applied.

4.5 The additional review encompasses a three-week period and will be announced by the Director. The text (including any revisions as a result of comment resolution) of the draft Recommendation in a final edited form and comments from the last call must be made available to TSB at the time that the Director makes the announcement of the additional review. Reference shall be provided to the documentation where the text of the draft Recommendation and last call comments to be considered may be found.

4.5.1 If no comments, other than comments indicating typographical error(s) (misspelling, syntactical and punctuation mistakes, etc.), are received by the end of the additional review, the Recommendation is considered as approved, and the typographical errors are corrected by TSB.

4.5.2 If comments, other than comments indicating typographical errors(s), are received by the end of the additional review, then the procedures in clause 4.6 regarding approval at a study group meeting are applied.

4.6 The Director shall explicitly announce the intention to approve the draft Recommendation at least three weeks prior to the study group meeting. The Director shall include the specific intent of the proposal in summarized form. Reference shall be provided to the documentation where the draft text and comments from the last call (and additional review, if relevant) may be found. The documentation should be published 12 days prior to the Director's call, with a table (see Annex A) indicating all comments not resolved in the consultation with the entities that made those comments. The edited text of the draft Recommendation from the additional review (or last call if there is no additional review) is submitted for approval by the study group meeting in accordance with clause 5.

5 Procedure at study group meetings

5.1 The study group should review the text of the draft new or revised Recommendation and the associated comments in the documentation referred to in clause 4.6. The meeting may then accept any corrections or amendments to the draft new or revised Recommendation. The study group should reassess the summary statement in terms of its completeness.

5.2 Changes may only be made during the meeting as a consequence of written comments as a result of the last call, additional review, contributions, or temporary documents including liaison statements. Where proposals for such revisions are found to be justified but to have a major impact on the intent of the Recommendation or to depart from points of principle agreed at the previous study group or working party meeting, consideration of this approval procedure should not be applied at this meeting. However, in justified circumstances, the approval procedure may still be applied if the chairman of the study group, in consultation with TSB, considers:

- that the proposed changes are reasonable (in the context of the documentation described in this clause) for those Member States and Sector Members not represented at the meeting, or not represented adequately under the changed circumstances; and

- that the proposed text is stable.

However, if a Member State present declares that this text has policy or regulatory implications or there is a doubt, the approval procedure shall proceed according to WTSA Resolution 1, clause 9.3 or clause 5.8.

5.3 After debate at the study group meeting, the decision of the meeting to approve the Recommendation under this approval procedure must be unopposed (but see clauses 5.5, 5.7 and 5.8). Every effort should be made to reach unopposed agreement.

5.4 If, despite these attempts, unopposed agreement has not been reached, the Recommendation is considered as approved if, following consultation with their Sector Members present, no more than one Member State present in the meeting opposes the decision to approve the Recommendation (but see clauses 5.5, 5.6 and 5.8). Otherwise, the study group may authorize additional work to address the remaining issues.

5.5 In cases where a Member State or Sector Member does not elect to oppose approval of a text, but would like to register a degree of concern on one or more aspects, this shall be noted in the report of the meeting. Such concerns shall be mentioned in a concise note appended to the text of the Recommendation concerned.

5.6 A decision must be reached during the meeting on the basis of a text available in its final form to all participants at the meeting. Exceptionally, but only during the meeting, a Member State may request more time to consider its position for clause 5.4. Unless the Director of TSB is advised of their opposition within a period of four weeks from the end of the meeting, the Recommendation is approved, and the Director shall proceed in accordance with clause 6.1.

5.6.1 A Member State that requested more time to consider its position and that then indicates disapproval within the four-week interval specified in clause 5.6 is requested to include its reasons and to indicate the possible changes that would facilitate further consideration, if required, for future approval of the draft new or revised Recommendation.

5.7 A Member State or Sector Member may advise at the meeting that it is abstaining from the application of the procedure. Their presence shall then be ignored for the purposes of clause 5.3. Such an abstention may subsequently be revoked, but only during the course of the meeting.

5.8 If the draft new or revised Recommendation is not approved, the study group chairman, after consultation with the parties concerned, may proceed according to clause 3.1, without further CONSENT at a subsequent working party or study group meeting.

6 Notification

6.1 The Director of TSB shall promptly notify the membership of the results (indicating approval or non-approval) of the last call and additional review.

6.2 Within two weeks of the closing date of the study group meeting described in clauses 5.3 to 5.5 or, exceptionally, two weeks after the period described in clause 5.6, the Director shall notify by a circular whether the text is approved or not. The Director shall arrange for this information to also be included in the next available ITU Operational Bulletin. Within this same period, the Director shall also ensure that any Recommendation approved is available online, with an indication that the Recommendation may not be in its final publication form.

6.3 Should minor, purely editorial amendments or correction of evident oversights or inconsistencies in the text as presented for approval be necessary, TSB may correct these with the approval of the chairman of the study group.

6.4 The Secretary-General shall publish the approved new or revised Recommendations as soon as practicable, indicating, as necessary, a date of entry into effect. However, in accordance with Recommendation ITU-T A.11, minor amendments may be covered by corrigenda rather than a complete reissue. Also, where appropriate, texts may be grouped to suit market needs.

6.5 Text shall be added to the cover sheets of all new and revised Recommendations urging users to consult the ITU-T patent database and the ITU-T software copyright database. Suggested wording is:

> "ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed intellectual property right. ITU takes no position concerning the evidence, validity or applicability of claimed intellectual property rights, whether asserted by ITU Member States and Sector Members or by others outside of the Recommendation development process."
>
> "As of the date of approval of this Recommendation, ITU had/had not received notice of intellectual property, protected by patents/software copyrights, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the appropriate ITU-T databases available at the ITU-T website."

6.6 See Recommendation ITU-T A.11 concerning the publication of new and revised Recommendations.

7 Correction of defects

7.1 When a study group identifies the need for implementers to be made aware of defects (e.g., typographical errors, editorial errors, ambiguities, omissions or inconsistencies and technical errors) in a Recommendation, one mechanism that may be employed is an implementer's guide. This guide is a historical document recording all identified defects and their status of correction, from their identification to final resolution. Implementer's guides shall be agreed by the study group, or agreed by one of its working parties with the concurrence of the study group chairman. Implementer's guides shall be made available by posting on the ITU-T website with open access.

8 Deletion of Recommendations

Deletion of Recommendations is specified in clause 9.8 of WTSA Resolution 1 (Rev. Geneva, 2022).

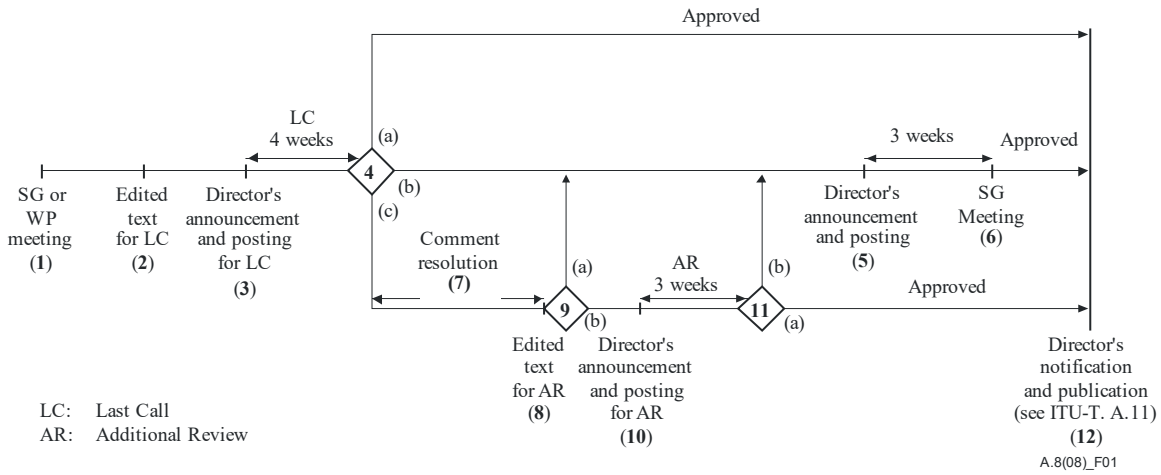


Figure 1 – Sequence of events

Notes to Figure 1 – AAP sequence of events

1) *SG or WP consent* – The study group or working party concludes that the work on a draft Recommendation is sufficiently mature to begin the alternative approval process and to initiate the last call (clause 3.1).

2) *Edited text available* – The final, edited, draft text, including summary, is provided to TSB, and the study group chairman requests the Director to initiate the last call (clause 3.2). Any associated electronic material included in the Recommendation must also be made available to TSB at the same time.

3) *Director's last call announcement and posting* – The Director announces the beginning of the last call to all Member States, Sector Members and Associates, with reference to the summary and complete text. If the draft Recommendation has not already been electronically posted, it is done at this time (clause 3.1).

4) *Last call judgement* – The study group chairman, in consultation with TSB, makes the judgement whether:

   a) no comments other than those indicating typographical errors have been received. In this case, the Recommendation is considered as approved (clause 4.4.1);

   b) a planned study group meeting is sufficiently close to consider the comments received (clause 4.4.2); or

   c) to save time and/or because of the nature and maturity of the work, comment resolution should be initiated leading to the preparation of edited texts (clause 4.4.2).

5) *Director's study group announcement and posting* – The Director announces that the next study group meeting will consider the draft Recommendation for approval and will include reference to either:

   a) the draft Recommendation (the edited text (LC) version) plus the comments received from the last call (clause 4.6); or

   b) if comment resolution has been carried out, the revised draft Recommendation text. If the revised draft Recommendation has not already been electronically posted, it is done at this time (clause 4.6).

6) *Study group decision meeting* – The study group meeting reviews and addresses all written comments and either:

   a) proceeds under WTSA Resolution 1 or clause 5.8, as appropriate, if there might be policy or regulatory implications (clause 5.2); or

   b) approves the draft Recommendation (clause 5.3 or 5.4); or

   c) does not approve the draft Recommendation. If it is concluded that a further attempt at addressing comments received is appropriate, then additional work should be done and the process returns to step 2 (without further CONSENT at a working party or study group meeting) (clause 5.8).

7) Comment resolution – The study group chairman, with assistance from TSB and experts, via electronic correspondence and rapporteur and working party meetings, where appropriate, addresses the comments and prepares a new edited draft Recommendation text (clause 4.4.2).

8) Edited text available – The revised edited text, including summary, is provided to TSB (clause 4.4.2).

9) Next step judgement – The study group chairman, in consultation with TSB, makes the judgement whether:

   a) a planned study group meeting is sufficiently close to consider the draft Recommendation for approval (clause 4.4.3 a); or

   b) to save time and/or because of the nature and maturity of the work, an additional review should be initiated (clause 4.4.3 b).

10) *Director's additional review announcement and posting* – The Director announces the beginning of the additional review to all Member States and Sector Members, with reference to the summary and complete text of the revised draft Recommendation. If the revised draft Recommendation has not already been electronically posted, it is done at this time (clause 4.5).

11) *Additional review judgement* – The study group chairman, in consultation with TSB, makes the judgement whether:

   a) no comments other than those indicating typographical errors have been received. In this case, the Recommendation is considered approved (clause 4.5.1); or

   b) comments other than those indicating typographical errors have been received. In this case, the process proceeds to the study group meeting (clause 4.5.2).

12) *Director's notification* – The Director notifies the members that the draft Recommendation has been approved (clause 6.1 or 6.2).

Annex A

Table of comments

(This annex forms an integral part of this Recommendation.)

Source of comments:

				Date:	Document: Reference number and title	
Comment number (include reference to source of comment)	Comment made by	Clause/ Subclause	Paragraph/ Figure/ Table	Type of comment (Ed = editorial Te = technical Ge = general)	Comment	Proposed change

Recommendation ITU-T A.11

Publication of ITU-T Recommendations and World Telecommunication Standardization Assembly proceedings

(2000; 2004; 2008; 2012)

1 Introduction

Under No. 98 of the ITU Convention, the Secretary-General is charged with the task of publishing Recommendations, and Recommendation ITU-T A.12 of the ITU Telecommunication Standardization Sector (ITU-T) sets out the identification and layout of ITU-T Recommendations. In addition to the publication of ITU-T Recommendations, the procedures for publishing the proceedings of the World Telecommunication Standardization Assembly (WTSA) are specified below.

It should be noted that although the designation "CCITT" has not been applied to new publications for some time, references to CCITT and ITU-T Recommendations are contained in numerous legal documents throughout the world.

2 Publication of Recommendations

2.1 Each new and revised Recommendation should be made available to the public as soon as practicable after it has been approved, and in each language as soon as it is available (see Annex A).

2.2 Each new and revised Recommendation should be added to a directly accessible database of ITU-T Recommendations.

2.3 The collection of approved Recommendations should also be published on an appropriate distribution medium.

2.4 Adequate indexing should be provided on all media.

2.5 The current status of each Recommendation in the complete range of Recommendations, including those approved by CCITT prior to 1993, should be accessible online.

3 Publication of WTSA proceedings

3.1 To provide a record of the proceedings of each assembly, an ITU-T Book should be published with the contents restricted to the following in principle:

- Resolutions and Opinions adopted by the assembly;

- Recommendations on the organization of the work of ITU-T (A-series);
- a list of the study groups, the advisory group and any other groups established or maintained by the assembly, with their titles and general areas of work;
- titles of the Questions (continuing or newly approved for study) and their allocation;
- reports of the committees of the assembly.

NOTE – The list of participants and list of documents of the assembly may be provided in the book, or pointers may be provided as to where the online list of participants and the online list of documents of the assembly may be found.

3.2 Resolutions and ITU-T A-series Recommendations should also be published individually in electronic form.

3.3 The colour of the cover of the ITU-T Book recording the results of WTSA will rotate successively through the colours of previous books in their chronological order, i.e. white, green, orange, yellow, red and blue.

4 Associated activities

4.1 The Director of the Telecommunication Standardization Bureau (TSB) should observe the annexed guidelines (see Annex A) when managing the continuing process of publishing Recommendations during the upcoming study period.

4.2 The Director of TSB should report to the next WTSA and to the intervening meetings of TSAG on any difficulties encountered in the timely publication of texts, with proposals for remedial action.

5 Relation with the Council

The Director of TSB should invite the Council to consider what adjustments, if any, may be needed to the ITU policy on publication, pricing, etc., in order to facilitate the rapid, wide and effective dissemination of ITU-T Recommendations.

Annex A

Guidelines on publication of ITU-T Recommendations

(This annex forms an integral part of this Recommendation.)

A.1 The following guidelines have been drawn up to assist in the timely publication of the approved ITU-T Recommendations. These guidelines should apply to those ITU services involved in the publication and distribution of Recommendations, and (to the extent relevant) to other organizations permitted by ITU to publish and distribute Recommendations under conditions and arrangements established with ITU.

A.2 From the users' viewpoint, the main principles that need to be applied are:

a) the maximum feasible use of electronic publishing of Recommendations through direct online access to databases that are updated as soon as possible after approval of the Recommendations and by periodic publication on an appropriate distribution medium;

b) unambiguous labelling of Recommendations to identify successive versions (see Recommendation ITU-T A.12);

c) convenient (e.g. online or on a distribution medium) access to appropriate guidance and definitive information on prices, availability and current status of Recommendations;

d) simple-to-use indexes and search facilities to locate specific subjects without necessarily knowing the titles or understanding the general structure and letter series used to designate ITU-T Recommendations.

A.3 Immediately after the conditions for its approval have been met, a new or revised Recommendation should be made available to the public, in accordance with the conditions established by ITU.

Recommendations should be made available[1] in appropriate formats, such as:

- online access – as soon as practicable;
- DVD – periodically (e.g. quarterly).

Minor modifications may be covered by publishing amendments or corrigenda rather than reissuing the complete Recommendation.

A.4 The current status of the complete range of Recommendations must be accessible on a database at any time.

A.5 Adequate indexing and search facilities should be provided.

A.6 For research and reference purposes, ITU should maintain permanently in an archive an official copy of all Recommendations that are or have been valid.

A.7 The generally accessible online database of Recommendations should contain versions of Recommendations currently in force and versions previously in force since the 1988 Blue Book.

A.8 ITU copyright should be strictly enforced on all formats of ITU-T Recommendations.

[1] Paper copies should be made available as quickly as possible at the request of a Member State, Sector Member or Associate not possessing electronic facilities, by which they can access publications of the Union

Recommendation ITU-T A.12

Identification and layout of ITU-T Recommendations

1 Scope

The Telecommunication Standardization Advisory Group (TSAG) periodically reviews the methods of identifying and laying out Recommendations as well as the Author's Guide for drafting ITU-T Recommendations, prepared and updated by the Telecommunication Standardization Bureau (TSB), providing thus detailed guidelines on format and style. This Recommendation provides principles that are applied in identifying and laying out Recommendations.

2 Identification and layout of Recommendations

2.1 All Recommendations of the ITU Telecommunication Standardization Sector (ITU-T) shall be numbered. The number of each Recommendation shall have a letter prefix referring to the series as well as a number identifying the particular subject in that series. The numbering shall be done in a manner that permits clear, unequivocal identification and facilitates electronic storage of information concerning the Recommendation. The Recommendation number shall be associated on the cover with the date of approval in the format YYYY. The month may be added if required for uniqueness.

2.2 The scope of the series identified by the letter shall be as follows:

A Organization of the work of ITU-T

B *Not allocated*

C *Not allocated*

D Tariff and accounting principles and international telecommunication/ICT economic and policy issues

E Overall network operation, telephone service, service operation and human factors

F Non-telephone telecommunication services

G Transmission systems and media, digital systems and networks

H Audiovisual and multimedia systems

I Integrated services digital network

J Cable networks and transmission of television, sound programme and other multimedia signals

K Protection against interference

L Environment and ICTs, climate change, e-waste, energy efficiency; construction, installation and protection of cables and other elements of outside plant

M Telecommunication management, including TMN and network maintenance

N Maintenance: international sound-programme and television-transmission circuits

O Specifications of measuring equipment

P Telephone transmission quality, telephone installations, local line networks

Q Switching and signalling, and associated measurements and tests

R Telegraph transmission

S Telegraph services terminal equipment

T Terminals for telematic services

U Telegraph switching

V Data communication over the telephone network

W *Not allocated*

X Data networks, open system communications and security

Y Global information infrastructure, Internet protocol aspects, next-generation networks, Internet of Things and smart cities

Z Languages and general software aspects for telecommunication systems

2.3 Recommendations in each series shall be classified in sections, according to subject.

2.4 The title of each Recommendation should be concise (preferably no more than one line) but unique, meaningful and unambiguous. The details identifying the precise intent and coverage should be contained in the text where possible (e.g., under "Scope" clause).

2.5 The date of formal approval of the Recommendation, the study group(s) responsible for its approval and a record of revisions shall be clearly indicated, together with the approval process applied. In accordance with the ITU Convention, the status of Recommendations approved is the same for both the alternative approval process (AAP) and traditional approval process (TAP) methods of approval.

2.6 The author of a new or revised Recommendation shall provide, in front of the main body of the Recommendation, a summary and a set of keywords as outlined in the "Author's Guide for drafting ITU-T Recommendations". The author may also provide other up-front elements, such as background information, as provided for in the Author's Guide.

2.7 The "Author's Guide for drafting ITU-T Recommendations" should be applied in drafting new Recommendations and, wherever practicable, in revising existing Recommendations.

Recommendation ITU-T A.13

Non-normative ITU-T publications, including Supplements to ITU-T Recommendations

1 Introduction

In the course of its studies, each study group deals with contributions and reports, which are distributed to those organizations that have registered for participation in the study group's work, and Recommendations resulting from those studies reach a much wider audience. Normally, any information that is considered as merely illustrative or supplementary to a Recommendation should be included as a (non-integral) appendix to that Recommendation, where it is useful to the wider audience. However, there are instances where separate publication of such information is warranted. This information is not part of demonstrating voluntary compliance to any ITU-T Recommendation. Such information can be published in the form of Supplements to the Recommendations or other document types published by ITU-T.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

None.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

3.1.1 handbook: [b-WTSA Res. 1]: A text which provides a statement of the current knowledge, the present position of studies or good operating or technical practice, in certain aspects of telecommunications, which should be addressed to a telecommunication engineer, system planner or operating official who plans, designs or uses telecommunication services or systems, paying particular attention to the requirements of developing countries.

NOTE – It should be self-contained, and require no familiarity with other ITU-T texts or procedures.

3.1.2 work item: [b-ITU-T A.1]: An assigned piece of work, which is identifiable with a Question and which has specific or general objectives, which will result in a product, usually a Recommendation, for publication by ITU-T.

3.1.3 work programme: [b-ITU-T A.1]: A list of work items that are owned by a study group.

3.2 Terms defined in this Recommendation

This Recommendation defines the following terms:

3.2.1 implementer's guide: An informative (non-normative) document which records all identified defects (e.g., typographical errors, editorial errors, ambiguities, omissions or inconsistencies, and technical errors) associated with a Recommendation or a set of Recommendations and their status of correction, from their identification to final resolution.

NOTE – An implementer's guide is issued by ITU-T following agreement by a study group, or following agreement by a working party with the concurrence of the study group chairman. Typically, defect corrections are first collected in an implementer's guide and, at a time deemed appropriate by the study group, they are used to produce a corrigendum or are included as revisions to a Recommendation.

3.2.2 Supplement: An informative (non-normative) document which contains material which is supplementary to and associated with the subject matter of one or more Recommendations but which is not essential to their completeness or understanding and implementation.

3.2.3 technical paper or **technical report**: An informative (non-normative) publication containing technical information, prepared by a study group on a given subject within its mandate.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

TSAG	Telecommunication Standardization Advisory Group
WTSA	World Telecommunication Standardization Assembly

5 Conventions

None.

6 Non-normative texts

The following general principles shall be applied by study groups for the development, approval and revision of-non-normative ITU-T publications. These include implementer's guides, technical papers, technical reports, handbooks, Supplements to ITU-T Recommendations and appendices to Recommendations agreed separately from the base text of the Recommendation.

NOTE – Text of an appendix approved together with its base Recommendation will follow the approval process (TAP according to section 9 of [b-WTSA Res. 1], or AAP according to [b-ITU-T A.8]) of the base Recommendation.

Texts other than Recommendations (often referred to as "non-normative ITU-T publications") are informative or supplementary materials in an area of study relevant to an ITU-T study group.

6.1 Before proposing any new or revised text as a non-normative publication, a study group or TSAG should ensure, in consultation with the Director, that:

i) the subject matter is within its mandate;

ii) there is a sufficient need for the information on a long-term basis;

iii) the text cannot be reasonably adapted for inclusion in an existing or new Recommendation (e.g., as an appendix);

iv) the text contains material which is not essential to the completeness or understanding and implementation of any ITU-T Recommendation;

v) the text is sufficiently mature and it follows, as far as possible, the format of [b-Author's Guide] but with language adjusted due to the informative rather than normative nature of the publication.

6.2 Non-normative documents require agreement by the study group or TSAG (in the case of a document developed by TSAG), but they do not require approval according to [b-WTSA Res. 1] or [b-ITU-T A.8] procedures.

6.3 Non-normative publications are only informative and are therefore not considered to be an integral part of any Recommendation(s). The following note shall be added after the foreword of non-normative publications: "NOTE – This is an informative ITU-T publication. Mandatory provisions, such as those found in ITU-T Recommendations, are outside the scope of this publication. This publication should only be referenced bibliographically in ITU-T Recommendations".

6.4 Since non-normative publications are informative material, no onus is implied on the issuing study group to update or to reissue them. However, should (bibliographic) reference to a non-normative publication be made in a Recommendation, the study group should review the applicability both of that reference and the non-normative publication at least once every four years, and take any necessary action.

6.5 Non-normative publications (other than Supplements and implementer's guides) are not included in databases along with ITU-T Recommendations but are published on the web site of the concerned Study Group or TSAG.

6.6 Non normative publications may be deleted after consultation with the concerned study group if not reviewed or updated after a period of eight years.

6.7 Non-normative publications (other than Supplements) are not edited by TSB before publication. They are available for free in electronic format and are not printed in paper format.

7 Additional considerations specific to Supplements

In addition to the general principles given in clause 6, which apply to all non-normative publications, the following additional principles shall be applied by study groups for the development, agreement, identification and revision of Supplements:

7.1 A working party may agree to a Supplement if the study group that set up the working party has previously identified this Supplement and has authorized the working party to do so at the previous study group meeting provided that such Supplement is not related or linked to any Recommendation having policy or regulatory implications in accordance with Nos. 246D to 246H of the ITU Convention.

7.2 Each Supplement should be unambiguously identified by the series letter to which it is associated followed by a sequential number unique within that series. Supplements may apply to a series of Recommendations; they need not be attached to a particular single Recommendation.

7.3 Supplements should be included in databases along with ITU-T Recommendations.

7.4 To the extent practicable, Supplements will be published in a similar fashion to Recommendations, but with a lower priority, and taking into account market needs.

8 Work programme

8.1 The decision to add a new work item for a non-normative ITU-T publication (see clause 6) to the work programme of a study group (or TSAG) should be documented in the report of the meeting using the template in Annex A. Note that this may not be necessary to document the continuation of existing work (e.g., a revision of an existing non-normative document).

8.2 The target date should normally be less than two years after the study group meeting when the new work item is added to the work programme. A work item may be considered for discontinuation from the work programme if it has not given rise to any contribution in the time interval of the previous two study group meetings.

Annex A

Template to describe a proposed new non-normative document in the work programme

(This annex forms an integral part of this Recommendation.)

Question:		/	**Proposed new ITU-T:** ☐ Supplement ☐ Implementer's guide ☐ Technical paper ☐ Technical report ☐ Handbook ☐ Other: _____	<Meeting date>
Reference and title:	<X.xxx> "Title"			
Base text:	<C nnn> or <TD nnnn>		**Target date:**	<Month-Year>
Editor(s):	<Name, membership, e-mail address>		**Approval process:**	Agreement
Purpose and scope (defines what issue this non-normative document will address, thus permitting readers to judge its usefulness for their work; also defines the intent or objective of the non-normative document and the aspects covered, thereby indicating the limits of its applicability):				
Summary (provides a brief overview of the proposal):				
Relations to ITU-T Recommendations or other documents (approved or under development):				
Liaisons with other study groups or with other standards bodies:				
Supporting members that are committing to contributing actively to the work item:				
<Member States, Sector Members, Associates, Academia>				

Bibliography

[b-ITU-T A.1] Recommendation ITU-T A.1 (2019), *Working methods for study groups of the ITU Telecommunication Standardization Sector*.

[b-ITU-T A.8] Recommendation ITU-T A.8 (2008), *Alternative approval process for new and revised ITU-T Recommendations*.

[b-WTSA Res. 1] WTSA Resolution 1 (rev. Hammamet, 2016), *Rules of procedure of the ITU Telecommunication Standardization Sector*.

[b-Author's guide] ITU-T editing guidelines (2016) – *Author's guide for drafting ITU-T Recommendations*. <https://www.itu.int/oth/T0A0F000004>

Recommendation ITU-T A.23

Collaboration with the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) on information technology

(Helsinki, 1993 amended at Geneva 1996, Montreal, 2000)

The WTSA,

considering

a) the purposes of the International Telecommunication Union set forth in Article 1 of its Constitution (Geneva, 1992) relating to the harmonization of telecommunication facilities;

b) the duties of the Telecommunication Standardization Sector (Chapter III of the Constitution, Geneva, 1992) of the International Telecommunication Union;

c) Resolution 7 (Geneva, 1996) recognizes common interests with ISO and IEC concerning telecommunication and information technologies as well as some other topics and cooperation with them by appropriate means,

decides

1 that in accordance with Resolution 7, every effort should be made in establishing respective study programmes to identify overlapping studies with a view to avoiding duplication of work;

2 that for those subjects in the fields of information technology including data transmission, multimedia, open system communications and telematic services, etc., where there is a common interest and where it is agreed that coordination is desirable, then text should be drawn up mutually and kept aligned;

3 that in carrying on the respective studies, collaborative meetings at appropriate levels should be scheduled, where necessary. In drafting aligned text, it is necessary to take into account the respective timing for approvals and publication, particularly with the ISO/IEC Joint Technical Committee 1 (JTC 1) on Information Technology.

A Guide for ITU-T and ISO/IEC JTC 1 Cooperation is given in Annex A, which contains a set of procedures for cooperation between the two sides. These procedures, which have also been adopted by ISO/IEC JTC 1, should be used, with flexibility, according to need. The "Rules for presentation of ITU-T | ISO/IEC common text"[1] in Annex A should be respected in the drafting of common texts.

[1] The Guide is published as a separate booklet and is available from TSB.

ANNEX A
(to Recommendation ITU-T A.23)

Guide for ITU-T and ISO/IEC JTC 1 cooperation

1 Introduction

1.1 Purpose

This document contains a set of procedures for cooperation between ITU-T and ISO/IEC JTC 1. It is written in an informal style, much like a tutorial, to be a practical, educational and insightful reference for both leaders and participants in cooperative work.

1.2 Background

The ITU-T and ISO and IEC have long established cooperative relationships. For many years, the continued merging of technologies for which these individual organizations have been responsible has resulted in an increasing interdependency of a growing portion of the work programs. This has led, for example, to the creation by ISO and IEC of Joint Technical Committee 1 (JTC 1) on Information Technology. Cooperative arrangements between the ITU-T and ISO/IEC have been growing.

In June 1988, an ad hoc group of CCITT and ISO/IEC JTC 1 leaders met to review the then existing situation of cooperation. Recognizing that these cooperative efforts will continue to grow, the ad hoc group felt it would be beneficial to develop and document a set of procedures which builds upon past successes to facilitate future efforts. As a result, an *Informal Guide on CCITT and ISO/IEC JTC 1 Cooperation* was produced.

This Informal Guide recognized that the areas for cooperative work between CCITT and ISO/IEC JTC 1 are a small portion of the total work program of both organizations. Therefore, it was determined that the practical way to achieve successful cooperation is to work within the flexibility existing within the procedures of each organization rather than to define a fundamentally new framework.

Since that time considerable experience has been gained in the use of the procedures. Consequently, a second meeting of the ad hoc group was held in September 1991 to review and refine the procedures. A draft revised Guide was produced at that meeting and adopted by both CCITT and JTC 1 for interim use, pending formal approval.

The draft revised Guide recognized the value of collaboration between the two organizations in building consensus in areas of common interest and in extending this collaboration to the publication of common text Recommendations and International Standards to better serve the needs of industry and users. Considerable attention was given to defining efficient collaborative procedures that make the best use of resources to produce timely results.

Further revision was made as a result of the formal review and to reflect updated procedures of both organizations. The Guide was adopted by the WTSC and JTC 1 in March 1993.

By 1996, with the experience of developing more than 150 collaborative Recommendations | International Standards, the Guide was updated to reflect insights gained through this experience and to reflect revisions in the procedures of both organizations. The updated Guide was adopted by the WTSC in October 1996 and JTC 1 in December 1996.

In 2001, the Guide was again updated to reflect revisions in the procedures of both organizations. The updated Guide was adopted by the ITU-T in November 2001 and JTC 1 in November 2001.

In 2010, the Guide was again updated to reflect closer alignment of the JTC 1 procedures to those in common between ISO and IEC, and to reflect revised procedures in the ITU-T. It also takes into account the common patent policy for ITU-T/ITU-R/ISO/IEC adopted in 2006. The updated Guide was adopted by the ITU-T in February 2010 and JTC 1 in June 2010.

In 2013, the Guide was again updated to reflect revisions in the procedures of both organizations. The updated Guide was adopted by the ITU-T in June 2014 and JTC 1 in September 2014.

1.3 Organization of the Guide

The remainder of clause 1 provides a listing of useful references, definitions and abbreviations pertinent to ITU-T and JTC 1 cooperation. Clauses 2 and 3 provide tutorial information on the structure and procedures of ITU-T and JTC 1.

The detailed procedures for ITU-T and JTC 1 cooperation are given in clauses 4 through 10 and Appendix I. They supplement, and sometimes repeat for clarity, the basic procedures of each organization (for example, those given in WTSA Resolution No. 1, in Recommendation ITU-T A.1 and in the ISO/IEC Directives, in the Consolidated JTC 1 Supplement to the ISO/IEC Directives and in JTC 1 Standing Documents) which remain controlling.

NOTE – The template for editors to use in the preparation of common text Recommendations | International Standards is available at http://itu.int/en/ITU-T/studygroups/Pages/templates.aspx, and the presentation rules at http://itu.int/en/ITU-T/info/Pages/resources.aspx and http://iso.org/iso/jtc1_home (Resources, JTC1 Standing documents section).

1.4 References

1.4.1 ITU-T references

1.4.1.1 General

Most information about the ITU and the ITU-T can be found on the ITU website at http://itu.int.

The fundamental documents of the ITU are its Constitution and its Convention, which can be found in "Collection of the basic texts of the International Telecommunication Union adopted by the Plenipotentiary Conference, Edition 2007".

The ITU-T WTSA Proceedings of the current Study Period contains the Resolutions and A-series Recommendations approved by the last World Telecommunication Standardization Assembly (WTSA), and includes a listing of the Study Groups and a listing of the Questions allocated to each Study Group.

Contribution No. 1 of each Study Group contains the detailed text for each Question assigned to the Study Group by the WTSA. Changes concerning A-series Recommendations and Questions are published via TSB Circulars and available on the ITU website.

1.4.1.2 WTSA Resolutions

The latest set of WTSA Resolutions is available on the ITU website at http://itu.int/publ/T-Res/. Five Resolutions of particular relevance to ITU-T and ISO/IEC JTC 1 cooperation are listed below.

- Resolution 1, *Rules of procedure of the ITU Telecommunication Standardization Sector (ITU-T)*.
- Resolution 2, *ITU-T study group responsibility and mandates*.
- Resolution 7, *Collaboration with the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC)*.
- *Resolution 22, Authorization for TSAG to act between WTSAs*.
- *Resolution 67, Creation of a Standardization Committee for Vocabulary*.

1.4.1.3 A-series Recommendations

A-series Recommendations are adopted by the WTSA or by the Telecommunication Standardization Advisory Group (TSAG) between WTSAs. The latest set is available on the ITU website at http://itu.int/rec/T-REC-A. Ten A-series Recommendations of particular relevance to ITU-T and ISO/IEC JTC 1 cooperation are listed below.

- Recommendation ITU-T A.1 (latest version), *Work methods for study groups of the ITU Telecommunication Standardization Sector*.
- Recommendation ITU-T A.2 (latest version), *Presentation of contributions to the ITU Telecommunication Standardization Sector*.

- Recommendation ITU-T A.4 (latest version), *Communication process between the ITU Telecommunication Standardization Sector and forums and consortia*.

- Recommendation ITU-T A.5 (latest version), *Generic procedures for including references to documents of other organizations in ITU-T Recommendations*.

- Recommendation ITU-T A.6 (latest version), *Cooperation and exchange of information between the ITU Telecommunication Standardization Sector and national and regional standards development organizations*.

- Recommendation ITU-T A.8 (latest version), *Alternative approval process for new and revised ITU-T Recommendations*.

- Recommendation ITU-T A.11 (latest version), *Publication of ITU-T Recommendations and World Telecommunication Standardization Assembly proceedings*.

- Recommendation ITU-T A.12 (latest version), *Identification and layout of ITU-T Recommendations*.

- Recommendation ITU-T A.13 (latest version), *Supplements to ITU-T Recommendations*.

- Recommendation ITU-T A.23 (latest version), *Collaboration with the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) on information technology*.

1.4.2 ISO/IEC references

1.4.2.1 General

Most information about the ISO can be found on its website at http://iso.org. Similarly, most information about the IEC can be found on its website at http://iec.ch. This information includes:

- Catalogue of IEC Publications [This online publication lists all IEC standards issued as of the first day of the year]

- IEC Yearbook [This annual publication lists all the Technical Committees and Subcommittees of IEC and, for each, lists the subjects under consideration and the publications prepared]

- ISO Catalogue [This online publication lists all published International Standards and Technical Reports of ISO]

- ISO Memento [This annual publication lists all the Technical Committees of ISO and gives their scope and committee structure]

- ISO Technical Programme [This semi-annual publication lists the status of all documents that have reached the balloting stage (e.g., CD, DAM, DIS, DTR)]

- ISO/IEC Directives – Part 1:2013, Procedures for the technical work
- ISO/IEC Directives – Part 2:2011, Rules for the structure and drafting of International Standards
- ISO/IEC Directives – Consolidated JTC 1 Supplement:2014
- JTC 1 Standing Documents 2013

1.4.2.2 JTC 1

Most information about ISO/IEC JTC 1 can be found on its site at http://jtc1.org. The key document setting forth the specific procedures for JTC 1 is the ISO/IEC Directives – Consolidated JTC 1 Supplement "Procedures Specific to JTC 1".

1.4.2.3 Subcommittees of JTC 1

Subcommittees of JTC 1 maintain their respective websites, linked from the JTC 1 site. Prior to each JTC 1 plenary, SC Chairmen prepare the Subcommittee Business Plans, including a management summary, a period review and the priorities for the next period.

1.5 Definitions

1.5.1 ITU-T definitions

1.5.1.1 **Additional Review**: A 3-week period in the Alternative Approval Process where Member States and Sector Members review the text of a Recommendation put for approval and can submit comments.

1.5.1.2 **Alternative Approval Process (AAP)**: The procedure for approval of Recommendations that do not have regulatory or policy implications.

1.5.1.3 **Consent**: A step in the Alternative Approval Process where a Study Group or Working Party agrees that the text of a Recommendation is sufficiently mature.

1.5.1.4 **Consultation**: A step in the Traditional Approval Process where Member States are asked to delegate authority for approval of a Recommendation to the next meeting of the Study Group.

1.5.1.5 **Determination**: A step in the Traditional Approval Process where a Study Group or Working Party agrees that the text of a Recommendation is sufficiently mature.

1.5.1.6 **Last Call**: A 4-week period in the Alternative Approval Process where Member States, Sector Members and Associates review the text of a Recommendation put for approval and can submit comments.

1.5.1.7 **Question**: Description of an area of work to be studied, normally leading to the production of one or more new or revised Recommendations.

1.5.1.8 **Traditional Approval Process (TAP)**: The procedure for approval of Recommendations that may have regulatory or policy implications.

1.5.2 ISO/IEC JTC 1 definitions

1.5.2.1 **Amendment (AMD)**: A published amendment to an International Standard.

1.5.2.2 **Category A Liaison**: An external liaison organization which participates actively in a broad spectrum of work in JTC 1 or in a JTC 1/SC.

1.5.2.3 **Committee Draft (CD)**: Text for a proposed International Standard which has been registered for ballot at the Subcommittee (SC) level – stage 3, committee stage.

1.5.2.4 **Draft Amendment (DAM)**: Text for a proposed amendment to an International Standard which is at stage 4, enquiry stage.

1.5.2.5 **Draft International Standard (DIS)**: Text for a proposed Draft International Standard which is at stage 4, enquiry stage.

1.5.2.6 **Draft Technical Report (DTR)**: Text for a proposed Technical Report which has been submitted for balloting by National Bodies of JTC 1.

1.5.2.7 **Final Draft Amendment (FDAM)**: Text for a proposed amendment to an International Standard which has been submitted for balloting by ISO and IEC National Bodies – stage 5, approval stage.

1.5.2.8 **Final Draft International Standard (FDIS)**: Text for a proposed International Standard which is at stage 5, approval stage.

1.5.2.9 **International Standard**: A published ISO/IEC standard.

1.5.2.10 **International Standardized Profile (ISP)**: A published ISO/IEC standardized profile.

1.5.2.11 **Information Technology Task Force (ITTF)**: A group of individuals from the staffs of the ISO Central Secretariat and the IEC Central Office that provide joint support for the activities of JTC 1.

1.5.2.12 **New work item Proposal (NP)**: Text for a proposed item to be added to the program of work which is at stage 1, proposal stage and has been registered for ballot at the JTC 1 or Subcommittee (SC) level.

1.5.2.13 **Proposed Draft Amendment (PDAM)**: Text for a proposed amendment to an International Standard which has been registered for ballot at the Subcommittee (SC) level.

1.5.2.14 **Proposed Draft Technical Report (PDTR)**: Text for a proposed Technical Report which has been registered for ballot at the Subcommittee (SC) level – stage 3, committee stage.

1.5.2.15 **Technical Report (TR)**: A document not suitable for issue as an International Standard but valuable for publication in the interests of standardization.

1.5.2.16 **Technical Specification (TS)**: A document not mature for issue as an International Standard but valuable for publication in the interests of standardization.

1.5.2.17 Working Draft (WD): A document at stage 2, preparatory stage, pertaining to a work item with a view to leading toward a Committee Draft.

1.5.3 ITU-T and JTC 1 cooperation definitions

1.5.3.1 Collaborative Interchange: A mode of ITU-T and JTC 1 collaboration aimed at producing one or more common (or twin) text Recommendations | International Standards by means of close liaison and synchronized approval (see clause 7).

1.5.3.2 Collaborative Team (CT): (1) A mode of ITU-T and JTC 1 collaboration aimed at producing one or more common (or twin) text Recommendations | International Standards by means of common meetings and synchronized approval (see clause 8); (2) A group composed of individuals from a JTC 1 SC and from an ITU-T SG that collaboratively develops common (or twin) text for one or more Recommendations | International Standards (see clause 8).

NOTE – In JTC 1, a Collaborative Team is similar to a Working Group to the maximum extent possible.

1.5.3.3 Identical Recommendations | International Standards (or "common text"): Recommendations and International Standards which were developed jointly by ITU-T and ISO/IEC and have identical text. The expression "Identical Recommendations | International Standards" is the title of clause 2.1 in common texts.

1.5.3.4 Paired Recommendations | International Standards (or "twin text"): Recommendations and International Standards which were developed in close collaboration between ITU-T and ISO/IEC, and whose texts are technically aligned but not identical. The expression "Paired Recommendations | International Standards" is the title of clause 2.2 in common texts.

1.5.3.5 Working Level Group: A generic term to refer to a group of individuals in a JTC 1 SC responsible for progressing work on a specific project or a group of individuals in an ITU-T SG responsible for progressing work on a specific Question (see clause 7).

NOTE – In JTC 1, a Working Level Group is similar to a Working Group to the maximum extent possible.

1.6 Abbreviations

For the purposes of this Guide, the following abbreviations apply:

1.6.1 ITU-T abbreviations

AAP	Alternative Approval Process
CCITT	International Telegraph and Telephone Consultative Committee (replaced by ITU-T in 1993)
ITU	International Telecommunication Union
ITU-T	International Telecommunication Union – Telecommunication Standardization Sector
SG	Study Group

TAP	Traditional Approval Process
TSAG	Telecommunication Standardization Advisory Group
TSB	Telecommunication Standardization Bureau
WP	Working Party
WTSA	World Telecommunication Standardization Assembly
WTSC	World Telecommunication Standardization Conference (replaced by WTSA in 2000)

1.6.2 ISO/IEC abbreviations

AMD	Amendment
CD	Committee Draft
COR	Technical Corrigendum
DAM	Draft Amendment
DCOR	Draft Technical Corrigendum
DIS	Draft International Standard
DTR	Draft Technical Report
FDAM	Final Draft Amendment
FDIS	Final Draft International Standard
IEC	International Electrotechnical Commission
IS	International Standard
ISO	International Organization for Standardization
ISP	International Standardized Profile
ITTF	Information Technology Task Force
JTC 1	Joint Technical Committee 1
NP	New Work Item Proposal
PDAM	Proposed Draft Amendment
PDTR	Proposed Draft Technical Report
SC	Subcommittee
SWG	Special Working Group
TR	Technical Report
TS	Technical Specification
WD	Working Draft
WG	Working Group

1.6.3 ITU-T and JTC 1 cooperation abbreviations

CT	Collaborative Team

2 Organizational structures

ITU-T and JTC 1 have similar organizational structures for carrying out technical work. The major ITU-T organizational unit is the Study Group (SG) which is comparable to a Subcommittee (SC) within JTC 1. Table 1 lists the ten ITU-T Study Groups as of September 2013 (an up-to-date list may be found on the ITU website at http://itu.int). Table 2 lists the nineteen Subcommittees of JTC 1 as of September 2013 (an up-to-date list may be found on the JTC 1 website at http://jtc1.org).

Table 1 – List of ITU-T Study Groups

Designation	Title
SG2	Operational aspects of service provision and telecommunication management
SG3	Tariff and accounting principles including related telecommunication economic and policy issues
SG5	Environment and climate change
SG9	Television and sound transmission and integrated broadband cable networks
SG11	Signalling requirements, protocols and test specifications
SG12	Performance, quality of service and quality of experience
SG13	Future networks including cloud computing, mobile and next-generation networks
SG15	Networks, technologies and infrastructures for transport, access and home
SG16	Multimedia coding, systems and applications
SG17	Security
NOTE 1 – A brief description of the general work areas of the Study Groups is contained in WTSA Resolution 2. NOTE 2 – In addition to the Study Groups, the Telecommunication Standardization Advisory Group (TSAG) is also part of the ITU-T.	

Table 2 – List of ISO/IEC JTC 1 Subcommittees

Designation	Title
SC 2	Coded character sets
SC 6	Telecommunications and information exchange between systems
SC 7	Software and systems engineering
SC 17	Cards and personal identification
SC 22	Programming languages, their environments and system software interfaces
SC 23	Digitally recorded media for information interchange and storage
SC 24	Computer graphics, image processing and environmental data representation
SC 25	Interconnection of information technology equipment
SC 27	IT security techniques
SC 28	Office equipment
SC 29	Coding of audio, picture, multimedia and hypermedia information
SC 31	Automatic identification and data capture techniques
SC 32	Data management and interchange
SC 34	Document description and processing languages
SC 35	User interfaces
SC 36	Information technology for learning, education and training
SC 37	Biometrics
SC 38	Distributed application platforms and services (DAPS)
SC 39	Sustainability for and by Information Technology

NOTE – Also directly reporting to JTC 1 are:
- Special Working Group on Accessibility;
- Special Working Group on Directives;
- Special Working Group on Planning;
- Special Working Group on Smart Grid;
- Special Working Group on Internet of Things (IoT);
- Special Working Group on Management;
- WG 7 on Sensor Networks;
- WG 8 on Governance of IT.

At the next lower level, ITU-T Study Groups typically divide their work into a number of Working Parties (WPs), and JTC 1 Subcommittees divide their work into Working Groups (WGs). Both organizations appoint Rapporteurs and Editors to facilitate the carrying out of detailed technical work.

Figure 1 illustrates the ITU-T structure as of September 2013 and Figure 2 illustrates the JTC 1 structure as of September 2013.

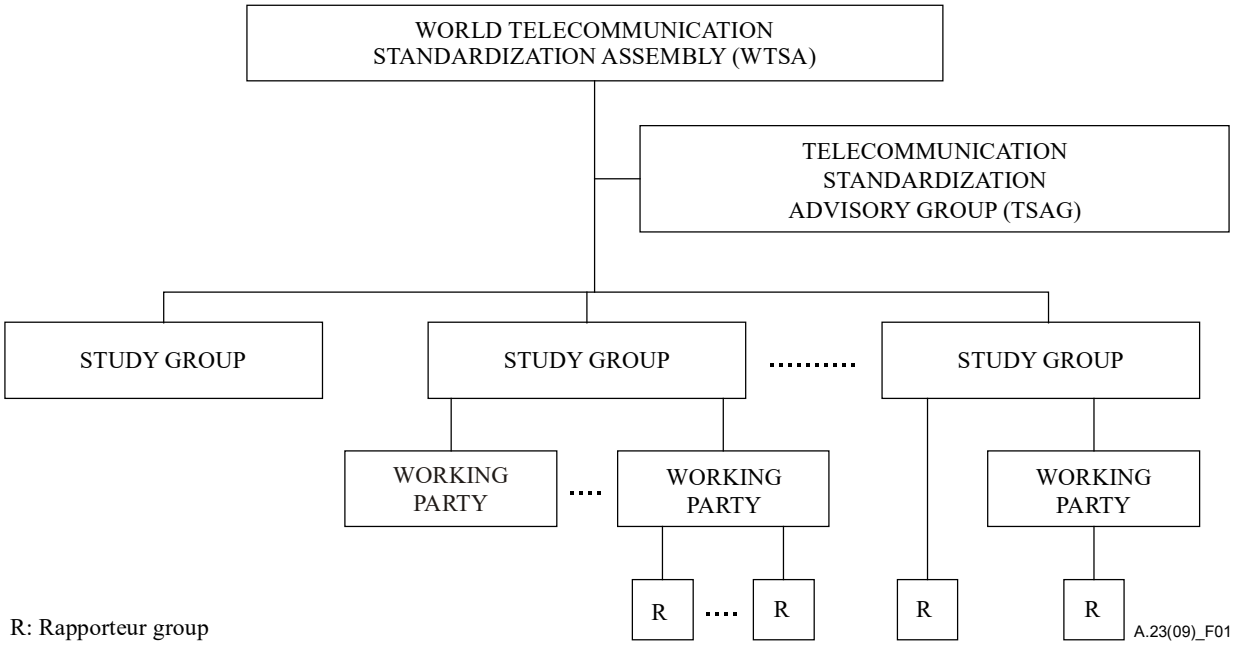


Figure 1 – Organizational structure of ITU-T

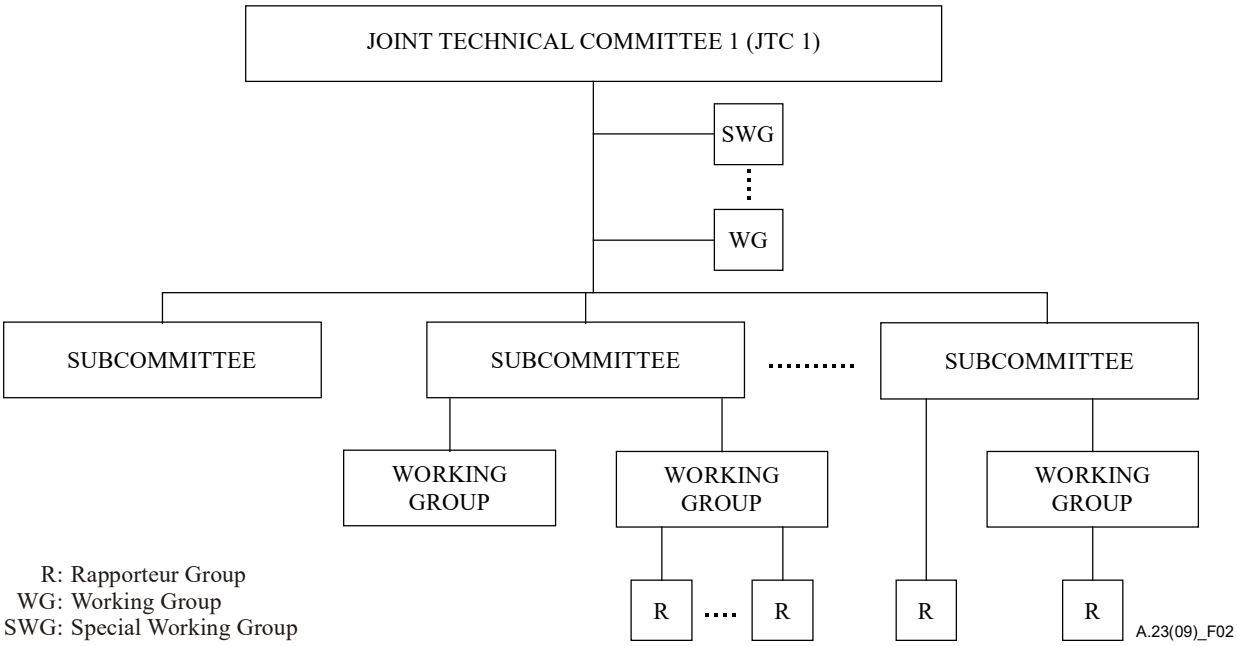


Figure 2 – Organizational structure of JTC 1

3 Organization procedures

The procedures for ITU-T and ISO/IEC JTC 1 cooperation make use of the regular procedures of each organization with the addition of some special procedures that achieve needed synchronization. Therefore, the following background material on the procedures of the two organizations forms the basis upon which the cooperative procedures are built. Of particular importance are the approval processes used by the ITU-T and JTC 1.

3.1 ITU-T procedures

The procedures for the ITU-T are specified in the WTSA Resolutions and in the A-series Recommendations. Highlights of this information are summarized below.

The WTSA meets once every four years. The period between two consecutive Assemblies is called a Study Period (e.g., 2009-2012). Among the principal actions taken by the WTSA are:

a) Approval of any Recommendations submitted by the Study Groups;

b) Organization of the Study Groups for the next Study Period;

c) Allocation of Questions (work program) to Study Groups;

d) Appointment of the chairman and vice-chairmen of each Study Group; and

e) Revision of the working methods of the ITU-T.

Between Assemblies, TSAG has been delegated authority to make any necessary changes in Study Groups, work programs and work methods.

The Study Groups are responsible for their own internal organization, for example:

a) Establishment of Working Parties and the appointment of their chairmen;

b) Allocation of Questions to each Working Party; and

c) Appointment of Rapporteurs.

The Working Parties are responsible for the Questions assigned to them. They may appoint Rapporteurs to facilitate carrying out the technical work. When texts are being developed for a Recommendation, it is frequently helpful to appoint an Editor.

At the start of a new Study Period, the Questions are the ones allocated to the Study Group by the WTSA. During the Study Period, new proposed Questions can be drafted and approved.

At the end of the Study Period, each Study Group prepares a set of new or revised Questions for the work they believe should be continued or undertaken during the next four year Study Period. These draft Questions are submitted to the WTSA for approval.

Procedures are in place that permit important work to continue during the period between the final meeting of a Study Group in one Study Period and the first meeting of the Study Group in the next Study Period.

3.1.1 Traditional Approval Process (TAP)

The Traditional Approval Process is used for Recommendations that may have regulatory or policy implications. Details of this procedure are contained in WTSA Resolution 1 and summarized in Figure 3a. It is expected that many Recommendations developed in cooperation with JTC 1 will not have regulatory or policy implications, and will therefore not fall under this procedure.

During the Study Period, work on a draft of a new Recommendation or on a revision of an existing Recommendation may become mature and stable. The Study Group or Working Party may determine that the text is sufficiently mature and that the approval process should be initiated. Any final editing is completed and the Study Group Chairman requests the Director of the TSB to initiate a consultation period, which lasts at least 3 months. The results of the consultation of Member States are conveyed to the next meeting of the Study Group.

At the Study Group meeting, all comments are considered and the final text of the Recommendation is produced. At the designated time during the Study Group meeting, the Chairman will seek approval of the Recommendation. The decision at the Study Group meeting must be unopposed. If one Member State says "NO", the approval process is suspended. One or more Member States at the Study Group meeting may request more time to consider their position. If this is the case, these Member States have four weeks from the end of the meeting to make their position known. Texts which are mature at the end of the Study Period may be approved using this procedure or may be sent to the WTSA for approval.

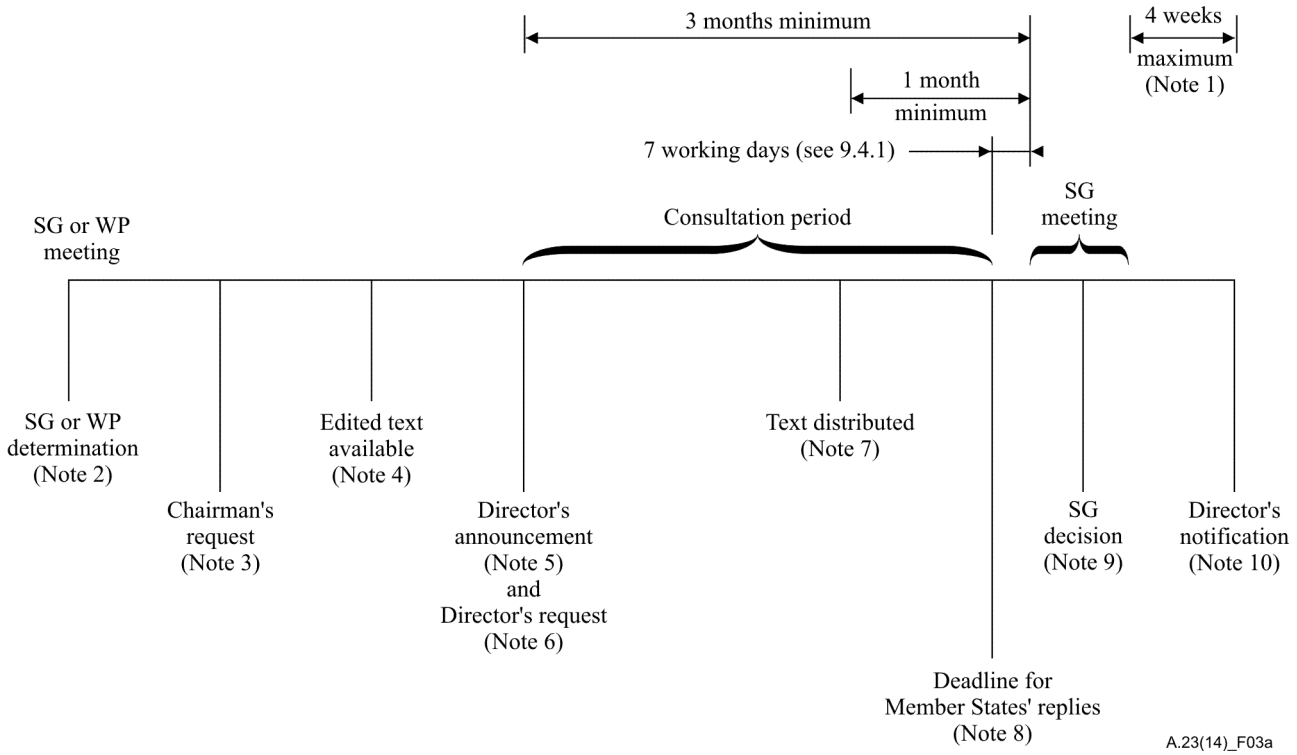
In cases where a delegation does not elect to oppose approval of a text, but would like to register a degree of reservation on one or more aspects, this shall be noted in the report of the meeting. Such reservations shall be mentioned in a concise note appended to the text of the Recommendation.

3.1.2 Alternative Approval Process (AAP)

The Alternative Approval Process is used for Recommendations that do not have regulatory or policy implications. Details of this procedure are contained in Recommendation ITU-T A.8 and summarized in Figure 3b. A major characteristic of the AAP is that approval can be obtained without having to wait until the next Study Group meeting. It is expected that essentially all of the Recommendations developed in cooperation with JTC 1 will fall under this procedure.

During the Study Period, work on a draft of a new Recommendation or on a revision of an existing Recommendation may become mature and stable. The Study Group or Working Party may consent that the text is sufficiently mature and that the approval process should be initiated. Any final editing of the text is completed and the Study Group Chairman requests the Director of the TSB to initiate a four-week Last Call period. Member States, Sector Members and Associates review the text and may submit comments. If there are no comments (other than simple editorial corrections), the Recommendation is approved. If there are comments of substance, they are addressed and depending on time schedules the revised text will be posted for a three-week Additional Review or sent to the next meeting of the Study Group. If the Additional Review is held, the Recommendation is approved if there are no comments (other than simple editorial corrections). Otherwise, the text is sent to the next Study Group meeting. At the Study Group meeting, all comments are considered and the final text of the Recommendation is produced. At the designated time during the Study Group meeting, the Chairman will seek approval of the Recommendation. The decision at the Study Group meeting must not be opposed by more than one Member State present at the meeting. If two or more Member States say "NO", the approval process is suspended. One or more Member States at the Study Group meeting may request more time to consider their position. If this is the case, these Member States have four weeks from the end of the meeting to make their position known. Texts which are mature at the end of the Study Period may be approved using the above procedure or may be sent to the World Telecommunication Standardization Assembly for approval.

In cases where a delegation does not elect to oppose approval of a text, but would like to register a degree of reservation on one or more aspects, this shall be noted in the report of the meeting. Such reservations shall be mentioned in a concise note appended to the text of the Recommendation concerned.



NOTE 1 – Exceptionally, an additional period of up to four weeks would be added if a delegation requested more time under WTSA-12 Resolution 1, clause 9.5.5.

NOTE 2 – *SG or WP determination*: The study group or working party determines that work on a draft Recommendation is sufficiently mature and requests the SG chairman to make the request to the Director (WTSA-12 Resolution 1, clause 9.3.1).

NOTE 3 – *Chairman's request*: The SG chairman requests that the Director announce the intention to seek approval (WTSA-12 Resolution 1, clause 9.3.1).

NOTE 4 – *Edited text available*: Text of the draft Recommendation, including the required summary, must be available to TSB in final edited form in at least one official language (WTSA-12 Resolution 1, clause 9.3.3). Any associated electronic material included in the Recommendation must also be made available to TSB at the same time.

NOTE 5 – *Director's announcement*: The Director announces the intention to seek approval of the draft Recommendation at the next SG meeting. The invitation to the meeting with the announcement of the intention to apply the approval procedure should be sent to all Member States and Sector Members so as to be received at least three months before the meeting (WTSA-12 Resolution 1, clauses 9.3.1 and 9.3.3).

NOTE 6 – *Director's request*: The Director requests Member States to inform the Director whether they approve or do not approve the proposal (WTSA-12 Resolution 1, clauses 9.4.1 and 9.4.2). This request shall contain the summary and reference to the complete final text.

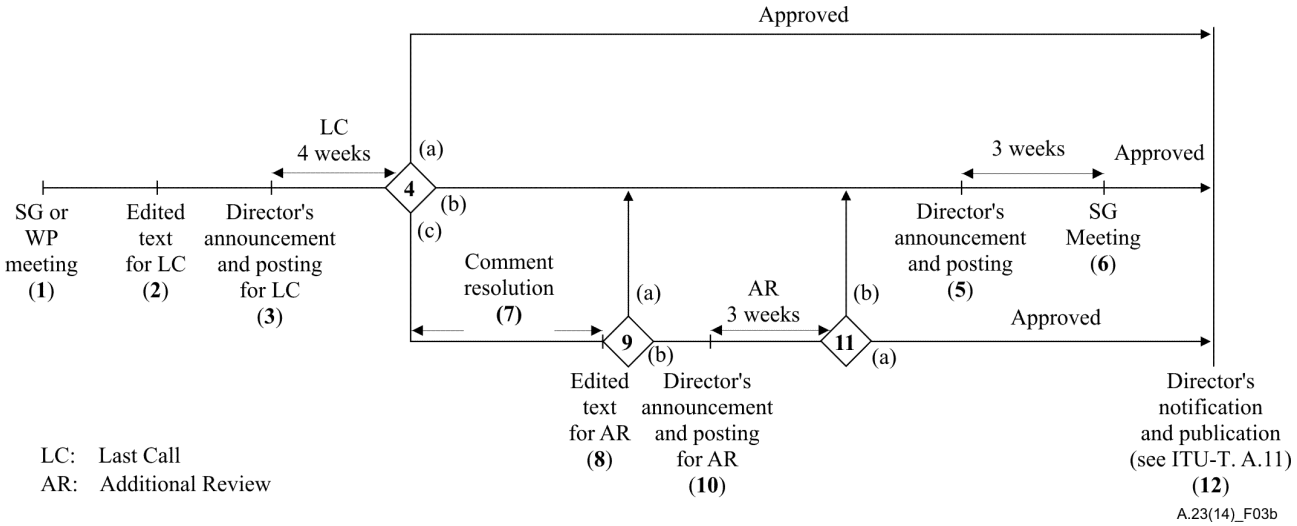
NOTE 7 – *Text distributed*: Text of the draft Recommendation must have been distributed in the official languages at least one month before the announced meeting (WTSA-12 Resolution 1, clauses 9.3.5).

NOTE 8 – *Deadline for Member States' replies*: If 70% of replies received during the consultation period indicate approval, the proposal shall be accepted (WTSA-12 Resolution 1, clauses 9.4.1, 9.4.5 and 9.4.7).

NOTE 9 – *Study group decision*: After debate, the study group reaches unopposed agreement to apply the approval procedure (WTSA-12 Resolution 1, clauses 9.5.3 and 9.5.2). A delegation can register a degree of reservation (WTSA-12 Resolution 1, clause 9.5.4), can request more time to consider its position (9.5.5) or can abstain from the decision (WTSA-12 Resolution 1, clause 9.5.6).

NOTE 10 – *Director's notification*: The Director notifies whether the draft Recommendation is approved or not (WTSA-12 Resolution 1, clause 9.6.1).

Figure 3a (Based on Fig. 9.1 of WTSA Res. 1) – ITU-T Traditional Approval Process (TAP)



1) *SG or WP consent* – The study group or working party concludes that the work on a draft Recommendation is sufficiently mature to begin the alternative approval process and to initiate the last call (Rec. ITU-T A.8, clause 3.1).

2) *Edited text available* – The final, edited, draft text, including summary, is provided to TSB, and the study group chairman requests the Director to initiate the last call (Rec. ITU-T A.8, clause 3.2). Any associated electronic material included in the Recommendation must also be made available to TSB at the same time.

3) *Director's last call announcement and posting* – The Director announces the beginning of the last call to all Member States, Sector Members and Associates, with reference to the summary and complete text. If the draft Recommendation has not already been electronically posted, it is done at this time (Rec. ITU-T A.8, clause 3.1).

4) *Last call judgment* – The study group chairman, in consultation with TSB, makes the judgment whether:

a) no comments other than those indicating typographical errors have been received. In this case, the Recommendation is considered as approved (Rec. ITU-T A.8, clause 4.4.1);

b) a planned study group meeting is sufficiently close to consider the comments received (Rec. ITU-T A.8, clause 4.4.2); or

c) to save time and/or because of the nature and maturity of the work, comment resolution should be initiated leading to the preparation of edited texts (Rec. ITU-T A.8, clause 4.4.2).

5) *Director's study group announcement and posting* – The Director announces that the next study group meeting will consider the draft Recommendation for approval and will include reference to either:

a) the draft Recommendation (the edited text (LC) version) plus the comments received from the last call (Rec. ITU-T A.8, clause 4.6); or

b) if comment resolution has been carried out, the revised draft Recommendation text. If the revised draft Recommendation has not already been electronically posted, it is done at this time (Rec. ITU-T A.8, clause 4.6).

6) *Study group decision meeting* – The study group meeting reviews and addresses all written comments and either:

a) proceeds under WTSA Resolution 1 or clause 5.8, as appropriate, if there might be policy or regulatory implications (Rec. ITU-T A.8, clause 5.2); or

b) approves the draft Recommendation (Rec. ITU-T A.8, clause 5.3 or 5.4); or

c) does not approve the draft Recommendation. If it is concluded that a further attempt at addressing comments received is appropriate, then additional work should be done and the process returns to step 2 (without further CONSENT at a working party or study group meeting) (Rec. ITU-T A.8, clause 5.8).

7) *Comment resolution* – The study group chairman, with assistance from TSB and experts, via electronic correspondence and rapporteur and working party meetings, where appropriate, addresses the comments and prepares a new edited draft Recommendation text (Rec. ITU-T A.8, clause 4.4.2).

8) *Edited text available* – The revised edited text, including summary, is provided to TSB (Rec. ITU-T A.8, clause 4.4.2).

9) *Next step judgment* – The study group chairman, in consultation with TSB, makes the judgment whether:

a) a planned study group meeting is sufficiently close to consider the draft Recommendation for approval (Rec. ITU-T A.8, clause 4.4.3 a); or

b) to save time and/or because of the nature and maturity of the work, an additional review should be initiated (Rec. ITU-T A.8, clause 4.4.3 b).

10) *Director's additional review announcement and posting* – The Director announces the beginning of the additional review to all Member States and Sector Members, with reference to the summary and complete text of the revised draft Recommendation. If the revised draft Recommendation has not already been electronically posted, it is done at this time (Rec. ITU-T A.8, clause 4.5).

11) *Additional review judgment* – The study group chairman, in consultation with TSB, makes the judgment whether:

a) no comments other than those indicating typographical errors have been received. In this case, the Recommendation is considered approved (Rec. ITU-T A.8, clause 4.5.1); or

b) comments other than those indicating typographical errors have been received. In this case, the process proceeds to the study group meeting (Rec. ITU-T A.8, clause 4.5.2).

12) *Director's notification* – The Director notifies the members that the draft Recommendation has been approved (Rec. ITU-T A.8, clause 6.1 or 6.2).

Figure 3b (Based on Fig. 1 of ITU-T A.8) – ITU-T Alternative Approval Process (AAP)

3.2 JTC 1 procedures

The procedures for the technical work of ISO/IEC JTC 1 are specified in the JTC 1 Supplement to the ISO/IEC Directives. These procedures employ a number of discrete stages, most involving a ballot process of formal voting by National Bodies. The JTC 1 standards development stages 00 through 60 are given in Table 3 for each of the JTC 1 outputs. Highlights are summarized below and the final stages are illustrated in Figure 3c.

Table 3 – JTC 1 Standards Development Stages

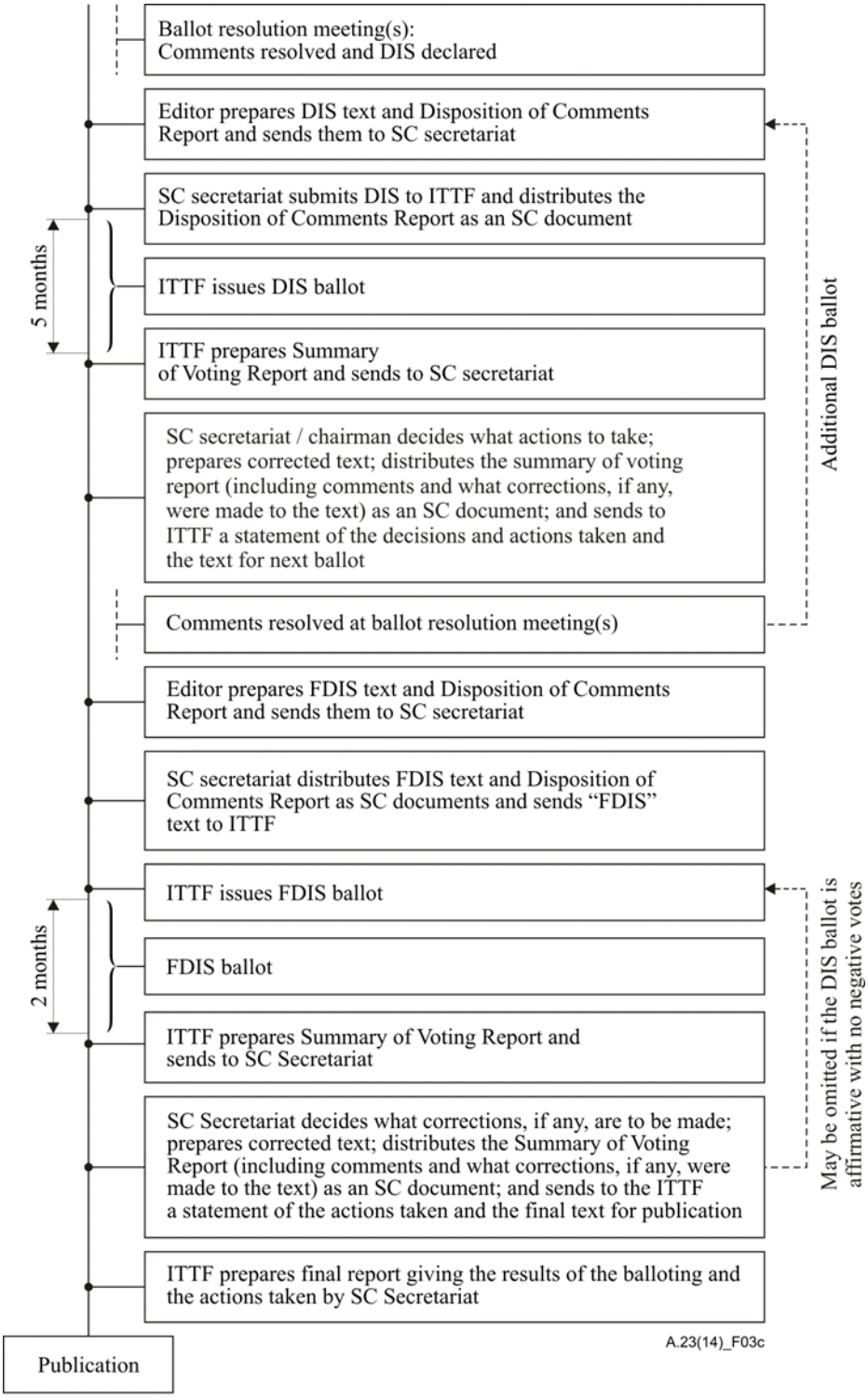
Stage	Standard	Amendment	Fast Track IS	Technical Report	Technical Specification	Technical Corrigen-dum
00 (optional) Preliminary stage	Preparation of NP	Preparation of NP		Preparation of NP		
01 Proposal stage	Acceptance of NP	Acceptance of NP		Acceptance of NP	Acceptance of NP	
02 Preparatory stage	Preparation of WD	Preparation of WD		Preparation of WD	Preparation of WD	Preparation of Defect report
03 Committee stage	Development and acceptance of CD	Development and acceptance of PDAM		Development and acceptance of PDTR	Development and acceptance of PDTS	Development and acceptance of DCOR
04 Enquiry stage	Development and acceptance of DIS	Development and acceptance of DAM	Development and acceptance of DIS	Approval of DTR	Approval of DTS	
05 Approval stage	Approval of FDIS	Approval of FDAM	Approval of FDIS			
06 Publication stage	Publication of IS	Publication of Amendment	Publication of IS	Publication of Technical Report	Publication of Technical Specification	Publication of Technical Corrigendum

A proposal for a new work item can be initiated by a JTC 1 National Body, an SC, or a Category A Liaison. A standard format exists for a new work item proposal (NP). An NP is circulated for a three-month letter ballot at the JTC 1 level or, if initiated by a Subcommittee, a letter ballot at the Subcommittee level and a simultaneous comment period at the JTC 1 level. If approved, the NP is added to the JTC 1 program of work and assigned to an SC for development.

Working Drafts are texts being developed for an International Standard (IS), an amendment to an International Standard, a Technical Specification (TS) or a Technical Report (TR). When the work reaches a state of maturity as determined by the SC[2], it is registered as a Committee Draft (CD), a Proposed Draft Amendment (PDAM), a Proposed Draft Technical Report (PDTR) or a Proposed Draft Technical Specification (PDTS). It is circulated for letter ballot at the SC level. The ballot period is normally three months but can be extended up to six months.

The results of the ballot, including all comments, are distributed by the SC secretariat in a Summary of Voting document. All comments must be addressed. If the comments are straightforward, they may be addressed by the editor. In more complex situations, an editing meeting is held to resolve the comments. The editor then prepares the text and a Disposition of Comments report and forwards these to the SC secretariat. If the changes are substantive, a second CD, PDAM, or PDTR ballot is required. The same procedure described above is used for the ballot and to handle the ballot results.

[2] This determination is done either by adoption of a Resolution at an SC meeting or by a three-month registration ballot at the SC level.



NOTE – The stage illustrated as DIS equally applies to DAM, DTR or DTS; similarly, the stage illustrated as FDIS equally applies to FDAM.

Figure 3c – Final stages of the JTC 1 approval process

When the Subcommittee considers the text to be stable and declares that the next ballot is intended to be the enquiry stage (DIS DAM, DTR or DTS ballot), the text is registered as a Draft International Standard (DIS), Draft Amendment (DAM), Draft Technical Report (DTR) or Draft Technical Specification (DTS). Following a two-month translation period, DISs and DAMs are circulated for a three-month letter ballot by ISO and IEC members. DTRs and DTSs are circulated for a three-month (can be extended to six months) letter ballot at the JTC 1 level. The results of the ballot, including all comments, are communicated to the SC secretariat who decides, together with the SC Chairman and the Editing group to either (if the ballot was successful) register the standard as FDIS (respectively as FDAM) or (if successful and no negative comments were received) proceed directly to publication or (if not approved) that a second DIS or DAM ballot is required.

The same procedure as described above is used to process the ballot comments. When the text has been finalized, the editor sends it, along with the Disposition of Comments report, to the SC secretariat. The SC secretariat sends the text of the FDIS, or second DIS if so decided (or FDAM or second DAM if so decided) to the ITTF. Unless a second DIS (or a second DAM) is required the ITTF circulates the final text for a two-month letter ballot to National Bodies of ISO and IEC members. This is a "Yes/No" ballot. If the ballot is successful, the text will be promptly published (only obvious editorial corrections will be made in the publication). If unsuccessful, the text may be resubmitted as a CD, DIS or FDIS (respectively PDAM, DAM or FDAM), or published as Technical Specification. For Technical Reports or Technical Publications, no additional balloting is required and the SC secretariat sends the text to the ITTF for publication.

·Should the enquiry draft be successful without negative votes, the text may proceed directly to publication.

Defects discovered after publication are handled by a formal defect report process. A special group of nominated experts reviews the material along with any proposed solution. The result of this process is a three month DCOR letter ballot at the SC level. Such defects are normally corrected by the publication of a Technical Corrigendum.

All along the way, the WG and SC oversee the process. In many cases authorization to pass to the next step are contained in Resolutions formally approved at SC meetings.

4 Modes of cooperation

4.1 Introduction

Cooperation between the ITU-T and ISO/IEC JTC 1 spans many levels. The most basic, of course, is the recognition of the areas of work of the respective organizations.

The ITU-T, as one of the three Sectors of the International Telecommunication Union (ITU), has responsibilities for "studying technical, operating and tariff questions and adopting recommendations on them with a view to standardizing telecommunications on a worldwide basis."[3] JTC 1, as a joint technical committee of ISO and IEC, has a scope of "standardization in the field of information technology."[4]

[3] Constitution of the International Telecommunication Union, 2006.
[4] JTC 1 Business Plan.

By far, the vast majority of the work program of the ITU-T and the work program of JTC 1 is carried out separately with little, if any, need for cooperation between the organizations.

For work programs where cooperation is desirable, appropriate arrangements exist between ISO, IEC and ITU-T to facilitate this cooperation. ISO and IEC each have a membership in the ITU-T as International Organizations. The ITU-T participates in the work of JTC 1 as a Category A Liaison organization. Several modes of cooperation have been defined as described below.

4.2 Liaison mode

Where there is interest in both organizations in an area of work but the prime responsibility falls to one of the two organizations, the liaison approach to cooperation is well suited. In this situation, the work is carried out in one organization and the other organization participates, as appropriate, using its liaison status. The result is published by one organization and is referenced, as needed, by the other organization.

In some situations of common interest, it may be appropriate to reach an agreement that would allocate the standardization of a particular area of work to one organization. One example where this has been done successfully is the interface between a data terminal and a modem. The agreement reached is that the ITU-T will standardize the electrical characteristics and functions of the interchange circuits and JTC 1 will standardize the interface connector and pin assignments. The necessary cooperation is achieved through liaison.

Clause 6 details the liaison procedures.

4.3 Collaboration mode

Where, for a given area of work, each organization plans to develop a Recommendation or International Standard, it may be best to mutually build consensus through collaboration. In this situation, meetings are held at the working level to develop common text, which is then approved using the normal approval process of each organization. The result is published as a Recommendation and an International Standard (or as a Supplement and a Technical Report).

Collaboration can be carried out in one of two ways: by means of Collaborative Interchange or by means of a Collaborative Team.

Collaboration by means of Collaborative Interchange is suited for situations where the work to be carried out is straight-forward and relatively non-controversial, and where there is sufficient common participation in the meetings of the two organizations to make the interchange highly effective. The work on resolving issues and developing common text is continually progressed in the successive meetings of the two groups. Synchronization of the normal approval processes of both the ITU-T and JTC 1 is used leading to publication.

Clause 7 details the collaboration procedures when Collaborative Interchange is used.

Collaboration by means of a Collaborative Team is well suited for situations where extended dialog is necessary to develop solutions and reach consensus. In this situation, all interested parties participate together in a Collaborative Team to mutually progress the work, resolve issues, and develop common text. Synchronization of the normal approval processes of both the ITU-T and JTC 1 is used leading to publication.

Clause 8 details the collaboration procedures when a Collaborative Team is established.

When appropriate, the collaboration mode can also be used to produce twin text.

Collaboration at the international level will be greatly facilitated by effective coordination between ITU-T and JTC 1 delegates at the national level. The true basis of cooperation is dependent upon open sharing of information and the good will of all parties involved.

4.4 Determining the mode of cooperation

Figure 4 summarizes for a specific item of work the various relationships that could exist between the ITU-T and JTC 1.

The vast majority of the work programs of the ITU-T and JTC 1 are significantly separate so that they can be successfully carried out with little, if any, intercommunication.

Agreement for cooperation must be mutually recognized to be successful. Therefore, operation in the liaison mode or in one of the two collaboration modes for a given area of work must be an agreed decision of both organizations. This agreement is to be confirmed at the SG/SC level.

To maximize the effectiveness of resources and minimize duplication of effort, SGs and SCs should identify areas for collaborative work as early as possible in the development process. Normally as part of the development of a new work item proposal in JTC 1 and the development of a new or revised Question in the ITU-T, consideration is given to the need for interactions with other standards groups. If enough information is available at this stage, then, if appropriate, either the liaison mode or one of the collaboration modes can be proposed and agreement of the other organization sought.

It is possible for the mode of cooperation to change as the work progresses. For example, work could be initiated in one organization and, as a result of liaison, it could become recognized as integrally important to the other organization. At this point, agreement could be reached to advance all future work in a collaborative mode.

To facilitate overall cooperation, each Study Group should maintain a listing that identifies the Questions that are being studied in cooperation with JTC 1 and, for each Question, denotes both the mode of cooperation and the relevant JTC 1 project(s). Similarly, each JTC 1 SC should maintain a listing that identifies the projects that are being studied in cooperation with the ITU-T and, for each project, denotes both the mode of cooperation and the relevant ITU-T Question(s).

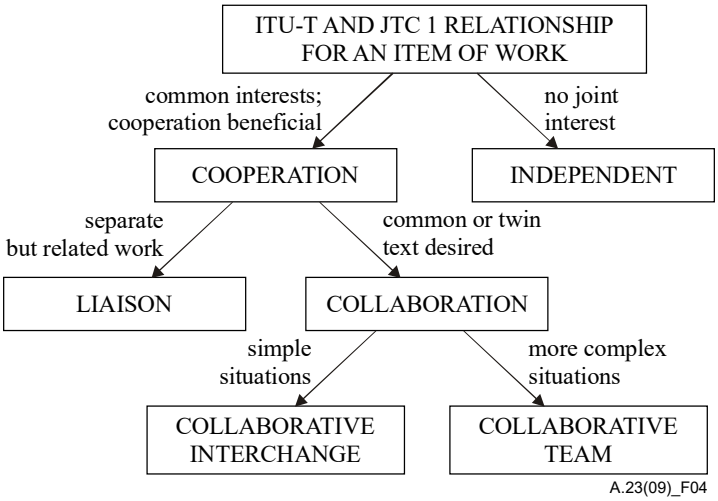


Figure 4 – Possible working relationships between ITU-T and JTC 1

4.5 Termination of collaboration and/or common text publication

As stated in 4.4, a collaborative relationship for a given area of work requires the agreement of both the SC and the SG to be initiated. It continues as long as both organizations feel collaboration is beneficial. In the unusual event that either organization feels that collaboration for a given area of work should be terminated, this situation shall be immediately discussed with the other organization. If satisfactory resolution cannot be obtained, then collaboration for the given area of work can be terminated at any time by either the SC or the SG. If termination should occur, both organizations can make use of the prior collaborative work.

Similarly, if an unusual circumstance should arise to indicate that publication of a collaborative Recommendation | International Standard in common text format is no longer desirable (e.g., because of substantial differences in content), this situation should be immediately discussed with the other organization. If after the consultation either organization determines that common text publication is not appropriate, then each organization can publish separately using its own publication format.

5 Planning and scheduling

Both the ITU-T and JTC 1 have their own multi-year planning activities. Interactions between these planning activities will facilitate effective ITU-T/JTC 1 cooperation.

5.1 Scheduling of SG/WP and SC/WG meetings

Schedules for ITU-T Study Group and Working Party meetings are established one to two years ahead and are quite difficult to change. Meetings of JTC 1 Subcommittees and Working Groups are typically scheduled two years in advance and are also quite difficult to change.

Where collaborative arrangements have been established, the ITU-T SG secretariats and the JTC 1 SC secretariats are responsible for keeping each other informed of meeting schedules. In particular, the SG and SC secretariats should consult each other before firming up their respective SG/WP and SC/WG meeting dates to avoid conflicts that would adversely affect cooperation.

5.2 Work program coordination

The ITU-T and JTC 1 both have requirements for formulating a work plan, including milestones, for each specific area of work. In JTC 1, the key milestones are dates for Working Draft, CD (or PDAM, PDTR or PDTS) ballot, DIS (or DAM, DTR or DTS) ballot, FDIS (or FDAM) ballot, and publication. In the ITU-T, the milestones include dates for SG or WP initiation of the approval process, availability of text for the consultation period (TAP) or Last Call (AAP), and Study Group approval of the Recommendation.

The efficiency of the collaborative process depends in large measure on the synchronization of the approval processes of both organizations. Early planning and establishment of milestones, taking into account key dates in each organization, is essential to achieving synchronization and avoiding added delay. For example, the dates for the DIS (or DAM, DTR or DTS) and FDIS (or FDAM) ballots need to take into account SC/WG meeting dates (for any necessary enabling Resolutions) and the schedule of the ITU-T SG/WP meeting where determination (TAP) or consent (AAP) is contemplated.

Figures 5a and 5b show the final phases of the overall synchronization plan leading to common text publication. In these figures, the stage illustrated as DIS equally applies to DAM, DTR or DTS; similarly, the stage illustrated as FDIS equally applies to FDAM.

The Fast Track process (see clause F.2 of the Consolidated JTC 1 Supplement, complemented by JTC 1 Standing Document 9) may also be used for JTC 1 approval where the fundamental work is done in the ITU-T (e.g., subjects for which JTC 1 has assigned maintenance responsibility to the ITU-T). It should however be noted that only full text ITU-T Recommendations and Supplements may be fast-tracked, not Amendments.

5.3 Synchronized maintenance of cooperative work

Approved collaborative Recommendations | International Standards need to be reviewed and maintained over time. This will require continuing collaborative effort.With the strong interdependence among the large number of information technology Recommendations and International Standards, it is recommended that maintenance updates be done in the same time-frame. This will significantly help to ensure that the work on information technology evolves as a cohesive whole. The review and any necessary updates should be done every four to five years.

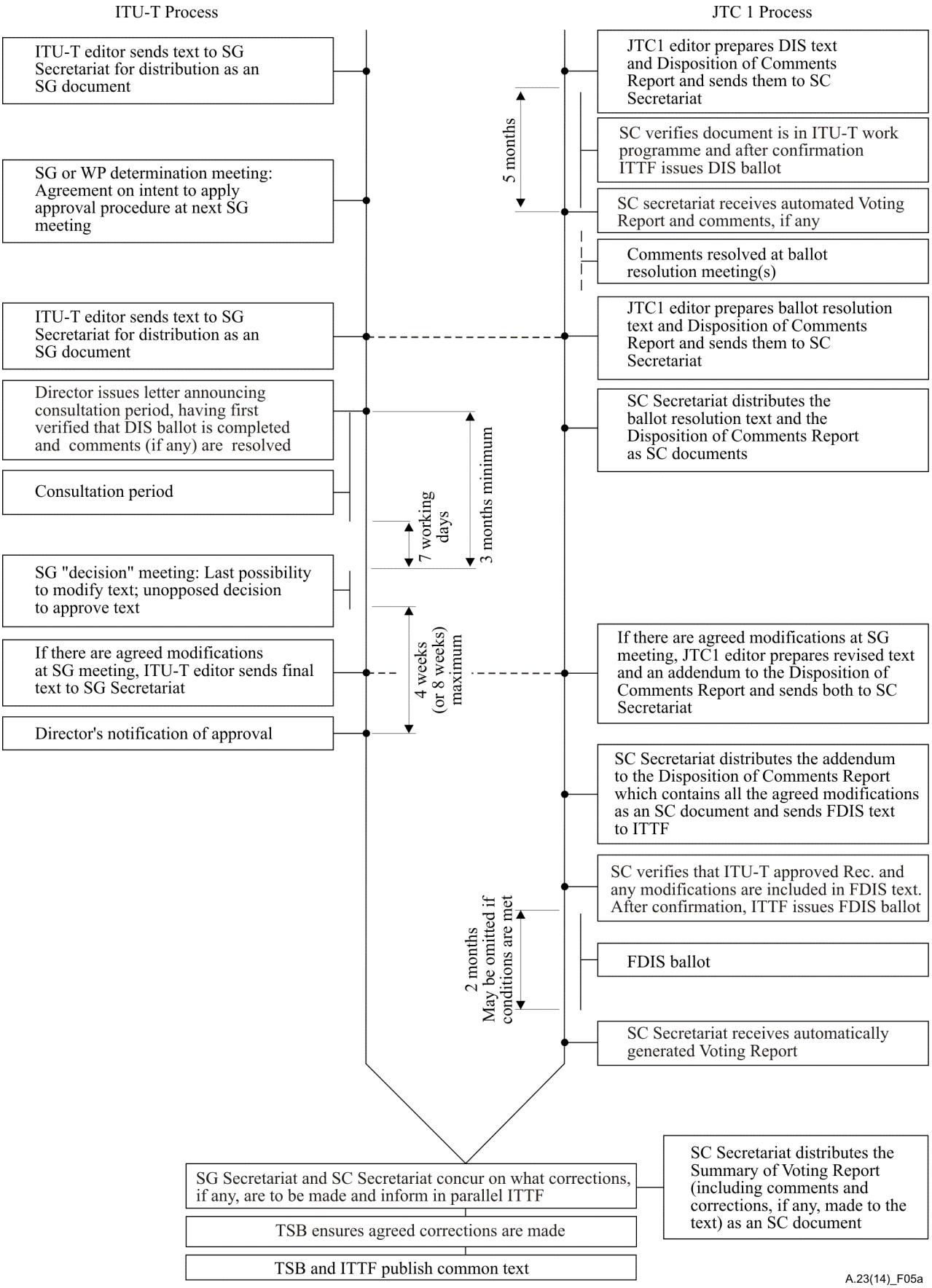


Figure 5a – Final stages of collaborative approval process when TAP is used

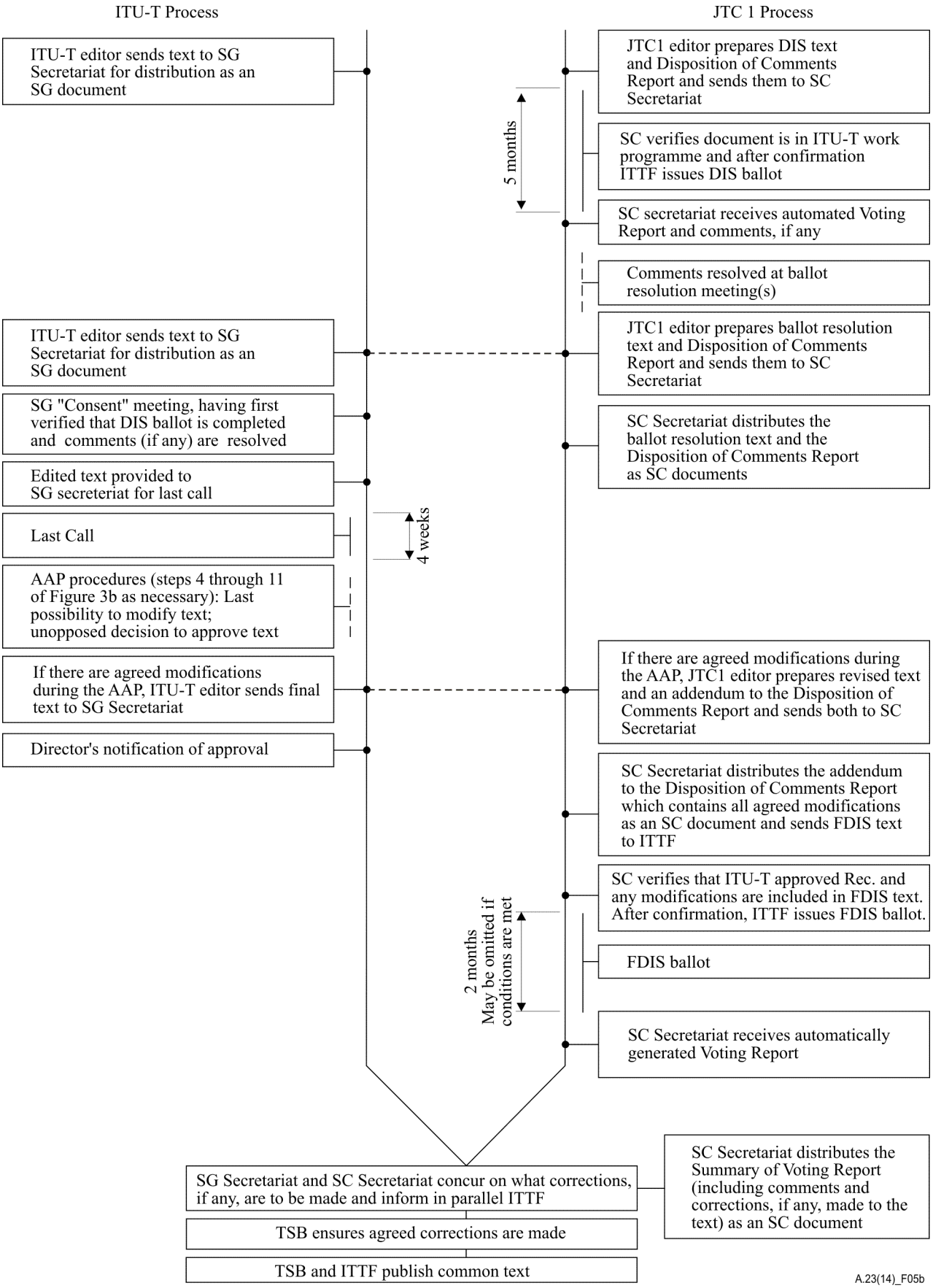


Figure 5b – Final stages of collaborative approval process when AAP is used

6 Liaison procedures

6.1 General

Liaison between organizations is an important means of communication that typically involves one or more of the following:

a) Interchange of general information of mutual interest;

b) Coordination of related work that is partitioned between the two groups; and

c) Comments on work that is the responsibility of the other group.

6.2 Liaison representation

Regardless of the mode of cooperation for a particular subject, all interactions at the Study Group/ Subcommittee (SG/SC) level and at the Working Party/Working Group (WP/WG) level are conducted using the liaison procedures. In particular, this applies to participation in each other's meetings and submission of contributions. For example, for an individual to represent JTC 1, an SC or a WG at an ITU-T Study Group or Working Party meeting, a letter from JTC 1, the SC, or the WG secretariat is necessary authorizing such representation. Likewise, for an individual to represent an ITU-T Study Group or Working Party at a JTC 1, SC or WG meeting, a letter from the ITU-T SG secretariat is necessary authorizing such representation.

Communication between Rapporteur Groups, between Collaborative Teams, and between a Rapporteur Group and a Collaborative Team is also done by liaison. Individuals attending a Rapporteur meeting in the ITU-T as an ISO/IEC liaison delegate and individuals attending a Rapporteur meeting in JTC 1 as an ITU-T liaison delegate should be officially approved by the respective SG/WP or SC/WG and confirmed with a letter of authorization from the secretariat.

Liaisons are most effective when they are prepared in written form (see 6.3 below) and when a knowledgeable liaison representative attends the meeting to present it and participate in any ensuing dialog. Individuals performing liaison responsibilities should have first-hand knowledge of the work being represented and should be familiar with the procedures of both organizations.

In most cases, liaison between two groups should be both ways. The same or different individuals can be used for the two directions of liaison.

6.3 Liaison contributions

Liaison contributions at the SG/SC level or at the WP/WG level are transmitted by the originating secretariat to the destination secretariat upon appropriate authorization. In exceptional circumstances due to close timing between meetings, liaison contributions may be hand carried by an authorized representative but must be followed by an official transmittal by the originating secretariat.

Liaison contributions at the Rapporteur level (i.e., those without a higher level of approval) are handled between the respective Rapporteurs. Each Rapporteur is responsible for ensuring appropriate distribution within their community of experts.

Liaison contributions must list as their source, the highest entity that approved the liaison. For example, if a liaison statement was developed by a Rapporteur group and subsequently approved by a WP and then the SG, the source would be the SG, indicating the highest stage of approval. It would be most helpful if, within the liaison contribution, the particular group that developed the liaison was indicated. The title of the liaison contribution should be descriptive of the subject matter. The liaison contribution should explicitly state its nature; e.g., whether it is for information, for comment, etc.

Liaison contributions to the ITU-T should contain the Question number. Contribution number 1 in each Study Group contains the Questions assigned to the Study Group by the WTSA. Liaison contributions to JTC 1 should contain the project number.

7 Collaboration using Collaborative Interchange

The basic concept of collaboration using Collaborative Interchange is to closely couple the development, consensus building, and ballot/comment resolution efforts of the two Working Level Groups in an efficient and effective manner to produce mutually agreed common text for one or more Recommendations | International Standards. Although the remainder of this section focuses on common text, development of twin text is also possible using Collaborative Interchange, in which case the approval processes do not require exact timing synchronization.

7.1 Collaborative relationship

Upon agreement by the JTC 1 Subcommittee and the ITU-T Study Group that a specific area of work is to be developed collaboratively using Collaborative Interchange, a collaborative relationship is established between the respective Working Level Groups of the two organizations.

The mutually agreed terms of reference for each Collaborative Interchange relationship should include:

- The scope of the effort as it relates to each organization's program of work (ITU-T Question and JTC 1 project). Where possible, it should include identification of the Recommendation(s) and International Standard(s) that are to be developed collaboratively.

- Any start-up provisions to accommodate work in progress. If the JTC 1 project has been submitted to ITTF for Draft International Standard processing, or if the ITU-T project has been consented for AAP Last Call (or determined for TAP consultation), the window to establish a Collaborative Team is considered as closed.

The Working Level Groups of the two organizations function using the procedures of their respective organizations, but with certain additional procedures, as described below, to facilitate closer collaboration in building consensus and synchronization of approvals leading to publication of common text.

Figure 6 provides a workflow diagram that identifies the various stages of the collaborative process from concept to final publication. Collaboration should also continue for the ongoing maintenance phase (see 7.11 and 7.12).

The terms of reference or mode of collaboration can be changed at any time by mutual agreement of the SG and SC. Procedures for terminating a collaborative relationship are covered in 4.5.

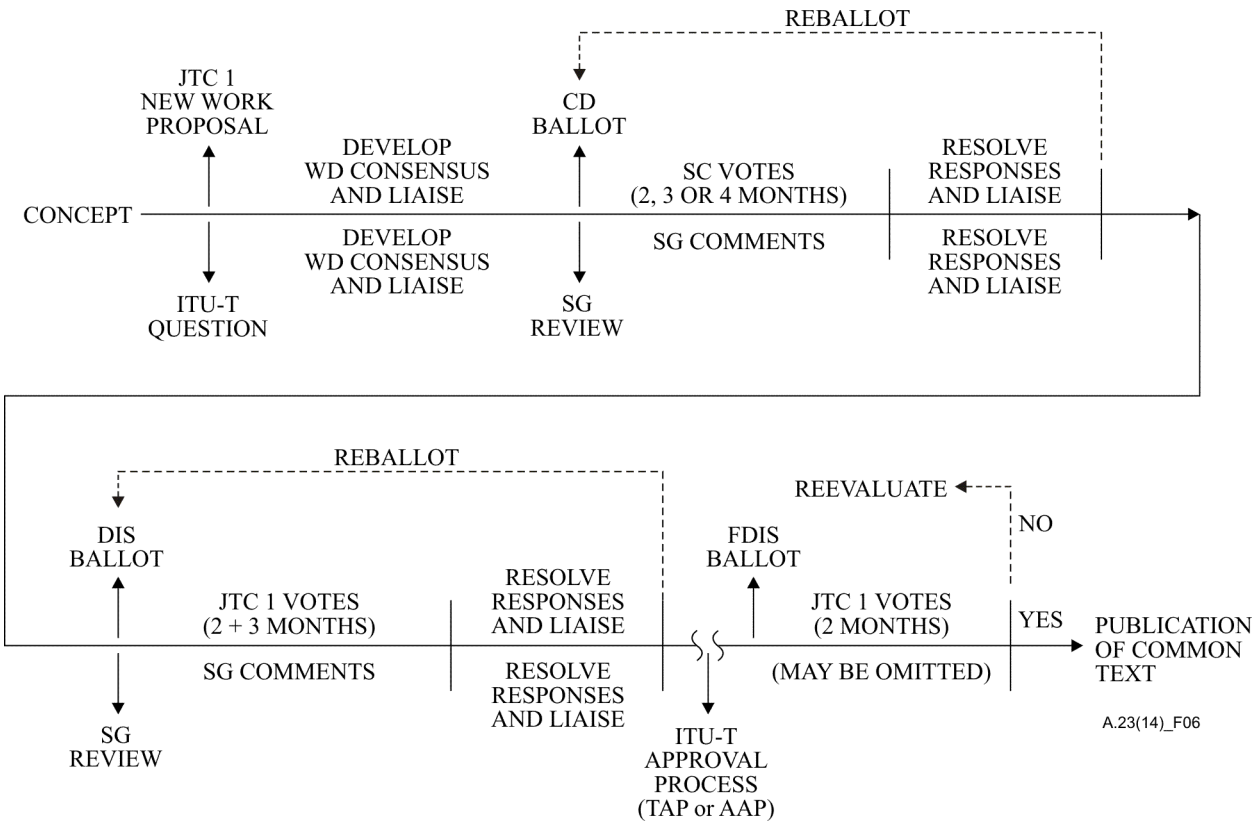


Figure 6 – Workflow diagram when Collaborative Interchange is used

7.2 Participation in working level meetings

Collaboration is facilitated if there is some significant degree of common participation by individuals in the working level meetings of both organizations.

Representation of one organization in a working level meeting of the other organization is achieved by means of liaison (see 6.2). Individuals attending meetings in a liaison capacity should be familiar with the procedures of the organization holding the meeting.

7.3 Scheduling

As the work matures, it is important that careful consideration be given to the scheduling of ballots to take into account the meeting schedule of the JTC 1 SC and WG (e.g., for any necessary resolution authorizing progression to ballot) and the ITU-T SG (e.g., for determination (TAP) or consent (AAP) step of the approval process) so that the necessary synchronization can take place in a timely manner.

7.4 Contributions

Contributions are handled by each Working Level Group according to the normal procedures of their organization. In addition, it is important that the results of analysis of contributions be passed promptly to the other Working Level Group.

7.5 Editor for common text

It is strongly recommended that the two Working Level Groups agree on a single Editor or set of Editors that will maintain the single master collaborative text. The draft text shall be prepared and maintained by the appointed Editor(s) according to the common format criteria agreed by the ISO/IEC and ITU-T secretariats (see the note in clause 1.3). The draft master collaborative text will be updated only when agreement to the specific text has been made by both groups.

Each iteration of the draft collaborative text shall be dated. Changes from the previous draft should be highlighted by change marks.

Appointed Editors will be responsible for the text through draft iterations and final submission to the secretariats for publication. The individuals selected for this task should make a commitment to continue the work to completion so that continuity can be maintained throughout the effort.

7.6 Achieving consensus

Close liaison is maintained during the development of draft documents, editing the draft texts, and resolution of ballots and comments to ensure that the views of all concerned are taken into account in building consensus. A synergy should emerge from the interaction of the two Working Level Groups. The conduct of the meetings should foster this spirit of cooperation.

Achieving consensus at each step of the process will be facilitated through cooperation of JTC 1 and ITU-T experts at their national level to provide consistent viewpoints.

In general, the intent is that the degree of consensus and the stability of the agreements will increase at each step of the collaborative process.

In rare cases, it may become apparent during the development of common text that one or more specific technical differences are necessary taking into account the needs of JTC 1 and ITU-T. All proposed differences should be carefully examined to ensure there is a legitimate need. When this is the case, the common text is to include the full technical material needed by each organization with wording that specifically identifies any text that is applicable only to one organization.

7.7 Progress reporting

Each Working Level Group is responsible for providing written reports of its meetings to its parent SG/WP or SC/WG following normal procedures. These reports should summarize the results of the meeting including agreements reached, areas identified for further study, the status of collaborative progress, and projected upcoming milestones (see 5.2).

These reports, or appropriate extracts, should be conveyed to the other Working Level Group using the normal liaison procedure. Meeting reports should contain sufficient information to enable the collaborative work to mutually progress in both organizations as effectively as possible.

7.8 Liaisons

It is important to ensure continuing coherence of work in the Information Technology area. Therefore, maintaining established liaisons with other activities and organizations that have been identified to have an appropriate relationship is essential to the success of the work. Meeting reports and drafts should be distributed and comments invited. Liaison organizations are also encouraged to provide contributions to the work. Liaison contributions and comments are considered additional views to facilitate the work and to identify other considerations.

Liaisons are handled in the normal manner by each organization. However, liaisons of common interest should be shared with the other Working Level Group.

7.9 Synchronized approval process

Each organization retains its individual procedures for approving the result of the collaboration work as International Standards and ITU-T Recommendations. Clause 3 presents the individual organization procedures and policies that are to be followed. The paragraphs below describe how these procedures are synchronized for the different stages of approval.

As outlined in 7.7 above, each Working Level Group keeps its parent informed of the progress of the collaborative work. When the work has progressed to a point where a schedule for synchronized approval can be established with a degree of confidence, it is important for the two Working Level Groups to jointly plan the specific steps, taking into account scheduled dates of the ITU-T SG and JTC 1 SC meetings. Figure 5 shows the necessary alignment that needs to be achieved between the two approval processes.

When the two Working Level Groups decide that the draft has reached a point of maturity and that the synchronized approval process should commence, each parent is advised of the decision.

For the first level of balloting on the JTC 1 side, the SC secretariat registers the Working Draft as a Committee Draft (CD), Proposed Draft Amendment (PDAM), Proposed Draft Technical Report (PDTR) or proposed Draft Technical Specification (PDTS), and distributes it for letter ballot to the National Bodies of the SC. The ballot period is two, three or four months. At the same time, the draft text is distributed to the ITU-T SG members for review and comment. ITU-T member comments should be provided within the same time period.

Responses from National Bodies to the CD, PDAM, PDTR or PDTS ballot are collected by the SC secretariat and distributed in a Summary of Voting Report. ITU-T members will comment by means of contributions to the SG. Both sets of responses are to be made available to each of the two Working Level Groups.

The two Working Level Groups should coordinate their efforts in resolving all received comments and drafting the revised text. If the changes are substantive, a second CD, PDAM, PDTR or PDTS ballot and comment period for ITU-T members will be necessary.

When the issues have been resolved to the satisfaction of both Working Level Groups, the draft will be elevated to the next level of approval. The document will be registered as a DIS or DAM and circulated for a three-month ballot (following a two-month translation period) by ITTF to the members of ISO and IEC. A DTR or DTS is circulated for a three to six month letter ballot at the JTC 1 level. At the same time the document will be submitted to the SG secretariat. The text will be circulated as an SG document for review and comment. ITU-T member comments should be provided within the same time period so that all responses can be considered together. Also during this time period, the ITTF and the TSB will review the text and submit their comments.

It is at this point where synchronization is critical. The first controlling factor is the date of the ITU-T SG or WP meeting where determination (TAP) or consent (AAP) is to be obtained. At this meeting, the text must be at the DIS, DAM or DTR level in ISO/IEC. The second controlling factor is that the DIS, DAM, DTR or DTS ballot resolution meeting must have produced the final text for ITU-T approval:

a) for TAP, by 4 months before the SG meeting where approval is to be obtained so that the TSB Director can issue a letter announcing the intent to approve the Recommendation at the upcoming SG meeting;

b) for AAP, by 2 months after the SG meeting where consent was obtained so that the TSB Director can announce the Last Call for approval of the Recommendation.

Responses from the DIS, DAM, DTR or DTS ballot are distributed in a Summary of Voting Report by the SC secretariat. ITU-T members will comment by means of contributions to the SG. Both sets of responses are to be made available to each of the two Working Level Groups.

NOTE – If an ITU-T Member State indicates a problem which would prevent approval or if a problem is indicated on the JTC 1 side which would delay approval (e.g., an unplanned second DIS ballot), this should be immediately conveyed to all concerned so that appropriate action can be taken and, if necessary, a new synchronized plan established.

The DIS, DAM, DTR or DTS ballot responses and the comments from ITU-T members will be considered at a ballot resolution meeting. With ITU-T participation, the group reviews and resolves the comments and negative ballots. If revisions are substantive, a second DIS, DAM, DTR or DTS ballot and comment period for ITU-T members will be required to affirm that all are in accord with the results.[5] This ballot and comment period is two to three months for DISs and DAMs, and is three months for DTRs and DTSs.

The DIS, DAM, or DTR ballot resolution meeting is extended to include the ITU-T approval process so that any needed changes/corrections resulting from review of the text can be mutually agreed[6]. With the text available, the appropriate ITU-T approval process (TAP or AAP) will be conducted. Immediately following ITU-T approval, the editor provides the final text along with the Disposition of Comments document to the SC secretariat. This initiates the two-month ballot of the FDIS or FDAM to National Bodies of ISO and IEC (there is no additional ballot for DTRs or DTSs). The FDIS ballot may be omitted if the DIS ballot was successful without any negative vote. This two-month letter ballot has only one of two possible outcomes: approval or rejection. If approval is not obtained from the ITU-T approval process or in response to the ISO/IEC letter ballot, the next action will be based on consultation between ISO/IEC JTC 1 and ITU-T, taking into account the specifics of the situation.

While the ISO/IEC letter ballot is being conducted, the ITTF and the TSB will work together to facilitate prompt publication.

7.10 Publication

The collaborative Recommendation | International Standard should be published as soon as practical after an affirmative response to the ISO/IEC FDIS ballot has been achieved. Note that, should the DIS ballot be successful without negative votes, the FDIS ballot may be omitted and the text may proceed as soon as practical to publication.

Care should be taken to ensure that there is a single master of the common text for each language that is used for publication.

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[5] A restart of the ITU-T approval process will normally be necessary if the SG meeting where approval is planned to take place (TAP) or Last Call announcement deadline date (AAP) occurs before the second ballot process will have been successfully completed.

[6] In the unlikely event that substantive changes are deemed necessary at this late stage, another JTC 1 ballot (and comment period for ITU-T members) will be required to affirm that all are in accord with the results. This ballot (and comment) period is five months (three months for DTRs). Approval on the ITU-T side would normally be delayed until after completion of the JTC 1 ballot.

7.11 Defects

The work is not necessarily completed at the stage of publication. While every effort has been taken to produce a quality document, experience has shown that defects may be found as the document is being applied to implementations. Therefore, there is need for an ongoing responsibility for dealing with Defect Reports.

It is critical that rapid correction of possible errors, omissions, inconsistencies, or ambiguities be performed collaboratively. The procedures for this important effort are outlined below.

7.11.1 Defect Review Groups

The JTC 1 SC and ITU-T SG should each appoint a Defect Review Group that will mutually collaborate in resolving defects. Each Defect Review Group should have a chairperson and be composed of nominated experts.

7.11.2 Submission of Defect Reports

Defect Reports may be submitted by ISO/IEC National Bodies, ITU-T members, liaison organizations, the responsible SG or any of its WPs, the responsible SC or any of its WGs, or by a member of either Defect Review Group. Appendix I provides the Defect Report form to be used. It is a modified version of the JTC 1 Defect Report form to encompass both JTC 1 and ITU-T information.

Defect Reports submitted to one organization should be immediately copied to the other organization. The JTC 1 WG secretariat will handle the administrative aspects.

The Defect Review Groups are responsible for maintaining an up-to-date list of all submitted Defect Reports and the status of each.

7.11.3 Procedures for resolving defects

The JTC 1 procedures for handling Defect Reports (see ISO/IEC Directives for JTC 1) are followed with modifications to encompass collaborative ITU-T and JTC 1 participation in the resolution of the defect.

When mutual agreement of the two Defect Review Groups has been obtained for a resolution of a defect, the appropriate approval procedures are initiated in the ITU-T and JTC 1.

If the resolution of a Defect Report results in a need to correct the text of a collaborative Recommendation | International Standard, then the Editor prepares a draft Technical Corrigendum and sends it to the SC secretariat and the SG secretariat. JTC 1 approval is obtained by means of a three-month SC ballot/JTC 1 comment period. ITU-T approval under TAP is obtained by the SG Chairman submission of the text to the TSB, announcement in the Director's letter followed by a three-month consultation period and approval at a SG meeting. ITU-T approval under AAP is obtained by consent at a SG or WP meeting followed by approval through the Last Call. The approved corrections are published in common text format as a Technical Corrigendum to the Recommendation | International Standard.

Alternatively, if the resolution of the Defect Report involves substantial change, then it is processed as an amendment using the procedures in 7.12.

The Editor for the Recommendation | International Standard will maintain an up-to-date copy of the complete integrated text, including all changes approved through the defect process.

7.12 Amendments

Further work is often identified as a result of the development process and as a result of changing technology and new operational requirements. Accordingly, there is an important need for amendments that provide expansions, enhancements, and updates to the basic provisions of the published Recommendation | International Standard.

The processing of amendments follows the same procedures as the original development beginning with the approval, if necessary, of an NP by JTC 1.

The Editor for the Recommendation | International Standard will maintain an up-to-date copy of the complete integrated text, including all changes approved through the amendment process.

8 Collaboration using a Collaborative Team

The basic concept of collaboration using a collaborative team is to perform all development, consensus building, and ballot/comment resolution in common meetings to produce mutually agreed common text for one or more Recommendations | International Standards. Although the remainder of this section focuses on common text, development of twin text is also possible using a Collaborative Team.

8.1 Collaborative Team

Upon agreement by the ISO/IEC JTC 1 Subcommittee and the ITU-T Study Group that a specific area of work is to be developed collaboratively in common meetings, a Collaborative Team (CT) is established with participants from both organizations.

The mutually agreed terms of reference for each Collaborative Team should include:

- The scope of the effort as it relates to each organization's program of work (ITU-T Question and JTC 1 project). Where possible, it should include identification of Recommendation(s) and International Standard(s) that are to be developed collaboratively.
- The parent body in each organization to which the CT is to directly report (i.e., SG or WP, and SC or WG).
- Any reporting or tracking provisions beyond those specified in 8.7.

- Any start-up provisions to accommodate work in progress. If the JTC 1 project has been submitted to ITTF for Draft International Standard processing, or if the ITU-T project has been consented for AAP Last Call (or determined for TAP consultation), the window to establish a Collaborative Team is considered as closed.

The CT uses the procedures detailed below to build consensus and to achieve synchronization of approvals leading to publication of common text.

Figure 7 provides a workflow diagram that identifies the various stages of the collaborative process from concept to final publication. Collaboration can also continue for the ongoing maintenance phase (see 8.11 and 8.12).

The terms of reference or mode of collaboration can be changed at any time by mutual agreement of the SG and SC. Procedures for terminating a collaborative relationship are covered in 4.5.

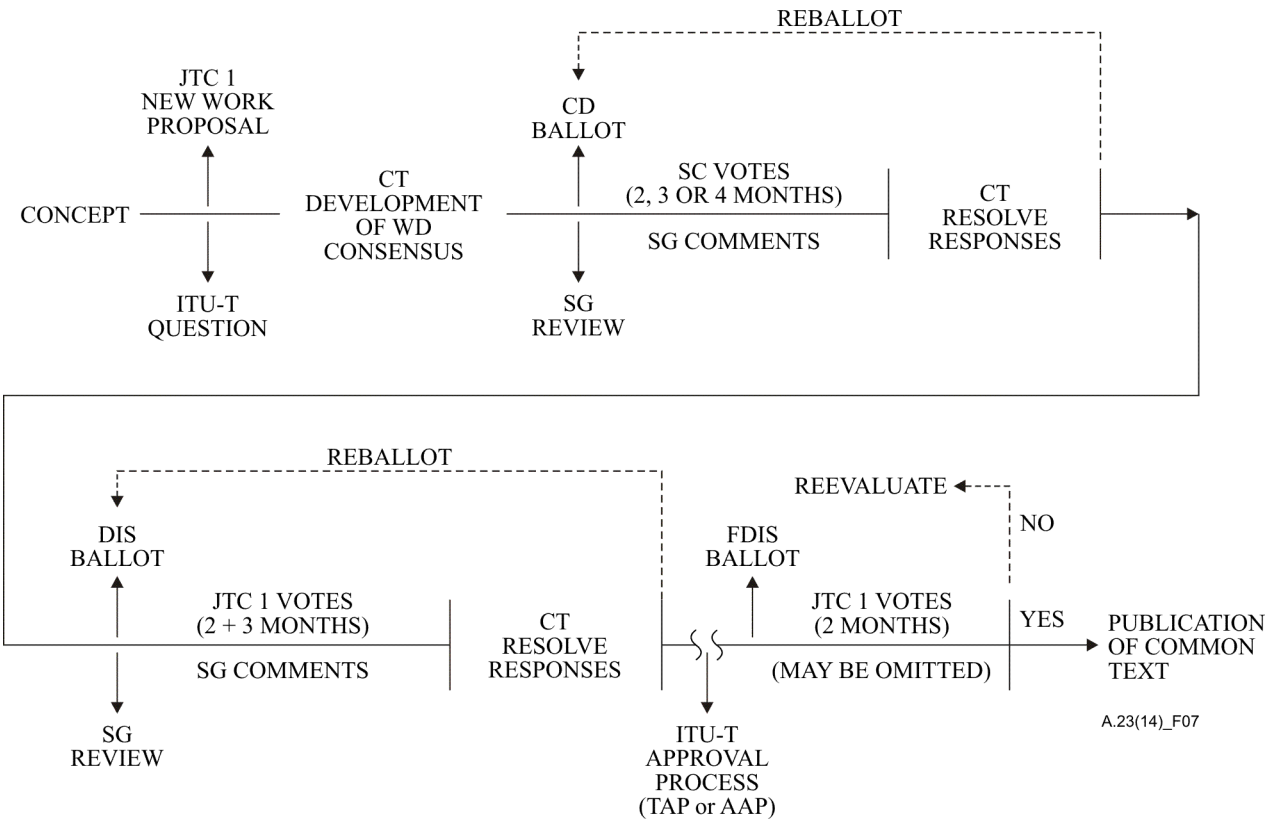

Figure 7 – Workflow diagram when Collaborative Team is used

8.2 Convenor(s) and Editor(s)

The CT will have either a single Convenor agreed upon by the JTC 1 SC and the ITU-T SG, or co-Convenors, one appointed by each organization (JTC 1 SC and ITU-T SG). In the case of co-Convenors, the chairing of meetings can be on a rotational basis or as otherwise agreed by the CT.

Administrative support is the responsibility of the CT Convenor(s) and participating members.

A single Editor or set of Editors shall be appointed to produce and maintain the single master collaborative text during the development and approval process. The draft text shall be prepared and maintained by the appointed Editor(s) according to the common format criteria agreed by the ISO/IEC and ITU-T secretariats (see the note in clause 1.3). Each iteration of the draft collaborative text shall be dated. Changes from the previous draft should be highlighted by change marks.

Appointed Editors will be responsible for the text through draft iterations and final submission to the secretariats for publication. The individuals selected for this task should make a commitment to continue the work to completion so that continuity can be maintained throughout the effort.

8.3 Participants

Eligibility for attendance at a CT meeting is determined by the requirements of the two organizations.

8.4 Meetings

Each CT meeting must be properly scheduled in advance. The CT is responsible for making its own meeting arrangements and schedule, subject to agreement by the SG and SC. Generally, hosts for CT meetings should alternate between JTC 1 and ITU-T organizations, but they may also be cooperatively hosted with appropriate agreement. CT meetings should be scheduled at the same location and time as the respective JTC 1 SC/WG or ITU-T SG/WP meetings although meetings may also be scheduled at other times and locations. The CT is permitted to meet during a CD/PDAM or DIS/DAM ballot/comment period to pursue its work program but the CT shall not discuss during these periods the material under ballot (see 8.9).

The Convenor(s) of the CT shall maintain a mailing list of all individuals desiring to be informed about meetings of the CT. Meeting notices and agenda shall respect the deadlines of both JTC 1 and ITU-T (e.g., in JTC 1, working group meeting agendas shall be distributed preferably four months but no less than three months before the meeting starting date; in ITU-T, a convening letter for rapporteur meetings is posted, normally at least two months prior to the meeting, on the study group webpage) and shall properly identify the meeting as one of both JTC 1 and ITU-T. The meeting notice and agenda must be sent to the JTC 1 SC secretariat (for distribution to National Bodies of the SC) and to the ITU-T SG secretariat (for posting). Each agenda must provide a list of documents to be considered, which will include previous meeting reports and input contributions (see 8.5).

8.5 Contributions

Contributions to the work of the CT provide proposed concepts and text, comments on working drafts, and editorial and technical revisions to the work. Contributions may be provided by JTC 1/SC National Bodies, ITU-T members, recognized liaison organizations, and individual experts who are accredited participants in the CT. Each contribution shall indicate its source and status (e.g., national position, working proposal, comments). Expert papers are to be given consideration as additional views during the development of working drafts, but contributions from JTC 1/SC National Bodies and ITU-T members will take precedence.

Documents to be considered at the meeting should be in the hands of the CT Convenor(s), or the SC or WG secretariat at least seven working days in advance. Late contributions will only be considered upon agreement by the meeting participants.

All contributions to the CT, regardless of their means of submittal, will be identified and maintained by the CT in a document register. The Convenor(s) of the CT shall maintain a mailing list of the CT participants and ensure timely distribution of contributions and meeting output documents to the experts. Meeting output documents are also sent to the JTC 1 SC or WG secretariat (for distribution to National Bodies of the SC) and to the SG secretariat (for distribution as SG documents). Meeting participants are encouraged to exchange documents directly to facilitate preparation for the meetings.

8.6 Achieving consensus

The functions of the CT meetings are three-fold: the development of draft texts, editing of draft texts, and resolution of ballots and comments. The CT meetings are only authorized to deal with the specific collaborative project/Question identified in the terms of reference of the CT.

Achieving consensus at each step of the process will be facilitated through cooperation of JTC 1 and ITU-T experts at their national level to provide consistent viewpoints.

In general, the intent is that the degree of consensus and the stability of the agreements will increase at each step of the collaborative process.

8.6.1 Development of draft text

In responding to the requirements of the designated JTC 1 project and ITU-T Question, the development of draft text should be a consensus building process. Typically, there are a diversity of contributions introduced during the development process. These should all be objectively considered in seeking a sound solution. A synergy should emerge from the interaction of the participating experts with their different perspectives. The conduct of meetings should foster this spirit of cooperation.

Balloting, or voting, by the CT during the development of working drafts is considered inappropriate in reaching a consensus and could be counter-productive. The CT consensus should be built through discussion, acceptance, compromise, and, if necessary, informal polling of delegates to sample the state of agreement. It would also be appropriate to record in meeting reports points of consensus as well as any specific reservations that meeting delegates have on particular issues.

Topics of concern to only the ITU-T or to only JTC 1 may be addressed by sub-group meetings held within the framework of the CT meeting.

In rare cases, it may become apparent during the development of common text that one or more specific technical differences are necessary taking into account the needs of JTC 1 and the ITU-T. All proposed differences should be carefully examined to ensure there is a legitimate need. When this is the case, the common text is to include the full technical material needed by each organization with wording that specifically identifies any text that is applicable only to one organization.

8.6.2 Editing drafts

Meeting time is often consumed with resolution of issues and development of agreements-in-principle, but there is insufficient time to develop complete text. The editing task can often be done more efficiently by an authorized smaller-sized meeting with a well-defined scope of work. The meeting will be chaired by an individual appointed by the CT.

The meeting will only be authorized to produce text for specifically identified issues and agreements. Any other technical issues that arise during the meeting must be referred back to the CT for resolution. The draft text that is produced by the meeting must be circulated to CT participants within four weeks of completion of the meeting.

8.6.3 Resolution of ballots and comments

The approval processes will be conducted according to the established procedures of each organization with the adaptation and synchronization described in 8.9. A Ballot/Comment Resolution Group should be convened as soon as practical (e.g., within ten weeks) after the close of the ballot/comment period to review and resolve the results. The group should be chaired by the CT Convenor or Editor.

The Ballot/Comment Resolution Group may be the CT. Alternatively, where the CT may be too large for effectiveness, the Ballot/Comment Resolution Group may be composed of the document editor(s), one primary representative for each National Body, and one primary representative for each country participating in the ITU-T SG. Primary representatives from the same country should, whenever possible, coordinate their positions for consistency. Additional representatives from JTC 1 and ITU-T may also be invited to attend as deemed necessary by the CT. Each primary representative should be authorized by its sponsoring organization to approve the handling of its comments by the group.

The purpose of a ballot/comment resolution meeting is to resolve as many of the negative ballots/comments as possible without invalidating any affirmative ballots/positions. The goal is to achieve agreements resulting in the greatest possible consensus. This can be done provided that all affected representatives are satisfied with the handling of the comments. If the ballot/comment resolution spans multiple meetings, it is important that continuity of representation be maintained through the complete process.

In the course of its work, the Ballot/Comment Resolution Group may uncover major technical issues. The resolution of such matters is beyond the scope of the group and must be referred back to the CT (or parent bodies) along with appropriate recommendations for resolution.

8.7 Progress reporting

The CT is responsible for providing written reports of each meeting to the sponsoring JTC 1 SC/WG and ITU-T SG/WP. These reports should summarize the results of the meeting including agreements reached, areas identified for further study, the status of collaborative progress, and projected upcoming milestones (see 5.2). Comments and/or instructions may be provided back to the CT from SG/WP and SC/WG meetings.

8.8 Liaisons

It is important to ensure continuing coherence of work in the Information Technology area. Therefore, maintaining established liaisons with other activities and organizations that have been identified to have an appropriate relationship is essential to the success of the work. Meeting reports and mature drafts should be distributed and comments invited. Liaison organizations are also encouraged to provide contributions to the work. Liaison contributions and comments are considered additional views to facilitate the work and to identify other considerations.

Liaison documents generated by the CT are conveyed to the SC secretariat and the SG secretariat for appropriate distribution.

8.9 Synchronized approval process

While the work of the CT accomplishes the joint work for the JTC 1 project and ITU-T Question to produce a single common text for both organizations to publish, each organization retains its individual procedures for approving the results of the collaborative work as International Standards and ITU-T Recommendations. Clause 3 presents the individual organization procedures and policies that are to be followed. The paragraphs below describe how these procedures specifically apply to the CT work and are synchronized for the different stages of approval.

As outlined in 8.7 above, the CT keeps each organization informed of the progress of its work. When the work has progressed to a point where a schedule for synchronized approval can be established with a degree of confidence, it is important for the CT to plan the specific steps, taking into account scheduled dates of the ITU-T SG and the JTC 1 SC meetings. Figure 5 shows the necessary alignment that needs to be achieved between the two approval processes.

When the CT decides that the draft has reached a point of maturity and that the synchronized approval process should commence, each parent is advised of the decision.

For the first level of balloting on the JTC 1 side, the SC secretariat registers the working draft as a Committee Draft (CD), Proposed Draft Amendment (PDAM), Proposed Draft Technical Report (PDTR) or Proposed Draft Technical Specification (PDTS), and distributes it for a letter ballot to the National Bodies of the SC. The ballot period is two, three or four months. At the same time, the working draft is distributed to the ITU-T SG members for review and comment. ITU-T member comments should be provided within the same time period so that all responses can be considered together.

Responses from National Bodies to the CD, PDAM, PDTR or PDTS ballot are collected by the SC secretariat and distributed in a Summary of Voting Report. ITU-T members will comment by means of contributions to the SG. Both sets of responses are given to the CT.

The SC ballot responses and the comments from ITU-T members are handled by the Ballot/Comment Resolution Group (see 8.6.3). Every effort should be made to resolve all issues. If the changes are substantive, a second CD, PDAM, PDTR or PDTS ballot and comment period for ITU-T members will be necessary. As with the first ballot/comment, the results will be referred to the Ballot/Comment Resolution Group for action.

When the issues have been satisfactorily resolved, the draft will be elevated to the next level of approval. The document will be registered as a DIS or DAM and circulated for a three-month ballot (following a two-month translation period) by ITTF to the National Bodies of ISO and IEC. A DTR or DTS is circulated for a three to six month letter ballot at the JTC 1 level. At the same time, the document will be submitted to the SG secretariat. The text will be circulated as a SG document for review and comment. ITU-T members should also provide their comments within the same time period so that all responses can be considered together. Also during this time period, the ITTF and the TSB will review the text and submit their comments.

It is at this point where synchronization is critical. The first controlling factor is the date of the ITU-T SG or WP meeting where determination (TAP) or consent (AAP) is to be obtained. At this meeting, the text must be at the DIS, DAM, DTR or DTS level in ISO/IEC. The second controlling factor is that the DIS, DAM, DTR or DTS ballot resolution meeting must have produced the final text for ITU-T approval:

a) for TAP, by 4 months before the SG meeting where approval is to be obtained so that the TSB Director can issue a letter announcing the intent to approve the Recommendation at the upcoming SG meeting;

b) for AAP, by 2 months after the SG meeting where consent was obtained so that the TSB Director can announce the Last Call for approval of the Recommendation.

Responses to the DIS, DAM, DTR or DTS ballot are distributed in a Summary of Voting Report by the SC secretariat. ITU-T members will comment by means of contributions to the SG. Both sets of responses are given to the CT.

NOTE – If an ITU-T Member State indicates a problem which would prevent approval or if a problem is indicated on the JTC 1 side which would delay approval (e.g., an unplanned second DIS ballot), this should be immediately conveyed to all concerned so that appropriate action can be taken and, if necessary, a new synchronized plan established.

The DIS, DAM, DTR or DTS ballot responses and the comments from ITU-T members are handled by the Ballot/Comment Resolution Group. The group reviews and resolves the comments and negative ballots. If revisions are substantive, a second DIS, DAM, DTR or DTS ballot and comment period for ITU-T members will be required to affirm that all are in accord with the results[7]. This ballot and comment period is two to three months (three months for DTR or DTS).

The Ballot/Comment Resolution meeting is extended to include the ITU-T approval process so that any needed changes/corrections resulting from review of the text can be mutually agreed[8]. With the text available, the appropriate ITU-T approval process (TAP or AAP) will be conducted. Immediately following ITU-T approval, the editor provides the final text along with the Disposition of Comments report to the SC secretariat. This initiates the two-month ballot of the FDIS or DAM to National Bodies of ISO and IEC (there is no additional ballot for DTRs or DTSs). The FDIS ballot may be omitted if the DIS ballot was successful without any negative vote. This two-month ballot has only one of two possible outcomes: approval or rejection. If approval is not obtained from the ITU-T approval process or in response to the ISO/IEC letter ballot, the next action will be based on consultation between ISO/IEC JTC 1 and the ITU-T, taking into account the specifics of the situation.

While the ISO/IEC letter ballot is being conducted, the ITTF and the TSB will work together to facilitate prompt publication.

8.10 Publication

The collaborative Recommendation | International Standard should be published as soon as practical after an affirmative response to the ISO/IEC FDIS ballot has been achieved. Note that, should the DIS ballot be successful without negative votes, the FDIS ballot may be omitted and the text may proceed as soon as practical to publication

Care should be taken to ensure that there is a single master of the common text for each language that is used for publication.

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7 A restart of the ITU-T approval process will normally be necessary if the SG meeting where approval is planned to take place (TAP) or Last Call announcement deadline date (AAP) occurs before the second ballot process will have been successfully completed.

8 In the unlikely event that substantive changes are deemed necessary at this late stage, another JTC 1 ballot (and comment period for ITU-T members) will be required to affirm that all are in accord with the results. Approval on the ITU-T side would normally be delayed until completion of the JTC 1 ballot.

8.11 Defects

The work is not necessarily completed at the stage of publication. While every effort has been taken to produce a quality document, experience has shown that defects may be found as the document is being applied to implementations. Therefore, there is a need for an ongoing responsibility for dealing with Defect Reports.

It is critical that rapid correction of possible errors, omissions, inconsistencies, or ambiguities be performed collaboratively. The procedures for this important effort are outlined below.

8.11.1 Defect Review Group

The CT may request the JTC 1 SC and the ITU-T SG to establish a collaborative Defect Review Group to be chaired by an appointed Editor. The group should consist of the experts nominated by the JTC 1 SC and the ITU-T SG.

8.11.2 Submission of Defect Reports

Defect Reports may be submitted by ISO/IEC National Bodies, ITU-T members, liaison organizations, the responsible SG or any of its WPs, the responsible SC or any of its WGs, or by a member of the Defect Review Group. Appendix I provides the Defect Report form to be used. It is a modified version of the JTC 1 Defect Report form to encompass both JTC 1 and ITU-T information.

Defect Reports submitted to one organization should be immediately copied to the other organization. The JTC 1 WG secretariat will handle the administrative aspects.

The Defect Review Group is responsible for maintaining an up-to-date list of all submitted Defect Reports and the status of each.

8.11.3 Procedures for resolving defects

The JTC 1 procedures for handling Defect Reports (see ISO/IEC Directives for JTC 1) are followed with modifications to encompass collaborative ITU-T and JTC 1 participation in the resolution of the defect.

When agreement is reached in the Defect Review Group for resolution of a defect, the appropriate approval procedures are initiated in the ITU-T and JTC 1.

If the resolution of a Defect Report results in a need to correct the text of a collaborative Recommendation | International Standard, then the Editor prepares a draft Technical Corrigendum and sends it to the SC secretariat and the SG secretariat. JTC 1 approval is obtained by means of a three-month SC ballot/JTC 1 comment period. ITU-T approval under TAP is obtained by the SG Chairman submission of the text to the TSB, announcement in a Director's letter followed by a consultation period and approval at a SG meeting. ITU-T approval under AAP is obtained by consent at a SG or WP meeting followed by approval through the Last Call. The approved corrections are published in common text format as a Technical Corrigendum to the Recommendation | International Standard.

Alternatively, if the resolution of the Defect Report involves substantial change, then it is processed as an amendment using the procedures in 8.12.

The Editor for the Recommendation | International Standard will maintain an up-to-date copy of the complete integrated text, including all changes approved through the defect process.

8.12 Amendments

Further work is often identified as a result of the development process and as a result of changing technology and new operational requirements. Accordingly, there is an important need for amendments that provide expansions, enhancements, and updates to the basic provisions of the published Recommendation | International Standard.

The processing of amendments follows the same procedures as the original development beginning with the approval, if necessary, of an NP by JTC 1. These may be considered as extensions to the original work by the same CT or may be considered as separate new work that requires the formation of a new CT.

The Editor for the Recommendation | International Standard will maintain an up-to-date copy of the complete integrated text, including all changes approved through the amendment process.

9 Recognition of cooperation

The cooperation between the ITU-T and JTC 1 has resulted in the development of a large and growing set of related Recommendations and International Standards. It is valuable that users perceive these results as a cohesive whole. The common text format (see the note in clause 1.3) facilitates this view. Another important area where cohesiveness can be shown is with respect to previously completed collaborative work that resulted in technically aligned text published separately with "house-style" differences. When these so-called "twins" are to be updated and/or republished, it is recommended that they be converted to the common text format.

If, during a transition period, any of these "twin" Recommendations or International Standards will be updated but not in the common text format, attention should be given to the following means to reinforce the cooperation and cohesiveness of the development effort:

a) Include a footnote from the title of the ITU-T Recommendation that notes the collaborative nature of the work, gives the title of the "twin" ISO/IEC International Standard, and states the degree of technical alignment (for examples, see the ITU-T X.200-series of Recommendations);

b) Include text in the Foreword of the International Standard that notes the collaborative nature of the work, gives the title of the "twin" ITU-T Recommendation, and states the degree of technical alignment;

c) If in the Reference section of a Recommendation there is a reference to an ITU-T Recommendation that has a "twin" International Standard, then include in parentheses a reference to the twin (or use the format mentioned as a note in clause 1.3);

d) If in the Normative References clause of an International Standard there is a reference to an International Standard that has a "twin" Recommendation, then include in parentheses a reference to the twin (or use the format mentioned as a note in clause 1.3); and

e) If there are technical differences between a Recommendation and an International Standard, then include an Appendix/Annex in both documents that summarizes the differences.

A third important area involves the large number of Recommendations and International Standards that exist only in one organization, but make use of and reference Recommendations and International Standards that were developed collaboratively. In this situation, the spirit of cooperation can be communicated by ensuring that references are given to documents of both organizations [see items c) and d) above]. To facilitate this referencing, the TSB and the ITTF will maintain a listing of all collaborative Recommendations and International Standards.

10 Applying the Common Patent Policy for ITU-T/ITU-R/ISO/IEC

Information pertaining to the common patent policy for ITU-T/ITU-R/ISO/IEC is available at http://itu.int/en/ITU-T/ipr and in the ISO/IEC Directives, Part 1:2013, and Part 2:2011, Annex I (Appendix I).

For a common text or twin text Recommendation | International Standard, entities are to follow this common patent policy and submit patent statements, as appropriate, to all three organizations.

Appendix I
(to Recommendation ITU-T A.23)

Defect report form

Defect report

The submitter of a defect report shall complete items 2 to 4 and 7 to 10 and, optionally, item 11 and shall send the form to the convener or secretariat of the WG with which the relevant editor's group is associated. The WG convener or secretariat shall complete items 1, 5 and 6.

1	**Defect Report Number**:
2	**Submitter**:
3	**Addressed to**: JTC 1/SC ____/WG ____ ITU-T SG____/WP____/Q.____
4	**WG secretariat**:
5	**Date circulated by WG secretariat**:
6	**Deadline on response from editor**:
7	**Defect Report concerning** (number and title of ITU-T Recommendation | International Standard):
8	**Qualifier** (e.g., error, omission, clarification required):
9	**References in document** (e.g., page, clause, figure and/or table numbers):
10	**Nature of defect** (complete, concise explanation of the perceived problem):
11	**Solution proposed by the submitter** (optional):
12	**Editor's response**:

Appendix II
(to Recommendation ITU-T A.23)

Best practices

(This appendix does not form an integral part of this Recommendation.)

This appendix contains best practices to be used when applying Annex A to the cooperation between ITU-T and ISO/IEC JTC 1.

II.1 Choosing meeting dates

When a text is developed jointly (as a common text or as a twin text, using a Collaborative Team or by Collaborative Interchange) between an ITU-T study group and a JTC 1 subcommittee, it is recommended that the dates of the ITU-T study group and JTC 1 subcommittee meetings (in particular plenary meetings, but also interim meetings) be discussed between both parties and agreed in advance as conveniently as possible (see also clauses 5.1, 7.2 and 8.4 of Annex A).

This is particularly relevant when the draft document is reaching a stable state and is planned for AAP consent or TAP determination in ITU-T, or for DIS ballot in JTC 1.

It is also useful for meetings of Working Level Groups (see clause 1.5.3.5 of Annex A) to ensure that the other party has sufficient time to submit contributions or comments before the deadline.

II.2 Editing a common text

When an ITU-T study group and a JTC 1 subcommittee have agreed together to develop a common text, it is best practice that a unique file (master copy) is used to avoid ending up with two diverging versions of the same draft Recommendation | International Standard (see also clauses 7.5 and 8.2 of Annex A).

II.3 Resolving issues of coordination

Should there be any issue of collaboration between an ITU-T study group and a JTC 1 subcommittee for the establishment of a Collaborative Team or a Collaborative Interchange, or during the development of a common or twin text, it is best practice to inform the ITU-T liaison officer to JTC 1 and the JTC 1 liaison officer to ITU-T as soon as possible, so they could play a facilitator role attempting to resolve any issue.

II.4 Using handy names

It is best practice that a handy name or acronym is defined at the beginning of any collaborative project, to be the usual identification of the work and of the corresponding Recommendation and International Standard when referring to them.

It is also best practice to include the agreed handy name or acronym in the terms of reference of the Collaborative Team or Collaborative Interchange (see clauses 7.1 or 8.1 of Annex A) leading to either common text or twin text, and in the title of the resulting publication.

NOTE 1 – Examples of handy names are:

- HEVC (High efficiency video coding) for Recommendation ITU-T H.265 | ISO/IEC 23008-2.
- RMCP (Relayed multicast protocol) for Recommendation ITU-T X.603 | ISO/IEC 16512-1;
- VVC (Versatile video coding) for Recommendation ITU-T H.266 | ISO/IEC 23090-3.

NOTE 2 – Confusion should be avoided if the suggested handy name is already used by pre-existing implementations of the standard with different functionalities or if there is intellectual property rights associated with its use.

II.5 Synchronizing the appointment of a registration authority

When a joint project includes registration provisions (i.e., the assignment of an unambiguous name to an object in a way which makes the assignment available to interested parties), it is best practice to develop two different common (or twin) texts:

- The first text is the technical standard in which the objects to be registered are defined;
- The second text is the registration procedure standard which defines the procedure according to which the registration authority (i.e., the entity entitled and trusted to perform the registration service) works, and specifies its duties and obligations. The procedure standard also specifies an appeals procedure and a revocation procedure.

NOTE 1 – Annex H to [b-ISO/IEC Directives Part 1] provides guidance on how to write the procedure standard in JTC 1.

It is also best practice to follow the following process to ensure that the (same) registration authority is jointly appointed by the ITU-T study group and the JTC 1 sub-committee:

1. The selection process for the registration authority begins with a call for offers made by the ITU-T study group and by the JTC 1 sub-committee. The ITU-T study group and JTC 1 sub-committee ensures that each candidate is an acceptable legal entity according to the rules of each organization.
2. Once nominations have been received for the registration authority (and shared with the other organization), they are initially reviewed by the Collaborative Team (if one exists for the joint project), otherwise by the appropriate ITU-T study group or the appropriate JTC 1 sub-committee (whichever meets first), and a report is produced.
3. The report is discussed within the appropriate ITU-T study group or the appropriate JTC 1 sub-committee (whichever meets first) and presented for approval. Then it is sent as a liaison statement to the next plenary session of the other organization for ratification. It is expected that both plenary sessions reach the same conclusion and agree to nominate the same candidate; otherwise, the discrepancy is referred to each organization for further consideration.

4. Once all organizations have reached the same conclusion, the final approval and appointment of the registration authority follows the procedures of each organization.

NOTE 2 – Any discrepancies raised during the approval processes of the organizations are referred to their Chief Executive Officers (for ISO and IEC) and to the TSB Director (for ITU-T) for resolution.

Bibliography

[b-ISO/IEC Directives Part 1] ISO/IEC:2021, *Directives, Part 1 Procedures for the technical work – Consolidated ISO Supplement – Procedures specific to ISO*. https://www.iso.org/directives-and-policies.html

Recommendation ITU-T A.25

Generic procedures for incorporating text between ITU-T and other organizations

1 Scope

This Recommendation provides generic procedures for incorporating (in whole or in part, with or without modification) the documents of other organizations (including consortia, forums, and national and regional standards development organizations) in ITU-T Recommendations (or other ITU-T documents) and provides guidance for other organizations on how to incorporate ITU-T Recommendations (or other ITU-T documents), in whole or in part, in their documents. These procedures are applied each time a proposal for incorporation is made.

The case of normatively referencing the documents of other organizations in ITU-T Recommendations is addressed in [ITU-T A.5].

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[ITU-T A.5] Recommendation ITU-T A.1 (2019), *Working Methods for Study Groups of the ITU Telecommunication Standardization Sector (ITU-T)*.

[PP Res. 66] Plenipotentiary Conference Resolution 66 (Rev. Dubai, 2018), *Documents and publication of the Union*.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

3.1.1 approved document [ITU-T A.5]: An official output (such as a standard, a specification, an implementation agreement, etc.) which has been formally approved by an organization.

3.1.2 non-normative reference [ITU-T A.5]: The whole or parts of a document where the referenced document has been used as supplementary information in the preparation of the Recommendation or to assist the understanding or use of the Recommendation, and to which conformance is not necessary.

3.1.3 normative reference [b-ITU-T A.1]: The whole or parts of another document where the referenced document contains provisions which, through reference to it, constitute provisions to the referring document.

3.2 Terms defined in this Recommendation

This Recommendation defines the following term:

3.2.1 draft document: An output from an organization, which is still in draft form.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

TSB Telecommunication Standardization Bureau

5 Conventions

None.

6 Generic procedures for incorporating text of other organizations in ITU-T documents

This clause addresses the process of incorporating text (in whole or in part) from another organization into an ITU-T document (see the diagram in Appendix I). This process is expected to be rarely used because ITU-T study groups are encouraged to rather use the normative reference process explained in [ITU-T A.5].

6.1 Process for incorporation

6.1.1 An ITU-T study group or ITU-T members may identify the need to specifically incorporate text (in whole or in part, with or without modification) from a draft or approved document from another organization within a draft ITU-T Recommendation (or another draft ITU-T document). The need to incorporate text may also be identified by the organization itself. ITU-T study groups are strongly encouraged to incorporate approved text rather than draft text from other organizations and, whenever possible, to incorporate text without modification.

6.1.2 Information to explain why incorporation was chosen over a normative reference should be provided in a TD (or a contribution), as outlined in clauses 6.1.2.1 to 6.1.2.10 (see also Appendix II).

6.1.2.1 Description of the referenced document (incl. full copy): A clear description of the document considered for incorporation (type of document, title, number, version, date, etc.). (See also clause 6.2.2.)

6.1.2.2 Status of approval: Incorporating text that has not yet been approved by the organization can lead to confusion; thus, incorporating is usually limited to approved documents. If absolutely necessary, incorporation of text from a draft document can be made where cooperative work requiring cross-incorporation is being approved by ITU-T and another organization in approximately the same time-frame.

6.1.2.3 Justification for the specific incorporation, including why it is inappropriate to reference the text in the draft ITU-T Recommendation (or other draft ITU-T document).

6.1.2.4 Intellectual property rights[1] (patents, copyrights for software or texts, marks) issues, if any, related and specific to the proposed text for incorporation: See clauses 6.2 and 6.3. Relevant documents should be attached.

6.1.2.5 Other information that might be useful in describing the "quality" of the document (e.g., whether products have been implemented using it, whether conformance requirements are clear, whether the specification is readily and widely available).

6.1.2.6 Degree of stability or maturity of the document (e.g., length of time it has existed).

6.1.2.7 Relationship with other existing or emerging documents.

6.1.2.8 List of normative references within the incorporated document: All normative references within the incorporated document should be listed (see also clause 6.2.2 c).

6.1.2.9 Qualification of the organization (per Annex B of [ITU-T A.5]): This needs to be done only the first time a document from the organization is being considered for incorporation, and only if such qualification information has not been already documented. Qualification of an organization is reviewed on a regular basis (any study group willing to incorporate a document from the organization may perform the review). In particular, if the patent policy of that organization has changed, it is important to check that the new patent policy is consistent with the Common Patent Policy for ITU-T/ITU-R/ISO/IEC and the Guidelines for the Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC.

NOTE – In case of a partnership project that is not a legal entity, qualification (per Annex B of [ITU-T A.5]) is required for each organization in the partnership project.

[1] See: https://www.itu.int/ipr.

6.1.2.10 Document maintenance process: Approved Recommendations need to be reviewed and maintained over time. This may require collaborative effort with the other organization. Depending on new agreements reached between the ITU-T study group and the other organization, new versions of the incorporated text can be produced by the ITU-T study group or by the other organization. Therefore, it shall be clarified if maintenance of the text is a shared responsibility between the ITU-T study group and the organization (see [b-ITU-T A.Sup5], in particular clause 10), or if the organization is responsible of producing new versions of the incorporated text.

6.1.3 As soon as the documents to be incorporated are received (see clause 6.2.2), they are made available, with the agreement of the study group chairman, and subject to the permission arrangements set out in clause 6.2 and to the copyright arrangements set out in clause 6.3, for advance consideration by the relevant group. They are issued, together with information about them (see clause 6.1.2), as a TD at a study group or working party meeting, normally at least one month before the start of the meeting at which the ITU-T Recommendation (or other ITU-T document) is planned for determination for TAP consultation, or consent for AAP last call (or agreement). When the other organization is responsible of producing new versions of the text (see clause 6.1.2.10), the draft resulting ITU-T Recommendation is notified by a circular at least three months before the start of the meeting at which the Recommendation is planned for determination for TAP consultation or consent for AAP last call.

6.1.4 The study group (or working party) evaluates this information (see clause 6.1.2) and decides whether to make the incorporation. The format for documenting the study group or working party decision is given in Appendix II.

6.1.5 When an ITU-T study group decides to incorporate text (in whole or in part, with or without modification) from another organization in its own document, it notifies the organization about the actions taken concerning this text. The use, acceptance or reproduction of such text by the ITU-T study group is subject to the permission arrangements set out in clause 6.2 and to the copyright arrangements set out in clause 6.3.

6.1.6 The resulting ITU-T Recommendation (or ITU-T document) shall identify the incorporated text, and shall provide a bibliographic reference to the document of the organization and to its particular version. In case the text of another organization is incorporated in whole and without modification, the bibliographic reference in the ITU-T Recommendation is followed by a note indicating that the referenced text is technically equivalent to the ITU-T Recommendation.

6.1.7 The cover sheet of the resulting ITU-T Recommendation will draw the attention of implementers to potential notices of intellectual property received by the other organization as they may also apply to the ITU-T Recommendation.

6.2 Permission arrangements

6.2.1 At the earliest possible moment (see clause 6.1.3), upon the request of the study group or working party, the Telecommunication Standardization Bureau (TSB) will ensure that the organization (or designated contact point for a joint collaboration arrangement – see clause 7.3 of [ITU-T A.5]) has provided a written statement in which it agrees to:

- the distribution of the material for discussions within the appropriate groups, and

- its possible use (in whole or in part, with or without modification) in any resulting ITU-T Recommendations (or other ITU-T documents) that are published (see [PP Res. 66]).

6.2.2 TSB will also get from the organization a full copy of the existing document, preferably in electronic format (see clause 6.1.3). No reformatting is necessary. The objective is to have referenced documents available via the web at no cost, so that the study group (or working party) may proceed with its evaluation. Accordingly, if a document to be incorporated in whole or in part is available in this manner, it is sufficient to provide its exact location on the web. The document should conform to the following criteria:

a) should contain no confidential information;

b) should indicate the source within the organization (e.g., committee, subcommittee, etc.);

c) should differentiate between normative references and non-normative references.

6.2.3 Should the organization decline to provide such statement or fail to do so, the incorporation shall not be made. In this case, the decision to incorporate the reference (according to [ITU-T A.5]) instead of the text shall be made by consensus.

6.3 Copyright arrangements

The subject of modifications to texts and arrangements for royalty-free copyright licences, including the right to sub-license, for texts accepted by ITU-T, is a matter to be agreed upon between TSB and the particular organization. However, the originating organization retains the copyright and change control for its texts, unless explicitly relinquished. (See also clauses 6.1.2.10, 6.1.6 and 6.2.1.)

7 Generic procedures for incorporating text of ITU-T documents in the documents of other organizations

Organizations are strongly encouraged to reference approved ITU-T documents as appropriate to progress their work. This clause addresses the process of incorporating text (in whole or in part, with or without modification) from an ITU-T document in a document of another organization. This process is expected to be rarely used.

7.1 Documents sent to other organizations

7.1.1 An organization may incorporate text (in whole or in part, with or without modification) from a draft or approved ITU-T Recommendation (or of other documents produced by ITU-T), as all or part of the text of its draft document. Organizations are strongly encouraged to incorporate approved text rather than draft text from ITU-T and, whenever possible, to incorporate text without modification.

7.1.2 When an organization decides to accept ITU-T text, it notifies TSB about the actions taken concerning this text. The use, acceptance or reproduction of such text by the qualified organization is subject to the permission arrangements set out in clause 7.2 and to the copyright arrangements set out in clause 7.3.

7.2 Permission arrangements

7.2.1 At the earliest possible moment, the organization will ensure that the TSB has provided a written statement that it agrees to the distribution of the material for discussions within the appropriate groups and possible use (in whole or in part, with or without modification) in any documents of the organization.

7.2.2 Should the ITU decline to provide such statement, or fails to do so, the incorporation shall not be made.

7.3 Copyright arrangements

The subject of modifications to texts and arrangements for royalty-free copyright licences, including the right to sub-license, for texts accepted by qualified organizations and their publishers and others, is a matter to be agreed upon between TSB and the particular organization. However, the ITU retains the copyright and change control for its texts, unless explicitly relinquished.

Appendix I

Workflow for incorporating text of another organization

(This appendix does not form an integral part of this Recommendation.)

Figure I.1 describes the workflow for incorporating text of another organization.

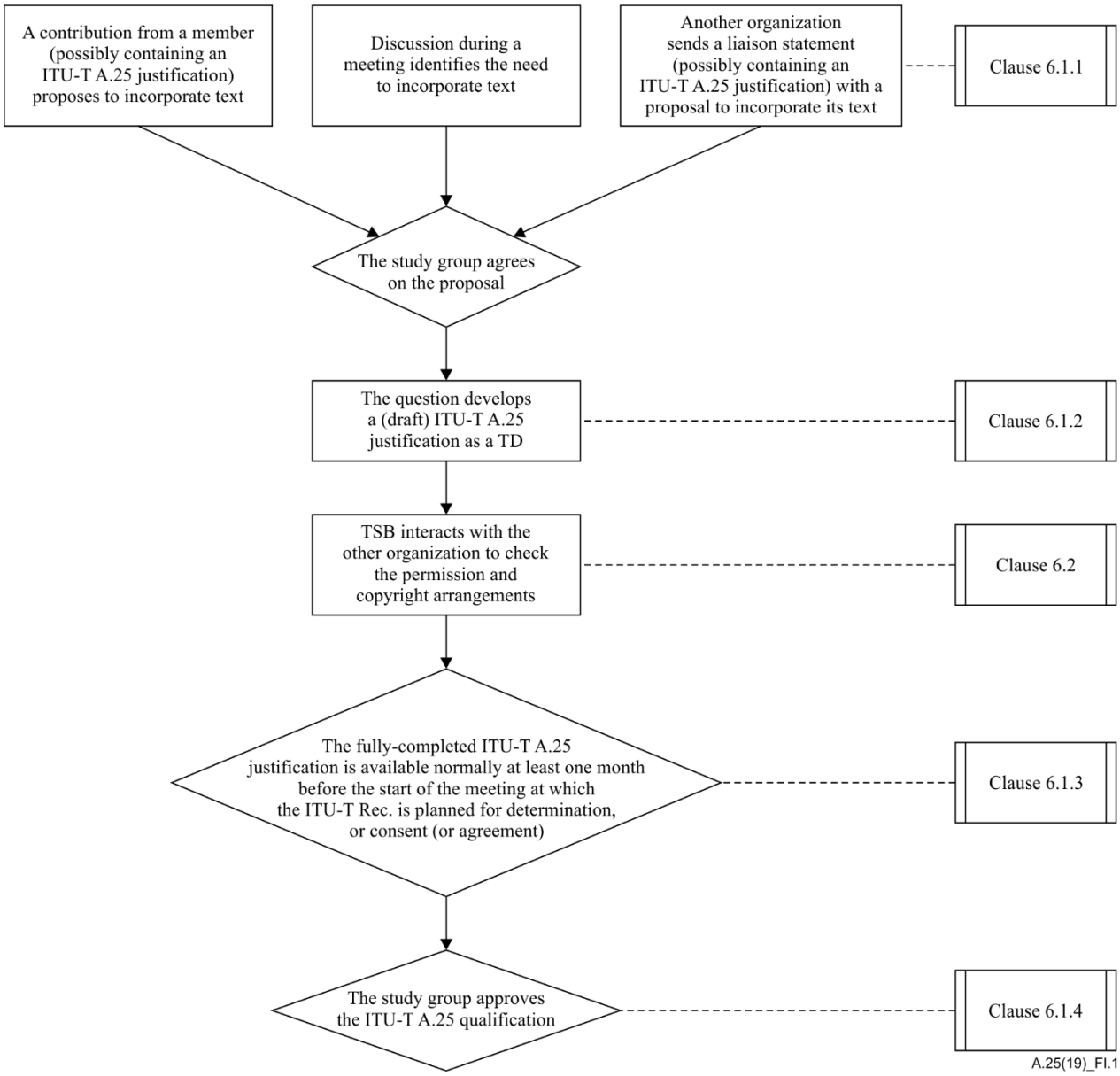

Figure I.1 – Workflow for incorporating text of another organization

Appendix II

Format for documenting a study group or working party decision

(This appendix does not form an integral part of this Recommendation.)

II.1 Description of the referenced document (incl. full copy)

[Insert clear description of the document considered for incorporation, e.g., type of document, title, number, version, date, etc.]

[Insert number of the TD containing the document or URL to the document on the website of the other organization]

NOTE – No reformatting is necessary. The objective is to have referenced documents available via the web at no cost, so that the study group (or working party) may proceed with its evaluation. Accordingly, if a document to be incorporated in whole or in part is available in this manner, it is sufficient to provide its exact location on the web. On the other hand, if the document is not available in this manner, a full copy must be provided (preferably in electronic format).

II.2 Status of approval

NOTE – Incorporating text that has not yet been approved by the organization can lead to confusion; thus, incorporating is usually limited to approved documents. If absolutely necessary, incorporation of text from a draft document can be made where cooperative work requiring cross-incorporation is being approved by ITU-T and another organization in approximately the same time-frame.

[Choose status of approval from the drop-down list]

II.3 Justification for the specific incorporation

[Insert justification, including why it is inappropriate to reference the text in the draft ITU-T Recommendation or other draft ITU-T document]

II.4 Intellectual property rights (patents, copyrights for software or text, marks) issues, if any, related to the proposed text for incorporation

[Insert current information, if any, about patents, copyrights for software or text, marks, etc. Relevant documents should be attached.]

II.5 Other information

[Insert other information that might be useful in describing the "quality" of the document, e.g., whether products have been implemented using it, whether conformance requirements are clear, whether the specification is readily and widely available]

II.6 Stability or maturity of the document

[Insert degree of stability or maturity, e.g., length of time it has existed]

II.7 Relationship with other existing or emerging documents

[Insert relationship]

II.8 List of normative references within the incorporated document

NOTE – When text from a document is to be incorporated in an ITU-T Recommendation, all normative references within the incorporated document should be listed. The document should differentiate between normative references and non-normative references.

[List all normative references]

II.9 Qualification of the organization (per Annex B of [ITU-T A.5])

NOTE – This needs to be done only the first time a document from the organization is being considered for incorporation, and only if such qualification information has not been already documented. Qualification of an organization is reviewed on a regular basis (any study group willing to incorporate a document from the organization may perform the review). In particular, if the patent policy of that organization has changed, it is important to check that the new patent policy is consistent with the Common Patent Policy for ITU-T/ITU-R/ISO/IEC and the Guidelines for the Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC. In case of a partnership project that is not a legal entity, qualification (per Annex B of [ITU-T A.5]) is required for each organization in the partnership project.

[Insert number of the TD containing the A.5 qualification of the organization if it is not yet qualified]

II.10 Document maintenance process

NOTE – Approved Recommendations need to be reviewed and maintained over time. This may require collaborative effort with the other organization. Depending on new agreements reached, new versions of the incorporated text can be produced by the ITU-T study group or by the other organization. Therefore, it shall be clarified if maintenance of the text is a shared responsibility between the ITU-T study group and the organization (see [b-ITU-T A.Sup5], in particular clause 10), or if the organization is responsible of producing new versions of the incorporated text.

[Describe the maintenance process]

Bibliography

[b-ITU-T A.1] Recommendation ITU-T A.1 (2019), *Working methods for study groups of the ITU Telecommunication Standardization Sector*.

[b-ITU-T A.Sup5] ITU-T A-series Recommendations – Supplement 5 (2016), *Guidelines for collaboration and exchange of information with other organizations*.

Recommendation ITU-T A.31

Guidelines and coordination requirements for the organization of ITU-T workshops and seminars

(2008)

1 Scope

This Recommendation provides guidelines and coordination requirements for the organization of workshops and seminars by ITU-T. These workshops and seminars aim for discussion and dissemination of the development of standards for worldwide implementation in telecommunications carried out by the study groups (SGs) of ITU-T.

2 References

The following ITU-T Recommendations and other references contain provisions that, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[ITU-T A.1] Recommendation ITU-T A.1 (2008), *Work methods for study groups of the ITU Telecommunication Standardization Sector (ITU-T)*.

3 Definitions

3.1 Terms defined elsewhere

None.

3.2 Terms defined in this Recommendation

This Recommendation defines the following terms:

3.2.1 seminar: The seminar is a primarily one-way format, focused on the dissemination of information, in what amounts to classroom-style format. Depending on the subject and/or audience, there may be a lesser or greater degree of participant interaction with the experts who are presenting.

3.2.2 workshop: The workshop environment is fundamentally a meeting of peers, gathered to discuss technical, implementation, industry, or strategic issues. Workshops can span a spectrum of styles, from highly technical events focusing on a single detailed issue, to broader gatherings intended to expose a wide spectrum of input and opinion.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

SC	Steering committee
SDO	Standards development organization
SGs	Study groups

5 Conventions

Terminologies and definitions throughout this Recommendation must be considered in accordance with the ITU-T ''Author's guide for drafting ITU-T Recommendations".

6 Choice of the proper event format

6.1 The format, scope and goals of each planned event must be determined at the start of the event-planning process, as these choices will determine the addressable target audience, and trigger the workshop or seminar notification and promotion process. The awareness of these nuances among different workshop and seminar events is relevant to appropriate event planning and, therefore, to consistent and successful results.

6.2 As a way forward to accomplish organization consistency and reach common understanding on the Sector's needs, and to facilitate cooperation and coordination in the organization of cross-Sector events, the above-mentioned standardized terminology (see clause 3) should be observed in order to cope with different characteristics of events within the Sector.

7 Event format specifics

7.1 Seminars

Seminars are most useful in sharing ITU-T vision and technical knowledge with new participants who have not previously been exposed to the scope, workings, or results of the ITU-T standardization process.

7.2 Workshops

Workshops are the preferred vehicle for demonstrations, technical issue resolution, and for the creation of specific deliverables (outputs). A workshop should have clear goals and a limited scope, setting and delivering upon well-defined expectations from the participants and workshop leaders.

8 Event coordination

Aiming at the improvement of the organization of ITU-T workshops and seminars, and coordination with the other two Sectors and the General Secretariat for the preparation, running and evaluation of workshops and seminars, four types of ITU-T workshops and seminars are defined, according to the distinct levels of coordination and the structures, scopes and goals each type requires.[1]

8.1 Study group strategy focused

8.1.1 These events are focused on a specific technical topic or standardization area.

8.1.2 The main objective is to review points of current development of technology, application and service.

8.1.3 In general, they gather information on standardization development in other standardization development organizations (SDOs).

8.1.4 They aim at in-depth discussion on the work programme of the SGs, that is, subsequent standardization projects, improvements in coordination or cooperation methods with other SDOs, etc.

8.1.5 The proposal for this type of workshop or seminar normally comes from the SG management teams and membership. Speakers are usually proposed and invited by internal experts.

8.1.6 Such events are in general collocated with SG meetings and the audience comprises mainly SG delegates and non-ITU-T members.

8.1.7 Some of these events are co-organized with the Telecommunication Development Bureau (BDT) to reply to WTSA Resolution 44 concerning the requirements to bridge the standardization gap.

8.1.8 These events have the following advantages:

a) they ensure that the workshop or seminar topic is closely relevant to SG work;

b) they are cost-effective in terms of organization, and avoid extra time/cost to SG delegates;

c) they have a guaranteed quantity and quality of participants; thus, a guaranteed quality of discussion.

[1] Some of the events defined in this Recommendation may have a mixed nature, such as dissemination of information and promotion.

8.2 Information focused

8.2.1 These events are focused on a new technology or emerging study area. By carrying them out, it is possible to review points of current development of technology, applications and services.

8.2.2 They are good opportunities for briefing SGs with information regarding standardization development in other SDOs.

8.2.3 The proposal for this type of workshop or seminar normally comes from the SG management teams and membership or from the technology watch function of TSB. Speakers are usually proposed and invited by internal experts.

8.2.4 Such events are in general collocated with SG meetings and the audience comprises mainly SG delegates.

8.2.5 These events have the following advantages:

a) they ensure that the workshop or seminar topic is closely relevant to SG work;

b) they are cost-effective in terms of organization, and avoid extra time/cost to SG delegates;

c) they have a guaranteed quantity and quality of participants; thus, a guaranteed quality of discussion;

d) they could bring new ideas and work topics to relevant SGs.

8.3 Tutorial focused

8.3.1 These events are focused on ITU-T SG ongoing work or published Recommendations. Topics are selected according to local interest.

8.3.2 The main goal is to disseminate ITU-T technical knowledge and to promote the products of the work on standardization.

8.3.3 They are often co-organized with and funded by BDT and targeted at developing countries.

8.3.4 ITU-T membership or BDT normally initiates this type of event and proposes topics of interest. The Telecommunication Standardization Bureau (TSB) informs and relies on the related SG management team to look for and identify qualified speakers.

8.4 Promotion focused

8.4.1 These events are closely linked to promotion activities held outside ITU in order to promote ITU-T work and demonstrate the extent to which ITU contributes in a specific technical area.

8.4.2 Though this type of event is mostly suggested by one or more SGs, with specific venue and date, it might not be collocated with the SG meeting but rather associated with a non-ITU industry event related to its study topic.

9 Event identification

Once the event format and coordination are properly identified, all related information shall be made available to the Steering Committee (SC), who will be responsible for revising and issuing general advice on the strategic coordination, planning, organization, programme, implementation, drawing and follow-up actions. This SC's task shall be taken according to clause 10 below.

10 Guidelines and coordination requirements for the organization of ITU-T workshops and seminars

An appropriate working party within the Telecommunication Standardization Advisory Group (TSAG) shall undertake the responsibility for all activities and tasks regarding the organization of ITU-T workshops and seminars. The following clauses indicate such duties, followed by those within ITU-T to assist TSAG in this undertaking.

10.1 Guidelines, results and exchange of experience

10.1.1 Study and provide conceptual and strategic guidelines for the preparation, running and evaluation of workshops and seminars.

Support: TSB.

10.1.2 Review the extent to which it is possible to follow the conceptual and strategic guidelines in the preparation, running and evaluation of each workshop or seminar.

Support: TSB.

10.1.3 Review the reports produced by each workshop or seminar that, *inter alia*, cover lessons learned and recommended follow-up actions. These reports should be produced no later than three months following the events. The reports should highlight the needs of developing countries, if any, and be disseminated as widely as possible.

Support: Study groups and TSB.

10.1.4 Contribute to the exchange of positive experience in the preparation, running and evaluation of the workshops and seminars.

Support: Study groups and TSB.

10.1.5 Encourage and evaluate the evolving implementation of the gender perspective in the programme of ITU-T workshops and seminars.

Support: TSB.

10.2 Coordination within ITU-T, and between ITU-T and the other two Sectors and the General Secretariat of ITU

10.2.1 Coordinate and assess the development of the ITU-T programme of workshops and seminars, taking into consideration budgetary implications and the needs of developing countries.

Support: TSB, in cooperation with BDT (e.g., ITU regional offices and centres of excellence), as applicable.

10.2.2 Coordinate and harmonize the programme of ITU-T workshops and seminars, in close cooperation with the other two Sectors and the General Secretariat of ITU.

Support: TSB, in cooperation with BDT, BR and the General Secretariat, as applicable.

10.2.3 Coordinate and harmonize the programme of ITU-T workshops and seminars, in order to optimize the participation of non-ITU-T members involved with technological innovation and technical change (e.g., academia, research organizations, and small and medium enterprises) in as many events as practicable.

Support: TSB.

10.2.4 Work in close cooperation with the study groups' management teams and TSB.

Support: TSB, in cooperation with BDT, as applicable.

10.2.5 Take into account relevant topics identified by the technology watch function of TSAG, in order to encourage the eventual organization of a workshop or seminar associated with them.

Support: TSB.

10.3 Coordination between ITU-T and relevant SDOs and regional organizations

Coordinate and harmonize the programme of ITU-T workshops and seminars, in close cooperation with relevant regional organizations.

Support: TSB.

10.4 Administrative nature

Provide a report on the activities addressed in clauses 10.1, 10.2 and 10.3, to each meeting of TSAG for consideration and appropriate action.

Support: TSB.

11 Basic requirements for the evaluation and follow-up actions of workshops and seminars

11.1 Depending consistently upon the use of information technology, ITU-T homepages are identified as a crucial item for improving the organization of workshops and seminars and giving valuable feedback to TSB and TSAG on current status. Therefore, the website is to be maintained by TSB, so that accurate information provided by workshop and seminar organizers and the SC is made public on the Internet to all interested parties.

11.2 The website shall provide a range of functionalities, including immediate access to past, current and forthcoming events. Data on events is to be shown in a standardized format and is to include the following basic requirements for the evaluation and follow-up actions of ITU-T workshops and seminars, as exemplified in Table 1:

- Title
- Place
- Start date
- End date
- Basic information
    - Contact
    - Invitation
    - Programme
    - Steering committee
    - Sponsorship
    - Introduction
    - Objective
- Type
    - Event format
    - Event coordination
- Content
    - Abstract
    - Presentations
    - Biography
- Report
- List of participants

Table 1 – Format of information for the evaluation and follow-up actions of workshops and seminars

Item	Title	Place	Start date	End date	Basic information							Type	Content			Report ****	List of participants
					Contact	Invitation*	Programme	Steering **	Sponsorshi	Introductio	Objective		Abstract	Presentatio	Biography		
#	<name of event>	<city>, <country>	dd/mm/yy	dd/mm/yy	√	√	√	√	√	√	√	***	√	√	√	√	√

* The invitation letter contains also information notes so that the wording should be: "Invitation letter and information notes", if not explicitly mentioned in a separated link, "Information notes or practical information".

** This column indicates if the steering committee information was available on the webpage of the event.

*** The indication of the "Type" of event implies that both the "event format" (workshop or seminar) and the "event coordination" (study group strategy, information, tutorial or promotion focused) shall be clearly identified (refer to clauses 7 and 8).

**** Three months is the expected period for the final report submission.

Supplement 2 to ITU-T A-series Recommendations

Guidelines on interoperability experiments

(Geneva, 2000)

Introduction

These guidelines relate to interoperability experiments to be performed outside of ITU-T. The guidelines have been prepared to encourage such experiments to be performed and to facilitate information exchange between parties participating in such experiments and ITU-T study groups developing relevant Recommendation(s).

1 Background

1.1 Study Groups of ITU-T have been doing their best to ensure interoperability of products made in accordance with ITU-T Recommendations. There is no better way to assess interoperability than to actually interoperate systems and equipment of various manufacturers. ITU-T has occasionally initiated interoperability experiments for specific projects in the past. Some examples are:

a) Signalling System No.7 Field Trial in early 1980s (SG 11).

b) ISDN Field Trials in various places in late 1980s. (SG 11 and then SG 18).

c) Digital Circuit Multiplexing Equipment (DCME) in early 1990s (SG 15).

1.2 However, when interoperability experiment/testing has not been performed, users may have suffered from the lack of interoperability between products coming from different manufacturers. Moreover, manufacturers are not always members of ITU-T and develop their products only by reading relevant Recommendations.

2 Objective

The objective of these guidelines is to encourage interoperability experiments to be performed outside of ITU-T and to facilitate information exchange between parties participating in such experiments and study groups of ITU-T.

3 Guidelines

3.1 The interoperability experiments are to be performed outside of ITU-T on a voluntary basis, self-governed, self-supporting and incurring no additional cost to ITU-T. Such interoperability experiments may therefore involve non ITU-T members as well.

3.2 The self-governance of interoperability experiments to be performed outside of ITU-T means that parties participating in such an experiment should govern themselves by making rules of their own. ITU-T is in no way involved in such a rule making.

3.3 ITU-T would like to ask the kind cooperation of its members participating in such an interoperability experiment to submit contributions to study groups based on the results of the experiment in order to improve the quality of Recommendations, e.g. by proposing text changes to remove ambiguities, etc.

3.4 Furthermore, ITU-T would like to ask the kind cooperation of its members participating in such an experiment to share information on the experiment at study group meetings as much as possible. Examples of information that would be useful to be shared are as follows:

- how should experiments be performed: experiment items, experiment methods, test equipment, experiment schedules, coordinator, etc;
- where are the experiments going to be conducted;
- how should experiment results be handled in order to submit contributions to ITU-T to improve the quality of Recommendations;
- identification of other activities in the same area and potential cooperation and work-sharing with them.

Supplement 3 to ITU-T A-series Recommendations

IETF and ITU-T collaboration guidelines

1 Introduction and scope

This document provides non-normative guidance to aid in the understanding of collaboration on standards development between the Telecommunication Standardization Sector of the International Telecommunication Union (ITU-T) and the Internet Engineering Task Force (IETF) of the Internet Society (ISOC). Early identification of topics of mutual interest will allow for constructive efforts between the two organizations based on mutual respect.

In the IETF, work is done in working groups (WGs), mostly through open, public mailing lists rather than face-to-face meetings. WGs are organized into areas, each area being managed by two co-area directors. Collectively, the area directors comprise the Internet Engineering Steering Group (IESG).

In the ITU-T, work is defined by study Questions which are worked on mostly through meetings led by rapporteurs (these are sometimes called "rapporteur's group" meetings). Questions are generally grouped within working parties (WPs) led by a WP chairman. Working parties report to a parent study group (SG) led by an SG chairman. Work may also be conducted in ITU-T focus groups (see clause 2.7).

To foster ongoing communication between the ITU-T and IETF, it is important to identify and establish contact points within each organization. Contact points may include:

1. **ITU-T study group chairman and IETF area director**

   An IETF area director is the individual responsible for overseeing a major focus of activity with a scope similar to that of an ITU-T study group chairman. These positions are both relatively long-term (of several years) and offer the stability of contact points between the two organizations for a given topic.

2. **ITU-T rapporteur and IETF working group chair**

   An IETF working group chair is an individual who is assigned to lead the work on a specific task within one particular area with a scope similar to that of an ITU-T rapporteur. These positions are working positions (of a year or more) that typically end when the work on a specific topic ends. Collaboration here is very beneficial to ensure the actual work gets done.

3. **Other contact points**

It may be beneficial to establish additional contact points for specific topics of mutual interest. These contact points should be established early in the work effort, and in some cases the contact point identified by each organization may be the same individual. ITU-T has an additional level of management, the working party chairman. From time to time, it may be beneficial for this person to exchange views with IETF working group chairs and area directors.

NOTE – The current list of IETF area directors and working group chairs can be found in the IETF working group charters. The current ITU-T study group chairmen and rapporteurs are listed on the ITU-T study group web pages.

2 Guidance on collaboration

This clause describes how the existing processes within the IETF and ITU-T may be utilized to enable collaboration between the organizations.

2.1 How to interact on ITU-T or IETF work items

Study groups that have identified work topics that are related to the Internet protocol (IP) should evaluate the relationship with topics defined in the IETF. Current IETF working groups and their charters (IETF definition of the scope of work) are listed in the IETF archives (see clause 2.8.1).

A study group may decide that development of a Recommendation on a particular topic may benefit from collaboration with the IETF. The study group should identify this collaboration in its work plan (specifically in that of each Question involved), describing the goal of the collaboration and its expected outcome.

An IETF working group should also evaluate and identify areas of relationship with the ITU-T and document the collaboration with the ITU-T study group in its charter.

The following clauses outline a process that can be used to enable each group to be informed about the other's new work items.

2.1.1 How the ITU-T is informed about existing IETF work items

The responsibility is on individual study groups to review the current IETF working groups to determine if there are any topics of mutual interest. Working group charters and active Internet-Drafts can be found on the IETF web site (http://datatracker.ietf.org/wg/). If a study group identifies a common area of work, the study group leadership should contact both the IETF working group chair and the area director(s) responsible. This may be accompanied by a formal liaison statement (see clause 2.3).

2.1.2 How the IETF is informed about existing ITU-T work items

The IETF through its representatives will review the current work of the various study groups from time to time. Each ITU-T study group's web page on the ITU-T web site contains its current list of Questions as well as its current work programme. When an area or working group identifies a common area of work, the matter is referred to appropriate working group chairs and area directors, where they may consider sending a liaison statement to the appropriate study group.

2.1.3 How the ITU-T is informed about proposed new IETF work items

The IETF maintains a mailing list for the distribution of proposed new work items among standards development organizations. Many such items can be identified in proposed birds-of-a-feather (BoF) sessions, as well as draft charters for working groups. The IETF forwards all such draft charters for all new and revised working groups and BoF session announcements to the IETF new-work mailing list. An ITU-T mailing list is subscribed to this list. Leadership of study groups may subscribe to this ITU-T mailing list, which is maintained by the Telecommunication Standardization Bureau (TSB). Members of the SG-specific listname may include the SG chairman, SG vice-chairmen, working party chairmen, concerned rapporteurs, other experts designated by the SG and the SG Counsellor. This will enable the SGs to monitor the new work items for possible overlap or interest to their study group. It is expected that this mailing list will see a few messages per month.

Each SG chairman, or designated representative, may provide comments on these charters by responding to the IESG mailing list at iesg@ietf.org clearly indicating their ITU-T position and the nature of their concern. Plain-text email is preferred on the IESG mailing list.

It should be noted that the IETF turnaround time for new working group charters can be as short as two weeks. As a result, the mailing list should be consistently monitored.

2.1.4 How the IETF is informed about ITU-T work items

The ITU-T accepts new areas of work through the creation or update of Questions and these can be found on the ITU-T study group web pages. In addition, the ITU-T work programme is documented on each ITU-T study group's web page on the ITU-T web site.

Study groups send updates to the IETF new-work mailing list as new Questions are first drafted or created, terms of reference for Questions are first drafted or updated, or otherwise when there is reason to believe that a particular effort might be of interest to the IETF. Area directors or WG chairs should provide comments through liaison statements or direct email to the relevant SG chairman in cases of possible overlap or interest.

2.2 Representation

ISOC, including its standards body IETF, is a Sector Member of the ITU-T. As a result, ISOC delegates are afforded the same rights as other ITU-T Sector Members (see clause 2.2.1). Conversely, ITU-T delegates may participate in the work of the IETF as representatives of the ITU-T (see clause 2.2.2). To promote collaboration, it is useful to facilitate communication between the organizations as further described below.

2.2.1 IETF recognition at ITU-T

Experts and representatives from the IETF that are chosen by IETF leadership normally participate in ITU-T meetings as ISOC delegates. The ISOC focal point will facilitate registration and verification of these people, as appropriate.

2.2.2 ITU-T recognition at ISOC/IETF

ITU-T study group chairmen can authorize one or more members to attend an IETF meeting as an official ITU-T delegate speaking authoritatively on behalf of the activities of the study group (or a particular rapporteur group). The study group chairman sends the ITU-T list of delegates by email to the working group chair, with a copy to the area directors, and also to the study group. According to IETF process, opinions expressed by any such delegate are given equal weight with opinions expressed by any other working group participant.

2.3 Communication outside of meetings

Informal communication between contact points and experts of both organizations is encouraged. However, formal communication from an ITU-T study group, working party or rapporteur group to an associated IETF contact point must be explicitly approved and identified as coming from the study group, working party, or rapporteur group, respectively. Formal liaison statements from the ITU-T to the IETF are transmitted according to the procedures described in RFC 4053 [2]. These liaison statements are placed by the IETF onto a liaison statements web page at https://datatracker.ietf.org/liaison/. An individual at the IETF is assigned responsibility for dealing with each liaison statement that is received. The name and contact information of the responsible person and any applicable deadline is listed with the links to the liaison statement on this web page.

Formal liaison statements from the Internet Architecture Board (IAB), the IESG, the IETF, an IETF working group or area to the ITU-T are generated, approved, and transmitted according to the procedures described in RFC 4053 [2] and Recommendation ITU-T A.1 [15]. Formal communication is intended to allow the sharing of positions between the IETF and the ITU-T outside of actual documents (as described in clause 2.5.1). This covers such things as comments on documents and requests for input.

2.4 Mailing lists

All IETF working groups and all ITU-T study group Questions have associated mailing lists.

In the IETF, the mailing list is the primary vehicle for discussion and decision-making. It is recommended that the ITU-T experts interested in particular IETF working group topics subscribe to and participate in these lists. IETF WG mailing lists are open to all subscribers. The IETF working group mailing list subscription and archive information are noted in each working group's charter. In the ITU-T, the TSB has set up formal mailing lists for Questions, working parties, and other topics within study groups (more detail can be found on the ITU-T web site). These mailing lists are typically used for ITU-T correspondence, including technical discussion, meeting logistics, reports, etc.

NOTE – Individual subscribers to this list must be affiliated with an ITU-T member or associate (at this time, there is no blanket inclusion of all IETF participants as members, however, as a member, the ISOC focal point can facilitate access by IETF technical experts, liaison representatives, or liaison managers).

IETF participants may subscribe to ITU-T focus group email lists if they are individuals from a country that is a member of ITU-T.

2.5 Document sharing

During the course of ITU-T and IETF collaboration, it is important to share working drafts and documents among the technical working groups. Initially proposed concepts and specifications typically can be circulated by email (often just repeating the concept and not including the details of the specification) on both the IETF and ITU-T mailing lists. In addition, working texts (or URLs) of draft Recommendations, Internet-Drafts, or RFCs may also be sent between the organizations as described below.

Internet-Drafts are available on the IETF web site. The ITU-T can make selected ITU-T documents at any stage of development available to the IETF by attaching them to a formal liaison statement. Although a communication can point to a URL where a non-ASCII document (e.g., Word) can be downloaded, attachments in proprietary formats to an IETF mailing list are discouraged. It should also be recognized that the official versions of all IETF documents are in ASCII.

2.5.1 Contributions and liaison statements from the IETF to ITU-T

IETF documents (e.g., Internet-Drafts) or URLs of those documents are most commonly transmitted to ITU-T study groups as liaison statements (see RFC 4053 [2]), but exceptionally can be submitted to a study group as a contribution from ISOC in accordance with Recommendation ITU-T A.2 [16]. In order to ensure that the IETF has properly authorized this, the IETF working group must agree that the specific drafts are of mutual interest; that there is a benefit in forwarding them to the ITU-T for review, comment and potential use; and that the document status is accurately represented in the cover letter. Once agreed, the appropriate area directors review the working group request and give approval. The rules of the IETF Trust are followed in these circumstances [3]. The contributions are then forwarded (with the noted approval) to the TSB for circulation as a contribution to the appropriate ITU-T study group. Material submitted to the ITU-T as an ISOC contribution is governed by clause 3.1.5 of Recommendation ITU-T A.1 [15]. Any such contribution will be made only after receiving necessary approval of owners of the work in question. In other circumstances, a liaison statement may be appropriate. See RFC 5378 [3] and Recommendation ITU-T A.1 [15] for more information.

2.5.2 Contributions and liaison statements from the ITU-T to IETF

An ITU-T study group or working party may send texts of draft new or revised Recommendations, clearly indicating their status, to the IETF as contributions in the form of liaison statements or Internet-Drafts. Internet-Drafts are IETF temporary documents that expire six months after being published. The study group or working party must decide that there is a benefit in forwarding them to the IETF for review, comment, and potential use. Terms of reference for rapporteur group meetings may authorize rapporteur groups to send working documents, in the form of Internet-Drafts, to the IETF.

If the study group or working party elects to transmit the text as an Internet-Draft, the document editor would be instructed to prepare the contribution in Internet-Draft format (in ASCII and optionally postscript format as per RFC 2223 [8]) and upload it via https://datatracker.ietf.org/idst/upload.cgi. Material submitted as an Internet-Draft or intended for inclusion in an Internet-Draft or RFC is governed by the rules set forth in RFCs 5378 [3], 3979 [4], and 4879 [5]. Alternatively, the study group, working party, or rapporteur group could attach the text to a formal liaison statement.

Both the rapporteur and the document editor should be identified as contacts in the contribution. The document should also clearly indicate the state of development in a particular ITU-T study group.

NOTE – Liaison statements and their attachments sent to the IETF are made publicly available on the IETF web site.

2.5.3 ITU-T and IETF

It is envisaged that the processes of clauses 2.5.1 and 2.5.2 will often be used simultaneously by both an IETF working group and an ITU-T study group to collaborate on a topic of mutual interest.

It is also envisaged that the outcome of the collaboration will be the documentation in full by one body and its referencing by the other (see clause 2.6 for details). That is, common or joint text is discouraged because of the current differences in procedures for document approval and revision. Where complementary work is being undertaken in both organizations that will result in Recommendations or RFCs, due allowance should be given to the differing perspectives, working methods, and procedures of the two organizations. That is, each organization should understand the other organization's procedures and strive to respect them in the collaboration.

2.6 Simple cross referencing

Recommendation ITU-T A.5 [6] describes the process for including references to documents of other organizations in ITU-T Recommendations. Recommendation ITU-T A.5 also addresses the situation where a study group or working party decides to incorporate the text of another organization into the text of a Recommendation, rather than referencing it. Information specific to referencing IETF RFCs is found at http://itu.int/ITU-T/go/ref-ietf-isoc.

Section 6.1.1 of RFC 2026 [7] describes the process for referencing other open standards (like ITU-T Recommendations) in IETF RFCs.

2.7 Preliminary work efforts

Both ITU-T and IETF provide mechanisms for early discussion of potential new work areas prior to the official start of work in an ITU-T study group or creation of an IETF working group.

Objectives, methods, and procedures for the creation and operation of ITU-T focus groups are defined in Recommendation ITU-T A.7 [17]. Focus groups are frequently created in new work areas where there is a need for deliverables to be produced on a specific topic within a short timeframe. IETF participants who are not members or associates of ITU-T may participate fully in the work of ITU-T focus groups if they are from a country that is a member of ITU-T.

In the IETF, guidance for BoF sessions is provided in RFC 5434 [13]. Efforts that have not yet reached the working group stage may be discussed in BOF sessions. These sessions typically gauge interest in pursuing creation of working groups. In some cases, these discussions continue on mailing lists.

2.8 Additional items

2.8.1 IETF information that may be useful to ITU-T participants

Information on IETF procedures may be found in the documents in the informative references, and URLs below.

NOTE – RFCs do not change after they are published. Rather, they are either obsoleted or updated by other RFCs. Such updates are tracked in the rfc-index.txt file.

Current list and status of all IETF RFCs:

ftp://ftp.ietf.org/rfc/rfc-index.txt

Current list and description of all IETF Internet-Drafts:

ftp://ftp.ietf.org/internet-drafts/1id-abstracts.txt

Current list of IETF working groups and their Charters: (includes area directors and chair contacts, mailing list information, etc.)

http://www.ietf.org/dyn/wg/charter.html

Current list of registered BOFs:

http://trac.tools.ietf.org/bof/trac/

RFC Editor pages about publishing RFCs, including available tools and lots of guidance:

http://www.rfc-editor.org/pubprocess.html

Current list of liaison statements:

https://datatracker.ietf.org/liaison/

IETF Intellectual Property Rights Policy and Notices:

http://www.ietf.org/ipr/

The Tao of the IETF – A Novice's Guide to the Internet Engineering Task Force:

http://www.ietf.org/tao.html

2.8.2 ITU-T information that may be useful to IETF participants

Information about the ITU-T can be found in the informative references and at the URLs below.

ITU-T Main page:

http://itu.int/ITU-T

List of all ITU-T Recommendations:

http://itu.int/itu-t/recommendations/

ITU-T study group main page for Study Group NN (where NN is the 2-digit SG number):

http://itu.int/ITU-T/studygroups/comNN/

Intellectual Property policies, forms and databases:

http://itu.int/en/ITU-T/ipr/Pages/default.aspx

Current list of active ITU-T focus Groups

http://itu.int/en/ITU-T/focusgroups/Pages/default.aspx

ITU-T Procedures including:

- WTSA Resolution 1, *Rules of procedure of the ITU Telecommunication Standardization Sector (ITU-T)*
- WTSA Resolution 2, *Study Group responsibility and mandates*

http://itu.int/publ/T-RES/en

Author's Guide for drafting ITU-T Recommendations:

http://itu.int/ITU-T/go/author-guide

Templates for contributions, ITU-T Recommendations, and liaison statements:

http://itu.int/ITU-T/studygroups/templates/index.html

3 References

3.1 Normative references

[1] Daigle, L., Ed., **and Internet Architecture Board,** *IAB Processes for Management of IETF Liaison Relationships*, BCP 102, RFC 4052, April 2005.

[2] Trowbridge, S., Bradner, S., and F. Baker, *Procedures for Handling Liaison Statements to and from the IETF*, BCP 103, RFC 4053, April 2005.

[3] Bradner, S., Ed., and J. Contreras, Ed., *Rights Contributors Provide to the IETF Trust*, BCP 78, RFC 5378, November, 2008.

[4] Bradner, S., Ed., *Intellectual Property Rights in IETF Technology*, BCP 79, RFC 3979, March 2005.

[5] Narten, T., *Clarification of the Third Party Disclosure Procedure in RFC* 3979, BCP 79, RFC 4879, April 2007.

[6] Recommendation ITU-T A.5 (2008), *Generic procedures for including references to documents of other organizations in ITU-T Recommendations*, International Telecommunication Union.

3.2 Informative references

[7] Bradner, S., *The Internet Standards Process – Revision 3*, BCP 9, RFC 2026, October 1996.

[8] Postel, J. and J. Reynolds, *Instructions to RFC Authors*, RFC 2223, October 1997.

[9] Brett, R., Bradner, S., and G. Parsons, *Collaboration between ISOC/IETF and ITU-T*, RFC 2436, October 1998.

[10] Fishman, G. and S. Bradner, *Internet Engineering Task Force and International Telecommunication Union – Telecommunications Standardization Sector Collaboration Guidelines*, RFC 3356, August 2002.

[11] Hovey, R. and S. Bradner, S., *The Organizations Involved in the IETF Standards Process*, BCP 11, RFC 2028, October, 1996.

[12] Bradner, S., *IETF Working Group Guidelines and Procedures*, BCP 25, RFC 2418, September 1998.

[13] Narten, T., *Considerations for Having a Successful Birds-of-a-Feather (BOF) Session*, RFC 5434, February 2009.

[14] Alvestrand, H., *A Mission Statement for the IETF*, BCP 95, RFC 3935, October 2004.

[15] Recommendation ITU-T A.1 (2008), *Work methods for study groups of the ITU Telecommunication Standardization Sector (ITU-T)*, International Telecommunication Union.

[16] Recommendation ITU-T A.2 (2008), *Presentation of contributions to the ITU-T*, International Telecommunication Union.

[17] Recommendation ITU-T A.7 (2008), *Focus groups: Working methods and procedures*, International Telecommunication Union.

[18] Recommendation ITU-T A.8 (2008), *Alternative approval process for new and revised ITU-T Recommendations*, International Telecommunication Union.

Supplement 4 to ITU-T A-series Recommendations

Supplement on guidelines for remote participation

1 Scope

Well-documented rules and procedures, including the legal aspects, are useful for electronic meetings of ITU-T groups. ITU-T groups include, but are not limited to, TSAG, study groups, working parties, Questions or Rapporteur groups, focus groups, Joint Coordination Activities (JCAs), correspondence groups, ad hoc groups, regional groups and the Review Committee.

Meetings of ITU-T groups may be conducted in the following formats:

- physical meetings (face-to-face);
- physical meetings with remote observation (i.e., webcast);
- physical meetings with (active) remote participation;
- e-meetings, also called virtual meetings.

The same format may not apply to all sessions of a given meeting. This Supplement provides guidelines for physical meetings with active remote participation and e-meetings. The meeting format (see clause 6.4) to be used for any given meeting or meeting session is beyond the scope of this Supplement.

2 References

[FSTP-AM] Guidelines for accessible meetings, ITU-T Q26/16. <http://www.itu.int/md/T13-SG16-150209-TD-WP2-0367/en>

[HSTP.ACC-RemPart] Guidelines for supporting remote participation in meetings for all, ITU-T Q26/16. <http://www.itu.int/md/T13-SG16-150209-TD-WP2-0365/en>

[PP GR] Plenipotentiary Conference, General Rules of conferences, assemblies and meetings of the Union (Rev. Guadalajara, 2010). <http://www.itu.int/net/about/basic-texts/rules.aspx>

[PP Res.167] Plenipotentiary Conference, Resolution 167 (Rev. Busan, 2014), Strengthening and developing ITU capabilities for electronic meetings and means to advance the work of the Union. <http://www.itu.int/dms_pub/itu-s/opb/conf/S-CONF-ACTF-2014-PDF-E.pdf>

[WTSA Res.32] World Telecommunication Standardization Assembly, Resolution 32 (Rev. Dubai, 2012), Strengthening electronic working methods for the work of the ITU Telecommunication Standardization Sector. <http://www.itu.int/pub/T-RES-T.32-2012>

3 Definitions

3.1 Terms defined elsewhere

None

3.2 Terms defined in this Supplement

This Supplement defines the following terms:

3.2.1 group: A study group, TSAG, a working party, a Question, a Rapporteur group, a correspondence group, an ad hoc group, the Review Committee, a JCA, a focus group, a regional group or any other type of group created in ITU-T.

NOTE – A workshop or a seminar is not considered a group in the context of this Supplement.

3.2.2 remote participation: Participation in a meeting from a separate geographical location, using communication technologies.

NOTE – Depending on the group meeting, remote participation may be active or in an observing capacity (in case of webcast), but only active remote participation is considered in this Supplement.

3.2.3 remote participation moderator: A person in charge of monitoring the remote participation tool, ensuring that remote participants know what is taking place in the meeting and allowing remote participants chances to contribute (in case of a meeting with active remote participation).

NOTE – A remote participation moderator is not systematically available for each meeting with remote participation.

4 Abbreviations and acronyms

This Supplement uses the following abbreviations and acronyms:

JCA	Joint Coordination Activity
TIES	Telecommunication Information Exchange Service
TSAG	Telecommunication Standardization Advisory Group

5 Conventions

None

6 Organization of a meeting with remote participation

This clause gives guidelines for the group chairman and secretariat who are organizing a meeting with remote participation.

6.1 When scheduling the time for meetings with remote participation or for e-meetings, consideration should be given to the different time zones of the expected remote participants. Consideration should also be given to, when practical, scheduling relevant agenda items identified by a remote participant to better accommodate the remote participant's time zone.

6.2 If remote participation is to be arranged for participation in a group meeting, TSB should be informed at least twelve calendar days before the group meeting, to allow for enough time for logistics arrangements.

6.3 If the group chairman is expected to participate remotely, the group should identify an acting chairman in case the chairman is unable to connect.

6.4 The meeting agenda indicates the format in which the meeting will be conducted:

- physical meetings (face-to-face);
- physical meetings with remote observation (i.e., webcast);
- physical meetings with (active) remote participation (see also clause 7.1);
- e-meetings, also called virtual meetings (see also clause 7.1).

NOTE – The first two formats are not covered by this Supplement. The meeting format could be based on a variety of criteria, including, but not limited to, the nature of the meeting, whether the meeting is held inside or outside Geneva and technical capabilities available for the meeting.

6.5 It is recommended that the technologies used for remote participation are those available from the ITU, even for meetings held outside Geneva.

6.6 For meetings held outside Geneva with (active) remote participation, it is recommended that hosts be supplied with guidelines in order to minimize possible technical issues related to remote participation. These guidelines (e.g., in the form of a checklist) should be accessible for the host well in advance before the event, and should include all the technical and logistics requirements for providing the remote participation facility.

7 Guidelines for the group chairman

This clause gives guidelines for the group chairman to help chairing a meeting with remote participation.

7.1 Based on the remote participation tool used, the management team of the group decides the operation mode for the meeting. The modes described in clauses 7.1.1 and 7.1.2 are suggested. The decision of the management team is announced at the beginning of the meeting and the meeting is chaired accordingly.

7.1.1 All remote participants are unmuted by default and can intervene at any time. To prevent interference of background noise, the chair reminds remote participants to mute their microphones until when they wish to contribute (see also clause 7.6).

NOTE – This may be practical for the meeting of a very small informal group like a correspondence group, but probably not during the meeting of a Question or a Rapporteur group (if at least to avoid echo and other background noise).

7.1.2 All remote participants are muted by default and will be unmuted by the remote participation moderator on a case-by-case basis, if they so request through the remote participation tool.

NOTE – The remote participation moderator would then inform the meeting that a remote participant can intervene and the chairman would include the remote participant in the queue of meeting participants who want to intervene.

7.2 In the case of physical meetings with remote participation, the group chairman and the remote participation moderator are encouraged to meet in the room ten minutes before the scheduled start of the meeting to check that the system is working and that the group chairman can display and share documents.

7.3 At the beginning of each meeting with remote participation, the group chairman announces that there is a remote facility and requests that all remote participants introduce themselves by mentioning their name and affiliation.

NOTE – Remote participants who join a meeting after the initial introduction of participants are expected to announce their arrival by mentioning their name and affiliation. If the remote participation tool announces participants' arrival with a specific sound, the group chairman asks new participants to introduce themselves.

7.4 The group chairman encourages remote participants to announce their name and affiliation clearly before speaking (see also clause 8.3).

NOTE – This is particularly useful in case of a meeting with interpretation or with participants with disabilities or specific needs (see clause 10).

7.5 The General Rules of conferences, assemblies and meetings of the Union [PP GR] apply to meetings with remote participation, in particular clauses 20.2 (Order of debates), 20.8 (Limitation of speeches) and 20.9 (Closing the list of speeches).

7.6 Where supported by the remote participation tool, the chairman or the remote participation moderator is permitted to mute remote participants with bad connections or whose connections introduce too much noise, or may ask them to leave the meeting if the situation cannot be remedied.

8 Technical guidelines for remote participants

This clause gives guidelines for remote participants.

8.1 Remote participants are encouraged to use the remote facility through a landline (when available), or to use a headset (and not the microphone and speaker of their machine). Remote participants should make sure that the loudspeaker on their machine is muted when they call from a landline.

8.2 It is recommended that remote participants connect at least five minutes before the start of a meeting to avoid disturbance. This will also allow for the group chairman and/or the remote participation moderator to check sound levels.

8.3 Remote participants are encouraged to announce their name and affiliation clearly before making any intervention (see also clause 7.4).

8.4 Remote participants should speak from a quiet place without background noise. They should speak slowly and clearly to allow the other participants to compensate for any audio problem. They are encouraged to end their remarks with the phrase "This concludes my intervention."

NOTE – Clauses 8.3 and 8.4 are particularly useful in the case of a meeting with interpretation, or with participants with disabilities or specific needs (see clause 10).

8.5 If the connection is poor, and if requested by the chairman, remote participants should be prepared to type their question or comment in the chat window of the remote participation tool.

8.6 During a physical meeting with remote participation, remote participants accept that, in case of technical problems (e.g., lost connection), their participation may be interrupted (see also clause 8.8) while the physical meeting will continue, whereas in case of onsite technical issues (e.g., headphone failure), the chairman may decide to suspend the meeting until the problem is solved.

NOTE – Remote participants recognize that an important part of any meeting are the informal discussions during breaks and lunch where delegates can informally explain, understand, and forge the compromises needed for the consensus processes to work. Remote participants recognize that they will not have this type of interaction with the other participants.

8.7 Remote participants accept that in case of technical problems (e.g., lost connection) during an e-meeting, the chairman will assess whether enough participants are still connected and will decide whether to continue the meeting (see also clause 8.8) or to suspend the meeting until the problem is solved.

8.8 Remote participants may report problems to the remote participation moderator (when available) who should determine where the cause lies and should either take direct remedial action or offer advice as appropriate. A remote participant who experiences problems in joining the meeting should preferably discuss with the remote participation moderator in a private chat window (or tab) so that the main chat window is reserved for discussions of interest to all participants.

9 Technical guidelines for in-person participants

This clause gives guidelines for participants physically present in a meeting with remote participation.

9.1 In order to increase voice quality, only one microphone should be on (open) at a given time in the meeting room, and physically present participants shall speak close to (and in front of) the microphone.

10 Guidelines for persons with disabilities or with specific needs

This clause makes reference to guidelines applying to remote participants with hearing or visual impairments, in particular.

10.1 Guidelines for users with hearing or visual impairments are available from the Joint Coordination Activity on Accessibility and Human Factors (JCA-AHF at http://www.itu.int/en/ITU-T/jca/ahf).

10.2 Requirements and good practice for supporting remote participation in meetings for all are contained in [HSTP.ACC-RemPart]. Guidelines for accessible meetings are contained in clause 8.1.3 of [FSTP-AM].

10.3 Persons with disabilities can mention their specific needs (for example, captioning) on the registration form. Provision of specific facilities is done in accordance with *resolves* 3 of [PP Res.167].

Supplement 5 to ITU-T A-series Recommendations

Guidelines for collaboration and exchange of information with other organizations

1 Scope

ITU-T maintains cooperative relationships with many other organizations. The technologies for which these organizations are responsible continue to converge, which has resulted in an increase of interdependency between ITU-T's work programme and the programmes of other organizations. This Supplement describes a process for authoritative document exchange with another organization, which is to be agreed upon with that organization. It also introduces generic procedures for developing an ITU-T document (Recommendation, Supplement, etc.) in collaboration with one (or more) other organization(s). Such generic procedures are to be considered as guidelines for negotiating a process or mode of collaboration with other qualified organization(s).

On a case-by-case basis, ITU-T study groups may use other processes or modes of collaboration to those described in this Supplement. In particular, exchange of information (by way of liaison statements) can occur at any time with another organization without applying the processes described in this Supplement.

NOTE 1 – This Supplement does not apply to ITU-T Recommendations developed in collaboration with ISO/IEC JTC 1 because the long-standing procedures of [ITU-T A.23], which have proved very successful, remain unchanged.

NOTE 2 – Regarding collaboration with the Internet Engineering Task Force (IETF), clause 2.5.3 of [ITU-T A.Supp3] states that "common or joint text is discouraged because of the current differences in procedures for document approval and revision."

The case of normatively referencing the documents of other organizations in ITU-T Recommendations is addressed in [ITU-T A.5].

The case of ITU-T incorporating texts (in part or in whole, with or without modifications) from another organization is addressed in [ITU-T A.25].

2 References

[ITU-T A.1] Recommendation ITU-T A.1 (2012), *Working methods for study groups of the ITU Telecommunication Standardization Sector (ITU-T)*.

[ITU-T A.5] Recommendation ITU-T A.5 (2016), *Generic procedures for including references to documents of other organizations in ITU-T Recommendations*.

[ITU-T A.7] Recommendation ITU-T A.7 (2012), *Focus groups: Establishment and working procedures*.

[ITU-T A.8] Recommendation ITU-T A.8 (2008), *Alternative approval process for new and revised ITU-T Recommendations*.

[ITU-T A.23] Recommendation ITU-T A.23 (2000), *Collaboration with the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) on information technology*.

[ITU-T A.25] Recommendation ITU-T A.25 (2016), *Generic procedures for incorporating texts between ITU-T and other organizations*.

ITU-T A.Supp3] ITU-T A-series Recommendations – Supplement 3 (2012), *IETF and ITU-T collaboration guidelines*.

[Author's Guide] *Author's Guide for drafting ITU-T Recommendations* (2016). <http://www.itu.int/ITU-T/go/authors-guide/>

[Patent policy] *Common patent policy for ITU-T/ITU-R/ISO/IEC*. <http://www.itu.int/en/ITU-T/ipr>

[WTSA Res. 1] World Telecommunication Standardization Assembly Resolution 1 (Rev. Dubai, 2012), *Rules of procedure of the ITU Telecommunication Standardization Sector*. <http://www.itu.int/pub/T-RES-T.1-2012>

[WTSA Res. 18] World Telecommunication Standardization Assembly Resolution 18 (Rev. Dubai, 2012), *Principles and procedures for the allocation of work to, and coordination between, the ITU Radiocommunication and ITU Telecommunication Standardization Sectors*. <http://www.itu.int/pub/T-RES-T.18-2012>

3 Definitions

3.1 Terms defined elsewhere

This Supplement uses the following terms defined elsewhere:

3.1.1 amendment [ITU-T A.1]: An amendment to a Recommendation contains changes or additions to an already published ITU-T Recommendation.

NOTE – An amendment is published by ITU-T as a separate document that contains primarily changes or additions. If it forms an integral part of the Recommendation, approval of an amendment follows the same approval procedures as for Recommendations; otherwise, it is agreed by the study group.

3.1.2 Question [WTSA Res. 1]: Description of an area of work to be studied, normally leading to the production of one or more new or revised Recommendations.

3.1.3 supplement [ITU-T A.1]: A document which contains material which is supplementary to and associated with the subject matter of one or more Recommendations but which is not essential to their completeness or understanding and implementation.

NOTE – Recommendation ITU-T A.13 deals with the subject of supplements to ITU-T Recommendations.

3.2 Terms defined in this Supplement

This Supplement defines the following terms:

3.2.1 collaborative work: A mode of collaboration between an ITU-T Question and a group in an organization (or groups in multiple organizations) aimed at producing one or more common (or technically-aligned) documents through close liaison, and in the case of common documents, through a synchronized approval (see Appendix II).

3.2.2 common document: A document which is developed jointly by an ITU-T Question and a group in an organization (or groups in multiple organizations).

NOTE – A unique document is developed jointly by an ITU-T Question and one (or more) organizations but it may be published with different cover pages, headers and footers, based on the publication rules of each organization (see clause 9).

3.2.3 common team: A working group composed of individuals working on an ITU-T Question and from a group in an organization (or groups in multiple organizations) aimed at producing one or more common (or technically-aligned) documents through common meetings, and in the case of common documents, through a synchronized approval (see Appendix III).

3.2.4 technically-aligned documents: A pair (or set) of documents which are developed in close collaboration between an ITU-T Question and a group in an organization (or groups in multiple organizations), and whose texts are technically aligned (but not identical).

NOTE 1 – Implementation of one technically-aligned document may not hamper interoperability with the implementation of the other technically-aligned document(s).

NOTE 2 – The document developed by the ITU-T Question follows the ITU-T publication rules (such as [Author's Guide]). The other document may follow the publication rules of the (external) organization(s).

4 Abbreviations and acronyms

This Supplement uses the following abbreviations and acronyms:

AAP	Alternative Approval Process
TAP	Traditional Approval Process
TSB	Telecommunication Standardization Bureau

5 Conventions

In expressions such as "each organization", "one organization", "the other organization", the term "organization" (singular) designates an ITU-T study group or an (external) organization. In case of bilateral collaboration, the expression "the organization" always designates the (external) organization with which an ITU-T study group has established a mode of collaboration. In case of multilateral collaboration, the expression "the organization" designates the (external) organizations with which one (or more) ITU-T study group(s) has established a mode of collaboration.

In case of bilateral collaboration, the term "organizations" (plural) designates an ITU-T study group and an (external) organization which have a common interest in an area of work. In case of multilateral collaboration, the term "organizations" designates one (or more) ITU-T study groups and (external) organizations which have a common interest in an area of work.

The terms "ballot" and "balloting" are to be understood with respect to the rules and approval process of the organization (ITU-T or the external organization). For ITU-T, this is the last call in the case of the alternative approval process (AAP) and it is the consultation of Member States in the case of the traditional approval process (TAP).

6 Qualification of an organization

6.1 It is recommended that the ITU-T study group (or working party) considers the organization according to the criteria set out in clauses 6.1.1 to 6.1.3 (except for ISO and IEC).

6.1.1 Qualification of the organization according to the criteria of Annex B to [ITU-T A.5] is to be conducted before considering establishing one of the modes of collaboration listed in clause 7.2.

NOTE – Organizations which are already qualified according to Recommendations ITU-T A.4, A.5 or A.6 are considered to satisfy clause 6.1.1.

6.1.2 In addition, the organization is expected to have a process by which its output documents are published and regularly maintained (i.e., reaffirmed, revised, withdrawn, etc.).

6.1.3 The organization is also expected to have a document change control process, including a clear, unambiguous document numbering scheme. In particular, a feature to look for is that updated versions of a given document be distinguishable from the earlier versions.

6.2 Qualification of the organization according to the criteria of Annex B of [ITU-T A.5] is reviewed on a regular basis by study groups that need to establish a mode of collaboration with that organization. In particular, if the patent policy of that organization has changed, it is important to check that the new patent policy is consistent with the common patent policy for ITU-T/ITU-R/ISO/IEC and the guidelines for the implementation of the common patent policy for ITU-T/ITU-R/ISO/IEC (see clause 11).

7 Determining the mode of collaboration

7.1 To maximize the effectiveness of resources and to minimize conflict between standards, the ITU-T study group and the relevant group in the organization are encouraged to identify areas for collaborative work as early as possible in the development process. Normally as part of the development of a new Recommendation in ITU-T (see Annex A of [ITU-T A.1]), consideration is given to the need for interactions with other organizations. If enough information is available at this stage, then, if appropriate, one of the following modes of collaboration can be proposed and agreement sought from the other organization (see clause 8).

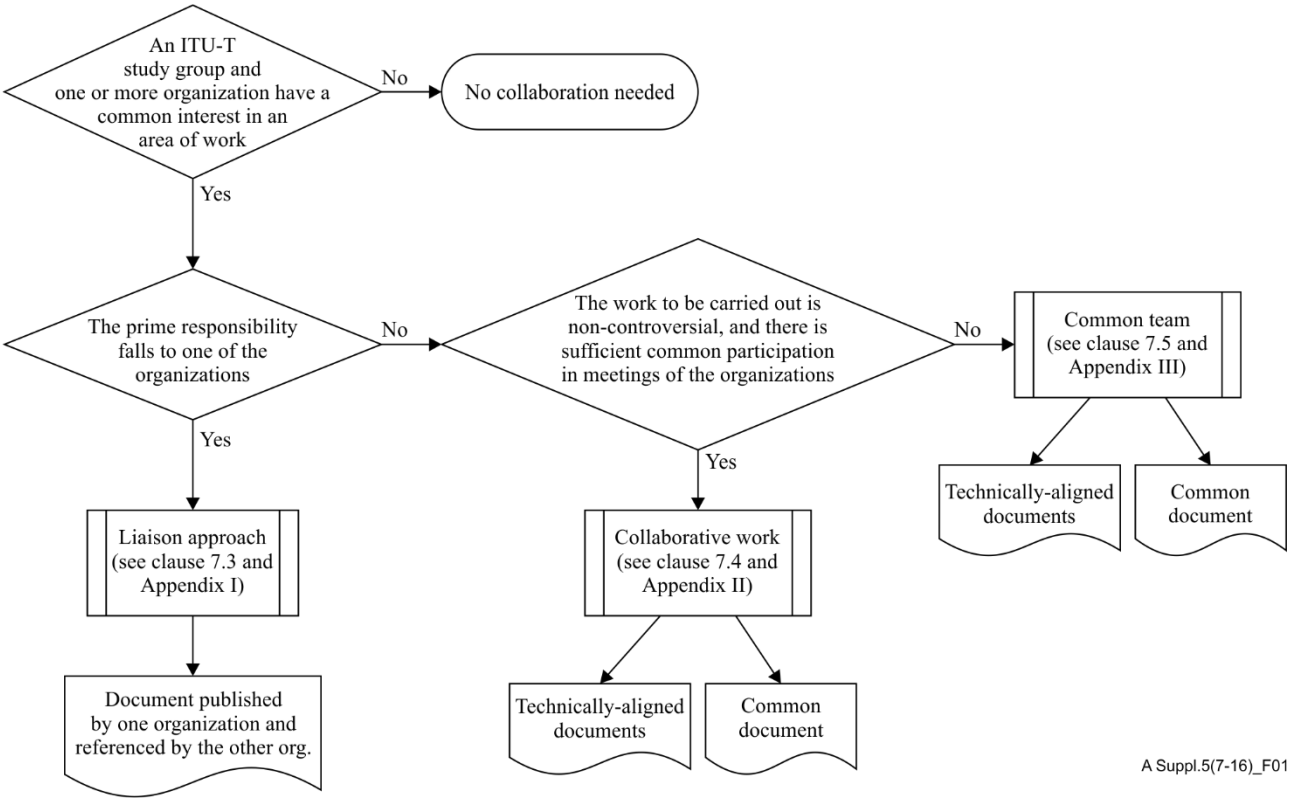

Figure 1 – Possible modes of collaboration between ITU-T and one or more organizations

7.2 Collaboration (as specified in this Supplement) can be carried out in one of three ways: by means of a liaison, by means of collaborative work or by means of a common team. Figure 1 provides some criteria for choosing one mode of collaboration but those criteria are not exhaustive and it is recommended that the study group and the organization carefully evaluate the terms of reference of the collaboration (see clause 8.2).

NOTE – These three modes of collaboration can be generalized to a multilateral collaboration as explained in Appendix V.

7.3 Where an ITU-T study group and an organization have a common interest in an area of work and have agreed that the prime responsibility falls to one of the two organizations, the liaison approach (see Appendix I) is well suited. In this situation, the work is carried out in one organization and the other organization participates, as appropriate, using its liaison status. The result is published by one organization and is referenced, as needed, by the other organization (see [ITU-T A.5]).

7.4 Collaboration by means of collaborative work is suited for situations where the work to be carried out is straight-forward and relatively non-controversial, and where there is sufficient common participation in the meetings of the two organizations to make the interchange highly effective. The work on resolving issues and developing one or more common documents is continually progressed in the successive meetings of the two groups. The normal approval processes of both ITU-T and the organization are synchronized until the eventual publication of common or technically-aligned texts (see clause 9). Appendix II details generic procedures when collaborative work is performed.

7.5 Collaboration by means of a common team is well suited for situations where extended dialog is necessary to develop solutions and reach consensus. In this situation, all interested parties participate together in a common team to mutually progress the work, resolve issues, and develop one or more common (or technically-aligned) documents. The normal approval processes of both ITU-T and the organization are synchronized until the eventual publication of common or technically-aligned texts (see clause 9). Appendix III details generic procedures when a common team is established.

7.6 It is possible for the mode of collaboration to change as the work progresses. For example, work could be initiated in one organization and, as a result of a liaison statement, it could become recognized as integrally important to the other organization. At this point, agreement could be reached to advance all future work in a mode of collaboration.

8 Agreeing the mode of collaboration

8.1 Agreement for collaboration needs to be mutually recognized to be successful. Therefore, operation in one of the three modes of collaboration for a given area of work is an agreed decision of both organizations. This agreement (based on the terms of reference presented in clause 8.2) is to be confirmed at the ITU-T study group level and at the appropriate decision-making level of the organization.

8.2 The mutually agreed terms of reference for a given mode of collaboration may include:

1) the relevant ITU-T Question and its parent study group;

2) the relevant group in the organization and, if applicable, its parent body;

3) the mode of collaboration (see clause 7);

4) the scope of the effort as it relates to each organization's work programme;

5) where possible, identification (type, title and reference) of the document(s) that is (are) to be developed collaboratively and their type (technically-aligned documents or common document).

NOTE 1 – It is recommended to use the template in [ITU-T A.1], Annex A;

6) detailed explanations on how to synchronize the ITU-T approval process (AAP according to [ITU-T A.8] or TAP according to section 9 of [WTSA Res. 1] or agreement at the study group level) with the approval process in the organization so that comments coming from one organization during the approval process can be taken into account by the other organization (see Appendix IV);

7) any start-up provisions to accommodate work in progress in each organization.

NOTE 2 – If the draft ITU-T Recommendation has been consented for AAP Last Call (or determined for TAP consultation), the window to establish a collaboration is considered to be closed;

8) any reporting or tracking provisions beyond those specified in clause II.6 or III.6;

9) explanations on how the document(s) would be cooperatively maintained by both organizations (see clause 10);

10) statement that the organization's patent policy is consistent with the common patent policy for ITU-T/ITU-R/ISO/IEC (see clause 11).

8.3 A collaborative relationship for a given area of work continues as long as both organizations feel collaboration is beneficial. In the unusual event that either organization feels that collaboration for a given area of work may be terminated, it is recommended to discuss this situation immediately with the other organization. If satisfactory resolution cannot be obtained, then collaboration for the given area of work can be terminated at any time by either the ITU-T study group or the appropriate body in the organization. If termination occurs, both organizations can make use of the prior collaborative work.

9 Publication of documents

9.1 In the case of a common document, the final editing is done by ITU's Telecommunication Standardization Bureau (TSB) according to [Author's Guide]. TSB then sends the final document as soon as possible to the organization for publication according to its own rules.

NOTE – A unique document is developed jointly by ITU-T and an organization but it may be published with different cover pages, headers and footers, based on the publication rules of each organization. Consequently, cover pages, header and footers do not contain any normative statement.

9.2 In the case of technically-aligned documents, each organization publishes its own document according to its own publication rules. However, it is recommended that the organization waits for TSB to produce the final document for ITU-T in case some editorial changes would also apply to its own document.

9.3 The document is published as a Recommendation in ITU-T and as a standard (or any other type of normative document) in the organization (or as a Supplement or any other type of informative document in ITU-T, and as an informative document in the organization).

9.4 It is valuable that users perceive the collaboration between ITU-T and the organization. This may be enforced by the following means:

a) Include a footnote from the title of the ITU-T document that notes the collaborative nature of the work; in the case of technically-aligned document, the footnote gives the title of the document of the organization, and states the degree of technical alignment.

b) Include a footnote from the title of the document of the organization that notes the collaborative nature of the work; in the case of technically-aligned documents, the footnote gives the title of the ITU-T document, and states the degree of technical alignment.

c) If an ITU-T document makes a reference to another ITU-T document that is a common document (or has a technically-aligned document in an organization), then include a footnote from the reference as in item a); if there are technical differences between both documents, then include an appendix or annex that summarizes the differences.

d) If a document from the organization makes a reference to another document that is a common document (or has a technically-aligned document in ITU-T), then include a footnote from the reference as in item b); if there are technical differences between both documents, then include an appendix or annex that summarizes the differences.

9.5 If any unusual circumstances arise to indicate that publication of a common document is no longer desired (e.g., because of substantial differences in content), this situation is immediately discussed with the other organization. If after the consultation either organization determines that common document publication is not appropriate, then each organization can publish separately using its own publication format.

10 Maintenance of documents

10.1 The work is not necessarily completed at the stage of publication. While every effort has been taken to produce a quality document, experience has shown that defects may be found as the document is being applied to implementations. Therefore, there is need for an ongoing shared responsibility for maintaining the document.

10.2 It is critical that rapid correction of possible errors, omissions, inconsistencies, or ambiguities be performed cooperatively. It is recommended that the procedures for this important effort are outlined in the terms of reference of the chosen mode of collaboration (see clause 8.2).

10.3 Further work is often identified as a result of the development process and as a result of changing technology and new operational requirements. Accordingly, there is an important need for amendments that provide expansions, enhancements, and updates to the basic provisions of the published common (or technically-aligned) documents.

10.4 The processing of amendments may follow the same procedures as the original development. These may be considered as extensions to the original work by the same collaborative work or common team, or may be considered as separate new work that requires the formation of a new collaborative work or a common team (see clause 8.2).

11 Patent policy and copyright arrangements

11.1 For common (or technically-aligned) documents, organizations are to have a patent policy which is consistent with the common patent policy for ITU-T/ITU-R/ISO/IEC [Patent policy], and submit patent statements, as appropriate, to ITU-T and to the organization.

NOTE – Information pertaining to the common patent policy is available at http://itu.int/en/ITU-T/ipr.

11.2 The subject of modifications to texts and arrangements for royalty-free copyright licences, including the right to sub-license, for texts accepted by either ITU-T or by the organization and their publishers and others, is a matter to be agreed upon between TSB and the particular organization. However, the originating organization retains the copyright for its texts.

Appendix I

Guidelines for collaboration using the liaison mode

The basic concept of collaboration using the liaison mode is to leave to one organization the prime responsibility in an area of a work and to allow the other organization to participate in the work, as appropriate, using its liaison status.

I.1 In some situations of common interest, it may be appropriate to reach an agreement that would allocate the standardization of a particular area of work to one organization. The result is published by one organization and is referenced, as needed, by the other organization (see [ITU-T A.5]). If such an agreement cannot be reached, it is recommended that each organization does not produce a document whose implementation hampers interoperability with the implementation of a document of the other organization.

I.2 In some situations, authoritative document exchange between an ITU-T study group and an organization helps to strengthen the information flow between ITU-T and this organization. Such a framework for ongoing communications is particularly needed to provide authoritative information of one organization's dependencies on the other's work.

I.3 All interactions between an ITU-T study group and the relevant group in the organization are conducted using the liaison procedures. In particular, this applies to participation in each other's meetings and to the submission of input documents.

NOTE – For example, for an individual to represent the relevant group of the organization in an ITU-T study group meeting, a letter (or liaison statement) from that organization is recommended authorizing such representation. Likewise, for an individual to represent an ITU-T Question in the meeting of an organization, a liaison statement from the ITU-T study group to that organization is recommended authorizing such representation.

I.4 The decision to send a liaison statement is made by the study group. When necessary, between scheduled meetings, the liaison statement may be prepared by an appropriate correspondence process and approved by the study group chairman in consultation with the study group management. The liaison statement is sent by TSB (on behalf of the study group) to the organization.

I.5 Where possible, the exchange of documents is in electronic format. Questions of electronic links to enable document exchange are to be agreed upon by the secretariats of the organization concerned.

I.6 Documents submitted to the ITU-T study group by the organization conform to the following criteria:

a) contain no confidential information (i.e., no distribution restriction);

b) indicate the source within the organization (e.g., committee, subcommittee, etc.);

c) differentiate between normative references and non-normative references.

These documents are not issued as contributions but as a TD at a study group or working party meeting, or as a document at a rapporteur meeting. As soon as they arrive they are made available, with the agreement of the study group chairman, for advance consideration by the relevant group. Moreover, they are issued with a reference to the originating organization.

Appendix II

Guidelines for collaboration using collaborative work

The basic concept of collaboration using collaborative work is to closely couple the development, consensus building, and ballot/comment resolution efforts of an ITU-T Question and of the relevant group in an organization in an efficient and effective manner to produce mutually agreed common (or technically-aligned) documents.

II.1 Establishing a collaborative work

II.1.1 Upon agreement by the ITU-T study group and the relevant group in the organization that a specific area of work is to be developed collaboratively, a collaborative work is established between the respective ITU-T Question and group in the organization (see clause 8.2).

II.1.2 The ITU-T Question and the relevant group in the organization function using the procedures of their respective organization, but with certain additional procedures, as described below, to facilitate closer collaboration in building consensus and synchronization of approvals leading to the publication of common (or technically-aligned) documents (see Appendix IV).

II.1.3 During the time of development of a common (or technically-aligned) document, it is important that communication is consistently maintained between organizations by exchanging the different versions of the draft document as it evolves (see also clause II.4).

II.1.4 The terms of reference (see clause 8.2), including the mode of collaboration, can be changed at any time by mutual agreement of the ITU-T study group and of the relevant group in the organization. It is recommended that collaboration also continues for the ongoing maintenance phase (see clause 10). Procedures for terminating a collaborative work are covered in clause 8.4.

II.2 Participation in meetings of the other organization

II.2.1 The collaborative work is facilitated if there is some significant degree of common participation by individuals in the meetings of both organizations.

II.2.2 Representation of one organization in a meeting of the other organization is achieved by means of liaison officers (see clause I.3). It is recommended that individuals attending meetings in a liaison capacity are familiar with the procedures of the organization holding the meeting.

NOTE – The fact that a liaison officer officially represents one organization in a meeting of the other organization does not preclude experts from that organization from participating in the meeting of the other organization as explained in clause II.2.1. In that case, each expert participates according to his/her membership in the relevant organization.

II.3 Contributions

Contributions are handled by each organization according to its normal procedures (e.g., clause 3 of [ITU-T A.1] for ITU-T). In addition, it is important that the results of analysis of contributions be passed promptly to the other organization.

II.4 Editors for a common document

NOTE – In the case of technically-aligned documents, each organization nominates one or more Editor(s) for its own document.

II.4.1 It is strongly recommended that the ITU-T Question and the relevant group in the organization agree on a single Editor who will produce and maintain the single master common document, normally in accordance with the [Author's Guide].

II.4.2 The draft master common document will be updated only when agreement to the specific text has been made by both organizations. Each iteration of the draft common document is dated. Changes from the previous draft are highlighted by change marks.

II.4.3 The appointed Editor is responsible for the common document through draft iterations and final submission to the secretariats for publication (see clause 9). The individual selected for this task commits to following the work through to completion so that continuity can be maintained.

II.5 Achieving consensus

II.5.1 Close liaison is maintained during the development of draft documents, and resolution of ballots and comments to ensure that the views of all concerned are taken into account in building consensus.

II.5.2 In general, the intent is that the degree of consensus and the stability of the agreements will increase at each step of the collaborative process.

II.5.3 In rare cases, it may become apparent during the development of a common document that one or more specific technical differences are necessary in order to take into account the needs of ITU-T and of the organization. All proposed differences are carefully examined to ensure there is a legitimate need for these. In such a case, the common document is to include the full technical material needed by each organization with wording that specifically identifies any text that is applicable only to one organization. If consensus cannot be reached, the collaboration may cease as specified in clause 8.3.

II.6 Progress reporting

II.6.1 The ITU-T Question is responsible for providing written reports of its meetings to its parent study group. Similarly, the group in the organization is responsible for reporting the results of its meetings to its parent group following normal procedures. These reports summarize the results of the meeting including agreements reached, areas identified for further study, the status of collaborative progress, and projected upcoming milestones (see Appendix IV).

II.6.2 These reports, or appropriate extracts, are conveyed to the other group using the normal liaison procedure (see Appendix I). Meeting reports contain sufficient information to enable the collaborative work to mutually progress in both organizations as effectively as possible.

Appendix III

Guidelines for collaboration using a common team

The basic concept of collaboration using a common team is to perform all development, consensus building, and ballot/comment resolution efforts in common meetings to produce mutually agreed common (or technically-aligned) documents.

III.1 Establishing a common team

III.1.1 Upon agreement by the ITU-T study group and the relevant group in the organization that a specific area of work is to be developed collaboratively in common meetings, a common team is established with participants from both organizations (see clause 8.2).

III.1.2 The common team has either a single convenor agreed upon by the ITU-T study group and the relevant group in the organization, or co-convenors, one appointed by each organization. In the case of co-convenors, the chairing of meetings can be on a rotational basis or as otherwise agreed by the common team.

III.1.3 Eligibility for attendance at a common team meeting is determined by the requirements of each organization.

III.1.4 The common team uses the procedures described below to build consensus and to achieve synchronization of approvals with the aim of leading to publication of common (or technically-aligned) documents (see Appendix IV).

III.1.5 The terms of reference (see clause 8.2) or mode of collaboration can be changed at any time by mutual agreement of the ITU-T study group and of the relevant group in the organization. It is recommended that collaboration also continues for the ongoing maintenance phase (see clause 10). Procedures for terminating a collaborative work are covered in clause 8.3.

III.2 Meetings

III.2.1 Each common team meeting is properly scheduled in advance. The common team is responsible for making its own meeting arrangements and schedule, subject to agreement by the ITU-T study group and by the organization. In ITU-T, a meeting of the common team is considered as a rapporteur meeting of the relevant Question (see clauses 2.3.3.10 to 2.3.3.15 of [ITU-T A.1]).

III.2.2 Generally, hosts for common team meetings alternate between ITU-T and the organization, but they may also be cooperatively hosted with appropriate agreement. It is recommended that common team meetings be scheduled at the same location and time as the respective ITU-T study group or relevant group in the organization, although meetings may also be scheduled at other times and locations.

III.2.3 It is recommended that the convenor(s) of the common team maintain a mailing list of all individuals who wish to be informed of the meetings of the common team.

III.2.4 Meeting notices and the agenda respect the deadlines of both ITU-T (e.g., a convening letter for rapporteur meetings is posted, normally at least two months prior to the meeting, on the study group webpage) and the organization. It is recommended that the meeting notice identifies the meeting as one of both ITU-T and the organization, and that the meeting notice and agenda are sent for posting to the ITU-T study group secretariat and to the secretariat of the organization. Each agenda provides a list of documents to be considered, including previous meeting reports and input contributions (see clause III.3).

III.2.5 Communication between an ITU-T Question (or rapporteur group) and a common team is also done through liaison statements. It is expected that the relevant group in the organization also communicates with a common team by way of liaison statements.

III.3 Contributions

III.3.1 Contributions to the work of the common team may be provided by ITU-T members or by members of the organization. Each contribution indicates its source.

III.3.2 Contributions to be considered at a common team meeting are normally in the hands of the common team convenor(s) at least twelve calendar days in advance. Late contributions will only be considered upon agreement by the meeting participants, in particular to accommodate particular deadlines or meeting dates of the organization.

III.3.3 All contributions to the common team, regardless of their means of submission, will be identified and maintained by the common team in a document register.

III.3.4 It is recommended that the convenor(s) maintain a mailing list of the common team participants and ensure timely distribution of contributions and meeting output documents to eligible participants.

III.4 Editor in case of a common document

NOTE – In the case of technically-aligned documents, each organization nominates one or more Editor(s) for its own document.

III.4.1 It is strongly recommended that the common team appoints a single Editor to produce and maintain the single master common document, normally in accordance with [Author's Guide].

III.4.2 The draft master common document will be updated only when agreement to the specific text has been made by the common team. Each iteration of the draft common document are dated. Changes from the previous draft are highlighted by change marks.

III.4.3 The appointed Editor is responsible for the common document through draft iterations and final submission to the secretariats for publication (see clause 9). The individual selected for this task commits to following the work through to completion so that continuity can be maintained throughout the effort.

III.5 Achieving consensus

III.5.1 The functions of the common team meetings are three-fold: the development and editing of draft documents, and resolution of ballots and comments. The common team meetings are only authorized to deal with the specific collaborative projects identified in the terms of reference (see clause 8.3).

III.5.2 In responding to the requirements of the designated collaborative projects, the development of draft documents is a consensus building process.

III.5.3 Balloting, or voting, by the common team during the development of draft documents is considered inappropriate in reaching a consensus and could be counter-productive. The common team consensus is built through discussion, acceptance, compromise, and, if necessary, informal polling of delegates to sample the state of agreement. It would also be appropriate to record in meeting reports points of consensus, as well as any specific reservations that meeting delegates have on particular issues.

III.5.4 Topics of concern to only the ITU-T or to only the organization may be addressed by sub-group meetings held within the framework of the common team meeting.

III.5.5 In rare cases, it may become apparent during the development of a common document that one or more specific technical differences are necessary in order to take into account the needs of ITU-T and of the organization. All proposed differences are carefully examined to ensure there is a legitimate need for these. In such a case, the common document is to include the full technical material needed by each organization with wording that specifically identifies any text that is applicable only to one organization.

III.5.6 The approval processes will be conducted according to the established procedures of each organization with the adaptation and synchronization described in Appendix IV. It is recommended to convene a ballot resolution meeting as soon as practical after the close of a ballot/comment period to review and resolve the results. The group is normally chaired by the common team convenor(s) or the editor of the draft document.

III.5.7 The purpose of a ballot resolution meeting is to resolve as many of the negative comments as possible without invalidating any affirmative positions. The goal is to achieve agreements resulting in the greatest possible consensus. This can be done provided that all affected representatives are satisfied with the handling of the comments.

III.6 Progress reporting

III.6.1 The common team is responsible for providing written reports of each meeting to the ITU-T study group and to the relevant group in the organization. These reports summarize the results of the meeting including agreements reached, areas identified for further study, the status of collaborative progress, and projected upcoming milestones (see Appendix IV).

III.6.2 Comments and/or instructions may be provided back to the common team from the ITU-T study group and from the relevant group in the organization.

Appendix IV

Guidelines for synchronization of approval processes

To facilitate closer collaboration in building consensus, this appendix explains how to synchronize approvals between the ITU-T study group and the organization in order to lead to the publication of common (or technically-aligned) documents.

IV.1 Each organization retains its individual procedures for approving the result of the collaboration work. The following clauses describe how these procedures are synchronized for the different stages of approval.

NOTE – In the case of the development of technically-aligned documents, the approval processes do not require exact timing synchronization as explained below. In the case of the development of non-normative documents (i.e., Supplements or other types of non-normative documents in ITU-T), the following process needs to be adapted.

IV.2 As outlined in clause II.6 (in the case of collaborative work), each group keeps its parent body informed of the progress of the collaborative work. As outlined in clause III.6 (in the case of a common team), the common team keeps the ITU-T Question and the relevant group in the organization informed of the progress of the collaborative work. When the work has progressed to a point where a schedule for synchronized approval can be established with a degree of confidence, it is important for the two groups (in the case of collaborative work) or the common team to jointly plan the specific steps, taking into account scheduled dates of meetings of the ITU-T study group and of the relevant group in the organization.

IV.3 When the groups (in case of collaborative work) or the common team decide that the draft has reached a point of maturity and that the synchronized approval process may commence, each organization is advised of the decision.

IV.4 The following subclauses only apply if the organization has one or more intermediate levels of balloting (before final balloting for approval).

IV.4.1 The organization distributes the draft document for comment to its members.

IV.4.2 At the same time, the draft document is distributed to the ITU-T study group members for review and comment. ITU-T member comments are provided by means of contributions within the same time period. The organization considers all responses together.

IV.4.3 In the case of collaborative work, both sets of responses are made available to the ITU-T Question as well as to the relevant group in the organization. Both groups coordinate their efforts in resolving all received comments and producing the revised draft document.

IV.4.4 In the case of a common team, both sets of responses are made available to the common team which resolves all received comments and produces the revised draft document (see clauses III.5.6 and III.5.7).

IV.4.5 If the changes are substantive and if another intermediate level of balloting (before final balloting for approval) is available in the organization, clause IV.4 is recursively applied.

IV.5 When all issues have been resolved to the satisfaction of both organizations, the organization conducts the final balloting for approval according to the following subclauses.

NOTE – If a problem is indicated on the side of the organization which would delay approval, this is immediately conveyed to the ITU-T study group so that appropriate action can be taken and, if necessary, a new synchronized plan established.

IV.5.1 At the same time, the draft document is distributed to the ITU-T study group members for review and comment. ITU-T member comments are provided by means of contributions within the same time period. The organization considers all responses together.

IV.5.2 Also during this time period, TSB will review the document and submit comments, if any.

IV.5.3 In the case of collaborative work, both sets of responses are made available to the ITU-T Question as well as to the relevant group in the organization. Both groups coordinate their efforts in resolving all received comments and producing the revised draft document.

IV.5.4 In the case of a common team, both sets of responses are made available to the common team which resolves all received comments and produces the revised draft document (see clauses III.5.6 and III.5.7).

IV.5.5 It is at this point where synchronization is critical. The first controlling factor is the date of the ITU-T study group (or working party) meeting where determination (TAP) or consent (AAP) or agreement (non-normative documents) is to be obtained. At this meeting, the balloting has normally concluded in the organization and a revised draft document is published as a TD in time for the ITU-T study group (or working party) meeting. However, the ITU-T study group (or working party) meeting may accept to consent (for AAP) or determine (for TAP) a draft document pending further adjustments based on the result of the balloting in the organization.

NOTE – It is understood that the stable draft document would always be available for comments to ITU members for the AAP Last Call or TAP consultation (see clause IV.5.6).

IV.5.6 The second controlling factor is that the balloting has concluded in the organization and a revised draft document is produced for ITU-T approval:

a) for TAP: by 4 months before the ITU-T study group (or working party) meeting where approval is to be obtained so that the Director of TSB can issue a letter announcing the intent to approve the Recommendation at the upcoming study group (or working party) meeting;

b) for AAP: normally by 2 months after the ITU-T study group (or working party) meeting where consent was obtained so that the Director of TSB can announce the Last Call for approval of the Recommendation;

c) for agreement (in case of non-normative documents): at least seven calendar days before the ITU-T study group (or working party) meeting (see clause 3.3.3 of [ITU-T A.1]).

IV.6 If no negative votes and no technical comments are submitted during the AAP Last Call or the TAP consultation, or discussion at the study group (or working party) meeting in case of agreement, and if, in the case of TAP, the following ITU-T study group (or working party) meeting approves the document, the organization is informed and the document is published according to clause 9.

IV.7 If negative votes and/or technical comments are submitted during the AAP Last Call or the TAP consultation, or if comments are made at the study group (or working party) meeting in the case of agreement, the comments are resolved according to the following subclauses.

NOTE – If an ITU-T Member State indicates a problem which would prevent approval, this is immediately conveyed to the organization so that appropriate action can be taken and, if necessary, a new synchronized plan established.

IV.7.1 In the case of collaborative work, the ITU-T Question resolves all received comments and produces the revised draft document. Comments and the revised draft document are also made available to the organization.

IV.7.2 In the case of a common team, the team resolves comments and produces the revised draft document (see clauses III.5.6 and III.5.7).

IV.7.3 If the changes are substantive, this is immediately conveyed to the organization to find an appropriate solution:

a) In case of technically-aligned documents, the organization considers whether some or all of the changes can be applied to its own document or if the documents are published separately.

b) In case of a common document, if the organization can conduct another final balloting for approval, clause IV.5 is applied once again (for an additional review in ITU-T in the case of AAP) and the approval in ITU-T is delayed.

c) Otherwise, the ITU-T study group and the organization may decide to publish the document as either technically-aligned documents or separately.

Appendix V

Guidelines for multilateral collaboration

This appendix explains how the processes described in previous appendices can be generalized to a multilateral collaboration (including the development of multiple documents) between ITU-T and more than one organization in a given area of work, while avoiding the approval of multiple bilateral agreements.

NOTE – The rest of this Supplement covers bilateral collaboration as this is the most common case. In case of multilateral collaboration as introduced in this appendix, some parts of the text (e.g., "the other organization", "two", "both") should be understood to apply to multiple organizations according to the conventions given in clause 5.

V.1 When it is recognized that other organizations are working on the same area as an ITU-T study group and that coordination with them is complicated, the study group may consider establishing a multilateral collaboration to avoid incompatibility between standards and for a more efficient use of resources.

NOTE 1 – Before establishing multilateral collaboration as proposed in this appendix, the study group is expected to investigate whether a focus group (see [ITU-T A.7]) is feasible.

NOTE 2 – This appendix does not apply when the multilateral collaboration only involves ITU-T and ITU-R study groups because an intersector coordination group or an intersector rapporteur group can then be established (see Annexes B and C of [WTSA Res. 18]). The Inter-Sector Coordination Team could also consider the matter.

V.2 Each of the organizations involved in multilateral collaboration needs to be qualified (see clause 6).

V.3 The terms of reference for the multilateral collaboration are established as explained in clause 8.2. Different instances of the three modes of collaboration (see clause 7) may be described, depending on the subset of organizations involved in the development of particular common (or technically-aligned) documents. The terms of reference are mutually agreed by all organizations involved in the multilateral collaboration.

PART III

Chairmen and vice-chairmen of TSAG, the ITU telecommunication standardization study groups and the Standardization Committee for Vocabulary appointed by WTSA-20

TSAG – Telecommunication Standardization Advisory Group

Group	Name		Country/ Company	
TSAG	**Mr Abdurahman**	**AL HASSAN**	**Saudi Arabia**	**Chairman**
TSAG	Ms Miho	NAGANUMA	NEC Corporation, Japan	Vice-Chairman
TSAG	Ms Fang	LI	China (P.R.)	Vice-Chairman
TSAG	Mr Omar	AL-ODAT	Jordan	Vice-Chairman
TSAG	Mr Guy-Michel	KOUAKOU	Côte d'Ivoire	Vice-Chairman
TSAG	Mr Isaac	BOATENG	Ghana	Vice-Chairman
TSAG	Mr Olivier	DUBUISSON	France	Vice-Chairman
TSAG	Mr Tobias	KAUFMANN	Germany	Vice-Chairman
TSAG	Ms Gaëlle	MARTIN-COCHER	InterDigital Canada Ltée	Vice-Chairman
TSAG	Mr Víctor Manuel	MARTÍNEZ VANEGAS	Mexico	Vice-Chairman
TSAG	Mr Ulugbek	AZIMOV	Republic of Uzbekistan	Vice-Chairman

Study Group 2 – Operational aspects of service provision and telecommunication management

Group	Name		Country/ Company	
SG2	**Mr Philip Mark**	**RUSHTON**	**United Kingdom**	**Chairman**
SG2	Mr Vijay Kumar	ROY	India	Vice-Chairman
SG2	Ms Yanchuan	WANG	China (P.R.)	Vice-Chairman
SG2	Mr In Seop	LEE	Korea (Rep. of)	Vice-Chairman
SG2	Mr Hossam	ABD EL MAOULA SAKER	Egypt	Vice-Chairman
SG2	Mr Rashid	AL MAMMARI	United Arab Emirates	Vice-Chairman
SG2	Mr Yaw Boamah	BAAFI	Ghana	Vice-Chairman
SG2	Mr Ramazan	YILMAZ	Turkey	Vice-Chairman
SG2	Mr Philippe	FOUQUART	France	Vice-Chairman
SG2	Mr Fernando	HERNÁNDEZ Sánchez	Uruguay	Vice-Chairman

Study Group 3 – Tariff and accounting principles and international telecommunication/ICT economic and policy issues

Group	Name		Country/ Company	
SG3	**Mr Ahmed**	**SAID**	**Egypt**	**Chairman**
SG3	Mr S.K.	MISHRA	India	Vice-Chairman
SG3	Mr Hui	CHEN	China (P.R.)	Vice-Chairman
SG3	Ms Eriko	HONDO	KDDI Corporation, Japan	Vice-Chairman
SG3	Mr Omar Ali	ALNEMER	United Arab Emirates	Vice-Chairman
SG3	Mr Zuhair	AL-ZUHAIR	Kuwait	Vice-Chairman
SG3	Ms Karima	MAHMOUDI	Tunisia	Vice-Chairman
SG3	Ms Aminata	THIAM DRAME	Senegal	Vice-Chairman
SG3	Mr Frederick	ASUMANU	Ghana	Vice-Chairman
SG3	Ms Marthe	UWAMARIYA	Rwanda	Vice-Chairman
SG3	Mr Mihail	ION	Romania	Vice-Chairman
SG3	Ms Liliana Nora	BEIN	Argentina	Vice-Chairman
SG3	Ms Ena	DEKANIC	United States	Vice-Chairman

Study Group 5 – Environment, climate change and circular economy

Group	Name		Country/ Company	
SG5	**Mr Dominique**	**WÜRGES**	**France**	**Chairman**
SG5	Ms Shuguang	QI	China (P.R.)	Vice-Chairman
SG5	Mr Byung Chan	KIM	Korea (Rep. of)	Vice-Chairman
SG5	Mr Kazuhiro	TAKAYA	NTT Corporation, Japan	Vice-Chairman
SG5	Ms Nevine	TEWFIK	Egypt	Vice-Chairman
SG5	Mr Vincent Urbain	NAMRONA	Central African Republic	Vice-Chairman
SG5	Mr Jean-Manuel	CANET	France	Vice-Chairman
SG5	Mr Beniamino	GORINI	Nokia Corporation Finland	Vice-Chairman
SG5	Mr Pedro	BRISSON	Argentina	Vice-Chairman
SG5	Mr Saidiahrol	SAIDIAKBAROV	Republic of Uzbekistan	Vice-Chairman

Study Group 9 – Television and sound transmission and integrated broadband cable networks

Group	Name		Country/ Company	
SG9	**Mr Satoshi**	**MIYAJI**	**KDDI Corporation, Japan**	**Chairman**
SG9	Mr Tae Kyoon	KIM	Korea (Rep. of)	Vice-Chairman
SG9	Mr Pradipta	BISWAS	India	Vice-Chairman
SG9	Mr Zhifan	SHENG	China (P.R.)	Vice-Chairman
SG9	Mr Blaise	CORSAIRE MAMADOU	Central African Republic	Vice-Chairman

Study Group 11 – Signalling requirements, protocols, test specifications and combating counterfeit products

Group	Name		Country/ Company	
SG11	**Mr Ritu Ranjan**	**MITTAR**	**India**	**Chairman**
SG11	Mr Namseok	KO	Korea (Rep. of)	Vice-Chairman
SG11	Ms Xiaojie	ZHU	China (P.R.)	Vice-Chairman
SG11	Ms Arezu	OROJLU	Iran (Islamic Republic of)	Vice-Chairman
SG11	Mr Karim	LOUKIL	Tunisia	Vice-Chairman
SG11	Mr Ibrahim	ABDALLA	Sudan	Vice-Chairman
SG11	Mr Kofi Ntim	YEBOAH-KORDIEH	Ghana	Vice-Chairman
SG11	Mr Uwe	BAEDER	Rohde & Schwarz GmbH & Co. KG	Vice-Chairman
SG11	Mr Juan Matías	CATTANEO	Argentina	Vice-Chairman
SG11	Mr João Alexandre Moncaio	ZANON	Brazil	Vice-Chairman

Study Group 12 – Performance, quality of service and quality of experience

Group	Name		Country/ Company	
SG12	**Ms Tania**	**VILLA TRAPALA**	**Mexico**	**Chairman**
SG12	Ms Lei	YANG	China (P.R.)	Vice-Chairman
SG12	Mr Seong-Ho	JEONG	Korea (Rep. of)	Vice-Chairman
SG12	Mr Kazuhisa	YAMAGISHI	NTT Corporation, Japan	Vice-Chairman
SG12	Mr Zeid	ALKADI	Jordan	Vice-Chairman
SG12	Mr Ammar	ABDALLAH	Sudan	Vice-Chairman
SG12	Mr Abdulrahman	AL-DHBIBAN	Saudi Arabia	Vice-Chairman
SG12	Mr Collins	MBULO	Zambia	Vice-Chairman
SG12	Ms Yvonne	UMUTONI	Rwanda	Vice-Chairman
SG12	Mr Edoyemi	OGOH	Nigeria	Vice-Chairman
SG12	Mr Mehmet	ÖZDEM	Turkey	Vice-Chairman
SG12	Mr Sergio Daniel	D'UVA	Argentina	Vice-Chairman

Study Group 13 – Future networks, with focus on IMT-2020, cloud computing and trusted network infrastructures

Group	Name		Country/ Company	
SG13	**Mr Kazunori**	**TANIKAWA**	**Japan**	**Chairman**
SG13	Mr Hyung-Soo	KIM	Korea (Rep. of)	Vice-Chairman
SG13	Mr Abhay Shanker	VERMA	India	Vice-Chairman
SG13	Ms Yuan	ZHANG	China (P.R.)	Vice-Chairman
SG13	Ms Rim	BELHASSINE-CHERIF	Tunisia	Vice-Chairman
SG13	Ms Soumaya	BENBARTAOUI	Algeria	Vice-Chairman
SG13	Mr Faleh	AL-GHAMDI	Saudi Arabia	Vice-Chairman
SG13	Mr Brice	MURARA	Rwanda	Vice-Chairman
SG13	Mr Mark	McFADDEN	United Kingdom	Vice-Chairman
SG13	Mr Bülent	ARSAL	Turkey	Vice-Chairman
SG13	Ms Anabel	DEL CARMEN CISNEROS	Argentina	Vice-Chairman
SG13	Mr Scott Andrew	MANSFIELD	Ericsson Canada, Canada	Vice-Chairman
SG13	Mr Mehmet	TOY	United States	Vice-Chairman
SG13	Mr O.N.	ASADOV	Republic of Uzbekistan	Vice-Chairman

Study Group 15 – Networks, technologies and infrastructures for transport, access and home

Group	Name		Country/ Company	
SG15	**Mr Glenn Wilson**	**PARSONS**	**Ericsson Canada**	**Chairman**
SG15	Mr Fatai	ZHANG	China (P.R.)	Vice-Chairman
SG15	Mr Sudipta	BHAUMIK	India	Vice-Chairman
SG15	Mr Taesik	CHEUNG	Korea (Rep. of)	Vice-Chairman
SG15	Mr Mohamed Amine	BENZIANE	Algérie Télécom	Vice-Chairman
SG15	Mr Cyrille Vivien	VEZONGADA	Central African Republic	Vice-Chairman
SG15	Mr Emanuele	NASTRI	Italy	Vice-Chairman
SG15	Mr Thomas	HUBER	United States	Vice-Chairman

Study Group 16 – Multimedia coding, systems and applications

Group	Name		Country/ Company	
SG16	**Mr Zhong (Noah)**	**LUO**	**China (P.R.)**	**Chairman**
SG16	Mr Ashok	KUMAR	India	Vice-Chairman
SG16	Mr Hideki	YAMAMOTO	OKI Electric Industry Co. Ltd, Japan	Vice-Chairman
SG16	Mr Shin-Gak	KANG	Korea (Rep. of)	Vice-Chairman
SG16	Ms Sarra	REBHI	Tunisia	Vice-Chairman
SG16	Mr Charles Zoé	BANGA	Central African Republic	Vice-Chairman
SG16	Mr Per	FRÖJDH	Sweden	Vice-Chairman
SG16	Mr Justin	RIDGE	United States	Vice-Chairman
SG16	Mr A.A.	SAVURBAEV	Republic of Uzbekistan	Vice-Chairman

Study Group 17 – Security

Group	Name		Country/ Company	
SG17	**Mr Heung Youl**	**YOUM**	**Korea (Rep. of)**	**Chairman**
SG17	Mr Pushpendra Kumar	SINGH	India	Vice-Chairman
SG17	Mr Yutaka	MIYAKE	KDDI Corporation, Japan	Vice-Chairman
SG17	Mr Liang	WEI	China (P. R.)	Vice-Chairman
SG17	Mr Abderrazak	BACHIR BOUIADJRA	Algérie Télécom	Vice-Chairman
SG17	Ms Laialy A.	ALMANSOURY	Kuwait	Vice-Chairman
SG17	Ms Afnan	AL-ROMI	Saudi Arabia	Vice-Chairman
SG17	Ms Wala	TURKI LATROUS	Tunisia	Vice-Chairman
SG17	Mr Kwadwo Gyamfi	OSAFO-MAAFO	Ghana	Vice-Chairman
SG17	Mr Samir Gaber	ABDEL-GAWAD	Egypt	Vice-Chairman
SG17	Ms Lía	MOLINARI	Argentina	Vice-Chairman
SG17	Mr Greg	RATTA	United States	Vice-Chairman
SG17	Mr Gökhan	EVREN	Turkey	Vice-Chairman
SG17	Mr Arnaud	TADDEI	United Kingdom	Vice-Chairman

Study Group 20 – Internet of things (IoT) and smart cities and communities (SC&C)

Group	Name		Country/ Company	
SG20	**Mr Hyoung Jun**	**KIM**	**Korea (Rep. of)**	**Chairman**
SG20	Mr Ziqin	SANG	China (P.R.)	Vice-Chairman
SG20	Mr Toru	YAMADA	Japan	Vice-Chairman
SG20	Mr Harin S	GREWAL	Singapore	Vice-Chairman
SG20	Mr Ramy	AHMED FATHY	Egypt	Vice-Chairman
SG20	Mr Muath	AL-RUMAYH	Saudi Arabia	Vice-Chairman
SG20	Mr Ali	ABBASSENE	Algeria	Vice-Chairman
SG20	Mr Achime Malick	NDIAYE	Senegal	Vice-Chairman
SG20	Mr Emmanuel	MANASSEH	Tanzania	Vice-Chairman
SG20	Mr Fabio	BIGI	Italy	Vice-Chairman
SG20	Ms Shane	HE	Nokia Corporation Finland	Vice-Chairman
SG20	Mr Héctor Mario	CARRIL	Argentina	Vice-Chairman

Standardization Committee for Vocabulary

Group	Name		Country/ Company	
SCV	**Ms Rim**	**BELHAJ**	**Tunisia**	**Chairman (French)**
SCV	Mr Paul	NAJARIAN	United States	Vice-Chairman (English)
SCV	Vacant			Vice-chairman (Arabic)
SCV	Mr Tong	WU	China (P.R.)	Vice-Chairman (Chinese)
SCV	Vacant			Vice-chairman (Spanish)

PART IV

Titles of the Questions approved for study by the Telecommunication Standardization Sector

1 Study Group 2

Question number	Question title
A/2	Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunications services
B/2	Routing and interworking plan for current and future networks
C/2	Service and operational aspects of telecommunications, including service definition
D/2	Requirements, priorities and planning for telecommunication/ICT management and operation, administration and maintenance (OAM) Recommendations
E/2	Management architecture and security
F/2	Interface specifications and specification methodology

2 Study Group 3

Question number	Question title
A/3	Development of charging and accounting/settlement mechanisms for current and future international telecommunication/ICT services and networks
B/3	Study of economic and policy factors relevant to the efficient provision of international telecommunication services
C/3	Regional studies for the development of cost models together with related economic and policy issues
D/3	International Internet and fibre cables connectivity including relevant aspects of Internet protocol (IP) peering, regional traffic exchange points, fibre cables optimization, cost of provision of services and impact of transition from Internet protocol version 6 (IPv6) deployment
E/3	International mobile roaming issues (including charging, accounting and settlement mechanisms and roaming at border areas)
F/3	Economic aspects of alternative calling procedures in the context of international telecommunications/ICT services and networks
G/3	Economic and policy aspects of the Internet, convergence (services or infrastructure) and OTTs in the context of international telecommunication/ICT services and networks
H/3	Competition policy and relevant market definitions related to the economic aspects of international telecommunication services and networks
I/3	Economic and policy aspects of big data and digital identity in international telecommunications services and networks
J/3	Economic and policy issues pertaining to international telecommunication/ICT services and networks that enable Mobile Financial Services (MFS)

3 Study Group 5

Question number	Question title
A/5	Electrical protection, reliability, safety, and security of ICT systems
B/5	Protecting equipment and devices against lightning and other electrical events
C/5	Human exposure to electromagnetic fields (EMFs) due to digital technologies
D/5	Electromagnetic compatibility (EMC) aspects in ICT environment
E/5	Environmental efficiency of digital technologies
F/5	E-waste, circular economy, and sustainable supply chain management
G/5	Guides and terminology on environment
H/5	Climate change and assessment of digital technologies in the framework of the Sustainable Development Goals (SDGs) and the Paris Agreement
I/5	Climate change mitigation and smart energy solutions
J/5	Adaptation to climate change through sustainable and resilient digital technologies
K/5	Building circular and sustainable cities and communities

4 Study Group 9

Question number	Question title
A/9	Transmission and delivery control of television and sound programme signal for contribution, primary distribution and secondary distribution
B/9	Methods and practices for conditional access and content protection
C/9	Guidelines for implementations and deployment of transmission of multichannel digital television signals over optical access networks and Hybrid Fibre-Coaxial (HFC)
D/9	Software components, application programming interfaces (APIs), frameworks and overall software architecture for advanced content distribution services within the scope of Study Group 9
E/9	Functional requirements for terminal devices of the integrated broadband cable network
F/9	Transmission control and interfaces (MAC layer) for IP and/or packet-based data over integrated broadband cable networks
G/9	The Internet protocol (IP) enabled multimedia applications and services for cable television networks enabled by converged platforms
H/9	Requirements, methods, and interfaces of the advanced service platforms to enhance the delivery of audiovisual content, and other multimedia interactive services over integrated broadband cable networks
I/9	Work programme, coordination and planning
J/9	Accessibility to cable systems and services
K/9	AI-enabled enhanced functions over integrated broadband cable network

Question number	Question title
A/11	Signalling and protocol architectures for telecommunication networks and guidelines for implementations
B/11	Signalling requirements and protocols for services and applications in telecommunication environments
C/11	Signalling requirements and protocols for emergency telecommunications
D/11	Protocols for control, management and orchestration of network resources
E/11	Signalling requirements and protocols for border network gateway in the context of network virtualization and intelligentization
F/11	Protocols supporting control and management technologies for IMT-2020 network and beyond
G/11	Signalling requirements and protocols for network attachment and edge computing for future networks, IMT-2020 network and beyond
H/11	Protocols supporting distributed content networking, information centric network (ICN) technologies for future networks, IMT-2020 network and beyond
I/11	Testing of internet of things, its applications and identification systems
J/11	Monitoring parameters for protocols used in emerging networks, including cloud/edge computing and software-defined networking/network function virtualization (SDN/NFV)
K/11	Testing of cloud, SDN and NFV
L/11	Combating counterfeit and stolen telecommunication/ICT devices
M/11	Test specifications for protocols, networks and services for emerging technologies, including benchmark testing
N/11	Combating counterfeit or tampered telecommunication/ICT software

Question number	Question title
A/12	SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T
B/12	Definitions, guides and frameworks related to quality of service/quality of experience (QoS/QoE)
C/12	Objective methods for speech and audio evaluation in vehicles
D/12	Telephonometric methodologies for handset and headset terminals
E/12	Analysis methods for speech and audio using complex measurement signals
F/12	Methodologies, tools and test plans for the subjective assessment of speech, audio and audiovisual quality interactions
G/12	Perceptual-based objective methods and corresponding evaluation guidelines for voice and audio quality measurements in telecommunication services
H/12	Conferencing and telemeeting assessment
I/12	Operational aspects of telecommunication network service quality and end-to-end performance considerations
J/12	Quality of experience (QoE), quality of service (QoS) and performance requirements and assessment methods for multimedia applications
K/12	Development of models and tools for multimedia quality assessment of packet-based video services
L/12	Parametric and E-model-based planning, prediction and monitoring of conversational speech and audio-visual quality
M/12	Performance of packet-based networks and other networking technologies
N/12	Objective and subjective methods for evaluating perceptual audiovisual quality in multimedia and television services
O/12	Perceptual and field assessment principles for quality of service (QoS) and quality of experience (QoE) of digital financial services (DFS)

7 Study Group 13

Question number	Question title
A/13	Networks beyond IMT2020: Quality of service (QoS) mechanisms
B/13	Networks beyond IMT-2020 and machine learning: Requirements and architecture
C/13	Networks beyond IMT-2020: Network softwarization
D/13	Networks beyond IMT2020: Emerging network technologies
E/13	Networks beyond IMT2020: Fixed, mobile and satellite convergence
H/13	Future Networks: Deep packet inspection and network intelligence
I/13	Future Networks: Requirements and capabilities for computing including cloud computing and data handling
J/13	Future Networks: Functional architecture for computing including cloud computing and data handling
K/13	Future Networks: End-to-end management, governance, and security for computing including cloud computing and data handling
L/13	Applying Future Networks and innovation in developing countries
M/13	Future Networks: Trustworthy and Quantum Enhanced Networking and Services
N/13	Future Networks: Innovative service scenarios, including environmental and socio economical aspects
O/13	Next-generation network (NGN) evolution with innovative technologies including software-defined networking (SDN) and network function virtualization (NFV)

Question number	Question title
A/15	Coordination of access and home network transport standards
B/15	Optical systems for fibre access networks
C/15	Technologies for in-premises networking and related access applications
D/15	Broadband access over metallic conductors
E/15	Characteristics and test methods of optical fibres and cables, and installation guidance
F/15	Characteristics of optical components, subsystems and systems for optical transport networks
G/15	Connectivity, operation and maintenance of optical physical infrastructures
H/15	Characteristics of optical fibre submarine cable systems
I/15	Interfaces, interworking, OAM, protection and equipment specifications for packet-based transport networks
J/15	Signal structures, interfaces, equipment functions, protection and interworking for optical transport networks
K/15	Transport network architectures
L/15	Network synchronization and time distribution performance
M/15	Management and control of transport systems and equipment

9 Study Group 16

Question number	Question title
A/16	Multimedia and digital services coordination
B/16	Artificial intelligence-enabled multimedia applications
C/16	Visual, audio and signal coding
D/16	Immersive live experience systems and services
E/16	Multimedia systems, terminals, gateways and data conferencing
F/16	Intelligent visual systems and services
G/16	Content delivery, multimedia application platforms and end systems for IP-based television services including digital signage Content delivery, multimedia application platforms and end systems for IP-based television services including digital signage
H/16	Multimedia framework, applications and services
I/16	Multimedia aspects of distributed ledger technologies and e-services
J/16	Digital culture-related systems and services
K/16	Human factors for intelligent user interfaces and services
L/16	Accessibility to multimedia systems and services
M/16	Vehicular multimedia communications, systems, networks, and applications
N/16	Multimedia framework for digital health applications

10 Study Group 17

Question number	Question title
A/17	Security standardization strategy and coordination
B/17	Security architecture and network security
C/17	Telecommunication information security management and security services
D/17	Cybersecurity and countering spam
E/17	Security for telecommunication services and Internet of Things (IoT)
F/17	Secure application services
G/17	Cloud computing and big data infrastructure security
H/17	Identity management and telebiometrics architecture and mechanisms
I/17	Generic technologies (such as Directory, PKI, formal languages, object identifiers) to support secure applications
J/17	Intelligent transport system (ITS) security
K/17	Distributed ledger technology (DLT) security
L/17	Security for/by emerging technologies including quantum-based security

11 Study Group 20

Question number	Question title
A/20	Interoperability and interworking of IoT and SC&C applications and services
B/20	Requirements, capabilities and architectural frameworks across verticals enhanced by emerging digital technologies
C/20	IoT and SC&C architectures, protocols and QoS/QoE
D/20	Data analytics, sharing, processing and management, including big data aspects, of IoT and SC&C
E/20	Study of emerging digital technologies, terminology and definitions
F/20	Security, privacy, trust and identification for IoT and SC&C
G/20	Evaluation and assessment of smart sustainable cities and communities

Part V

Reports and documents of the Assembly

Section V-1 – Plenary reports

V-1.1 – INAUGURAL CEREMONY and FIRST PLENARY MEETING

(Tuesday, 1 March 2022, 1100-1230 hours, and 1430-1750 hours)

Chairman: Mr Houlin Zhao; ITU Secretary General

Mr Fabio Bigi (Italy), Dean of the Assembly

Later: Mr Bruce Gracie (Canada)

1 Opening and inaugural ceremony

The Dean of the WTSA-20, **Mr Fabio Bigi**, Italy, as the oldest head of delegation, opened the Assembly in accordance with the General Rules of Conferences, Assemblies and meetings of the Union (GR 52).

Mr Bilel Jamoussi read out the note contained in Document INF/1, which gives guidance with respect to remote participation.

2 Opening address by ITU Secretary General

The ITU Secretary-General, **Mr Houlin Zhao,** welcomed the delegates to Geneva in his opening address (Document C47).

3 Speeches and interventions by Member States

Several Member States took the floor and made statements. The Plenary agreed to include all statements in this report. The statements can be found in Annex 1.

4 Approval of agenda

The agenda (Document ADM/3-R1) was adopted.

5 Election of Chairman of the Assembly

Mr Bruce Gracie (Canada) was elected by acclamation as WTSA-20 Chairman of the Assembly, as proposed by the Heads of Delegation meeting (Document DT/5-R1).

6 Address by the Chairman of the Assembly

The Chairman, Mr Bruce Gracie, provided his opening address wherein he recognized the novel situation of an Assembly having both physical and remote participation. He added that many proposals had been submitted to this Assembly, which would have two days less than WTSA-16 to complete the work. Because of the constraint of fewer working hours, there would be a need to work diligently and efficiently to achieve consensus. This would entail the need to make compromises for reaching agreements, and to be as flexible as possible in finding solutions. He also added that there could also be instances when it might be necessary to refer some issues for further analysis and development to TSAG, to Council or to the Plenipotentiary Conference.

7 Address by the Director of the Telecommunication Standardization Bureau (TSB)

The Director of the Telecommunication Standardization Bureau (TSB), Mr Chaesub Lee, provided his opening address, wherein he highlighted the importance of digital transformation to the global future. He promoted the trusted ITU-T standardization platform as being instrumental for building international standards in the ICT domain such as for 5G, Internet of Things and trust in ICTs in areas such as healthcare, financial services, road safety and Smart Sustainable Cities and Communities, where ITU-T Focus Groups innovate on new areas such as Artificial Intelligence for Good and bring-in new industries and private sector bodies.

8 Election of the Vice-Chairmen of the Assembly

The Plenary appointed the following five WTSA-20 Vice-Chairmen by acclamation (Document DT/5-R2) as proposed by the Head of Delegation meeting.

- Mr Yoichi MAEDA (APT, Japan),
- Mr Tobias KAUFMANN (CEPT, Germany),
- Mr Mohamed AL RAMSI (LAS, United Arab Emirates),
- Mr Kwame BAAH-ACHEAMFUOR (ATU, Ghana),
- and Ms Tania VILLA (CITEL, Mexico).

The Plenary agreed to place the name of Mr Alexey Borodin in square backets for continuing consultations.

9 Establishment of Committees (Structure of the Assembly)

The Plenary approved the structure of the Assembly and the mandates of the Committees and the Working Groups of the Committees (Document DT/4).

- Committee 1 – Steering Committee
- Committee 2 – Budget Control
- Committee 3 – Working methods of ITU-T
- Working Group A of Committee 3 (WG3A)

- Working Group B of Committee 3 (WG3B)
- Committee 4 – ITU-T work programme and organization
- Working Group A of Committee 4 (WG4A)
- Working Group B of Committee 4 (WG4B)
- Committee 5 – Editorial Committee.

10 Election of Committee and Working Group Chairmen and Vice-Chairmen

The Assembly elected the Chairmen and Vice-Chairmen of the Committees and Working Groups by acclamation (Document DT/5-R2).

The Plenary agreed to place the name of Mr Konstantin Trofimov in square backets for continuing consultations until resolution.

The Russian Federation invited Ukraine to nominate a candidate for Committee 5.

11 Secretariat of WTSA-20

The Chairman informed the meeting of the Secretariat of WTSA-20 (Document DT/6).

Mr Bilel Jamoussi provided general information on the Secretariat and organization of the Assembly.

12 Draft time management plan

The Plenary approved the time management plan in Document DT/3. The Chairman pointed out that the time management plan would be revised according to the progress of the Assembly.

13 List of contributions/proposals and allocation of documents to Plenary, Committees and Working Groups

The Plenary took note of Document DT/1.

14 Suppression of Resolution 35

The Plenary, with proposals in documents C36Add5-R1, C37Add6, C38Add3, C39Add1, C40Add1, to suppress Resolution 35 "Appointment and maximum term of office for chairmen and vice-chairmen of study groups of the Telecommunication Standardization Sector and of the Telecommunication Standardization Advisory Group", agreed to suppress Resolution 35 in light of the approval of Resolution 208 by the 2018 Plenipotentiary Conference.

15 Contributions addressed to Plenary

The Plenary discussed Document C46-R1 with proposals for the work of the Assembly by Germany (Federal Republic of), Argentine Republic, Australia, Austria, Bahamas (Commonwealth of the), Bulgaria (Republic of), Canada, Denmark, El Salvador (Republic of), Finland, France, Hungary, Lithuania (Republic of), Mexico, Norway, Netherlands (Kingdom of the), Slovak Republic, Czech Republic, Romania, United Kingdom of Great Britain and Northern Ireland, and Sweden.

The Plenary concluded:

- The General Rules are the procedures to be followed in the work over the course of this Assembly.
- The objective is to reach consensus by working efficiently and to agree as early and on as many issues as possible.
- To rely on the Steering Committee (COM1) to determine if there is a need for working outside of the normal hours for this Assembly, and to minimize the number of hours that will be needed in order to achieve consensus on any particular issue.

16 Tribute to deceased delegates

The Assembly observed a minute of silence in tribute to the delegates deceased since WTSA-16 (Document C41).

17 Expression of appreciation to retired delegates

The Chairman thanked the retired delegates for their valuable contributions to the standardization work of ITU (Document C42).

18 Conclusions of the 4th Global Standards Symposium

The 4th Global Standards Symposium took place on 28 February 2022 with the theme of international standards to enable digital transformation to achieve the Sustainable Development Goals (SDGs).

H.E. Ms Nele Leosk, Ambassador-at-Large for Digital Affairs, Ministry of Foreign Affairs, Estonia, presented in Document C43-R1 the conclusions of the 4th Global Standards Symposium.

The Chairman, on behalf of the Assembly, thanked **H.E. Ms Nele Leosk** for her chairmanship of GSS-20.

The Plenary took note of the GSS-20 conclusions, and expects TSAG, as mandated by Resolution 22, will be considering the results of this Assembly concerning GSS and take follow-up actions, as appropriate.

19 Report of the Telecommunication Standardization Advisory Group

The Chairman of TSAG, Mr Bruce Gracie, presented the reports of TSAG to WTSA-20 (in Documents C23, C24, C25, C26).

Document C23 "REPORT OF THE TELECOMMUNICATION STANDARDIZATION ADVISORY GROUP TO THE WORLD TELECOMMUNICATION STANDARDIZATION ASSEMBLY (WTSA-20), PART I: GENERAL" summarizes the organization and key results of achievements of TSAG and its seven Rapporteur Groups during this study period through its nine TSAG meetings. With respect to matters of regional groups and Resolution 54, Annex 2 highlights the summary of outcomes for TSAG Rapporteur Group on Creation, Participation and Termination of Regional Groups (RG-CPTRG). With respect to the proposals on restructuring, Appendix I provides additional information on the draft action plan for the analysis of ITU-T Study group restructuring.

Document C24 "REPORT OF THE TELECOMMUNICATION STANDARDIZATION ADVISORY GROUP TO THE WORLD TELECOMMUNICATION STANDARDIZATION ASSEMBLY (WTSA-20), PART II: DRAFT REVISED RESOLUTIONS" captures the status of discussion of the TSAG meeting 10-17 January 2022 and contains the material that was agreed by TSAG to be sent to WTSA-20: Appendix I contains draft revised Resolution 1, draft revised Resolution 20, draft revised Resolution 29, and draft revised Resolution 67; and Appendix II contains additional information concerning required improvements to Resolution 1 Section 7.

Document C25 "REPORT OF THE TELECOMMUNICATION STANDARDIZATION ADVISORY GROUP TO THE WORLD TELECOMMUNICATION STANDARDIZATION ASSEMBLY (WTSA-20), PART III: DRAFT REVISED RECOMMENDATIONS OF THE ITU-T A-SERIES" captures the status of discussion of the TSAG meeting 10-17 January 2022 and contains the material that was agreed by TSAG to be sent to WTSA-20: Appendix I contains draft revised Recommendation ITU-T A.1, and draft revised Recommendation ITU-T A.5.

Document C26 "Report of the Telecommunication Standardization Advisory Group to the World Telecommunication Standardization Assembly (WTSA-20), Part IV: TSAG report in respect of Resolution 22" contains the report that TSAG is required to submit to WTSA-20 in respect of the actions taken by TSAG in this regard. Each section heading corresponds to respective 'resolves' of Resolution 22.

The Plenary thanked the TSAG Chairman and his team for the excellent work accomplished.

The Plenary took note of the reports and invited COM3 and COM4 to make use of the reports as deemed appropriate.

20 Report of the Standardization Committee for Vocabulary

The Chairman of the Standardization Committee for Vocabulary (SCV), Ms Rim Belhaj, Tunisia, presented the report of the SCV in Document C30.

The Chairman thanked Ms Rim Belhaj for her leadership in the SCV, and the Plenary took note of her report.

21 Report of the Director of TSB

Mr Chaesub Lee, Director of the Telecommunication Standardization Bureau, presented his report of activities in ITU-T for the 2017-2021 study period (Documents C28, and C28 Add.1).

The Chairman thanked Mr Lee for his great support and the accomplished results for the Telecommunication Standardization Sector, and the Plenary took note of the report.

22 Action Plan related to the Resolutions and Opinion of WTSA-16, and TSB Director Reports to WTSA-20 on WTSA Resolutions 40, 44, 55, 64, 65, 68, 69, 72, 73, 89, and PP Resolution 102

The Plenary took note of Document C34, which contains the WTSA action plan and its implementation and assessment for the 2017-2021 study period. This document also includes the reports of the TSB Director to WTSA-20 on WTSA Resolutions 40, 44, 55, 64, 65, 68, 69, 72, 73 and 89, and PP Resolution 102.

The Plenary thanked the TSB Director, all TSB staff and all delegates very much for all the efforts to support the activities during this study period and for having achieved excellent results.

23 Presentations of the ITU-T study group Chairmen

The following Chairmen gave summaries of the achievements of their study groups in the 2017-2021 study period (Documents C1, C3, C5, C7, C9, C11, C13-R1, C15, and C17, supplemented by presentation slides, please see https://www.itu.int/en/ITU-T/wtsa20/presentations, Document DT/7).

- ITU-T SG2, Operational aspects, Mr Phil Rushton, UK, Chairman ITU-T SG2 (Document C1)
- ITU-T SG3, Tariff and accounting principles and international telecommunication/ICT economic and policy issues, Mr Seiichi Tsugawa, Japan, Chairman ITU-T SG3 (Document C3)
- ITU-T SG5, Environment, climate change and circular economy, Ms Shuguang Qi, China, acting Chairman ITU-T SG5 (Document C5)
- ITU-T SG9, Broadband cable and TV, Mr Satoshi Miyaji, Japan, Chairman ITU-T SG9 (Document C7)
- ITU-T SG11, Signalling requirements, protocols, test specifications and combating counterfeit products, Mr Andrey Kucheryavy, Russia, Chairman ITU-T SG11 (Document C9)
- ITU-T SG12, Performance, QoS and QoE, Mr Kwame Baah-Acheamfuor, Ghana, Chairman ITU-T SG12 (Document C11)
- ITU-T SG13, Future networks, with focus on IMT-2020, cloud computing and trusted network infrastructures, Ms Rim Belhassine-Cherif, Tunisia, Vice-Chairman of SG13, on behalf of Mr Leo Lehmann, Switzerland, Chairman ITU-T SG13 (Document C13-R1)

- ITU-T SG15, Transport, Access and Home, Mr Stephen Trowbridge, USA, Chairman ITU-T SG15 (Document C15), and

- ITU-T SG16, Multimedia, Mr Noah Luo, China, Chairman ITU-T SG16 (Document C17)

It was agreed, due to lack of time, to defer the consideration of the reports from SGs 17 and 20 until the next Plenary.

The TSB Director on behalf of the ITU membership expressed his thanks to the Chairmen of the study groups, TSAG and the SCV for their outstanding work accomplished during the study period and handed out certificates of appreciation as follows:

– Mr Phil Rushton	ITU-T Study Group 2
– Mr Seiichi Tsugawa	ITU-T Study Group 3
– Ms Shuguang Qi	ITU-T Study Group 5
– Mr Satoshi Miyaji	ITU-T Study Group 9
– Mr Andrey Kucheryavy	ITU-T Study Group 11
– Mr Kwame Baah-Acheamfuor	ITU-T Study Group 12
– Mr Leo Lehmann	ITU-T Study Group 13
– Mr Steve Trowbridge	ITU-T Study Group 15
– Mr Noah Luo	ITU-T Study Group 16
– Mr Heung-Youl Youm	ITU-T Study Group 17
– Mr Nasser Al Marzouqi	ITU-T Study Group 20
– Mr Bruce Gracie	ITU-T TSAG
– Ms Rim Belhaj	ITU-T SCV.

24 Any other business

None.

25 Closing of the first plenary

The Chairman adjourned the meeting at around 1750 hours.

Annex 1
(to the inaugural ceremony and first plenary meeting report)

Statements

1 Statement by Ukraine

Secretary-General, Distinguished Delegates, Excellencies, ladies and gentlemen, I have the honour to speak on behalf of the delegation of Ukraine. Within the aspects of the national digital transformation agenda, the government of Ukraine and ITU are working effectively on the technological advancement of our country. We stress on the importance of work of the ITU as one of the oldest United Nations specialized agencies for information and communication technologies. Its role was particularly relevant during the period of COVID-19 pandemic.

Today, all the efforts of the international community and this organization, among others, to build back and flourish are under blatant and non-provoked attack. On 24th February, the Russian Federation, supported by the Republic of Belarus, launched numerous strikes on peaceful Ukrainian cities. Russian Federation commits an act of aggression and attack on the sovereignty and territorial integrity of Ukraine. A brutal violation of the U.N. charter and basic norms and principles of international law. The attacks by rockets, bombs and artillery are targeting critical telecommunication infrastructure, telecom services are unstable and population experiencing outages of the mobile networks. But most terrifying, are causing human losses.

Distinguished Delegates, let us commemorate the victims of the Russian aggression in Ukraine and observe a moment in complete silence.

(Moment of silence).

I thank you.

Secretary-General, Ukraine calls on the international community and this Assembly to act immediately. Only united and decisive actions can stop Kremlin's aggression against Ukraine. In particular, we're convinced that in this darkest hour the ITU membership will not support the Russian officials, including to the positions of Chairs and Vice-Chairs of the study groups. Lives, security, wellbeing of Ukrainian citizens are at stake. But also, security of citizens of the entire Europe and the future of the world depend on our joint and unified response.

2 Statement by France on behalf of 27 European countries

I have the honour to speak on behalf of the European Union and its Member states.

The Candidate Countries Montenegro[1] and Albania*, and the EFTA countries Iceland, and Norway, members of the European Economic Area, as well as Ukraine, and Georgia align themselves with this statement.

In this dark moment for Europe and the international community, the European Union and its Member States condemn in the strongest possible terms the unprecedented military aggression of the Russian Federation against Ukraine. By its unprovoked, unjustified and premeditated military actions, the Russian Federation is grossly violating international law, the core principles on which the international rules-based order is built, and the fundamental principles of the UN Charter that have prevailed since WWII. It is an attack towards what the UN, Geneva as a capital of multilateralism, and ITU as its oldest agency, stand for.

The EU and its MS also condemn the involvement of Belarus in this aggression against Ukraine.

We will hold both the Government of the Russian Federation and Belarus accountable for the casualties and destruction.

This is a war at the heart of Europe, which undermines European and global security and stability, and that cannot be ignored here, in Geneva, today. Such use of force and coercion to change borders has no place in the 21st century.

We call on Russian Federation to immediately cease the hostilities, withdraw its military forces from Ukraine and to fully respect Ukraine's territorial integrity, sovereignty and independence. We stand by the people of Ukraine and its democratically elected institutions and representatives.

The EU and its Member States made clear from the outset and at the highest political level that any further military aggression against Ukraine would have massive consequences and severe costs. Consequently, both sectoral and individual restrictive measures have been adopted by the EU but also by many other countries.

Leading up to and during the invasion by the Russia Federation, Ukraine has experienced destruction of critical infrastructure, failure of telecom services and mobile phone outages across the country.

Without repeating further our clear demands made towards the Russian Federation, the EU and its MS recall here in Geneva, the capital of human rights and humanitarian action, the legal obligation and moral duty of Russian Federation and the armed formations backed by the Russia Federation to guarantee human rights, respect international humanitarian law, and to allow safe and unhindered humanitarian access and assistance to all persons in need.

[1] Montenegro and Albania continue to be part of the Stabilization and Association Process.

Finally, the EU and its MS call on the ITU membership as well as the broader international community to demand the Russian Federation the immediate end of this aggression, which endangers international peace and security at a global scale.

We request that this statement be included in the minutes of this meeting.

3 Statement by United States on behalf of United States, Australia, Canada, United Kingdom, Japan, Ghana, and Korea (Republic of)

Mr. Chair, Secretary-General Zhao, other elected officials, ITU staff, and all ITU members,

Good morning. It is great to see so many of you in-person here in Geneva. I often hear that the ITU is like a family, and we take great pride in being part of that family.

But what should be a joyous occasion – that is, finally convening the World Telecommunication Standardization Assembly after almost a year and a half delay due to the global pandemic and our first in-person ITU meeting since early 2020 – has been marred by the recent actions of the Russian Federation.

First, let me say that we stand steadfastly with Ukraine and condemn in the strongest terms Russia's premeditated, unprovoked, and unjustifiable attack. We call on Russia to cease its aggression against Ukraine and its flagrant violations of international law.

As much as we share a deep sense of shock, sadness, and anger, we also want to commend the bravery, resilience, and determination that we have seen from the Ukrainian people in the past week in defending their country, homes, rights, and freedoms. This should never have happened, but the response from Ukraine has been truly inspiring.

We are gathered here in Geneva at the ITU to continue our shared goal, premised on the UN Charter and the Constitution and Convention of ITU, to develop telecommunication/ICT networks and enable people around the world to communicate, access information, and share ideas. It is hard work, but noble work.

But the events of the past week have made it clear that the Russian Federation does not share our goals. The Russian Federation's invasion of Ukraine is, as U.S. Ambassador Thomas-Greenfield said last week, "tantamount to an attack on the UN."

How can we trust Russia to abide by anything we agree to in this setting, when it flagrantly disregards international law and many foundational international norms and principles in its attack on Ukraine?

We can hardly address the Russian proposals for cooperation in this sphere while Russia continues its egregious and illegal efforts in Ukraine. Until the current crisis in Ukraine is resolved peacefully, we will have to treat proposals by the Russian Federation with extreme scepticism.

We continue to call on the ITU Secretary-General and the directors of the three bureaus to continue to take all necessary actions to assist Ukraine to ensure the use of its telecommunications resources in accordance with the Constitution and Convention of the ITU and the Administrative Regulations.

Luckily, this meeting belongs to the whole ITU membership, not just the Russian Federation. We look forward to making progress with other Member States throughout this conference.

4 Statement by the Russian Federation

On behalf of the Russian Federation and our delegation I would like to make a number of clarifications. We, just like all members of the ITU, also support the cease of the military conflict. We have not taken the floor to support the previous statements by Ukraine or the E.U., but we also stood up with a minute of silence to honour the memory of all those who have died. The President of the Russian Federation has called for Ukrainian military units to lay down arms. We will prepare the relevant statement and in line with the procedure we'll send it to the ITU Secretariat. I would also like to say that the Russian Federation has repeatedly said concerning the events in Ukraine, reminding that this conflict started not today but eight years ago with the genocide of the Russian population, Russian culture as well as the unwillingness to hear the free will of the Donetsk and Luhansk people's republic, this is not a conflict launched but being ended. I would also like to express support for our colleagues and allies who share our view. I would like to say that ITU is not a platform for political decisions, it is a technical platform that ensures cooperation of all countries with this organization.

5 Because the term "genocide" was voiced, a number of Member States and their delegations left the room for a brief period.

6 Statement by United Kingdom

The United Kingdom of Great Britain and Northern Ireland stand in solidarity with Ukraine and fully aligns with the position set out in the joint statement delivered by the U.S. Ambassador as well as the statement of the European Union and its Member States and associate countries.

We would further like to respond to the statement of the Russian Federation: We, the ITU Member States have all gathered here to discuss the vital technical business of setting standards and norms for the ICT and telecom sector. Yet, we do this against the backdrop of an egregious violation of international law and the U.N. charter by one of the Member States of this organization. The United Kingdom and its partners raise this not to detract from the important work of this conference, but because we must remember one fundamental principle, that the agreements we reach in these organizations, the norms and rules that we agree to only serve their purpose if members honour them. We do not believe the U.N. is an organization can simply ignore the events taking place in Ukraine. As a permanent member of the U.N. Security Council, Russia has a particular responsibility to uphold international peace and security. Instead, it is violating the borders of another country and its actions are causing widespread suffering.

The U.K. and our international partners stand united in condemning the Russian government's reprehensible actions.

7 Statement by Canada

Canada joins Ukraine and other countries to strongly condemn the unjustifiable and unprovoked invasion of Ukraine.

This is not just an attack on Ukraine. This is an attack on international law and order on the United Nations as well as democracy, freedom and human rights. Russia's reckless, unjustified actions have serious, and far-reaching consequences within the U.N. and the ITU. Canada stands with the Government of the Ukraine, the E.U. and the signatories of the U.S. statement.

V-1.2 – SECOND PLENARY MEETING

(Friday, 4 March 2022, 1600-1730 hours)

1 Opening

The Chairman opened the second plenary meeting. He reminded the Assembly about arrangements and working methods for the remaining three days of the conference, where numerous ad-hoc groups, drafting sessions and informal consultations had been planned for the weekend, and the imperative need to work very hard on the weekend to achieve consensus on as many issues as possible and to try to reach consensus.

2 Approval of agenda

The agenda (in Document ADM/14) was adopted with the removal of DT/22, DT/30 in agenda item 7.2.

3 Expression of appreciation to WTPF-21 leaders

The Secretary General expressed his appreciation to the Minister for Communications and Digitalisation of Ghana, Mrs. Ursula Owusu-Ekuful, and to Mr. Fabio Bigi, Italy, and awarded them certificates of appreciation for the critical role they played before and during the sixth World Telecommunication/ICT Policy Forum (WTPF-21) organized by ITU as a virtual event in December 2021.

The Plenary expressed congratulations also to Mr Roberto Mitsuake Hirayama (Federative Republic of Brazil), to the Secretary General, and to the staff for their support of WTPF-21.

4 Report of the opening ceremony and first plenary meeting, 1 March 2022

The Chairman presented the draft report of the opening ceremony and the first plenary meeting, 1 March 2022 (in Document C48-R2). The Plenary approved Document C48-R2 with the understanding that further consultations would take place regarding the name of the RCC representatives.

5 Presentations of the ITU-T study group Chairmen (continued)

The following Chairmen gave summaries of the achievements of their study groups in the 2017-2021 study period (Documents C19 and C21, supplemented by presentation slides, please see https://www.itu.int/en/ITU-T/wtsa20/presentations, Document DT/7).

- ITU-T SG17, Security, Mr Heung-Youl Youm, Chairman ITU-T SG17 (Document C19)
- ITU-T SG20, Internet of things (IoT) and smart cities and communities (SC&C), Mr Fabio Bigi, Italy, Vice Chairman ITU-T SG20 on behalf of Mr Nasser Al Marzouqi, Chairman ITU-T SG20 (Document 21).

6 Draft new Resolution [IAP-3], Use of in-person and virtual options on an equal footing in the activities of the ITU Telecommunication Standardization Sector

A representative from Uruguay, on behalf of CITEL, presented Document C39 Add.23 (ref. IAP/39A32/1), which proposes a draft new Resolution [IAP-3] on use of in-person and virtual options on an equal footing in the activities of the ITU Telecommunication Standardization Sector.

The Plenary was conscious that the technical aspects concerning (electronic) working methods are addressed in Committee 3 and in Working Group 3A pertaining to WTSA Resolution 32.

Furthermore, the Plenary was also conscious of ongoing and related work in the TSAG Ad hoc Group on the governance and management of e-meetings (TSAG AHG-GME), and also of possible implications on other matters of financial, operational and legal nature pertaining to the scope of Council and the Plenipotentiary Conference with regard to changes to the General Rules that would potentially be necessary if this particular proposal is to be implemented.

The Plenary asked the Director of TSB to bring this proposal to the attention of the TSAG Ad hoc Group on the governance and management of e-meetings, to the Council, and to the Plenipotentiary Conference.

7 Progress reports by Committee Chairmen

7.1 The Chairman provided a status update of the first and second sessions of Committee 1 "Steering Committee". TSB provided additional information concerning the expanded hosting of ad-hoc groups, drafting sessions and informal consultations for the weekend with remote participation support, and other logistical information.

It was emphasized that it was necessary to work diligently and efficiently to achieve consensus, to make compromises for reaching agreements and to be as flexible as possible in finding solutions.

7.2 The Chairman of Committee 2, "Budget control", Mr Bahtiyar Mammadov, gave a status report of Committee 2.

The plenary agreed for Committee 2 to take into consideration a document by Council addressing unfunded mandatory activities pertaining to the TSB.

7.3 The Chairman of Committee 3, "Working Methods of ITU-T", Mr Steve Trowbridge, gave a status report of Committee 3.

7.4 The Chairman of Committee 4, "ITU-T work programme and organization", Mr Philip Rushton, gave a status report of Committee 4.

7.5 The Chairman of Committee 5, "Editorial Committee", Ms Rim Belhaj, gave a status report of Committee 5. She stated that WTSA-20 delegates wishing to participate in COM5 meetings could do so upon request.

7.6 The Plenary took note of the reports.

7.7 The Plenary approved the reports of the first meeting (Document C50), and of the second meeting (Document C51) of Committee 4.

8 Proposed new Question on OTTs

With reference to the proposal stated in clause 6.2 of Document C50, WTSA-20 agreed to instruct ITU-T Study Group 3 to consider the proposed new Question on OTTs (in AFCP/35A33/1).

9 WTSA-24

India presented in Document INF/3 their letter from the Indian Government with the invitation to host WTSA-24.

The Plenary thanked India for their kind offer to host the next Assembly (WTSA-24) in 2024 in India, with the understanding, that the proposal will be further formalized and approved through Council.

10 Any other business

Delegates were appealed to work diligently and efficiently to achieve consensus, to make compromises for reaching agreements, and to be as flexible as possible in finding solutions. Night sessions should be avoided.

11 Closing of the second plenary

The Chairman adjourned the meeting at around 1730 hours.

V-1.3 – THIRD PLENARY MEETING

(Monday, 7 March 2022, 1600-1700 hours)

1 Opening

The Chairman opened the third plenary meeting.

2 Approval of agenda

The agenda (Document ADM/30) was adopted, with the addition of Documents C61, C68 and C69 for COM4's second, first, and third series of texts to the Editorial Committee, and DT/77 (available just during the course of the plenary) to agenda item 3.4, and correction of C30 to read C50 in agenda item 3.4.

As Documents C66 and C70, and documents for the agenda items 10, …, 26 were not available during the course of the meeting, they were deferred to the next plenary session.

3 Progress reports by Committee Chairmen

3.1 The Chairman indicated the possibility of an additional COM1 session to be scheduled on Tuesday, if so necessary, and pending outcome of the heads-of-delegation meeting.

3.2 The Vice Chairman of Committee 2, "Budget control", Mr Santiago Reyes-Borda, gave a status report of Committee 2.

3.3 The Chairman of Committee 3, "Working Methods of ITU-T", Mr Steve Trowbridge, gave a status report of Committee 3.

3.4 The Chairman of Committee 4, "ITU-T work programme and organization", Mr Philip Rushton, gave a status report of Committee 4.

Regarding [RCC/40A18/1], *New draft Resolution on hexadecimal numbering for MSISDN and IMSI*, WTSA-20 requested ITU-T SG2 to conduct further research on this topic.

The Chairman provided guidance to the Assembly that due to shortness of available time it is not intended to turn the plenary meeting into a drafting group to deliberate on square brackets or to resolve other contentious issues. Rather, it is preferred for the interested parties to continue trying to reach consensus, including scheduling additional ad-hoc groups, if feasible and if so possible. However, if consensus could not be reached and square brackets remain, then the default approach by the plenary would be to revert to no change.

3.5 The Chairman of Committee 5, "Editorial Committee", Ms Rim Belhaj, gave a status report of Committee 5.

3.6 The Plenary took note of the reports.

3.7 The Plenary approved the reports of the first, second and third COM3 meetings (Documents C62, C63 and C64).

4 First series of texts submitted by Editorial Committee to the Plenary Meeting (Res.34, Res.98) (Document C56)

The Plenary approved:

- revised Resolution 34 (Rev. Geneva, 2022), *Voluntary contributions*;
- revised Resolution 98 (Rev. Geneva, 2022), *Enhancing the standardization of Internet of things and smart cities and communities for global development*.

The Plenary further approved

- no change to Resolution 11 (Rev. Hammamet, 2016), *Collaboration with the Postal Operations Council of the Universal Postal Union in the study of services concerning both the postal and the telecommunication sectors*
- no change to Resolution 93 (Hammamet, 2016), *Interconnection of 4G, IMT-2020 networks and beyond;*
- no change to Recommendation ITU-T A.7, *Focus groups: Establishment and working procedures*

and WTSA-20 invites TSAG to continue studying ITU-T A.7 related issues;

- suppression of Resolution 66 (Rev. Hammamet, 2016), *Technology Watch in the Telecommunication Standardization Bureau.*

5 First series of texts submitted by COM4 to the Plenary meeting (Res.40, Res.48, Res.60 and Res.64) (Document C68)

The Plenary approved:

- revised Resolution 40 (Rev. Geneva, 2022), *Regulatory and policy aspects of the work of the ITU Telecommunication Standardization Sector*;
- revised Resolution 48 (Rev. Geneva, 2022), *Internationalized (multilingual) domain names;*

- revised Resolution 60 (Rev. Geneva, 2022), *Responding to the challenges of the evolution of the identification/numbering system and its convergence with IP-based systems/networks;*
- revised Resolution 64 (Rev. Geneva, 2022), *Internet protocol address allocation and facilitating the transition to and deployment of IPv6.*

The Plenary further approved

- no change to Resolution 88 (Hammamet, 2016), *International mobile roaming*;
- suppression of Resolution 59 (Rev. Dubai, 2012*), Enhancing participation of telecommunication operators from developing countries*.

6 Any other business

None.

7 Closing of the third plenary

The Chairman adjourned the meeting at around 1700 hours.

V-1.4 – FOURTH PLENARY MEETING

(Tuesday, 8 March 2022, 1430-1515 hours)

1 Opening

The Chairman opened the fourth plenary meeting.

2 Approval of agenda

The agenda (Document ADM/31 Rev.1) was adopted, with the addition of C73 with the note from COM4 to COM2.

As document C78 and documents for agenda items 13, …, 32 were not available during the course of the meeting, they were deferred to the next plenary session.

3 Proxy vote

The meeting took note of Document C81 wherein Cyprus gave proxy vote rights to Slovenia.

4 Progress reports by Committee Chairmen

4.1 The Chairman informed the meeting about the arrangements made that Committees 3 and 4 could continue after an early adjourn of the plenary.

4.2 The Vice Chairman of Committee 2, "Budget control", Mr Santiago Reyes-Borda, gave a status report of Committee 2.

4.3 The Chairman of Committee 3, "Working Methods of ITU-T", Mr Steve Trowbridge, gave a status report of Committee 3. The plenary advised COM3 to consider softening the language in the operational elements of the draft new Resolution on industry engagement, so as to be able to reach consensus.

4.4 The Chairman of Committee 4, "ITU-T work programme and organization", Mr Philip Rushton, gave a status report of Committee 4.

4.5 The Chairman of Committee 5, "Editorial Committee", Ms Rim Belhaj, gave a status report of Committee 5.

4.6 The Plenary took note of the reports.

4.7 The Plenary approved the reports of the fourth COM3 meeting in Document C66, the third COM4 meeting in Document C70 and the forth COM4 meeting in Document C82.

5 Second series of texts submitted by Editorial Committee to the Plenary Meeting (Res. 2) (Document C72)

The Plenary approved:

- revised Resolution 2 (Rev. Geneva, 2022), *ITU Telecommunication Standardization Sector study group responsibility and mandates*;

with the modification of the first bullet in the mandate of SG9 to read (see Document C72 Rev.1):

• use of telecommunication systems for contribution, primary distribution and secondary distribution of audio-visual content, e.g. television programmes and related data services, including interactive services and applications, providing advanced capabilities, e.g. ultra-high definition~~, multiview~~, and high-dynamic range, 3D, virtual reality, augmented reality~~,~~ and multiview~~etc.~~;

6 Third series of texts submitted by Editorial Committee to the Plenary Meeting (Res 20, 29, 43, 58, 61) (Document C75)

The Plenary approved:

- revised Resolution 20 (Rev. Geneva, 2022), *Procedures for allocation and management of international telecommunication numbering, naming, addressing and identification resources*;
- revised Resolution 29 (Rev. Geneva, 2022), *Alternative calling procedures on international telecommunication networks;*
- revised Resolution 43 (Rev. Geneva, 2022), *Regional preparations for world telecommunication standardization assemblies;*
- revised Resolution 58 (Rev. Geneva, 2022), *Encouraging the creation of national computer incident response teams, particularly for developing countries;*
- revised Resolution 61 (Rev. Geneva, 2022), *Countering and combating misappropriation and misuse of international telecommunication numbering.*

7 Fourth series of texts submitted by Editorial Committee to the Plenary Meeting (Res.65, Res.72, Res.73, 74, 76, 84, 95) (Document C79)

The Plenary approved:

- revised Resolution 65 (Rev. Geneva, 2022), *Calling party number delivery, calling line identification and origin identification information*;

- revised Resolution 72 (Rev. Geneva, 2022), *Measurement and assessment concerns related to human exposure to electromagnetic fields;*

- revised Resolution 73 (Rev. Geneva, 2022), *Information and communication technologies, environment and climate change;*

- revised Resolution 74 (Rev. Geneva, 2022), *Admission of Sector Members from developing countries in the work of the ITU Telecommunication Standardization Sector;*

- revised Resolution 76 (Rev. Geneva, 2022), *Studies related to conformance and interoperability testing, assistance to developing countries, and a possible future ITU Mark programme;*

- revised Resolution 84 (Rev. Geneva, 2022), *Studies concerning the protection of users of telecommunication/information and communication technology services;*

- revised Resolution 95 (Rev. Geneva, 2022), *ITU Telecommunication Standardization Sector initiatives to raise awareness on best practices and policies related to service quality*.

The Plenary further approved:

- no change to Recommendation ITU-T A.1 (2019/09), *Working methods for study groups of the ITU Telecommunication Standardization Sector*;

- no change to Recommendation ITU-T A.2 (2012/11), *Presentation of contributions to the ITU Telecommunication Standardization Sector;*

- no change to Resolution 32 (Rev. Hammamet, 2016), *Strengthening electronic working methods for the work of the ITU Telecommunication Standardization Sector.*

8 Approval of the ITU-T study group Questions

The Plenary approved the text of Questions and the allocation of Questions as agreed by COM4, for SG2 (Document C2), SG3 (Document C4-R1), SG5 (Document C6), SG9 (Document C8), SG11 (Document C10), SG12 (Document C12), SG13 (Document C14-R1), SG15 (Document C16-R1), SG16 (Document C18), SG17 (Document C20-R1) and SG20 (Document C22-R1).

9 Any other business

None.

10 Closing of the fourth plenary

The Chairman adjourned the meeting at around 1517 hours.

V-1.5 – FIFTH PLENARY MEETING

(Wednesday, 9 March 2022, 0930-1300 hours)

1 Opening

The Chairman opened the fifth plenary meeting.

2 Approval of agenda

The agenda (Document ADM/32 Rev.1) was adopted. Document C44 was agreed to be moved to the second part of the session.

As Documents C78 and C98 and documents of agenda items 10, …, 10.8 and 17 were not available during the course of the meeting, they were deferred to the next plenary session.

3 Proxy vote

The meeting took note of Document C83 for the proxy vote wherein Ireland gave proxy vote to Sweden.

4 Progress reports by Committee Chairmen

4.1 The Vice Chairman of Committee 2, "Budget control", Mr Santiago Reyes-Borda, presented the report of the budget control Committee (Committee 2) (Document C55).

4.2 The Chairman of Committee 3, "Working Methods of ITU-T", Mr Steve Trowbridge, gave a status report of Committee 3.

4.3 The Chairman of Committee 4, "ITU-T work programme and organization", Mr Philip Rushton, presented in Document C88 the final report of Committee 4.

4.4 The plenary agreed the following actions:

4.4.1 **WTSA-20 Action 1**: The Plenary agreed to include the text of the draft new Resolution on pandemic (see Annex 1) into the final WTSA report, and invited the Plenipotentiary Conference to consider the text in Annex 1 and take any necessary actions on this matter, as appropriate.

4.4.2 **WTSA-20 Action 2**: The Plenary instructs the TSB Director to inform the Directors of the other two Bureaux on the above request to the Plenipotentiary Conference for necessary coordination.

4.4.3 The Plenary agreed to include the text on "SMART Submarine Cable Systems", found below, in the meeting report of WTSA-20:

Taking into consideration that the Assembly acknowledged the importance of SMART (Science Monitoring and Reliable Telecommunications) Cables for climate change and seismic monitoring, and the wide support of the Assembly for the roll-out of activities around this concept within ITU-T Sector;

Considering that standardization of the submarine SMART cables is needed in order to ensure harmonized development, implementation and operation of these systems globally, making it possible to use submarine SMART cables for climate and ocean observation, sea level monitoring, observations of Earth structure, and tsunami and earthquake early warning and disaster risk reduction.

4.4.4 **WTSA-20 Action 3:** To forward the text above to TSAG for coordination and to the relevant study groups for action, as appropriate.

4.4.5 **WTSA-20 Action 4** instructs ITU-T study groups to study the concept of SMART cables and encourage further consideration of related issues that impact the feasibility of related projects and the deployment of SMART cables, invites the study groups to report on their activities to TSAG as part of their regular reporting.

4.4.6 **WTSA-20 Action 5** instructs the Director of the Telecommunication Standardization Bureau to liaise with the Joint Task Force (JTF) SMART Cables, other standards-development organizations (SDOs), research institutes and other organizations and stakeholders to exploit synergies and avoid duplication of efforts among such organizations.

4.4.7 **WTSA-20 Action 6** invites the Secretary-General to continue to cooperate and collaborate with other entities within the United Nations in formulating future international efforts related to SMART cables as they contribute to the achievement of the goals of the 2030 Agenda for Sustainable Development.

4.4.8 **WTSA-20 Action 7** invites *Member States, Sector Members and Associates to contribute actively to the work of the JTF SMART Cables;*

4.4.9 **WTSA-20 Action 8:** To include the considerations on "non radio aspects of Open Networks including standardization of Open Access Networks", found below, in the meeting report of WTSA-20.

A new resolution proposal was submitted to WTSA-20 on the development and adoption of open networks including open access networks for IMT systems (e.g. open radio access network) and key aspects of this topic were considered in the context of revisions to WTSA Resolution 92. The proposal emphasized the importance of this topic and the growing interests in promoting such innovative interoperable system components and network elements. In response to ITU resolutions on bridging the digital divide in broadband connectivity, particularly in developing countries, further collaboration is needed to make these technologies readily available in a cost-effective manner. WTSA-20 invites members to make proposals on this important topic to WTDC with the objective of promoting the wide adoption of these new technologies and solutions globally.

4.5 The Chairman of Committee 5, "Editorial Committee", Ms Rim Belhaj, gave a status report of Committee 5.

The Plenary, in accordance with WTSA Resolution 1 section 1.8, authorized the Editorial Committee to hold meetings after the closing of the assembly to complete its tasks as assigned by the assembly.

4.6 The Plenary took note of the reports.

4.7 The Plenary approved the reports in Documents C55, and C88.

5 Fifth series of texts submitted by Editorial Committee to the Plenary Meeting (Res.11, Res.18, Res.55, Res.67) (Document C85)

The Plenary approved:

- no change to Resolution 11 (Rev. Hammamet, 2016), *Collaboration with the Postal Operations Council of the Universal Postal Union in the study of services concerning both the postal and the telecommunication sectors*;

- revised Resolution 18 (Rev. Geneva, 2022), *Principles and procedures for the allocation of work to, and strengthening coordination and cooperation among, the ITU Radiocommunication, ITU Telecommunication Standardization and ITU Telecommunication Development Sectors*;

- revised Resolution 55 (Rev. Geneva, 2022), *Promoting gender equality in ITU Telecommunication Standardization Sector activities;*

- revised Resolution 67 (Rev. Geneva, 2022), *Use in the ITU Telecommunication Standardization Sector of the languages of the Union on an equal footing and the Standardization Committee for Vocabulary;*

  The Plenary took into account the financial implications as reported by Committee 2 in Document C55.

6 Sixth series of texts submitted by Editorial Committee to the Plenary Meeting (Document C86)

The Plenary approved:

- new Resolution [COM4/1] (Geneva, 2022), *Consideration of organizational reform of the ITU Telecommunication Standardization Sector study groups*.

7 Ninth series of texts submitted by Editorial Committee to the Plenary Meeting (Res.1) (Document C94) and Thirteenth series of texts submitted by Editorial Committee to the Plenary Meeting (Res.54) (Document C100)

7.1 The Plenary approved:

- revised Resolution 54 (Rev. Geneva, 2022), *Regional groups of study groups of the ITU Telecommunication Standardization Sector*.

7.2 Annex 2.1 holds the statement by United States on behalf of Australia, Austria, the Bahamas, Bulgaria, Canada, the Czech Republic, the Dominican Republic, France, Germany, Japan, Latvia, Liechtenstein, Lithuania, Mexico, the Netherlands, Portugal, Romania, Spain, Switzerland, Sweden, Ukraine, the United Kingdom and the United States.

7.3 The Plenary approved:

- revised Resolution 1 (Rev. Geneva, 2022), *Rules of procedure of the ITU Telecommunication Standardization Sector*.

7.3.1 The Plenary asked the Editorial Committee to consider the following two editorials

1) following guidance by Recommendation ITU-T A.13, the need to add the references for the missing dates and venues for former adoption in Resolution 1; and

2) to replace in clause 4.3*bis* the reference to suppressed Resolution 35 (Rev. Hammamet, 2016) by a reference to Resolution 208 (2018, Dubai).

8 Appointment of Chairmen and Vice-Chairmen in the Telecommunication Standardization Sector (2022-2024)

8.1 TSB presented Document C44, which contains the results of the extensive consultations that the TSB Director has had with the various regions and Member States concerning the appointment of Chairmen and Vice-Chairmen in the Telecommunication Standardization Sector (2022-2024), as was agreed by the heads-of-delegation meeting to be submitted to the Plenary.

8.2 The Chair explained that certain names appearing in C44 were placed in square brackets due to objections from several Member States during the consultations.

8.3 The Chairman noted a number of comments by Member States in the course of discussions related to this agenda item. A number of Member States requested that their statements be included in the report. These statements are reflected in Annex 2.

8.4 After discussion, the Chairman observed that there is overwhelming support by the Assembly to remove the names in square brackets, and consequently, he ruled that C44 is adopted without these names.

8.5 The Russian Federation appealed against this ruling of the Chairman and requested a vote by secret ballot.

8.6 Five delegations present and entitled to vote supported a secret ballot; the meeting proceeded accordingly.

8.7 The results of the vote were as follows:

53 votes in favour of the Chairman's ruling;

19 votes against the Chairman's ruling;

28 abstentions.

Therefore, the Secretariat announced that the Chairman's ruling was sustained, and that Document C44 was adopted without the names in square brackets, as published in Document C44 Rev.1.

9 Seventh series of texts submitted by Editorial Committee to the Plenary Meeting (Document C87)

The Plenary approved:

- revised Recommendation ITU T A.8, *Alternative approval process for new and revised ITU-T Recommendations*.

10 Eighth series of texts submitted by Editorial Committee to the Plenary Meeting (Res. 22, Res. 32, Res. 45, Rec. A.1, Rec. A.2, Rec. A.5, Rec. A.25) (Document C92)

The Plenary approved:

- revised Resolution 22 (Rev. Geneva, 2022), *Authorization for the Telecommunication* Standardization Advisory Group to act between world telecommunication standardization assemblies;
- suppression of Resolution 45 (Rev. Hammamet, 2016), *Effective coordination of standardization work across study groups in the ITU Telecommunication Standardization Sector and the role of the ITU Telecommunication Standardization Advisory Group;*
- revised Resolution 70 (Rev. Geneva, 2022), *Telecommunication/information and communication technology accessibility for persons with disabilities and persons with specific needs;*
- revised Recommendation ITU-T A.5, *Generic procedures for including references to documents of other organizations in ITU-T Recommendations*;

The Plenary asked the Editorial Committee to add the missing sentence "Relevant documents should be attached." to Annex A item 4).

- revised Recommendation ITU-T A.25, *Generic procedures for incorporating text between ITU-T and other organizations.*

11 Tenth series of texts submitted by Editorial Committee to the Plenary Meeting (Res. 7) (Document C95)

The Plenary approved:

- revised Resolution 7, (Rev. Geneva, 2022), *Collaboration with the International Organization for Standardization and the International Electrotechnical Commission*;

12 Twelfth series of texts submitted by Editorial Committee to the Plenary Meeting (Res.52, Res.54, Res.77, Res.87, Res.90) (Document C97)

The Plenary approved:

- no changes to Resolution 52 (Rev. Hammamet, 2016), *Countering and combating spam;*
- no changes to Resolution 77 (Rev. Hammamet, 2016), *Enhancing the standardization work in the ITU Telecommunication Standardization Sector for software-defined networking;*
- no changes to Resolution 87 (Hammamet, 2016), *Participation of the ITU Telecommunication Standardization Sector in the periodic review and revision of the International Telecommunication Regulations;*
- no changes to Resolution 90, (Hammamet, 2016), *Open source in the ITU Telecommunication Standardization Sector.*

13 Any other business

None.

14 Closing of the fifth plenary

The Chairman adjourned the meeting at around 1300 hours.

Annex 1

(to the fifth plenary meeting report)
DRAFT NEW RESOLUTION

The role of telecommunication/information and communication technologies in mitigating global pandemics

(Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) Resolution 74/270 of the United Nations General Assembly (UNGA), on global solidarity to fight the coronavirus disease 2019 (COVID-19), which calls on the United Nations system "to work with all relevant actors to mobilize a coordinated global response to the pandemic and its adverse social, economic and financial impact on all societies";

b) UNGA Resolution 74/306, on comprehensive and coordinated response to the coronavirus disease (COVID-19) pandemic;

c) United Nations Sustainable Development Goal (SDG) 3 (Ensure healthy lives and promote well-being for all at all ages), as well as SDG 9 (Build resilient infrastructure, promote sustainable industrialization and foster innovation) and SDG 11 (Make cities and human settlements inclusive, safe, resilient and sustainable) of the 2030 Agenda for Sustainable Development;

d) Article 40 of the ITU Constitution, on the priority of telecommunications concerning safety of life;

e) Article 46 of the Constitution, on distress calls and messages;

f) Article 5 of the International Telecommunication Regulations, on safety of life and priority of telecommunications;

g) Resolution 136 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the use of telecommunications/information and communication technologies for humanitarian assistance and for monitoring and management in emergency and disaster situations, including health-related emergencies, for early warning, prevention, mitigation and relief;

h) Resolution 175 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the use of telecommunication/information and communication technology accessibility for persons with disabilities and persons with specific needs;

i) Resolution 66 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference (WTDC) on information and communication technology and climate change;

j) Resolution 646 (Rev. WRC-19) of the World Radiocommunication Conference (WRC), on public protection and disaster relief;

k) WRC Resolution 647 (Rev. WRC-19), on radiocommunication aspects, including spectrum-management guidelines, for early warning, disaster prediction, detection, mitigation and relief operations relating to emergencies and disasters;

l) Resolution 202 (Busan, 2014) of the Plenipotentiary Conference, on using information and communication technologies to break the chain of health-related emergencies such as Ebola virus transmission;

m) Resolution 73 (Rev. Geneva, 2022) of this assembly, on Information and communication technologies, environment, climate change and circular economy;

n) Resolution 78 (Rev. Geneva, 2022) of this assembly, on information and communication technology applications and standards for improved access to e-health services;

o) Resolution 98 (Rev. Geneva, 2022) of this assembly, on enhancing the standardization of Internet of things and smart cities and communities for global development;

p) WTDC Resolution 34 (Rev. Buenos Aires, 2017), on the role of telecommunications/information and communication technologies (ICTs) in disaster preparedness, early warning, rescue, mitigation, relief and response;

q) Resolution 45 (Rev. Hammamet, 2016) of the World Telecommunication Standardization Assembly (WTSA), on effective coordination of standardization work across study groups in the ITU Telecommunication Standardization Sector and the role of the ITU Telecommunication Standardization Advisory Group;

r) Resolution 140 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on ITU's role in implementing the outcomes of the World Summit on the Information Society and the 2030 Agenda for Sustainable Development, as well as in their follow-up and review processes;

s*)* Opinion 5 of the World Telecommunication Policy Forum (WTPF-21), on use of telecommunications/ICTs in COVID-19 and future pandemic and epidemic preparedness and response,

recalling further

a) § 91 of the Tunis Agenda for the Information Society adopted by the second phase of WSIS;

b) item c) of § 20 of Action Line C7 (E-environment) of the Geneva Plan of Action adopted by the first phase of WSIS, on establishing monitoring systems, using ICTs, to forecast and monitor the impact of natural and man-made disasters, particularly in developing countries[2], least developed countries and small economies,

[2] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

recognizing

a) that the new COVID-19, pneumonia of unknown cause first reported to the World Health Organization (WHO) in late 2019, is a major public health crisis that has disrupted public life and dramatically changed the global society, including quarantine, strict social distancing, imposing a blockade, declaring a state of emergency, and even harsher measures to mitigate the spread of the disease;

b) that since such pandemics can cause numerous confirmed cases and deaths and could eventually lead to global economic crisis and depression, telecommunications/ICTs, and in particular new and emerging technologies, play a more prominent role in connecting remote populations allowing them to pursue their regular lives while preventing direct contact from each other and can help predict and monitor global pandemics;

c) the ongoing studies being carried out by relevant ITU-T study groups in using telecommunications/ICTs to facilitate the use of new and emerging technologies in mitigating global pandemics;

d) the REG4COVID platform created by the Telecommunication Development Bureau (BDT) as a way to collect information and case studies on responses to COVID-19 pandemic,

recognizing further

a) ITU's support for business resilience and the promotion of participation of micro, small and medium-sized enterprises;

b) ITU/WHO/United Nations Children's Fund (UNICEF) initiatives in providing up-to-date information on COVID-19;

c) that ICTs are an important and integral component of multi-hazard early warning systems and common alerting protocol, that manage and deliver alerting messages to those in affected areas and wider at national or international level, thereby allowing them to take action to mitigate the impacts of the hazard;

d) Recommendation ITU-T X.1303, on the common alerting protocol (CAP), which is a simple but general format for exchanging all-hazard emergency alerts and public warnings over all kinds of ICT networks, allowing a consistent warning message to be disseminated simultaneously over many different warning systems, thus increasing warning effectiveness while simplifying the warning task,

taking into account

a) some Member States have been transparent, open and adaptive in the process of robust testing, vigorous tracing and quick treatment of the patients to minimize the human suffering and to contain socio-economic consequences;

b) that such actions were enhanced by the use of telecommunications/ICTs in addition to finding cures and vaccines;

c) that these Member States are being asked to share their best practices on how they responded to COVID-19 using telecommunication/ICTs and how telecommunications/ICTs help social distancing, rapid testing and quick tracing to flatten the curve in the global pandemic;

d) that it is of further importance to take necessary measures pre-emptively before unexpected pandemics occur and travel around the world to prevent unnecessary deaths;

e) that ITU plays a role in the telecommunications/ICTs which are used for forecasting, monitoring and mitigating the impact of natural and man-made disasters, particularly in developing countries,

considering

a) that such necessary measures include ITU-T's crucial role in providing its deliverables such as Recommendations, technical reports and white papers to facilitate the use of telecommunications/ICTs at a suitable time and place for the right purpose of preventing the spread of global pandemics;

b) that ITU-T has already developed a number of Recommendations on telecommunications/ICTs, understanding the rising importance of telecommunications/ICTs that will impact a wide range of industries in the future;

c) that since a single ITU-T Recommendation cannot cover entirely developing ICT solutions to overcome global pandemics, it is crucial for ITU-T to harmonize these different Recommendations from a holistic point of view,

bearing in mind

a) that ITU-T's deliverables can act as useful references when deploying ICT solutions, which help people by keeping them alerted by predicting and detecting their surrounding environment;

b) that a culture of avoiding direct contact may carry on even after the pandemic ceases and such culture may dramatically shift the paradigm of the majority of industries including not only health care but also education, transportation and distribution;

c) that the change of culture requires leveraging and facilitating the use of telecommunications/ICTs, which is especially important to assist Member States to ensure timely access to information and infrastructure,

noting

a) the critical role played by telecommunications/ICTs to facilitate the use of new and emerging technologies in the fight against COVID-19;

b) that virtual meetings of study groups have been conducted by ITU-T;

c) the initiation of the AI for Good webinar series to encourage distanced participants who cannot travel due to the global pandemic;

d) that timely provision of ITU-T deliverables to develop ICT solutions to prevent the spread of global pandemics will make ITU-T deliverables more prominent and pervasive in the future society;

e) that ease of access to and better understanding of ITU-T deliverables will even help bridge the standardization gap,

resolves

1 to acknowledge that the role of telecommunications/ICTs will become more prominent in tackling global pandemics;

2 to collect and analyse the best practices of Member States in facilitating the use of telecommunications/ICTs to prevent the spread of global pandemics and lessons learned from their experience in containing the global crisis;

3 to identify existing deliverables and potential Recommendations of ITU-T based on the analysis of *resolves* 2 above;

4 to categorize the existing ITU-T deliverables for experts to easily and quickly search and adopt appropriate deliverables while developing ICT solutions in case of sudden occurrence of pandemics;

5 to publish the result of *resolves* 4 above online through various easily accessible appropriate multilingual publications;

6 to develop a standardization roadmap in order to facilitate better deployment of future ITU-T deliverables and systematically organize and initiate work on potential Recommendations on relevant telecommunications/ICTs,

instructs the Director of the Telecommunication Standardization Bureau

1 to support the activities of the ITU-T members to fulfil the *resolves* above by establishing appropriate working groups;

2 to facilitate the exchange of best practices to mitigate the pandemic with all relevant standards-development organizations (SDOs) and entities to create opportunities for cooperative efforts to support the active deployment and use of telecommunication/ICTs;

3 to continue to update Member States on how ITU-T assists in tackling future and emerging global pandemics using ICTs;

4 to review and facilitate consultations to the future actions of ITU-T study groups in response to the *resolves* above and institute a framework to ensure appropriate implementation of this resolution;

5 to submit a report on the progress in the implementation of this resolution to the next WTSA in 2024;

6 to cooperate closely with the Director of BDT;

i) in continuing the spread of awareness and knowledge to developing countries on the use of ICTs in emergencies and health care through the implementation and promotion of international standards;

ii) in providing all means and support in increasing global connectivity and the digitalization of daily life,

instructs the Director of the Telecommunication Standardization Bureau in collaboration with the Director of the Radiocommunication Bureau and Director of the Telecommunication Development Bureau

1 to continue facilitating, through the development and implementation of international standards, emerging telecommunications/ICTs that are used to forecast, monitor and mitigate epidemics before they transform into global pandemics;

2 to provide assistance, if requested, to Member States on updating their national telecommunication emergency plans (NTEP) taking into account the COVID-19 pandemic as well as future pandemics,

instructs study groups of the ITU Telecommunication Standardization Sector, according to their mandate

1 to cooperate with other study groups of the Union to fulfil the *resolves* above by providing inputs to the working groups established under *instructs the Director of the Telecommunication Standardization Bureau* 1 above;

2 to consider new work items on telecommunications/ICTs to support applications and services that help to prevent the spread of global pandemics;

3 to liaise with other SDOs, as appropriate, to foster studies carried out by relevant ITU-T study groups and focus groups, sharing ongoing work to avoid duplication of work,

invites the Secretary-General

to continue cooperating with relevant organizations such as WHO, UNICEF, the World Meteorological Organization (WMO), the Food and Agriculture Organization of the United Nations (FAO) and the World Food Programme (WFP) in providing up-to-date information and studying means to mitigate the effects of global pandemics and promote recovery,

invites Member States, Sector Members, Associates and Academia

1 to cooperate to raise awareness, build capacity and share best practices and lessons in using telecommunications/ICTs to act quickly and pre-emptively throughout the global COVID-19 challenge as well as future pandemics;

2 to participate actively in the implementation of this resolution.

Annex 2

(to the fifth plenary meeting report)

Statements

2.1 Statement by United States on behalf of Australia, Austria, the Bahamas, Bulgaria, Canada, the Czech Republic, the Dominican Republic, France, Germany, Japan, Latvia, Liechtenstein, Lithuania, Mexico, the Netherlands, Portugal, Romania, Spain, Switzerland, Sweden, Ukraine, the United Kingdom, and the United States

object to resolves 6 in Resolution 54, "Regional groups of ITU-T Study Groups," to the extent it is interpreted as placing any restriction on the participation of Member States and Sector Members in regional meetings outside their respective regions. Any such restriction would be plainly inconsistent with relevant provisions of the Constitution and Convention, which provide no basis to restrict the participation of Member States and Sector Members in regional meetings outside their respective regions, as affirmed by the ITU Legal Affairs Unit (TSAG-TD577, "Legal opinion on participation rights in regional groups"). Rather, as the ITU Legal Affairs Unit concluded, Member States and Sector Members have a right under the ITU Constitution "to attend the relevant [ITU-T Study Group] regional meetings in an observer capacity." The aforementioned Member States disassociate themselves with this provision to the extent it would purport to restrict the participation of Member States and Sector Members in regional meetings outside their respective regions in conflict with relevant provisions of the ITU Constitution and Convention.

V-1.6 – SIXTH PLENARY MEETING AND CLOSING CEREMONY

(Wednesday, 9 March 2022, 1430-1755 hours)

1 Opening

The Chairman opened the sixth plenary meeting.

2 Approval of agenda

The agenda (in Document ADM/33) was adopted.

3 Progress reports by Committee Chairmen

3.1 The Chairman of Committee 3, "Working Methods of ITU-T", Mr Steve Trowbridge, presented the final report of Committee 3 (Document C78).

3.1.1 **WTSA-20 Action 9:** The Plenary invited TSAG to conduct, with the support and contributions from its members, to take necessary measures to review Resolution 11 (Rev. Hammamet, 2016) and its implementation and to provide a proposal for the way forward for its modification and/or any other suggestion.

3.1.2 **WTSA-20 Action 10:** The Plenary invited TSAG to consider the issue of industry engagement discussed at WTSA, including Resolution 68 (Rev. Hammamet, 2016) or draft revised Resolution 68 (see clause 5 below).

3.2 The Plenary approved with acclamation the report in Document C78, expressing special thanks to Mr Steven Trowbridge for his excellent and outstanding services, leadership, and expertise and wisdom in ITU-T for many years, and for his report and chairing of Committee 3.

3.3 The Chairman of Committee 5, "Editorial Committee", Ms Rim Belhaj, presented the final report of Committee in Document C98.

3.4 The Plenary approved Document C98, and in accordance with WTSA Resolution 1 section 1.8, the Plenary authorized the Editorial Committee to hold meetings after the closing of the assembly to complete its tasks as assigned by the assembly. The Plenary expressed its appreciation to the works of Committee 5.

4 Resolution 50, Cybersecurity (Document C101)

The Plenary approved:

– revised Resolution 50, (Rev. Geneva, 2022), *Cybersecurity*

where the text in both square brackets was removed.

5 Fourteenth series of texts submitted by Editorial Committee to the Plenary Meeting (Res.68) (Document C99-R1)

5.1 The Plenary considered a proposal in Document C103 for a revised Resolution 68, *The importance of industry engagement in the work of the ITU Telecommunication Standardization Sector*.

5.2 The statement of Canada, United States, Mexico, and Germany is contained in Annex 1 section 1.1.

5.3 The Plenary approved

- no changes to Resolution 68 (Rev. Hammamet, 2016), *Evolving role of industry in the ITU Telecommunication Standardization Sector*.

5.4 The Plenary highlighted the importance of the private sector as well as industry in ITU activities. It was recognized and acknowledged that ITU, in particular ITU-T, fully relies on the activities, contributions and engagement of industry; this certainly includes the possibility of members and Sector Members from industry to lead activities and groups, so as to address the market needs in a timely manner and to enable the ITU-T standardization Sector for tackling new and emerging technologies relevant to telecommunications. Industry is invited to engage within ITU-T and to turn ITU-T into a vibrant standardization organization coping with the changes occurring in the industry, and to welcome proposals and contributions towards opening-up new innovative work items that will support all of our work.

5.5 The Plenary recognized that more work is necessary to further develop and finalize a revision of Resolution 68, and the Plenary confirmed **WTSA-20 Action 10** wherein TSAG is invited to consider the issue of industry engagement discussed at WTSA, including draft revised Resolution 68.

6 Eleventh series of texts submitted by Editorial Committee to the Plenary Meeting (New Res [AFCP-1], Res.44, Res.75, Res.78, Res.89, Res. 91, Res.92, Res. 97) (Document C96)

The Plenary approved:

- revised Resolution 44 (Rev. Geneva, 2022), *Bridging the standardization gap between developing and developed countries*;

- revised Resolution 75 (Rev. Geneva, 2022), *The ITU Telecommunication Standardization Sector's contribution in implementing the outcomes of the World Summit on the Information Society, taking into account the 2030 Agenda for Sustainable Development;*

- revised Resolution 78 (Rev. Geneva, 2022), *Information and communication technology applications and standards for improved access to e-health services;*

- revised Resolution 89 (Rev. Geneva, 2022), *Promoting the use of information and communication technologies to bridge the financial inclusion gap;*

- revised Resolution 91 (Rev. Geneva, 2022), *Enhancing access to an electronic repository of information on numbering plans published by the ITU Telecommunication Standardization Sector*;

- revised Resolution 92 (Rev. Geneva, 2022), *Enhancing the standardization activities in the ITU Telecommunication Standardization Sector related to non-radio aspects of international mobile telecommunications;*

- revised Resolution 97 (Rev. Geneva, 2022), *Combating mobile telecommunication device theft;*

- new Resolution [AFCP-1] (Geneva, 2022), *A common emergency number for Africa.*

7 WTSA Resolution 79 (Document C93)

7.1 The Plenary considered **COM4 Action for Plenary 14** with the results of the informal consultation on Resolution 79, and approved:

- revised Resolution 79 (Rev. Geneva, 2022), *The role of telecommunications/information and communication technologies in handling and controlling e-waste from telecommunication and information technology equipment and methods of treating it.*

8 WTSA Resolution 96 (Document C90)

8.1 The plenary considered **COM4 Action for Plenary 15** for resolving the clause *recognizing further b)*, which contains square brackets of revised Resolution 96, and approved:

- no changes to Resolution 96 (Rev. Geneva, 2022), *ITU Telecommunication Standardization Sector studies for combating counterfeit telecommunication/information and communication technology devices.*

8.2 The statement of Statement by the United Kingdom on behalf of Australia, Austria, Belgium, Bulgaria, Canada, the Czech Republic, Denmark, Finland, France, Germany, Japan, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, the United Kingdom and the United States is contained in Annex 1 section 1.2.

9 Draft new Resolution [ARB-1] (Geneva, 2022), Artificial Intelligence (Document C91)

9.1 As per **COM4 Action for Plenary 12**, the Plenary considered the draft new Resolution on AI in Document C91, recognizing that the entire text was within square brackets.

9.2 United Arab Emirates, supported by Saudi Arabia, Algeria, Egypt, Kuwait, the Russian Federation, Tunisia, and South Africa, preferred to see the operational provisions in the proposed draft Resolution on Artificial Intelligence reflected in the Chairman's report with the instruction for TSAG to consider and to take necessary action as appropriate.

resolves

1 to continue studies and further develop ITU-T deliverables including relevant Recommendations on [AI related to telecommunication/ICTs] [AI enabled Telecommunication/ICTs];

2 [to promote contributions, through the relevant ITU-T Study Groups, in the global efforts on AI by collaboration, as appropriate, including sharing of information and best practices, with other UN agencies and other SDOs, forums, and consortia in achieving the 2030 Agenda for Sustainable Development.]

[To contribute to other global efforts on AI applications, by collaborating, as appropriate, including sharing of information and best practices, on [AI related to telecommunication/ICTs] [AI enabled Telecommunication/ICTs], with other UN agencies and other SDOs, forums, and consortia in achieving the 2030 Agenda for Sustainable Development.]

international organizations, relevant stakeholders, and other private sector, civil society, academia, SMEs, and technical organizations;

instructs the Director of the Telecommunication Standardization Bureau

1 to organize, in collaboration with BDT and BR, forums, workshops and seminars related to [AI related to telecommunication/ICTs] [AI enabled Telecommunication/ICTs], in particular for developing countries, in order to promote the development of AI and to bridging the standardization gap by capacity building;

2 to report on progress on the implementation of this resolution annually to TSAG, and to the next World Telecommunication Standardization Assembly;

instructs the relevant ITU-T study groups

to coordinate activities and studies relating to application of [AI related to telecommunication/ICTs] [AI enabled Telecommunication/ICTs] among the relevant study groups, focus groups and other relevant groups in ITU;

invites Member States, Sector Members, Associates and academia

1 to encourage investment in the development of application of [AI related to telecommunication/ICTs] [AI enabled Telecommunication/ICTs], in order to support the achievement of the relevant SDGs, as appropriate;

2 to continue participating actively in the work of relevant Study Groups and Focus Groups, and in the studies on the application of [AI related to telecommunication/ICTs] [AI enabled Telecommunication/ICTs] being conducted by ITU-T;

3 to cooperate and exchange experiences and knowledge related to this topic;

9.3 Canada, supported by France, the United Kingdom, and Romania, expressed concerns for such inclusion of the material in the Chairman's report, and did not see consensus on the draft text of the Resolution.

9.4 The Plenary did not find consensus to approve new Resolution [ARB-1], *Artificial Intelligence*.

10 Closing ceremony

10.1 Address by the Director of the Telecommunication Standardization Bureau

The TSB Director, Mr Chaesub Lee, expressed his thanks to all who contributed and participated on site and remotely in WTSA-20 for the achievements and the significant number of successful agreements. He thanked the Ambassador and permanent representative of India H.E. Mr. Indra Mani Pandey for chairing the Heads-of-Delegation meetings, the Swiss Authorities, Mr Bruce Gracie for his beneficial leadership in chairing this Assembly, all leaders of the Committees and Working Groups, Ad-hoc groups, drafting groups, outgoing as well as new Chairmen and Vice Chairmen of the study groups for the past and new study period, and the CICG for their hospitality.

10.2 Address by the Secretary-General of ITU

The remarks by the ITU Secretary-General Mr. Houlin Zhao in closing of the World Telecommunication Standardization Assembly are contained in Document C104.

10.3 Expression of appreciation to HoD meetings Chairman

The Secretary General expressed his thanks with a certificate of appreciation to the Ambassador H.E. Mr. Indra Mani Pandey, Ambassador and permanent representative of India, for his extraordinary contribution as Chairman of several Heads-of-Delegation meetings of WTSA-20.

10.4 Expression of appreciation to WTSA-20 Chairman

ITU Secretary-General, Mr. Houlin Zhao, expressed his highest appreciation to the WTSA-20 Chairman, Mr Bruce Gracie, for his outstanding contribution, service and leadership to the work of the World Telecommunication Standardization Assembly, and awarded him the ITU gold medal and a certificate of appreciation.

10.5 Closing remarks by the Chairman of WTSA-20.

The Chairman, Mr Bruce Gracie, expressed his appreciation to all who supported him and contributed to this Assembly; to the Elected Officials Mr Houlin Zhao, Ms Doreen Bogdan-Martin and Mr Mario Maniewicz for their presence during the Plenary sessions, Mr Bigi as Dean of this Assembly, to the former BR Director Mr Valery Timofeev, to the entire WTSA-20 leadership team, the Committee and respective Working Group Chairmen, the TSB, the TSB Director, the WTSA Secretariat and Committee Secretariats, the staff from the General Secretariat, Chairmen of ad-hoc groups, of drafting groups, and of discussion groups. He congratulated and wished the best to the newly appointed leadership teams, and expressed his great appreciation to the interpreters, captioners, and the ITU technical staff. He requested Council to not shorten the duration of future Assemblies, but to return to nine working days.

11 Any other business

Members recommended to consider that the Assembly in 2024 have a duration of nine working days as initially planned for WTSA-20 in Hyderabad.

12 Closing

The Chairman declared the WTSA-20 closed at around 1755 hours.

Annex 1

(to the sixth plenary meeting and closing ceremony report)

Statements

1.1 Statement by Canada, United States, Mexico, and Germany

Canada, United States, Mexico, and Germany would like to request the WTSA Plenary to inform PP-22, as part of his report, the importance of an appropriate industry engagement within the ITU-T. While no consensus was achieved, some Member States made clear their views that a strategic dialogue on this issue is needed at the Plenipotentiary level to ensure collaboration and implementation across the Union.

Industry (network operators, manufacturers, service providers, research institutes, among others) needs a standards development body that can produce high quality standards through an efficient and effective process that addresses market needs in a timely manner. We are of the view that a key component for the sustainability of ITU-T in a highly competitive and diverse standardization ecosystem is the robust support for industry Sector Members to exercise their rights to participate fully in the activities of the ITU-T, which we have to make again "a place to be" for the industry.

While we find it incomprehensible that Member States would reject a proposal that attempts to bolster industry participation in the standards development process, we will take this opportunity to invite member states to consider developing proposals to the Plenipotentiary Conference regarding the adoption of a new Resolution for industry to exercise their rights to participate fully in the activities of the ITU-T as according to Article 3, No. 28A of the Constitution.

1.2 Statement by the United Kingdom on behalf of Australia, Austria, Belgium, Bulgaria, Canada, the Czech Republic, Denmark, Finland, France, Germany, Japan, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, the United Kingdom, and the United States

Australia, Austria, Belgium, Bulgaria, Canada, the Czech Republic, Denmark, Finland, France, Germany, *Japan, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, the United Kingdom, and the United States wish to record our objection to recognizing further b) of WTSA Resolution 96. Recommendation ITU-T X.1255 is not based on the Digital Object Architecture, and we do not support these references. We ask that this objection is recorded in the report of this meeting.*

Section V-2 – Committee reports to the Plenary

V-2.1 – Committee 2: Budget control

Chairman: Mr Bakhtiyar MAMMADOV (RCC, Republic of Azerbaijan)

1 Budget Control Committee

The Budget Control Committee held two meetings during the World Telecommunication Standardization Assembly (WTSA-20) under the Chairmanship of Mr Bakhtiyar MAMMADOV (RCC, Republic of Azerbaijan), assisted by Vice-Chairmen Ms Seynabou SECK (ATU, Senegal), Mr Fayçal BAYOULI (LAS, Tunisia), Mr Yoshiaki NAGAYA (APT, Japan) and Mr Santiago REYES-BORDA (CITEL, Canada), and considered the issues arising from its terms of reference. Mr Bakhtiyar MAMMADOV chaired the first meeting on 2 March 2022, and Mr Santiago REYES-BORDA chaired the second meeting on 8 March 2022.

2 Draft time management plan/list of proposals to be examined by WTSA/ terms of reference

The draft time management plan, the list of proposals to be examined by the WTSA-20 and the terms of reference relative to Committee 2 were noted (Documents DT/3, DT/1 and DT/4). The agendas of the meetings of Committee 2 are in Documents ADM/4 and ADM/21.

3 Financial responsibilities of conferences

The attention of Committee 2 was drawn to No. 115 of Article 18 of the Constitution of the International Telecommunication Union and to Nos 488 and 489 of Article 34 of the Convention of the International Telecommunication Union, concerning the financial responsibilities of conferences (Document 33).

The Chairman of Committee 2 prepared a note (DT/8) for the Chairmen of Committee 3, Committee 4 and Working Groups asking them to provide all indications and information concerning decisions and resolutions that the Assembly would take and which may have financial implications. After the first meeting, Document DT/8 was converted into Document 49.

During both meetings of Committee 2, delegates stressed the importance of these guidelines. The Assembly has to be very cautious when adopting decisions and resolutions that could have a financial impact as it will be extremely difficult to secure their funding.

4 Budget of the World Telecommunication Standardization Assembly (WTSA-20)

The budget of the World Telecommunication Standardization Assembly (WTSA-20) was initially approved by Council at its 2019 session through Resolution 1396. As the WTSA-20 was postponed to 2022, the allocated budget was carried forward to 2022 and was approved by the Council at its 2021 session by its Resolution 1405. The budget of the World Telecommunication Standardization Assembly (WTSA-20) amounts to CHF 2'225'000, of which CHF 699'000 are foreseen for the direct expenses and CHF 1'526'000 are foreseen for documentation.

The budget of WTSA-20 was approved based on the assumption that the event would be hosted outside Geneva. Some expenses usually covered by the Host Country, are now to be covered by the budget of the Assembly, explaining the overspending of CHF 85k in the direct expenses category.

The cost of documentation is foreseen to be CHF 230k below the planned costs.

As at 7 march 2022, the total of both expenses and documentation is expected to be CHF 145k below the budget (Document DT/16 and Annex A to this report).

5 Contributions to the expenses of the World Telecommunication Standardization Assembly (WTSA-20)

The Committee took note that the non-exempted international organizations and Sector Members (other than ITU-T Members) would have to pay CHF 6,473,90 to defray the expenses of the Assembly (Document 32).

As at 8 March 2022, three entities will contribute to the expenses of the Assembly (Annex B to this report).

6 Report on estimated financial needs up to WTSA-24 and ITU-T expenditure for the years 2016 to 2021

The report on estimated financial needs up to WTSA-24 and ITU-T expenses for the years 2016 to 2021 (Document 29) was presented.

The Secretariat provided additional information regarding e-fellowships, revenue generated by ITU-T (INRs and ITU-T Publications) and Results-Based Management. The detail of the interventions is contained in the draft report of the first meeting of the Budget Control Committee (DT/15).

7 Preliminary draft financial impact of the Decisions and Resolutions of WTSA-20

With reference to Documents 33 and 49 on "Financial responsibilities of Conferences", Committee 2 received two notes from Committee 3 (Document 65) and Committee 4 (Document 73) regarding a number of new or revised resolutions that may have a financial impact.

From Committee 3 (Document 65): modidications made to Resolution 67

From Committee 4 (Document 73) modifications made to Resolutions 20, 29, 44, 50, 58, 61, 64, 65, 72, 73, 76, 84, 92, 96, 98 and draft new Resolution [AFCP-1]

After evaluation of the modifications, the Committee 2 concluded that:

- The modifications made to Resolutions 20 (Doc 69), 29 (Doc 69), 58 (Doc 69), 61 (Doc 69), 64 (Doc 68), 65 (Doc 69), 73 (Doc 69), 76 (Doc 69), 84 (Doc 69), 96 (DT82) and the draft new Resolution [AFCP-1] (DT39) will have no financial impact.

- The modifications made to Resolutions 44 (DT66), 72 (Doc 69) and 92 (DT85) will have no overall financial impact as they are to be implemented within the existing resources.

- The modifications to Resolutions 44, 50, 67 and 98 will have, to varying extents, financial impacts.

Resolution 44: the implementation of an exemption from payment of the membership fees for a limited time up to one full study period for new Academia members from developing countries, would have a very limited impact on the revenue side of the Union.

Resolution 50: the new *instructs the Director of the TSB* to dessiminate information to all stakeholders related to Cybersecurity through the organization of training programmes, forums, workshops, seminars, etc. will have a financial impact. The cost could vary significantly depending of many factors (number of events per year, places of the events, etc.). The cost for organizing one physical event can be estimated between CHF 20k to CHF 50k.

Resolution 98: the new *instructs the Director of the TSB in collaboration with the Directors of BDT and BR* to support Member States especially those of developing countries in the organization of forums, seminars and workshops on IoT and SC&C will have a financial impact. The cost could vary significantly depending of many factors (number of events per year, places of the events, etc.). The cost for organizing one physical event on IoT and SC&C can be estimated between CHF 20k to CHF 50k.

Resolution 67: as per the modifications introduced under *instructs the Director of the TSB* more documents would be translated in all the official languages of the Union. This additional workload on translation/typing is estimated to be 1'348 pages per year, corresponding to CHF 1,404 million.

Responding to the question of one delegate, the Secretariat confirmed that the additional financial needs identified above are not included in the current budget 2022-2023, nor in the draft Financial Plan 2024-2027. This report of Committee 2 will be presented to the Council at its 2022 session. Depending of its outcomes, the additional financial needs may be added to the list of Unfunded Mandatory Activities (UMACs – Table 3 of Council document C22/63) which already amounts to CHF 31,68 million (CHF 4'067 million for ITU-T only).

Noting the financial impact of the modifications that WTSA-20 may approve, another delegate noted that these new requests were regrettable considering the current difficulty to balance the Financial Plan. He stressed the importance of coordination among Sectors to avoid duplication in the organization of events and suggested to use machine translation services to save costs.

The cost assessment of these financial impacts is presented in Annex C to this report.

The Plenary meeting is requested to consider and approve this Report, which will then be forwarded by the Secretary-General, together with the Comments of the Plenary meeting, for submission to the 2022 session of Council.

Annexes: 3

Annex A
(to COM2 report)

BUDGET OF THE WORLD TELECOMMUNICATION STANDARDIZATION ASSEMBLY (WTSA-20)

Amounts in thousands of Swiss francs

Category of expenses	Budget	Actual expenses and commitments as at 7 March 2020	Projected additional expenses until the end of the Assembly	Projected balance
Staff costs	472	271	385	87
Other staff costs	8	13	13	-5
Travel on duty	120	53	95	25
Contractual services	50	129	130	-80
Rental and maintenance	30	146	146	-116
Material and supplies	10	7	10	0
Misc. expenses	9	0	5	4
Sub-total Expenses	**699**	**619**	**784**	**-85**
Translation	970	622	827	143
Typing	556	362	469	87
Sub-total Documentation	**1'526**	**984**	**1'296**	**230**
Total	**2'225**	**1'603**	**2'080**	**145**

Annex B
(to COM2 report)

LIST OF PAYING ENTITIES AND ORGANIZATIONS PARTICIPATING INTO THE WORK OF THE WORLD TELECOMMUNICATION STANDARDIZATION ASSEMBLY (WTSA-20)

Regional and other International Organizations (CV231)

- European Union
- GSMA
- Réseaux IP Européens Network Coordination Centre (RIPE NCC)

Annex C
(to COM2 report)

Potential Financial implications of Decisions and Resolutions of the Assembly (WTSA-20)

COST ASSESSMENT

1. Reply to the note from Committee 3 (Document 65)

Ref. Document DT/26 - Draft revised Resolution 67 – Use in the ITU Telecommunication Standardization Sector of the languages of the Union on an equal footing).

The potential financial impact would be on Translation/Typing expenses.

Under *instructs the Director of the Telecommunication Standardization Bureau*, the following proposed revisions will have financial implications:

2 to translate all TSAG reports, and the reports of study group plenary meetings in all the official languages of the Union;

3 to translate all A-series ITU-T Recommendations (ITU-T working methods) in all the official languages of the Union;

3*bis* to translate all guidelines on intellectual property rights in ITU-T;

4 to translate documents relating to the mandates and working methods of the TSB Director's Ad-Hoc groups;

Summary of the potential financial impact of the revised Resolution 67

Documents	Annual additional number of pages to be translated	Annual financial implication (in kCHF)
Reports of study group plenary meetings	1'313	1'368
All guidelines on intellectual property rights in ITU-T	30	31
Documents relating to the mandates and working methods of the TSB Director's Ad-Hoc groups	5	5
Total	**1'348**	**1'404**

The cost to translate one page from English to the other five official languages of the Union is CHF 1'041,71 (724,82 CHF for the Translation + 316,89 CHF for the Typing).

The table below provides the cost of Translation and Typing activities, as per Resolution 1405, Budget 2022-2023 of the Union approved by the Virtual Consultation of Councillors in June 2021.

Activity	Cost per page 2022
Arabic Translation	143.42
Chinese Translation	147.44
French Translation	143.14
Russian Translation	143.79
Spanish Translation	147.03
Translation - Total for 5 languages	**724.82**
Arabic Typing	63.46
Chinese Typing	60.37
French Typing	63.40
Russian Typing	66.20
Spanish Typing	63.46
Typing - Total for 5 languages	**316.89**
Total Translation + Typing	**1,041.71**

2. Reply to the note from Committee 4 (Document 73)

2.1 The modifications made to Resolutions 20 (Doc 69), 29 (Doc 69), 58 (Doc 69), 61 (Doc 69), 64 (Doc 68), 65 (Doc 69), 73 (Doc 69), 76 (Doc 69), 84 (Doc 69), 96 (DT82) and the draft new Resolution [AFCP-1] (DT39) will have no financial impact.

2.2 The modifications made to Resolutions 44 (DT66), 72 (Doc 69) and 92 (DT85) will have no overall financial impact as they are to be implemented within the existing resources.

2.3 The modifications to the following resolutions will have a financial impact:

Resolution 50 (DT68)

Paragraph 10 of *instructs the Director of the Telecommunication Standardization Bureau*

10 to disseminate information to all stakeholders related to cybersecurity through the organization of training programmes, forums, workshops, seminars, etc., for policy makers, regulators, operators and other stakeholders, especially from developing countries to raise awareness and identify needs in collaboration with the Director of BDT,

The cost to organize physical training programmes, forums, workshops and seminars can vary significantly. It will depend on many factors (number of events per year, event places, number of fellowships, number of ITU Staff traveling, hiring of experts, etc.).

The cost to organize one physical training programme or forum or workshops or seminar can be estimated between CHF 20k to CHF 50k.

Resolution 98 (Document 52)

Paragraph 5 of *instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Directors of the Telecommunication Development Bureau and the Radiocommunication Bureau*

5 to support Member States especially those of developing countries in the organisation of forums, seminars and workshops on IoT and SC&C to promote innovations, development and growth in IoT technologies and solutions;

The cost to organize physical forums, seminars and workshops on IoT and SC&C can vary significantly. It will depend on many factors (number of events per year, event places, number of fellowships, number of ITU Staff traveling, hiring of experts, etc.).

The cost to organize one physical event on IoT and SC&C can be estimated between CHF 20k to CHF 50k.

Resolution 44 (DT66)

Paragraph 5 of *invites the Council*

2 to consider the exemption from payment of the membership fees for a limited time of up to one full study period for new Academia members from developing countries in order to encourage them to get involved in the ITU-T activities and the standardization process,

The implementation of such exemption would have a very limited impact on the revenue side of the Union.

V-2.2 – Committee 3: Working methods of ITU-T

Chairman: Steve Trowbridge (US)

1 Introduction

1.1 The terms of reference for Committee 3 are contained in document DT4.

1.2 Committee 3 (Working methods of ITU-T) was chaired by Mr Steve Trowbridge (CITEL, USA) with the support of the vice-chairmen of the Committee, Ms Umida R. MUSAEVA (RCC, Republic of Uzbekistan), Ms Rebecca MUKITE (ATU, Uganda), Mr Zhaoji LIN (APT, People's Republic of China).

WTSA established two Working Groups under Committee 3 as follows:

Working Group 3A of Committee 3 with Ms Basma Tawfik (Egypt) as a Chairman.

Working Group 3B of Committee 3 with Mr Arnaud Taddei (UK) as a Chairman.

Terms of reference of the Working Groups are given in DT4.

1.3 The meetings took into account the documents allocation to Committee 3 given in Revision 1 to DT1 and worked out its general agenda as appears in Revision 1 to DT12.

1.4 Committee 3 examined 62 proposals for 13 existing Resolutions, three new Resolutions, updates to six A-series Recommendations. Committee 3 held 5 meetings in 6 sessions, the respective reports can be found in Revisions 1-3 to DT29.

1.5 Resolutions and A-series Recommendations under the responsibility of Committee 3 are found in the Annex along with the final document/actions taken on them.

2 Results of the Work of Committee 3

2.1 WTSA-16 Resolutions

2.1.1 Resolution 1 – Rules of procedure of the ITU Telecommunication Standardization Sector (ITU-T)

Per document DT1 Resolution 1 falls in the mandate of Working Group 3A in general, except Clauses related to regional group, namely Clauses *2.1.4, 2.3.2, 2.3.3, 5.2bis, 5.4bis,* and *9.2.1 Note* were assigned to WG4B for discussion together with Resolution 54 on regional group.

Resolution 1 in WG3G was examined and revised based on 6 proposals received (ARB/36A1/1, APT/37A1/1, EUR/38A20-R1/1, EUR/38A3/1, RCC/40A5/1, CAN/USA/45/1) as well as TSAG agreed draft revision of Resolution 1 in Doc 24 Appendix I and II for modification of Resolution 1.

Working Group 3A held multiple ad hoc groups to discuss these proposals on different sections of Resolution 1 and Committee 3 agreed on the revision to Resolution 1 text in the mandate of Working Group 3A.

Note: Proposals relevant to Clauses *2.1.4, 2.3.2, 2.3.3, 5.2bis, 5.4bis,* and *9.2.1 Note* were discussed in WG4B and Committee 4 agreed changes were included. Also, TSB is instructed to develop Figures 7.1a and 7.1b after.

Plenary is requested to approve draft revised Resolution 1 as forwarded via the editorial committee to Plenary in Document 94, after approval of draft revised Resolution 54 (COM4 work).

2.1.2 Resolution 7 – Collaboration with the International Organization for Standardization and the International Electrotechnical Commission

Per document DT1 Resolution 7 falls in the mandate of Working Group 3B where it was examined and revised. Resolution 7 received two proposals (ARB/36A2/1, RCC/40A24/1) to modify Resolution 7.

Working Group 3B discussed via an ad hoc group on Resolution 7, chaired by Glenn Parsons (Canada) and had to forward a revised text of Resolution 7 with some items left in square brackets to Committee 3 from last Working Group 3B meeting. Committee 3 continued with more ad hoc discussions led by Arnaud Taddei (UK) and reach agreement on a revised Resolution 7 without any pending issues.

Plenary is requested to approve draft revised Resolution 7 as forwarded via the editorial committee to Plenary in Document 95.

2.1.3 Resolution 11 – Collaboration with the Postal Operations Council (POC) of the Universal Postal Union (UPU) in the study of services concerning both the postal and the telecommunication sectors

Per document DT1 Resolution 11 falls in the mandate of Working Group 3B where it was examined based on the one proposal (IAP/39A28/1) to suppress Resolution 11.

Working Group 3B noted that on one hand, along with cost considerations, no real engagement was had in the recent past since X.400 work was delivered. On the other hand, the relationship of both ITU-T and UPU comes back long in history and cascades in documents, digital transformation brings new challenges to be explored such as big data, IoT, cybersecurity, etc. and UPU quoting ITU in its conferences for collaboration, the meeting agreed to no change to Resolution 11.

Plenary is requested to approve NOC to Resolution 11 as forwarded via the editorial committee to Plenary in Document 85.

Plenary is requested to invite TSAG to conduct, with the support and contributions from its members, to take necessary measures to review Resolution 11 and its implementation and to provide a proposal for the way forward for its modification and/or any other suggestion.

2.1.4 Resolution 18 – Principles and procedures for the allocation of work to, and strengthening coordination and cooperation among, the ITU Radiocommunication, ITU Telecommunication Standardization and ITU Telecommunication Development Sectors

Per document DT1 Resolution 18 falls in the mandate of Working Group 3B where it was examined and revised. Resolution 18 received four proposals (AFCP/35A1/1, APT/37A3/1, IAP/39A24/1, RCC/40A6/1) to modify Resolution 18.

Working Group 3B discussed via an ad hoc group on Resolution 18, chaired by Gaëlle Martin-Cocher (Canada) and agreed on a revised text of Resolution 18.

Plenary is requested to approve draft revised Resolution 18 as forwarded via the editorial committee to Plenary in Document 85.

2.1.5 Resolution 22 – Authorization for TSAG to act between WTSAs, and

2.1.6 Resolution 45 – Effective coordination of standardization work across study groups in the ITU Telecommunication Standardization Sector and the role of the ITU Telecommunication Standardization Advisory Group

Per document DT1 Resolutions 22 and 45 falls in the mandate of Working Group 3B where proposals of them were examined together as closely related to each other.

Resolution 22 received four proposals (ARB/36A3/1, APT/37A4/1, EUR/38A2/1, IAP/39A25/1) for modification to Resolution 22. Resolution 45 received four proposals (IAP/46A27/1, ARB/36A6-R1/1, APT/37A7/1, IAP/39A21/1, EUR/38A2/2) for suppression in view of merge of its content into Resolution 22.

Working Group 3B established an ad hoc group on Resolutions 22 and 45, chaired by Gaëlle Martin-Cocher (Canada) and had to forward a revised text of Resolution 22 with some items left in square brackets. to Committee 3 from last Working Group 3B meeting. In addition, Working Group 3B agreed to request Committee 3 to review the proposed suppression of Resolution 45 after the conclusion of the discussion on the modification of Resolution 22.

Committee 3 continued with another ad hoc discussion on Resolution 22 led by Gaëlle Martin-Cocher (Canada) and reach agreement on a revised Resolution 22 and suppression of Resolution 45.

Plenary is requested to approve draft revised Resolution 22 before to approve the suppression of Resolution 45 as forwarded via the editorial committee to Plenary in Document 92.

2.1.7 Resolution 32 – Strengthening electronic working methods for the work of the ITU Telecommunication Standardization Sector

Per document DT1 Resolution 32 falls in the mandate of Working Group 3A where it was examined. It received four proposals to revise Resolution 32 (AFCP/35A4/1, ARB/36A4/1, APT/37A5/1, RCC/40A23/1) and one proposal (IAP/39A14/1) to suppress it.

Working Group 3A established an ad-hoc discussion on Resolution 32. Working Group 3A suggested the next Plenipotentiary Conference to consider in the context of its Resolution 167 the evolving needs of the membership across all ITU sectors for improving electronic working methods, and decided NOC for Resolution 32.

The NOC to Resolution 32 was forwarded via the editorial committee to Plenary in Document 92 and was approved during the Plenary session held on Tuesday, 8 March 2022 from 1430-1730 hours.

2.1.8 Resolution 34 – Voluntary contributions

Per document DT1 Resolution 34 falls in the mandate of Working Group 3B where it was examined. It received one proposal (RCC/40/A22/1) to modify Resolution 34.

WG3G examined the proposal and agreed with modification to a revised Resolution 34.

The draft revised Resolution 34 was forwarded via the editorial committee to Plenary in Document 56 and was approved during the Plenary session held on Monday, 7 March 2022 from 1600-1730 hours.

2.1.9 Resolution 55 – Promoting gender equality in ITU Telecommunication Standardization Sector activities

Per document DT1 Resolution 55 falls in the mandate of Committee 3 where it was examined and revised. Resolution 55 received three proposals (AFCP/35A12/1, ARB/36A8/1, APT/37A10/1) for modification and one proposal (RCC/40A29/1) for suppression of it.

Committee 3 examined these proposals and agreed a revised text of Resolution 55 developed by informal consultation with regional focal points on Resolution 55 led by Ms Hend Ben Hadji (Tunisia).

Plenary is requested to approve draft revised Resolution 55 as forwarded via the editorial committee to Plenary in Document 85.

2.1.10 Resolution 66 – Technology Watch in the Telecommunication Standardization Bureau

Per document DT1 Resolution 66 falls in the mandate of Working Group 3B where it was examined. Resolution 66 received one proposal from CITEL (IAP/39A2/1) to suppress Resolution 66 and it was agreed in Working Group 3B.

The suppression was forwarded via the editorial committee to Plenary in Document 67 and was approved during the Plenary session held on Monday, 7 March 2022 from 1600-1730 hours.

2.1.11 Resolution 67 – Use in the ITU Telecommunication Standardization Sector of the languages of the Union on an equal footing

Per document DT1 Resolution 67 falls in the mandate of Committee 3 where it was examined and revised. Resolution 67 received five proposals (AFCP/35A7/1, APT/37A14/1, EUR/38A9/1, IAP/39A29/1, RCC/40A3/1) as well as TSAG agreed draft revision of Resolution 67 in Doc 24 Appendix I to modify Resolution 67.

After an ad hoc group discussion led by Ms Ben the revised text of Resolution 67 was proposed and adopted at Committee 3. Since this Resolution may have budget implications, it was forwarded to Committee 2 for evaluation.

Plenary is requested to approve ~~suppression to~~draft revised Resolution 67 as forwarded via the editorial committee to Plenary in Document 85. taking into account the financial implications identified by Committee 2 in document 55.

2.1.12 Resolution 68 – Evolving role of industry in ITU-T

Per document DT1 Resolution 68 falls in the mandate of Committee 3.

Resolution 68 received one proposal (AFCP/35A16/1) to modify, one proposal (IAP/39A22/1) to suppress Resolution 68 and one proposal (RCC/40A27/3) to no change.

In addition, two relevant proposals [ECP-1] from CEPT (EUR/38A25/1) and [IAP-2] from CITEL (IAP/39A17/1) both propose draft new Resolutions of same subject 'Importance of industry engagement in the work of ITU-T'.

The meeting discussed these proposals together. An ad hoc group discussion led by Mr Oscar Avellaneda (Canada) produced a merged proposal of a draft new Resolution and possible options of integration with Resolution 68.

Committee 3 continued discussion and held more ad hoc sessions. The meeting decided to send the whole text in Revision 2 to DT84 in square brackets to COM5 for Plenary decision. Delegates were invited to continue consultation toward a further agreed text when this issue will be discussed in Plenary on Wednesday 9 March 2022.

TSAG should consider the issue of industry engagement discussed at WTSA, for example in Revision 2 to DT84.

Plenary is requested to consider draft revised Resolution 68 as found in Document 99R1.

Plenary is requested to invite TSAG to consider the issue of industry engagement discussed at WTSA, including this draft revised Resolution.

2.1.13 Resolution 70 – Telecommunication/information and communication technology accessibility for persons with disabilities and persons with specific needs

Per document DT1 Resolution 70 falls in the mandate of Committee 3. Resolution 70 received one proposal (RCC/40A11/1) for modification to Resolution 70.

The meeting considered and agreed revised Resolution 70 with additional input from Ms Andrea Saks (JCA-AHF convener) on to RCC proposal.

Plenary is requested to approve draft revised Resolution 70 as forwarded via the editorial committee to Plenary in Document 92.

2.2 Draft new Resolutions

2.2.1 Draft New Resolutions [ECP-1] [IAP-2] – The importance of industry engagement in the work of ITU-T

Committee 3 received two proposals: [ECP-1] from CEPT (EUR/38A25/1) and [IAP-2] from CITEL (IAP/39A17/1) both propose draft new Resolutions of same subject 'Importance of industry engagement in the work of ITU-T'.

The meeting considered this subject as relevant to Resolution 68 'Evolving role of industry in ITU-T' therefore discussed these two proposals with Resolution 68 together. Result see section 2.1.10 above.

2.2.2 Draft new Resolution [ECP-3] – Development of standards that are machine applicable, readable and transferable (SMART) in ITU-T

CEPT proposal in EUR/38A35/1 proposed a new Resolution on 'Development of standards that are machine applicable, readable and transferable (SMART) in ITU-T' to ask ITU-T to support the development of technical standards that are machine applicable, readable and transferable (SMART) including working with other international SDOs to develop common architectures and protocols for SMART standards.

Participants raised interests and questions on this new subject of machine applicable, readable and transferable (SMART) standards and this proposal for clarification, and it was felt such innovative work should be trial out by Study Group first before WTSA to take any resolution. The meeting noted that lack of WTSA Resolution does not mean lack of permission for ITU-T to consider defining new methodologies or developing machine readable standards and concluded that no need to adopt this proposed new Resolution.

2.2.3 Draft new Resolution [IAP-3] – Use of in-person and virtual options on an equal footing in the activities of the ITU Telecommunication Standardization Sector

IAP/39A32/1 proposed a new Resolution on "Use of in-person and virtual options on an equal footing in the activities of the ITU Telecommunication Standardization Sector". Per document DT1 this proposal was assigned to both the WTSA plenary and Working Group 3A.

It was noted this resolution seeks to provide full equal footing between physical and remote participants, which might not be in line with the ITU Convention and Constitution. Such kind of questions require additional study and should be more appropriate for ITU Plenipotential Conference.

2.3 Revised Recommendations

2.3.1 Recommendation ITU-T A.1 – Working methods for study groups of the ITU Telecommunication Standardization Sector

2.3.2 Recommendation ITU-T A.2 – Presentation of contributions to the ITU Telecommunication Standardization Sector

Per document DT1 Recommendations ITU-T A.1 and A.2 falls in the mandate of Working Group 3A where they were considered.

Recommendation ITU-T A.1 received three proposals (AFCP/35A30/1, EUR/38A17/1, RCC/40A19/1) to modify and another proposal (ARB/36A10/1) not to change this Recommendation, as well as TSAG agreed draft revision of ITU-T A.1 in Doc 25 Appendix I.

Recommendation ITU-T A.2 received one proposal (EUR/38A15/1) to modify and another proposal (ARB/36A11-R1/1) not to change this Recommendation.

Working Group 3A noted proposals received contain many changes and some of them had been already discussed over past TSAG meetings with no consensus. Due to time constraints and no consensus could be reached during the discussion in this Assembly, bearing in mind that TSAG has a mandate to update A-series ITU-T Recommendations, the meeting agreed to no change the Recommendation ITU-T A.1 and to request TSAG to continue reviewing these Recommendations accordingly.

The NOC to ITU-T A.1 and NOC to ITU-T A.2 were forwarded via the editorial committee to Plenary in Document 92 and were approved during the Plenary session held on Tuesday, 8 March 2022 from 1430-1730 hours.

2.3.3 Recommendation ITU-T A.5 – Generic procedures for including references to documents of other organizations in ITU-T Recommendations, and

2.3.4 Recommendation ITU-T A.25 – Generic procedures for incorporating text between ITU-T and other organizations

Recommendation ITU-T A.5 received two proposals (EUR/38A18/1, RCC/40A25/1) to modify this Recommendation, as well as TSAG agreed draft revision of ITU-T A.5 in Doc 25 Appendix I.

Recommendation ITU-T A.25 received one proposal (RCC/40A26/1) to modify it.

The meeting agreed to accept TSAG/25 as the base text of draft revised Recommendation ITU-T A.5 and held an ad hoc session to finalize discussions on the modification of Recommendation ITU-T A.25 in conjunction with A.5 as they are related. Agreement was reached on revised texts of A.5 and A.25.

Plenary is requested to approve draft revised ITU-T A.5 and A.25 respectively as forwarded via the editorial committee to Plenary in Document 92.

2.3.5 Recommendation ITU-T A.7 – Focus groups: Establishment and working procedures

Recommendation ITU-T A.7 received two proposal (EUR/38A19/1, IAP/39A20/1) to modify and another two proposal (ARB/36A12-1/1, RCC/40A27/7) not to change this Recommendation.

The same document contained the request to TSB to make the Recommendation ITU-T A.7 (2012) and its Appendix I (2015) available as a single publication.

After heard concerns raised and diverged opinions expressed, noting that TSAG has the authority to review A-series Recommendations in between WTSAs, the meeting agreed to NOC to A.7 at this WTSA, but invite TSAG to continue study A.7 related issues.

The NOC to Recommendation ITU-T A.7 was forwarded via the editorial committee to Plenary in Document 67 and was approved during the Plenary session held on Monday, 7 March 2022 from 1600-1730 hours.

2.3.6 Recommendation ITU-T A.8 - Alternative approval process for new and revised ITU-T Recommendations

Recommendation ITU-T A.8 received one proposal (EUR/38A16/1) to modify this Recommendation.

The meeting discussed, suggested improvement to EUR/38A16/1 and reached agreement.

Plenary is requested to approve draft revised ITU-T A.8 as forwarded via the editorial committee to Plenary in Document 87.

3 Acknowledgments

Committee 3 Chairman expressed his sincere thanks to all the participants, Vice-Chairmen of Committee 3, all of whom enthusiastically took additional tasks to lead the Ad-hoc and Drafting Groups Mr Oscar Avellaneda, Ms Rim Belhaj, Ms Hend Ben Hadji, Ms Gaëlle Martin-Cocher, Mr Glenn Parsons, Mr Greg Ratta, Ms Andrea Saks, Mr Arnaud Taddei, Ms Basma Tawfik, Mr Heung Youl Youm, and Mr Zhaoji Lin. He also thanked the TSB staff, Ms Xiaoya. Yang, Mr Denis Andreev, Mr Martin Adolph, Mr Martin Euchner, Ms Gillian Makamara, Ms Emma Norton, Ms Carolina Lima, interpreters and captioners for their support.

Annex
(to COM 3 report)

Resolutions and A-series Recommendations under the responsibility of Committee 3

Resolutions	Document/Disposition
Resolution 1 – Rules of procedure of the ITU Telecommunication Standardization Sector (ITU-T)	***94***
Resolution 7 – Collaboration with the International Organization for Standardization and the International Electrotechnical Commission	***95***
Resolution 11 – Collaboration with the Postal Operations Council (POC) of the Universal Postal Union (UPU) in the study of services concerning both the postal and the telecommunication sectors	Remains unchanged
Resolution 18 – Principles and procedures for the allocation of work to, and strengthening coordination and cooperation among, the ITU Radiocommunication, ITU Telecommunication Standardization and ITU Telecommunication Development Sectors	***85***
Resolution 22 – Authorization for TSAG to act between WTSAs	***92***
Resolution 32 – Strengthening electronic working methods for the work of ITU-T	Remains unchanged
Resolution 34 – Voluntary contributions	***56***
Resolution 45 – Effective coordination of standardization work across study groups in ITU-T and the role of TSAG	Suppressed
Resolution 55 – Promoting gender equality in ITU Telecommunication Standardization Sector activities	***85***
Resolution 66 – Technology Watch in the Telecommunication Standardization Bureau	Suppressed
Resolution 67 – Use in the ITU Telecommunication Standardization Sector of the languages of the Union on an equal footing	***85***
Resolution 70 – Telecommunication/information and communication technology accessibility for persons with disabilities and persons with specific needs	***92***
New Resolution [ECP-3] – Development of standards that are machine applicable, readable and transferable (SMART) in the ITU Telecommunication Standardization Sector	no need
New Resolutions [ECP-1] [IAP-2] – Proposed new WTSA Resolution on the importance of industry engagement in the work of ITU-T	Integrated in revised Resolution 68
New Resolution [IAP-3] – Use of in-person and virtual options on an equal footing in the activities of the ITU Telecommunication Standardization Sector	See report of plenary

Resolutions with square brackets	Document
Resolution 68 - Evolving role of industry in ITU-T	***99***

A-series Recommendations	Document/Disposition
Recommendation ITU-T A.1 – Working methods for study groups of the ITU Telecommunication Standardization Sector	Remains unchanged
Recommendation ITU-T A.2 – Presentation of contributions to the ITU Telecommunication Standardization Sector	Remains unchanged
Recommendation ITU-T A.5 – Generic procedures for including references to documents of other organizations in ITU-T Recommendations	***92***
Recommendation ITU-T A.7 – Focus groups: Establishment and Working procedures	Remains unchanged
Recommendation ITU-T A.8 – Alternative approval process for new and revised ITU-T Recommendations	***87***
Recommendation ITU-T A.25 – Generic procedures for incorporating text between ITU-T and other organizations	***92***

V-2.3 – Committee 4: ITU-T work programme and organization

Chairman: Philip Rushton (United Kingdom)

1 Introduction

1.1 The terms of reference for Committee 4 are contained in document DT/4.

1.2 Committee 4 (ITU-T work programme and organization) was chaired by Mr Philip Rushton (CEPT, United Kingdom) with the support of the vice-chairmen of the Committee: Mr Masud Azimov (RCC, Republic of Uzbekistan), Mr Mohamed Elhaj (ATU, Sudan), Mr Abraão Balbino E Silva (CITEL, Brazil), Mr Jasim Al Ali (LAS, United Arab Emirates).

WTSA established two Working Groups under Committee 4 as follows:

Working Group 4A of Committee 4 with Mr Hyoung Jun Kim (APT, Republic of Korea) as a Chairman.

Working Group 4B of Committee 4 with Mr João Alexandre Moncaio Zanon (CITEL, Brazil) as a Chairman.

Terms of reference of the Working Groups are given in DT/4.

1.3 The meetings took into account the documents allocation to Committee 4 given in DT/1 and worked out its general agenda as appears in DT/9.

1.4 Committee 4 examined **142** proposals for **36** existing Resolutions, **10** new Resolutions and **1** new Question. **Committee 4** held **5** meetings in **7** sessions, the respective reports can be found in documents **50**, **51**, **70** and **82**.

2 Results of the Work of Committee 4

2.1 Study Group structure

2.1.1 Restructuring principle

The meeting decided to work based on the assumption that the current structure, which includes 11 Study Groups, will be maintained.

2.1.2 Resolution 2 (Rev. Hammamet, 2016) - ITU Telecommunication Standardization Sector study group responsibility and mandates

The meeting used the following documents as the starting point for discussion of updating Resolution 2: Document 27 (Compilation of changes) and Documents 1, 3, 5, 7, 9, 11, 13-R1, 15, 17, 19, 21 (reports from SGs). These documents include proposals from SGs and TSAG on Resolution 2 Annex A Part 1 (General areas of study), Annex A Part 2 (Lead SG), Annex B (Points of guidance) and Annex C (List of Recommendations).

The Chairman asked if we can accept the proposals from SGs as detailed in Document 27 and use it as the starting point of the discussion. It was agreed by the meeting.

Resolution 2 received the following proposals from Members: EUR/38A30/1, RCC/40/A28/1, APT/37A2/1 and ARB/36A13/1. Each was briefly presented by representatives from CEPT, RCC, APT and AST.

A discussion occurred that identified issues for clarifications. Some of those were clarified while some others were proposed to be discussed during the established ad hoc.

APT proposed to transfer the Lead SG role of SG20 on "Lead study group for Internet of things identification" to SG2. The meeting felt that if restructuring was to be discussed it would need to be discussed holistically. The decision was to postpone restructuring to WTSA-24. Discussions related to restructuring will be undertaken at the next WTSA. With such understanding, APT agreed to take out its contribution from discussion.

The proposal of NOC from CEPT was to be taken into account by the ad hoc during the discussions as an alternative view.

The Chairman proposed and the meeting agreed to establish an ad hoc group to meet during lunch time on 2 March to clarify the various issues raised and work on the mandates of the SGs 2, 3 and 11. Mr Ahmed Atyya, Sudan, agreed to act as Convener of the ad hoc.

Ad hoc was mandated with three proposals EUR/38A30/1, RCC/40/A28/1 and ARB/36A13/1 which were referred to the ad hoc group and report to COM4 with a document that highlights the consensus achieved on the three proposals and a new revised text of Resolution 2.

The chairman of the ad-hoc group on SGs 2, 3 and 11 mandates reported that the ad-hoc group reached an agreement except one sentence in the second bullet of SG2 mandate which is still in square bracket. The updated Resolution 2 is given in DT/46. The issue was resolved by removing the bullet which was in square bracket. With that amendment the DT/46 was approved by COM4. Updated Resolution can be found in DT/46R1.

Plenary is requested to approve draft revised Resolution 2 as found in Document 72. Action already taken by the Plenary.

2.1.3 Questions

2.1.3.1 Questions proposed by Study Groups

Proposed New Questions from SGs are contained in Documents 2, 4-R1, 6, 8, 10, 12, 14-R1, 16-R1, 18, 20-R1, 22-R1. They are being proposed for approval as they were received from Study Groups. This was accepted with the assumption to assess the potential impact of the Resolution 2 text as it comes from the Adhoc on SGs 2, 3 and 11 on these Questions. After reviewing the draft revised Resolution 2, the meeting considered that the changes to Resolution 2 do not affect the Questions proposed by Study Groups 2, 3 and 11. The meeting decided to adopt Questions from Study Groups 2, 3 and 11 as contained in Documents 2, 4-R1, and 10 in addition to the ones already adopted in the first COM4 meeting contained in Documents 12, 14-R1, 16-R1, 18, 20-R1, 22-R1.

Plenary is requested to approve draft revised Questions proposed by Study Groups as found in Documents 2, 4-R1, 6, 8, 10, 12, 14-R1, 16-R1, 18, 20-R1, 22-R1. Action already taken by the Plenary.

2.1.3.2 Proposed New Question for SG3 on OTTs

A New Question for SG3 on OTTs was proposed by ATU AFCP/35A33/1.

It was widely agreed that OTT is a very important topic that has impact in developed and developing countries. Various views were expressed on the need of a new Question in SG3 on this topic as it seemed that the current SG3 structure (e.g. the continuation of Question 9/3) allows already for work on the topic of the Question proposed. There is in fact ongoing work in SG3 on the topic as well as some achieved results including Recommendations approved on the topic and agreement to organize a workshop on digital taxation.

After discussion it was agreed **to request the WTSA plenary to instruct the SG3 to consider the proposal from the ATU** AFCP/35A33/1. It was also agreed to give an opportunity to the SG3 Regional Group for Africa to review the proposal in case it needs updates before it is considered holistically by SG3.

The Plenary is requested to instruct ITU-T SG3 to consider the proposal from the ATU AFCP/35A33/1. The action was already taken by the Plenary.

2.2 WTSA Resolutions

2.2.1 Financial impact

Committee 4 sent a note to committee 2 on potential financial impacts of the modifications made to Resolutions 20, 29, 44, 50, 58, 61, 64, 65, 72, 73, 76, 84, 92, 96, 98 and draft new Resolution [AFCP-1] as found in Document 73.

2.2.2 Revised Resolutions

Plenary is requested to approve the revised Resolution as found in the following Documents. The relevant revised Resolutions were submitted to COM5 for action.

56 (Res.98);

75 (Res.20, Res.29, Res.43, Res.58, Res. 61);

79 (Res.65, Res.72, Res.73, Res.74, Res,76, Res.84, Res95);

Plenary is requested to approve the revised Resolutions found in the following Documents. Plenary has already taken action on them.

68 (Res.40, Res.48, Res.60, Res.64);

Plenary is requested to approve the revised Resolutions listed in table 1. The relevant revised Resolutions were submitted to COM5 for action.

Table 1 - Revised Resolutions

Resolutions	Action	Document
Resolution 1 (Rev. Hammamet, 2016) – Rules of procedure of the ITU Telecommunication Standardization Sector	MOD[3]	77
Resolution 2 (Rev. Hammamet, 2016) –ITU Telecommunication Standardization Sector study group responsibility and mandates	MOD	72
Resolution 20 (Rev. Hammamet, 2016) – Procedures for allocation and management of international telecommunication numbering, naming, addressing and identification resources	MOD	75
Resolution 29 (Rev. Hammamet, 2016) – Alternative calling procedures on international telecommunication networks	MOD	75
Resolution 40 (Rev. Hammamet, 2016) – Regulatory aspects of the work of the ITU Telecommunication Standardization Sector	MOD	68
Resolution 43 (Rev. Dubai, 2012) – Regional preparations for world telecommunication standardization assemblies	MOD	75
Resolution 44 (Rev. Hammamet, 2016) –Bridging the standardization gap between developing and developed countries	MOD	DT/66
Resolution 48 (Rev. Dubai, 2012) – Internationalized (multilingual) domain names	MOD	68
Resolution 54 (Rev. Hammamet, 2016) – Creation of, and assistance to, regional groups	MOD	DT/81R1
Resolution 58 (Rev. Dubai, 2012) – Encouraging the creation of national computer incident response teams, particularly for developing countries	MOD	75
Resolution 60 (Rev. Dubai, 2012) – Responding to the challenges of the evolution of the identification/numbering system and its convergence with IP-based systems/ networks	MOD	68
Resolution 61 (Rev. Dubai, 2012) – Countering and combating misappropriation and misuse of international telecommunication numbering resources	MOD	75
Resolution 64 (Rev. Hammamet, 2016) – Internet protocol address allocation and facilitating the transition to and deployment of IPv6	MOD	68
Resolution 65 (Rev. Hammamet, 2016) – Calling party number delivery, calling line identification and origin identification information	MOD	79
Resolution 72 (Rev. Hammamet, 2016) – Measurement and assessment concerns related to human exposure to electromagnetic fields	MOD	79
Resolution 73 (Rev. Hammamet, 2016) – Information and communication technologies, environment and climate change	MOD	79

[3] COM4 output was integrated by COM3 and sent to COM5 in Doc.77.

Resolutions	Action	Document
Resolution 74 (Rev. Dubai, 2012) – Admission of Sector Members1 from developing countries in the work of the ITU Telecommunication Standardization Sector	MOD	79
Resolution 75 (Rev. Hammamet, 2016) – The ITU Telecommunication Standardization Sector's contribution in implementing the outcomes of the World Summit on the Information Society, taking into account the 2030 Agenda for Sustainable Development	MOD	DT/65
Resolution 76 (Rev. Hammamet, 2016) – Studies related to conformance and interoperability testing, assistance to developing countries, and a possible future ITU Mark programme	MOD	79
Resolution 78 (Rev. Hammamet, 2016) – Information and communication technology applications and standards for improved access to e-health services	MOD	DT/74
Resolution 84 (Hammamet, 2016) – Studies concerning the protection of users of telecommunication/information and communication technology services	MOD	79
Resolution 89 (Hammamet, 2016) – Promoting the use of information and communication technologies to bridge the financial inclusion gap	MOD	DT/64
Resolution 91 (Hammamet, 2016) – Enhancing access to an electronic repository of information on numbering plans published by the ITU Telecommunication Standardization Sector	MOD	DT/72
Resolution 92 (Hammamet, 2016) – Enhancing the standardization activities in the ITU Telecommunication Standardization Sector related to non-radio aspects of international mobile telecommunications	MOD	DT/85R1
Resolution 95 (Hammamet, 2016) – ITU Telecommunication Standardization Sector initiatives to raise awareness on best practices and policies related to service quality	MOD	79
Resolution 97 (Hammamet, 2016) – Combating mobile telecommunication device theft	MOD	DT/83R1
Resolution 98 (Hammamet, 2016) – Enhancing the standardization of Internet of things and smart cities and communities for global development	MOD	56

2.2.3 New Resolutions

Plenary is requested to approve the new Resolutions listed in table 2. The relevant new Resolutions were submitted to COM5 for action.

Table 2 - New Resolutions

Resolutions	Action	Document
New Resolution [AFCP-1] – A Common Emergency Number for Africa	ADD	DT/39
New Resolution [ARB-3] – An analysis of Organizational Reform of ITU Standardization Sector study groups New Resolution [IAP-1] – Towards a more effective, efficient, fit for purpose, and inclusive ITU Standardization Sector	ADD	86

2.2.4 Resolutions with no changes

Plenary is requested to note that COM4 proposes to maintain Resolutions listed in the table 3 with no changes. Action already taken by Plenary for Resolution 88.

- **Action for Plenary 1**: to consider approval of no change for Resolutions, 52, 77, 87, 90 and 93.

Table 3 - Resolutions with no changes

Resolutions	Action	Document
Resolution 52 (Rev. Hammamet, 2016) – Countering and combating spam	NOC	N/A
Resolution 77 (Rev. Hammamet, 2016) – Enhancing the standardization work in the ITU Telecommunication Standardization Sector for software-defined networking	NOC	N/A-
Resolution 87 (Hammamet, 2016) – Participation of the ITU Telecommunication Standardization Sector in the periodic review and revision of the International Telecommunication Regulations	NOC	N/A
Resolution 88 (Hammamet, 2016) – International mobile roaming	NOC	N/A
Resolution 90 (Hammamet, 2016) – Open source in the ITU Telecommunication Standardization Sector	NOC	N/A
Resolution 93 (Hammamet, 2016) – Interconnection of 4G, IMT-2020 networks and beyond	NOC	N/A

2.2.5 Suppression of Resolutions

Plenary is requested to approve the suppression of the Resolutions listed in table 4. Action already taken by Plenary.

Table 4 - Suppressed Resolutions

Resolutions	Action	Document
Resolution 59 (Rev. Dubai, 2012) – Enhancing participation of telecommunication operators from developing countries	SUP	N/A

2.2.6 Resolutions for which consensus has not yet been achieved at COM4

2.2.6.1 Resolution 50 (Rev. Hammamet, 2016) – Cybersecurity

The meeting agreed to continue informal consultation with the objective to achieve consensus and resolve the texts in square brackets, aiming to present the final text at the plenary for decision.

- **Action for Plenary 2**: to consider the result of the informal consultation on Resolution 50 for decision on this matter.

2.2.6.2 Draft New Resolution – The role of telecommunication/information and communication technologies in mitigating global pandemics

There was a general support on the text of the proposed draft new Resolution given in DT/62, however, the meeting felt that the appropriate venue for a draft new Resolution on this topic is the Plenipotentiary Conference.

Therefore, it was decided to:

- **Action for Plenary 3**: to include the text of the draft new Resolution on pandemic (DT/62) into the final WTSA report.
- **Action for Plenary 4**: to invite the Plenipotentiary Conference to consider this text and take any necessary actions on this matter, as appropriate.
- **Action for Plenary 5**: to instruct the TSB Director to inform the Directors of the other bureau on the above request to the Plenipotentiary Conference for necessary coordination.

2.2.6.3 Resolution 54 – Regional Groups of ITU-T Study Groups

The meeting achieved consensus on a revised text for Resolution 54. Furthermore, it was agreed:

- **Action for Plenary 6**: to instruct TSAG to reinstate the TSAG Rapporteur Group on Creation, Participation and Termination of Regional Groups (RG-CPTRG).

2.2.6.4 Draft new Resolution – Smart Submarine Cable Systems

There was a general agreement on the importance of the topic, but there was no consensus that this requires a new Resolution. The meeting agreed to consider the operational instructions as quoted below, found in the draft new Resolution (DT/76).

- **Action for Plenary 7**: to include the text on "SMART Submarine Cable Systems", found below, in the meeting report of WTSA-20 and to forward it to TSAG for coordination and to the relevant Study Groups for action, as appropriate.

SMART Submarine Cable Systems – Statement to be included in WTSA-20 final report

Taking into consideration that the Assembly acknowledged the importance of SMART (Science Monitoring And Reliable Telecommunications) Cables for, inter alia, climate change and seismic monitoring, and the wide support of the Assembly for the roll-out of activities around this concept within ITU-T sector;

Considering that standardisation of the submarine SMART cables is needed in order to ensure harmonized development, implementation and operation of these systems globally, making it possible to use submarine SMART cables for, inter alia, climate and ocean observation, sea level monitoring, observations of Earth structure, and tsunami and earthquake early warning and disaster risk reduction;

- **Action for Plenary 8**: The Plenary is invited to consider the following:

WTSA instructs ITU-T Study Groups to study the concept of SMART cables and encourage further consideration of related issues that impact the feasibility of related projects and the deployment of SMART cables, invites the Study Groups to report on their activities to TSAG as part of their regular reporting;

- **Action for Plenary 9**: The Plenary is invited to consider the following:

WTSA instructs the Director of the Telecommunication Standardization Bureau to liase with JTF SMART Cables, other standards development organizations (SDOs), research institutes and other organizations and stakeholders to exploit synergies and avoid duplication of efforts among such organizations;

- **Action for Plenary 10**: The Plenary is invited to consider the following:

WTSA invites the Secretary-General to continue to cooperate and collaborate with other entities within the United Nations in formulating future international efforts related to SMART cables as they contribute to the achievement of the goals of the 2030 Agenda for Sustainable Development; and

- **Action for Plenary 11**: The Plenary is invited to consider the following:

Finally, Member States, Sector Members and Associates are invited to contribute actively to the work of the JTF SMART Cables.

2.2.6.5 Draft new Resolution on AI

The ad-hoc group on this issue could not reach a consensus on the text of the draft new Resolution on AI (DT/52).

- **Action for Plenary 12**: to consider the draft new Resolution on AI (DT/52) which is sent to the WTSA Plenary for decision.

It was also mentioned that the consensus on this topic, at COM4 level, is as follows:

1) The Ad hoc Group discussed in detail contribution ARB/36A30/1 which proposes a new draft Resolution on AI (See below which contains a revised version of the draft resolution that was a result of the discussions). The draft resolution contains several unresolved matters indicated in [], including the entire draft resolution being in []. There was no consensus on a Draft AI resolution in the Ad hoc Group and the matter was referred back to COM 4.

2) They also recognize that a broad discussion that encompasses the work of all three sectors will allow for a more comprehensive approach to the topic, so they could undertake a discussion on this topic at the upcoming PP-2022, based on any eventual contributions.

3) They recognize that several ITU-T Study Groups already have existing work on technical matters in the Standardization Sector and therefore a reflection of AI under the mandates of various Study groups as listed in Resolution 2 (ITU Telecommunication Standardization Sector study group responsibility and mandates) is a recognition of the role that AI-enabled services play in relation to Telecommunications/ICTs.

4) It is recognized that ITU-T is already undertaking studies related to AI, including, but not limited to, the studies at ITU-T Study Group 2, ITU-T Study Group 5, ITU-T Study Group 13, ITU-T Study Group 16, and ITU-T Study Group 20; as well as ITU-T Focus Group on "Artificial Intelligence (AI) and Internet of Things (IoT) for Digital Agriculture" (FG-AI4A), ITU-T Focus Group on "Environmental Efficiency for Artificial Intelligence and other Emerging Technologies" (FG-AI4EE, ITU-T Focus Group on "Artificial Intelligence for Health" (FG-AI4H), ITU-T Focus Group on AI for Natural Disaster Management (FG-AI4NDM), ITU-T Focus Group on AI for autonomous and assisted driving (FG-AI4AD);

5) In order to give further predictability and support to the relevant study groups, COM 4 is invited to consider inclusion of relevant aspects related to artificial intelligence and machine learning in the draft Resolution 2 and other relevant resolutions.

2.2.6.6 Draft NEW Resolution [ARB-4] – Development of non radio aspects of Open Networks including Standardization of Open Access Networks

There was a general agreement on the importance of the topic, but there was no consensus that this requires a new Resolution. The meeting agreed to include the following consideration on this topic in the meeting report of WTSA-20. This is reflected in the amendments of Resolution 92.

- **Action for Plenary 13**: to include the considerations on "non radio aspects of Open Networks including Standardization of Open Access Networks", found below, in the meeting report of WTSA-20.

Considerations on "non radio aspects of Open Networks including Standardization of Open Access Networks" - *Statement to be included in WTSA-20 final report*

A new resolution proposal was submitted to WTSA 2020 on the development and adoption of open networks including open access networks for IMT systems (e.g. open radio access network) and key aspects of this topic were considered in the context of revisions to WTSA Resolution 92. The proposal emphasized the importance of this topic and the growing interests in promoting such innovative interoperable system components and network elements. In response to ITU resolutions on bridging the digital divide in broadband connectivity, particularly in developing countries, further collaboration is needed to make these technologies readily available in a cost effective manner. WTSA 20 invites members to make proposals on this important topic to WTDC with the objective of promoting the wide adoption of these new technologies and solutions globally.

2.2.6.7 Resolution 79 (Dubai, 2012) – The role of telecommunications/information and communication technologies in handling and controlling e-waste from telecommunication and information technology equipment and methods of treating it.

The meeting agreed that the consensus on this topic was not yet achieved. It was decided to entertain additional informal consultation to resolve the pending issues and to report to the Plenary for the final decision.

- **Action for Plenary 14**: to consider the result of the informal consultation on Resolution 79 for decision on this matter.

2.2.6.8 Resolution 96 - (Hammamet, 2016) – ITU Telecommunication Standardization Sector studies for combating counterfeit telecommunication/information and communication technology devices

The text of Resolution 96 has a clause for which consensus could not be achieved. This is an existing text that was proposed for deletion by two regions (IAP and CEPT). However, the other three regions (ARB, ATU and RCC) strongly object to delete this text, even in part. The clause concerned is: item *b)* under *recognizing further*, which is currently in square brackets and is reported to the Plenary for further deliberation. The latest version of Res. 96 is found in DT/82.

- **Action for Plenary 15**: to consider resolving the clause *recognizing further b)*, which has square brackets, of revised Resolution 96, which is sent to the Plenary for decision.

2.2.6.9 Draft new Resolution [RCC-1] – Use of hexadecimal numbering for definition of MSISDN and IMSI

Regarding Draft new Resolution [RCC-1], the proposed way forward is to note the contribution (RCC/40A18/1) in the WTSA Plenary Report and to request SG2 to conduct research on this topic.

- **Action for Plenary 16**: to note the contribution (RCC/40A18/1) in the WTSA Plenary Report and to instruct ITU-T SG2 to conduct research on this topic.

3 Any other business

A Contribution on ITU's role and our vision for ITU-T was received from CEPT (EUR/38A1/1). The meeting noted the Contribution.

4 Acknowledgments

Committee 4 Chairman expressed his sincere thanks to all the participants and Vice-Chairmen of Committee 4. He also thanked the TSB staff, Ms T. Kurakova, Mr S. Polidori, Mr H. Ota and all other TSB staff involved with the Assembly, including the interpreters and the captioners for their support.

Delegates from Iran, Czech Republic, Ghana, Romania and Canada on behalf of all participants thanked Committee 4 Chairman, Mr Philip Rushton, for his patience, guidance, impartiality and experience, which was commended upon as an example of how meetings in the ITU should be conducted.

Section V-3 – Other reports and documents

Title of the document	Document number
Committee meeting reports	
Report of the first meeting of Committee 3 to the Plenary	62
Report of the second meeting of Committee 3 to the Plenary	63
Report of the third meeting of Committee 3 to the Plenary	64
Report of the fourth meeting of Committee 3 to the Plenary	66
Report of the first meeting of Committee 4 to the Plenary	50
Report of the second meeting of Committee 4 to the Plenary	51
Report of the third meeting of Committee 4 to the Plenary	70
Report of the fourth meeting of Committee 4 to the Plenary	82
Reports of the Telecommunication Standardization Advisory Group to WTSA-20	
Part I: General	23
Part II: Draft revised Resolutions	24
Part III: Draft revised Resolutions of the ITU-T A-series	25
Part IV: TSAG report in respect of Resolution 22	26
Reports by the Director of the Telecommunication Standardization Bureau	
Report of activities in ITU-T over the 2017-2021 Study period	28
Report on estimated financial needs up to WTSA-24 and ITU-T expenses for the years 2016 to 2021	29
Final list of WTSA-20 documents	105
List of participants	TD-GEN-02

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