



This PDF is provided by the International Telecommunication Union (ITU) Library & Archives Service from an officially produced electronic file.

Ce PDF a été élaboré par le Service de la bibliothèque et des archives de l'Union internationale des télécommunications (UIT) à partir d'une publication officielle sous forme électronique.

Este documento PDF lo facilita el Servicio de Biblioteca y Archivos de la Unión Internacional de Telecomunicaciones (UIT) a partir de un archivo electrónico producido oficialmente.

یجر ی نور کتاب فملنم ننخوما ی هو تاظوفحموال، تمکتبال قسم ، (ITU) تصالاتلا لای لوالد ادحتالا نم تممقد PDF قسنبة تخسنال هذه
بامیرس داده عا

本PDF版本由国际电信联盟（ITU）图书馆和档案服务室提供。来源为正式出版的电子文件。

Настоящий файл в формате PDF предоставлен библиотечно-архивной службой Международного союза электросвязи (МСЭ) на основе официально созданного электронного файла.

GSR 2018

Global Symposium for Regulators

New regulatory frontiers





The 18th edition of the Global Symposium for Regulators (GSR-18), held in Geneva, Switzerland, from 9 to 12 July attracted over 600 participants including government ministers, heads of regulatory agencies and C-level industry executives from more than 125 countries. GSR-18 was organized by the International Telecommunication Union (ITU) and chaired by Mr Sorin Grindeanu, President of the National Authority for Management and Regulation in Communications (ANCOM), Romania. The theme of GSR-18 was: “New Regulatory Frontiers”.

Throughout the four-day overall GSR programme, participants acknowledged that flexible and innovative policy and regulatory approaches and enhanced collaboration can support and incentivize digital transformation. There was a

wide agreement that governments, the private sector as well as all stakeholders in the digital economy should seek synergies and leverage their strengths and resources towards achieving sustainable digital development. The event culminated with the adoption by ICT regulators of a set of best practice guidelines on new regulatory frontiers to achieve digital transformation.

A series of thematic and pre-events took place on 9 July and the morning of 10 July 2018 including the Global Dialogue on Artificial Intelligence, Internet of Things and Cybersecurity – Policy and regulatory challenges and opportunities. The pre-event day also included the Regional Regulatory Associations Meeting (RA) and the 9th Private Sector Chief Regulatory Officers (CRO)/ Industry Advisory Group for Development (IAGDI) Meeting.

Table of contents

Executive Summary.....	iii
Table of contents	v
Opening ceremony	1
Leadership Debate: Emerging Technologies for Digital Transformation	3
Roundtable Discussion: AI for Development	5
Session 1: Regulation as usual for IoT, AI and 5G?	7
Session 2: Digital transformation: mastering the new regulatory frontiers	9
Session 3: Digital Identity across different platforms- can this help achieve the SDGs and foster inclusion for all?	11
Session 4: The Human in the middle: How to protect personal data in a smart data driven economy?	13
Adoption of the GSR-18 Best Practice Guidelines on new regulatory frontiers to achieve digital transformation	15
Regulators' track:	16
Innovative regulatory tools as drivers of cross sectoral collaboration	16
Industry Leaders' Roundtable: Industry Leaders as Drivers of Leading Emerging Technologies	18
Information Session on SSDM Regulatory Toolkit	20
Multi-stakeholder Roundtable: Achieving new sustainable investment models: how to work together?	21
Closing & adoption of the GSR18 Best Practice Guidelines	23
GSR-18 Thematic Events.....	25
Regulatory Associations (RA) Meeting	25
Chief Regulatory Officials (CRO)/ Industry Advisory Group for Development (IAGDI) Meeting	26
Global Dialogue on AI, IoT and Cybersecurity –	27
Policy and regulatory challenges and opportunities.....	27
GSR18 BEST PRACTICE GUIDELINES ON NEW REGULATORY FRONTIERS TO ACHIEVE DIGITAL TRANSFORMATION.....	28

Opening ceremony



The opening ceremony welcomed distinguished guests:

- Mr Houlin Zhao, Secretary-General, International Telecommunication Union (ITU)
- Mr Malcolm Johnson, Deputy Secretary-General, ITU
- Mr Brahima Sanou, Director, Telecommunication Development Bureau, ITU
- Mr François Rancy, Director, Radiocommunication Bureau, ITU
- Mr Sorin Grindeanu, President, ANCOM, Romania and GSR-18 Chair

Mr Sanou welcomed participants at GSR-18. He recalled that the Global Symposium for Regulators was established in the year 2000 as a forum for experience-sharing meet the aim of strengthening and stabilizing regulatory frameworks across the world. Eighteen years later, digital transformation

is fundamentally changing our societies and economies while also improving service delivery to users and across the sectors.

Mr Sanou stressed that as we embark on using emerging technologies such as Internet of Things and Artificial Intelligence to help accelerate the attainment of the Sustainable Development Goals, GSR is as relevant as it was when it was created. The new challenges, however, come together with huge opportunities, both of which require coordination and sharing best practices among regulators and policy makers. Suitable policy and regulatory measures are needed to respond to the changing market landscapes and technological progress as well as the continuing need for affordable and secure access and use of digital services. This year's theme of GSR focuses on new regulatory frontiers, since regulators need to keep pace with changes in technology and address such frontiers so they can help ensure that emerging technologies impact positively on our daily lives as consumers, businesses or just as citizens of the world.

In his introductory remarks, Mr Grindeanu thanked the Director of the ITU Development Bureau for entrusting him the role of GSR-18 Chair. He renewed his commitment to work towards ensuring a fruitful and meaningful event. Mr Grindeanu also expressed his hope that the discussions over the three days of GSR would stimulate creative thinking about our current issues and enrich the debate on new regulatory approaches.

In his opening address, Mr Zhao indicated that the dialogue among policy makers, industry leaders and key ICT stakeholders coming together at GSR was important for building a new vision for ICT regulation and feeding into major ITU events coming up before the end of 2018. GSR's

focus is, like every year, on major issues facing the ICT sector and as AI, cloud computing, IoT technologies, social media and mobile technology are creating new frontiers and business models, regulatory policies are being put to the test. Today, ICTs are less visible, but more prevalent.

Mr Zhao reiterated that regulators and policy makers from around the world are in the unique position to unleash the opportunities brought about by new technologies and new business models. He called for strengthening the multi-stakeholder dialogue and continuing to work together to harness ICTs for the greater good. On a final note, Mr Zhao wished all participants a successful and productive symposium.

Leadership Debate: Emerging Technologies for Digital Transformation



Moderator: Mr Brahima Sanou, BDT Director, ITU

Keynote: Dr Kemal Huseinovic, Chief, IEE Department, ITU/BDT

Panelists:

- Mr Mahmoud Mohieldin, Senior Vice President, World Bank Group
- Ms Anastassia Lauterbach, CEO 1AU-Ventures
- Mr Ajit Pai, Chairman, FCC, USA
- Mr Sorin Grindeanu, President, ANCOM, Romania and GSR-18 Chair

Moderated by the ITU BDT Director, Mr Brahima Sanou, this Leadership Debate highlighted experiences from leaders with a background in regulation, policy making, innovating, as well as from the private sector to discuss the transforming power of emerging technologies such as big data,

Artificial Intelligence (AI), Blockchain, Internet of Things (IoT) and 5G, and how they see such emerging technologies expanding regulatory frontiers to new horizons.

Panelists emphasized that as millions of users will be increasingly connected to smart objects, and innovations such as self-driving cars, advanced industrial manufacturing and robotics, virtual or augmented reality, intelligent agriculture, energy grids, homes and cities become more and more part of society and our daily lives, spectrum allocation for wireless broadband to enable such developments has come into even greater focus.

Artificial Intelligence, they said is not a new concept. What we are facing today is that AI is in every corner of society, and has a transformative power on individuals and society, even on jobs. AI has become part of discussions surrounding the new regulatory frontiers we are facing. If AI continues to even wider levels of use, policy makers, regulators, industry and consumers must

ask themselves how to ensure it is beneficial to all, and become even more involved in discussions surrounding AI so that we are all able to reap the potential of these emerging technologies.

The role of international organizations such as ITU, as well as other international and regional regulatory and standardization bodies, working with industry and academia, they said, is key to achieving the required legal and regulatory frameworks as well as technical specifications and spectrum allocations to allow such developments. Countries around the world are drafting their 5G strategies, and benefit from such collaborative discussions so that people around the world can enjoy the vast opportunities these new technologies can bring.

Government has a role to play as facilitator, defining policy environments to encourage the

development of new technologies, while at the same time encouraging investment and innovation and remaining flexible to change. Experimentation such as for example the experimental class of licenses above 95 GHz in the US, and industry-led development of standards can be considered as a means to contribute to the development of emerging technologies. This, panelists suggested, remains key to the delivery of the potential of existing and emerging technologies, given that, as history has shown, technologies will evolve in ways we cannot anticipate.

Universal access and connecting the world should however also remain at the core of our work, since people around the world will only be able to benefit from the digital revolution if they are connected. Important to note too is the central role of ICTs in achieving the SDGs – in all sectors – health, agriculture, education and finance.

Roundtable Discussion: AI for Development



Moderator: Ms Régina Fleur Bessou Assoumou, ITU-D Study Group 1 Chair

Participants:

- Dr Urs Gasser, Executive Director of the Berkman Klein Center for Internet & Society at Harvard University and Professor of Practice at Harvard Law School
- Dr Michael Best, Director of the United Nations University Institute on Computing and Society and Associate Professor with the Sam Nunn School of International Affairs and the School of Interactive Computing at the Georgia Institute of Technology
- Dr Gyu Myoung Lee, Adjunct Professor, KAIST

Building on the discussions in the Leadership Debate, this high level roundtable brought together academia to present the ITU BDT AI for Development series, highlighting its key findings and recommendations. Panelists recognized

that while many issues being discussed are not new to AI, for many of the good possibilities that AI systems offer to us as individuals within our communities, our societies and globally, there are also risks.

AI is not developing in a legal and regulatory vacuum, they said, which means that policy makers and regulators must address how to approach this next wave of technological revolution. How do we update existing regulation and legislation to fit for AI? What are gaps we need to fill by creating new legislation? Should legislation and regulation focus on constraining the use of AI, or should discussions focus on how to enable AI for development?

Panelists highlighted that smart societies require huge amounts of data and that this raises the question of how such data will be used and processed among many different stakeholders in new ecosystems and facilitating data sharing. There are many technical solutions in AI, particularly how to utilize AI techniques to build secure IoT environments. This raises regulatory

and policy questions in terms of trust, data privacy and security of infrastructure.

Panelists also focused on information asymmetries, where siloed conversations are taking place, with a few private companies who understand and develop the technology on the one hand, and regulators and policy makers and people who look into social impact questions may not have the same depth of technological understanding on the other. The first challenge, they provided, is to make sure that future leaders and decision makers join discussions on AI to gather knowledge both about the technology as well as on the social implications, the governance policy and the ethical issues. What are strategies, they offered, to enable local entrepreneurs in different regions of the world to design the next generation of AI based applications for their contexts. Bridging the information asymmetry gap should be a priority for regulators and policy makers, and indeed all involved. There is also a critical need for robust information sharing

and capacity building amongst a diverse multi-stakeholder, multi-sectoral set of individuals bridging the AI technologists with regulators and policy makers, as well as AI ethicists.

AI based technologies should benefit all people equally and not only a few who have access to digital infrastructure. Inclusion discussions should also focus on connectivity, as well as on access to data and on improving digital literacy and education. The question of future labour was also highlighted as being part of this larger conversation. There are also ways in which Artificial Intelligence provide great promise to support diversity and there are ways in which AI already has demonstrated risks of discriminatory practice. What questions should the technologists, regulators and academics be asking early on about this discriminatory possibility while they contemplate the use of AI? All these elements should be addressed to close existing digital divides and ensure that people benefit from AI in equal degrees.

Session 1: Regulation as usual for IoT, AI and 5G?



Moderator: Dr Mohamed Ahmed Nacer, President of the Council, Post and Telecommunications Regulatory Authority (ARPT), Algeria

Keynote: Mr Neil Sahota, IBM Master Inventor and WW Business Development Leader, IBM Watson Group

Panellists:

- Mr Johannes Gungl, CEO of the Austrian Regulatory Authority for Broadcasting and Telecommunications (RTR) and Chair of the Body of European Regulators for Electronic Communications (BEREC) for 2018
- Mr Marcin Cichy, President, Office Electronic Communications (UKE), Poland
- Mr Harinderpal Singh Grewal, Cluster Director (Networks, Technology & Resilience), IMDA, Singapore
- Mr Mario Fromow, Commissioner IFT, Mexico
- Ms Jayne Stancavage, Global Executive Director of Communications Policy, Intel Corporation
- Mr Mats Nilsson, Director Strategy and Technology Practice, Ericsson Inc.
- Mr Eric Debroeck, Senior Vice President Regulatory Affairs, Orange, SA, France.

The moderator stressed on the policy and regulatory approaches and tools that should be applied to foster network deployment and investment. He also highlighted that market driven methodologies enable innovation and new business models in the digital ecosystem. The session addressed the needs in terms of connectivity, spectrum, and infrastructure requirements for secure infrastructure in smart societies.

To enable 5G, the very first step is to make sure that adequate spectrum and the right spectrum bands are available. It is also important to develop efficient frequency ranges for the IoT ecosystem and 5G networks. Panelists also underlined the importance of harmonizing the use of radio spectrum in order to have economies of scale, technologies choice, cost effective services and applications. They also stressed on the need to promote business and investment models. These approaches, they said, are needed to deliver affordable connectivity for all. Panelists agreed that spectrum and infrastructure sharing are regulatory and policy tools that will contribute to the roll out of 5G. Clear, coherent and harmonized policy and regulatory mechanisms and guidelines and global exchange platforms can provide best practices and common solutions to encourage effective use and sharing of spectrum and infrastructure and drive down the cost of 5G deployment.

In the near future there will be millions and billions of connected smart devices and sensors. Infrastructure development, secure networks, good coverage and good quality of service (QoS) will be essential to guarantee such connectivity. In this context, reliable coverage maps based on harmonized standards and methodologies at global level will be key to the future the roll out of IoT, AI and 5G.

The digital transformation is creating many benefits to society and its adoption is improving productivity and competition. Competition drives investment, in particular efficient investment. For this, the need to design a long-term policy view to promote a fair and healthy competition market was also discussed. Panelists also suggested that national regulatory authorities (NRAs) should address the private sector issues and their contribution to the development of the digital economy in their decision-making process and consider creating favorable conditions for commercial and industrial investment and innovation as well as incentives to increase coverage and roll-out.

The panel further examined the importance of working on high-level principles for responsible ethical use of data and AI, considering that there are different approaches to digital identity, privacy, privacy by design and security around the world.

It was concluded that, since there are no boundaries in the digital age, the greatest challenge for all is to reach consensus based on innovative, flexible and market-driven policies and regulations that drive positive behaviors in the marketplace.

Session 2: Digital transformation: mastering the new regulatory frontiers



Moderator: Ms Dalsie Baniala, CEO/Regulator, Telecommunication and Radiocommunication Director, Vanuatu

Introductory remarks: Ms Sofie Maddens, Head, Regulatory and Market Environment Division (RME), ITU/BDT

Panelists:

- Mr Sebastien Soriano, Chairman of ARCEP, France, BEREC Vice Chair, FRATEL Vice Chair
- Mr João Cadete de Matos, President, Anacom, Portugal
- Ms Nerida O'Loughlin, Chair and Agency Head, Australian Communications and Media Authority
- Mr Dan Sjöbolm, Director General, Swedish Post and Telecom Authority (PTS), Sweden
- Mr Bocar Ba, Chief Executive Officer, SAMENA Telecommunications Council
- Mr Oscar Martín González, Undersecretary of Regulation, Secretariat for Information and Communication Technologies, Argentina
- Mr Mika Lauhde, Vice President Cyber Security & Privacy, Global Public Affairs, Huawei Technologies Co., LTD

The moderator introduced the session by highlighting three series of questions to be addressed by panelists, focusing first on innovative regulatory tools, then moving on to algorithms regulation; and finally looking at the impact of regulation and innovative regulatory tools on economic and social development. Panelists

recognized that they are facing many changes in terms of existing and emerging technologies, and that this has affected regulatory needs and challenges. Regulators, they said, should be conciliatory if their role as facilitators so that innovation and investment can continue, while consumers get wider and better choices, especially since ICTS do have an impact on economic and social development. Transparency and availability of data helps regulators in making choices and being such facilitators and this is especially important as they face even more new regulatory frontiers.

The introductory presentation gave an overview of ITU BDT tools, including data, research and analysis, publications and research and knowledge exchange platforms on ICT/telecommunications developments and regulatory reform, to assist Membership in evidence-based decision making for the establishment and implementation of effective regulatory frameworks, regulatory mechanisms and laws to address the digital transformation and the new regulatory frontiers.

Panelists first addressed new regulatory tools for digital transformation, focusing in particular on regulation through data. Providing more and better tools to consumers, for example by creating platforms for information exchange or mobile coverage monitoring tools, working with operators to gather information, provides more transparency, and the basis for more effective regulation. Focusing on the role of regulators as facilitators, panelists also highlighted the relevance of transparency and accountability, raising the example of self-regulation as a tool for better transparency towards consumers.

Turning to algorithms regulation, panelists recognized that this is a new regulatory frontier that needs to be addressed. Given the impact of big data and algorithm management on society and people, it is important to share experiences and information, not only amongst telecommunication regulators, but across the sectors. Within the digital ecosystem, operators, they said, have a large amount of data, including information about consumers and users. The challenge is how the data is processed and how to balance consumer interests with the interests of operators and service providers. This raised issues relating to consumer protection, data protection, privacy, as well as issues relating to network security and quality of service and incentives for investment and innovation. Here tool, accountability and transparency are key.

Turning to the impact of ICTs/telecommunications on economic and social development, and regulatory strategies to address the new challenges and opportunities, panelists reiterated that regulators should focus on their role as facilitators, albeit that their decisions should strive to be evidence-based. Regulators should however strive to be agile and flexible, and aim to base decisions on information and data, given that the digital ecosystem is fast-paced and dynamic. Confidence and trust in regulation and regulators are at the core of effectively regulating the digital economy. Given that ICTs impact many sectors, collaboration across the sectors is also important, and such regulation and regulatory measures and collaboration should again be based on data and information from across the sectors. Public consultations and exchange platforms to gather information from stakeholders are essential to decision making.

Session 3: Digital Identity across different platforms - can this help achieve the SDGs and foster inclusion for all?



Moderator: Dr Ram Sewak Sharma, Chairman, TRAI, India

- Ms Annegret Groebel, Director International Relations/Postal Regulation, BNetzA, Germany.

Introductory remarks: Ms Nancy Sundberg, Senior Programme Officer, RME, ITU/BDT

Panellists:

- Mr Joe Anokye, Director General, National Communications Authority, Ghana
- Ms Yasmina McCarty, Head of Mobile for Development (M4D), GSMA
- Mr Yahya Salim Alazri, Director, National Digital Certification Center (Oman National PKI), Information Technology Authority, Oman
- Ms Yvette Ramos, CEO of Moinas & Savoye, Geneva and VP External Relations INWES

The moderator stressed that in today's digital world, where we all do digital transactions, the answer to the questions *Who are you? Are you who you claim to be?* have to be answered in a digital manner. We may have multiple identities depending on the context. In a country where a lot of people do not have any provable formal identity document, they may be denied access from digital development systems, whether it is the banking system or a service delivery or e-government system. Therefore, there is a need for national digital identity systems. In India, the system had to be unique, inclusive, robust and frugal and it had to protect privacy. Another attribute was the unique authentication of identity and it was noted that every project should begin with a problem

statement and each country will have its own specific requirements.

The introductory presentation highlighted the digital identification for development project that BDT has just launched. The project aims at providing a concrete and pragmatic step-by-step approach to the implementation of national digital identity systems. Different types of personal data may be required for different types of digital services and transactions that require identification and authentication systems. Governments increasingly recognize that by establishing a system of trusted digital identities, relying on digital identification, authentication and validation processes will contribute to preventing identity theft and crime as well as to the growth of the digital economy. Identity can be defined by two types of attributes, biographic and biometric. How these identity systems are managed and credentials established vary across countries and each have their set of challenges and benefits.

Panelists emphasized that digitization of the economy requires digital identity infrastructure that includes connectivity, applications and digital ID systems. There are different means for an individual to identify him/herself. To harmonize these different identities, governments are moving towards national identification systems that may rely on smart cards or mobile devices and in some cases digital certificates embedded in chips in

order to authenticate citizens electronically and enable digital signature without the need to resort to physical premises. Enforcing national digital certificates in the ID card first followed by their integration in mobile SIM cards was the approach taken in Oman. Panelists stressed that mobile operators could enable people to enroll into digital ID schemes and assert identity to access services, thus playing an important role in national systems implementation and market take up.

More work needs to be done on interoperability and inclusion as well as to ensure the security of national ID platforms. Many industries are looking at the latest technologies, such as decentralized blockchain-based solutions, and engineers and scientists are called upon to help. While secure systems are needed and there are requirements to ensure these systems are fulfilling requirements, other sets of rules on data protection, privacy and security are required to address data ownership, data access and consent. Consumers and users in general are fairly aware of the digital traces they leave when using digital services; however, they must also be aware of who has access to their data so they can limit this access to avoid misuse and abuse. Trust, accountability and privacy are therefore essential. As digital identification is a cross-sectoral issue, the importance of collaboration among stakeholders and the different government agencies was emphasized by all panelists.

Session 4: The Human in the middle: How to protect personal data in a smart data driven economy?



Moderator: Mr Vincenzo Lobianco, Chief Technology and Innovation Officer, AGCOM, Italy

Panelists:

- Mr Godfrey Mutabazi, Executive Director, UCC, Uganda
- Mr Stephen Bereaux, Chief Executive Officer, URCA, Bahamas
- Ms Hannia Vega, Presidenta del Consejo, SUTEL, Costa Rica
- Eng. James M. Kilaba, Director General, TCRA, Tanzania
- Ms Danielle Jacobs, President, INTUG
- Dr Dan Hayden, Data Strategist, Facebook

There is a growing consensus that the data-driven economy provides the foundation of the digital society. From electronic communications through payments to various transactions in all walks of life, data flows leave an indelible trace behind them. Therefore, the importance of user consent and the existence of a sound framework for data dealing are key to ensuring the appropriate use of data and the protection of personal data.

Panelists shared their experiences to illustrate their views in the debate. In many countries, multiple government agencies collect data on citizens, for various purposes. One of the outstanding challenges is to bring together data across the agencies in order to improve the efficiency of data governance and data protection.

Other challenges related to this reside in building secure digital infrastructure as well as the institutional and human capacity of government agencies. Issues related to data ownership and privacy need to be clearly framed in rules and regulations and the appropriate enforcement mechanisms need to be made available in order to create trust in data governance structures and limit data breaches.

As digital transformation is global and permeates all layers of society and economy, the role of the regulator – or rather regulators – has to be one of facilitation. Traditionally, regulators were taking leadership on different issues under their remit; however, today's regulation cannot be undertaken as one-way, exclusive process. Regulators need to work together, in an integrated fashion, in order to find consensus regionally – but also globally. Separate regulatory authorities address different areas from electronic communications to banking services to health and education. Informed discussion, consensus building and collaboration and shared goals form the blueprint for multisector regulation for inducing digital transformation. The providers of digital services as well as operators are no longer merely the subjects of regulation. They are very much part of the discussions – and the range of stakeholders

adding their voice in the conversation is getting wider.

Panelists agreed that, in order to leverage on the positive dynamics of data-driven development, government agencies need to join forces and collaborate in setting the rules for data collection, sharing and governance as well as for law enforcement in the case of data breaches or misuse. Regulation should extend into consumer education, advocacy with industry and synergies with the judiciary. Data is no more a by-product or a means of accessing a service; it is more than a product, too, as it has real value which needs to be protected. Panelists from across the board recognized that they all have shared interest in building consumer trust.

A common understanding between the users and the service providers, on one hand, and multisector collaboration among the various regulatory agencies dealing with data-related issues, on the other hand, are essential for the data-driven economy to thrive. While many transparency and flexibility issues with data infrastructure and management systems could be solved by design, data regulations should enable users' trust in data flows and the digital transformation and ensure its economic value is capitalized upon in a responsible and fair manner.

Adoption of the GSR-18 Best Practice Guidelines on new regulatory frontiers to achieve digital transformation



Mr Sorin Grindeanu, President ANCOM, Romania, GSR-18 Chair

Mr Grindeanu presented the open consultation carried out in the lead up to GSR-18 and the draft GSR-18 Best Practice Guidelines on new regulatory frontiers to achieve digital transformation. The GSR-18 Chair explained that the best practices provide that regulators participating in the 2018 global symposium for regulators recognize that flexible and regulatory approaches can support and incentivize digital transformation. This year's set of best practices will guide regulators in responding to the changing market landscape and addressing the need for secure and reliable ICT infrastructure, affordable access and delivery of digital services as well as protecting consumers and maintaining trust in ICTs.

Mr Grindeanu announced that regulators present at GSR-18 have identified and endorsed regulatory best practice guidelines on new regulatory

frontiers to achieve digital transformation in the following areas:

1. Fostering the potential of emerging technologies for digital transformation.
2. Business and investment models to support digital transformation.
3. Policy and regulatory approaches for continued innovation and progress.

As no further comments on the substance of the draft guidelines were made, the GSR-18 Chair declared the GSR-18 Best Practice Guidelines adopted and thanked all the contributors who provide oral and written contributions during the consultation process.

Regulators' track: Innovative regulatory tools as drivers of cross sectoral collaboration



Moderator: Mr Charles Millogo, President, ARCEP, Burkina Faso

- Mr Feliksas Dobrovolskis, Director General, RRT, Lithuania

Introductory remarks: Ms Youlia Lozanova, Senior Analyst, ICT Policy and Regulation, RME, ITU/BDT

Panelists:

- Mr Konstantinos Masselos, President, EETT, Greece
- Mr Filipe Batista, Secretary-General, ARCTEL-CPLP
- Mr Miguel Giubergia, Director, Enacom, Argentina
- Mr René Dönni Kuoni, Vice-Director, OFCOM, Switzerland
- Ms Amela Odošević, Head of Public Affairs, CRA, Bosnia and Herzegovina

Setting the scene for the panel discussion, some of the recent work of ITU in the area of ICT policy and regulation was highlighted. Notably, the ICT Regulatory Tracker is an evidence based tool to help decision makers and regulators analyze and better understand the regulatory environment for the ICT sector, as well as the maturity of their regulatory frameworks. The Tracker can help identify gaps in existing regulations and may also serve as a blueprint for regulatory reform. Taking the research to the next level, the regulatory team of ITU has been building further on the concept of collaborative regulation and measuring the level of regulatory collaboration between the agencies and the authorities involved in regulating different aspects of ICT markets and services.

During the discussion, panelists noted that the spread of ICTs across the economy calls for a more collaborative regulatory approach. The work of regulators has become more challenging because

they need to have a clear vision and be able to set very clear objectives for their markets. In a nutshell, regulators need to sharpen their tools and widen their perspective. In the future, fifth generation regulators will be making decisions that will impact the safety of self-driving cars and the communication protocols of millions of things connected over the Internet and entrenched in our everyday life. The challenges are many, however, collaborative regulation is the key; it is about staying open to stimuli coming from many different stakeholders – and to their ideas.

To illustrate the approach, the panel put forward the experience of ministers and regulators adopting a common Digital Agenda for the Portuguese-speaking countries. The initiative was remarkable also because it brought together nine countries from five different regions the world, aligning their strategic orientations and opening up a new path in terms of economic development and digital and the financial inclusion.

Panelists also shared successful collaborative experiences in the area of market integration and regulation at the national level. In Switzerland, government agency have facilitated joint investment projects by telecom and electricity companies. The light-touch regulatory environment and open market access have contributed to a competitive situation and a lot of investment from different sectors have flowed in ICT-related network and service ventures.

Through cooperation and collaboration, regulators are able to do more with less resources. A twin approach to collaborative regulation is the philosophy of lifelong learning, embracing non-typical education, fast-paced skill-focused orientation to allow regulatory staff to keep up with technological evolution and the changing requirements of consumers, businesses and the wider economy.

Looking forward to the deployment of 5G, panelists agreed that government policies and regulation need to facilitate innovation in the development of the new services and applications, foster competition in the market and to empower consumers in the digital ecosystem. In doing so, regulators and policy makers in the area of ICTs, transportation, energy and the broader economy need to collaborate, build new ties and a dynamic, positive relationship.

Addressing AI, IoT, cloud computing as well as new and emerging technologies requires a modular approach, open and agile. Panelists agreed that rethinking regulatory incentives and forging innovative solutions for both infrastructure built-out and service delivery is paramount for the development of future technologies and expanding connectivity. From sandboxes to targeted incentives to collaborative regulatory mechanisms – regulators' role is changing as new market realities open to new regulatory frontiers.

Industry Leaders' Roundtable: Industry Leaders as Drivers of Leading Emerging Technologies



The Industry Leaders Roundtable shared visions, case studies and future trends on technical, regulatory enablers and business investment models as well as on emerging technologies for the next wave of industry productivity and the advancements of digital services across economies and sectors.

Session 1 Panelists:

- Eng. Tariq Hamza Zeinalabdin, President & Chief Executive Officer, Sudatel Telecom Group
- Mr Raphael Rollier, Digital Innovation & Transformation, Swisscom
- Mr Oleg Pravdin, Managing Director, Blockchain in Telecom
- Ms Virpi Stucki, Business Partnership, Partnerships and Field Integration, UNIDO

Session 1 focused on the key sectors where emerging digital technologies are transforming today's digital ecosystem towards the Fourth Industrial Revolution (4IR). Panelists shared examples on new technologies and digital services and their impact on traditional operators' business models. Beyond the telecom sector, healthcare, education and government services, amongst others, were mentioned as main sectors where digital technologies are and will continue to have great impact. One example was the use of

industrial blockchain technology and its potential to open new business opportunities for large or small operators by creating trusted marketplace for multiple services, also reducing operational costs. The discussion highlighted the importance of industrial skills in the context of 4IR as well as Public Private Development Partnership (PPDP) models for inclusive and sustainable industrial development with the human at the center, including persons with specific needs, youth and vulnerable groups.

Session 2 Panelists:

- Ms Ruth Pritchard-Kelly, Vice President, Regulatory Affairs, OneWeb
- Mr Johan Keetelaar, Director, Connectivity Policy, Facebook
- Ms Jade Nester, Director, Consumer Policy, GSMA
- Mr Satya N. Gupta, Joint Secretary General, ITU-APT Foundation of India

Session 2 focused on key technological and regulatory enablers and barriers to accelerate large-scale deployment in the digital ecosystem. Panelists shared the view that Public-Private Partnerships (PPPs) are vital to address the ICT needs of emerging and developing markets, packaging funding with technology to provide

access to much-needed services to people. Open Skies approach, better balance between regulation and an enabling environment for business investments would reduce barriers to ubiquitous broadband access. The discussion also focused on the need for regulators to work together and using a holistic approach, in particular concerning consumer protection issues which are often cross-sectoral and requiring closer collaboration across industries and regulators. Panelists agreed that consumer protection, privacy, trust and security are at the heart of rethinking the regulatory environment where regulators are seen as facilitators in addressing global issues, also requiring enhanced regional and international collaboration.

Session 3 Panelists:

- Mr Atul Mehta, Director, Telecom, Media, and Technology, Venture Capital & Funds, International Finance Corporation
- Mr Michiel Sträter, Global Lead Telecom, ING Group
- Mr Louis Berlan, Manager, Large Venture Fund, BPI Groupe S.A.

The panelists in **Session 3** debated on investment opportunities in the digital ecosystem for growth and fulfillment of the Sustainable Development Goals (SDGs). The panelists shared experiences in attracting investments with the speed of innovation and new technologies and fostering the

achievement of the SDGs. Regarding the Internet of Things (IoT), both operators and manufactures have engaged in investing in new networks and solutions and each space within the IoT ecosystem has its own model for investment. It was, however, also noted that more use cases are required to ensure that investment is sustainable.

It is a well-known fact that the lack of ICT connectivity is not only related to absence of coverage gaps, but also to affordable access, the lack of a competitive environment at the national level as well as the need to stimulate the use of existing infrastructure through relevant applications and service offers. SMEs and start-ups, if funded, could foster this process, although investors' requirements are still not aligned to the nature of SME and start-ups. A change of mindset is therefore required for bringing about innovative business and investment models. Panelists agreed that while there are several commercial and PPP models being currently explored, governments and private sector partners need to continue to work together to address the supply and demand side of the markets for new services in order to ensure affordability, infrastructure sharing and viable investment. In addition, bringing interconnectivity among different platforms at the national level needs to be promoted by governments so that private investment can sustain fair return.

Finally, participants agreed on the benefit of convening this roundtable and bringing together the diversity of the views of all stakeholders, including regulators, the industry and investors.

Information Session on SSDM Regulatory Toolkit



Moderator: Mr Jose Toscano, International Government Affairs & Asset management Director Intelsat and Vice-Chair of the SSDM Board

Speakers:

- Mr Brahima Sanou, BDT Director, ITU
- Ms Donna Bethea-Murphy, Senior Vice President of Global Regulatory, Inmarsat, Vice-Chair of the SSDM Board and Chair of the Regulatory Toolkit and guidelines working Group
- Mr Flavien Bachabi, Chairman of ARCEP Benin and Chair of the SSDM Global Emergency Fund for Rapid Response Working Group

The information session started with opening remarks from Mr Sanou followed by an interactive

presentation of the regulatory toolkit developed to facilitate the smooth trans-border movement of telecommunications equipment into affected countries during emergencies. The toolkit is one of the main outcomes of the SSDM Initiative that will be made available **online** later in the year.

The SSDM Initiative is an international, multi-stakeholder platform launched by Mr Brahima Sanou, ITU BDT Director, to encourage dual-use of ICT for development (ICT4D) and ICT for disaster management (ICT4DM).

The speakers also shared their views on the importance for countries of assessing their current readiness and of identifying new processes and regulatory measures that would need to be established in advance to be prepared.

Multi-stakeholder Roundtable: Achieving new sustainable investment models: how to work together?



Moderator: Mr J. Paul Morgan, Board Member, URCA, Bahamas

Panelists:

- Mr Rafael Munte Schwarz, Chairman of the Board, OSIPTEL, Peru
- Mr Abdoukarim Soumaila, Secretary General, ATU
- Mr Abraão Balbino e Silva, Competition Superintendent, ANATEL, Brazil
- Mr Koffi Fabrice Djossou, Sales Director, West and Central Africa, Gilat Télécom
- Mr David Geary, General Counsel Caribbean, Digicel Group
- Mr Christodoulos Protopapas, CEO, HellasSat

Building on the discussions over the three days of GSR-18, the panel went to investigate the changing investment opportunities and the business models allowing to tap into those. Investment conjures up the aspirations of all players of the digital economy – and ultimately contributes to delivering

benefits to consumers across the board. With 5G, AI and IoT on the near horizon, connectivity and investment gaps are becoming more acute and require an overhaul of regulatory frameworks.

As the panel looked at the new frontiers for regulation, it was suggested that many traditional modes of investment are no longer viable and there is a lack of a sustainable investment models. In order to leverage digital transformation across the economy, the investment gaps need to be mapped and addressed. Regulators and policy makers have to adopt new tools and create incentives for operators to release sufficient and timely investment in digital infrastructure and services. Moreover, gaps in digital infrastructure are often combined with gaps in other areas, such as roads or power – adding a layer of complexity to the issues at stake.

Panelists agreed that regulators and policymakers need to adopt new approaches to identify gaps and the reasons behind them as well as come up with policies and regulatory incentives for making investment in gap areas justifiable, attractive and sustainable from a private sector perspective. While government subsidies can be needed in targeted areas, regulatory incentives and more

flexible regulatory treatment could catalyze investment in hardship areas. The experience of Brazil was highlighted, where a pioneering approach was taken to stimulating the take-up of small local service providers with competition measures combined with reduced licensing fees and taxes. As a result, over 6'000 small providers joined the market for Internet services, filling the gaps in niche and localized segments. Reducing the regulatory burden can go a long way towards creating new sustainable investment models for market players of all sizes.

Various other options are also available. From public-private partnerships and regulatory collaboration to low-rate loans and pay-or-play schemes to taxing digital platforms – the range of business and regulatory measures at hand is wide. National strategies and solutions to overcome investment gaps can vary considerably as different tools might be needed to best respond to national circumstances and policy priorities. Therefore, the role of regulators shifts its focus to leveraging on the strengths – and resources – of the various market players from the ICT sector and the wider economy and capitalizing on the complementarity of the digital transformation players.

Closing & adoption of the GSR18 Best Practice Guidelines



- Mr Brahima Sanou, BDT Director, ITU
- Mr Sorin Grindeanu, President ANCOM, Romania and GSR-18 Chair
- Mr George Michaelides, Commissioner, Office of the Commissioner of Electronic Communications & Postal Regulation, Cyprus on behalf of Mr Johannes Gungl, CEO for Telecommunications and Postal Services, RTR, Austria and BEREC Chair 2018, Chair RA Meeting
- Mr Ba Bocar, Chief Executive Officer, Samena Telecommunications Council, Chair of CRO/ IAGDI
- Mr Kemal Huseinovic, Chief, IEE, ITU/BDT

Celebrating the successes of GSR-18, the closing session was led by Mr Sanou. He extended a heartfelt thanks to all participants for their contribution to the discussions and for sharing their success stories, views and concerns on a range of topical policy and regulatory issues. Mr Sanou also stressed the importance of GSR as a platform for building the community of world ICT regulators and for connecting them at multiple levels. He expressed his hope that the fruit of the GSR-18 consultation, the GSR Best Practice Guidelines, and the discussions over the three days of the event will accompany regulators in extending the new regulatory frontiers and breaking the barriers towards digital transformation. Mr Sanou handed over officially a copy of the Guidelines to the GSR-18 Chair and appointed him on behalf of all event participants as the Ambassador of the GSR-18 Best Practices.



Mr Grindeanu shared his satisfaction with the discussions and outcomes of the event and congratulated ITU for creating an invaluable opportunity for regulators and policy makers to meet peers, discuss some of the thorny issues of the digital transformation and learn from each other's experience. Mr Grindeanu thanked all participants for making GSR-18 a success. He affirmed his commitment to promoting the GSR Best Practice Guidelines as well as the policy and regulatory work carried out at ITU.

Mr Michaelides thanked ITU for organizing the annual regulatory association meeting and for providing the platform for neutral knowledge exchange of information and experiences among regulators. Mr Michaelides provided a short account of the topics discussed at the meeting and recognized it had been serving as a catalyst for enabling regulatory associations from across the world to achieve their visions.

Mr Ba reported on the ninth meeting of the private sector chief regulatory officers and the launch of the advisory group for developmental issues (IAGDI), in accordance with WTDC Resolution 71. During the interactive and productive meetings of CRO/IAGDI, participants

agreed to work along five areas for stakeholder engagement converging towards the broader theme of facilitating access to connectivity for everyone in a sustainable manner. For each area, the group has further identified a number of calls for action. The industry together with regulators and government are encouraged to adopt concrete actions to ensure the advancement of sustainable development worldwide. Going forward, the group will further develop each area of action seeking synergies and leveraging existing ITU platforms, such as ITU-D Study Groups, TDAG and GSR-19.

Turning to the next edition of GSR, Mr Sanou invited participants to make proposals for topics to be considered for the next event. He indicated that the consultation on topics will be open until 30 August 2018 at gsr@itu.int.

Mr Jackson Miake, Chief information Officer, Office of the Government on behalf of the Government of the Republic of Vanuatu, officially announced that GSR-19 will be held in Vanuatu, from 9 to 12 July 2019. Mr Miake thanked ITU for the confidence in accepting the offer to host GSR-19 and invited all regulators and policy makers from all regions to join at the event.

GSR-18 Thematic Events Regulatory Associations (RA) Meeting



RA-18 Chair: Mr Johannes Gungl, CEO of RTR (Austria) and BEREC Chair 2018

Welcoming remarks: Mr Brahima Sanou, BDT Director, ITU

ITU Keynote presentation: Ms Sofie Maddens and Ms Carmen Prado-Wagner, ITU/BDT

Mr Sanou welcomed participants and thanked the Regulatory Associations (RA) for their active participation in this year's annual Regulatory Association Meeting organized during the Global Symposium of Regulators (GSR-18). Recalling WTDC Resolution 48 (Rev. Buenos Aires, 2017), Mr Sanou recognized the RA meeting as one of the neutral knowledge exchange and dialogue platforms ITU offers where RAs in particular can discuss cooperation and share information between various regulatory associations across different regions. This, he said, is a tool for creating and maintaining an enabling regulatory environment, in sharing knowledge and expertise, and in providing RAs with the platform for an inclusive dialogue with colleagues, peers and other stakeholders on a local, regional and global scale. Recognizing the importance of such associations, he reminded them of their unique role and position to make a difference.

This year, more than 50 participants from 14 Regulatory Associations and other international organizations (APT, ARCTEL, AREGNET, ATU, BEREC, COMESA, COMTELCA, CRASA, EACO, EMERG, FRATEL, REGULATel, SATRC and WATRA) attended the meeting.

There were two items on the agenda:

Item 1: Presentation of the main projects and activities of each Regulatory Association

Interventions were made from the Regulatory Associations providing information on activities and projects. All presentations will be available on the RA 2018 web-page.

Item 2: Discussion on potential areas of information exchange and in particular focusing on infrastructure sharing

Following up on last year's RA's request to ITU to create a portal for the RAs which could include presentations at RA meetings as well as reports and links to reports and activities of the RAs, ITU-BDT presented the draft RA portal as well as other portals of interest to RAs (IMR, Digital Economy, Quality of Service and future Infrastructure Sharing Portal).

BEREC also shared information on the recent infrastructure sharing report, which includes a provisional analysis of infrastructure sharing arrangements which are currently in place in various individual European markets. The report is a first step towards identifying best practices on mobile infrastructure sharing arrangements and seeking to develop a BEREC Common Position on sharing. The objective is to facilitate the enhancement of mobile connectivity in European markets, in particular with regards to the rollout of 5G networks, whilst protecting and promoting competition.

Participants recognized the value of exchanging information on regulatory issues, including Infrastructure sharing, and called for an exchange

of information on this issue, which could be done through the ITU RA portal to be published shortly.

Chief Regulatory Officials (CRO)/ Industry Advisory Group for Development (IAGDI) Meeting



In accordance with the outcomes of WTDC Resolution 71, the first meeting of the Industry Advisory Group for Development Issues (IAGDI) was held at GSR-18 together with the ninth Private Sector Chief Regulatory Officers' (CRO) meeting. The CRO/IAGDI meeting, moderated by Mr Bocar Ba, Chief Executive Officer, Samena Telecommunications Council and Chair of CRO. Attended by over 100 high-level industry executives as well as members from the public sector and academia, the Group agreed that the facilitation of access to connectivity for all in a sustainable manner as a key action towards advancing inclusiveness and the achievement of the sustainable development goals.

The group has put forward the adoption of a multi-stakeholder engagement approach to achieve connectivity for all, the harnessing of the power of new technologies, and the establishment of an effective cross-sector collaboration and cooperation framework to enable new business models, as fundamental to addressing the following areas:

- ubiquitous infrastructure deployment
- the drive up of broadband adoption and usage rates; and
- the creation of an environment where innovation can flourish.

For each area, the group further identified a number of calls for action that industry, in collaboration with regulators and governments, is encouraged to adopt and act upon to ensure the advancement of sustainable development.

Going forward, the group will further develop each area of action, seeking synergies and leveraging existing platforms including ITU Telecom World, ITU-D Study Groups and contributing to TDAG and GSR19.

The CRO/IAGDI Outcome document and call for action can are available online, and ITU Membership is invited to further engage and contribute to the work of CRO/IAGDI.

Global Dialogue on AI, IoT and Cybersecurity – Policy and regulatory challenges and opportunities



The Global Symposium for Regulators (GSR-18) was a valuable opportunity for policy makers, regulators and the private sector to discuss their role in technological development and how policy on regulation can unleash the opportunities that AI and IoT offer. The ICT sector is central to work, leisure and social interaction we all engage in. By 2020, 95 percent of all data is forecasted to be video or image and 5G is likely to provide an important vehicle to help achieve that. Speed is going to be critical as many services will require instantaneous response. A layer of complexity is added by next-generation cybersecurity requirements to guarantee data reliability and protection.

All stakeholders shared their perspectives on the actual trend of increasingly connected devices and the need for clear definitions of the concepts related to AI and IoT. Panelists agreed on the importance of cybersecurity and the need to build integrated solutions into new networks rather than adding it as an accessory feature on the top of ready-to-deploy systems. Panelists also recognized the need of prevention, detection and anticipation of cyber threats, as opposed to focusing on the mitigation of cyber-attacks. Privacy and human-related concerns have been raised and addressed during the panel discussion (e.g., risk of loss of jobs being replaced by robots and automation, new needs for education and training towards developing digital skills). Moreover, there was an agreement that additional sets of skills need to be developed and applied providing a comprehensive view of the technical, ethical and

legal frameworks – or their absence – in the area of cybersecurity.

The discussion also addressed issues related to privacy in the context of AI and IoT, including considerations related to the application of the new General Data Protection Regulation (GDPR) in the European Union. Privacy is a key issue when it comes to AI and IoT as they are fueled by a vast amount of data, which raises issues related to its fair and appropriate use; however, privacy and cybersecurity principles with regards to AI can also diverge. GDPR is intended to empower consumers to take their privacy in their hands. From an industry perspective, privacy is the foundation of trust between consumers and businesses.

In concluding the discussion, panelists called for a transversal approach to cybersecurity that goes beyond technology. New areas need to be addressed through a holistic approach, also focusing on integrating digital skills into academic curricula and raising wider awareness of the security and privacy challenges related to AI and IoT. Panelists emphasized the need for collaboration across government agencies, tech companies, operators and service providers, manufacturers and stakeholders from all economic sectors in a constructive and forward-looking manner. One of the ideas put forward by panelists was the establishment of a multi-stakeholder digital intelligence task force to build capacity in digital strategy and its application across regions, levels of development and cultures.

GSR18 BEST PRACTICE GUIDELINES ON NEW REGULATORY FRONTIERS TO ACHIEVE DIGITAL TRANSFORMATION

Digitization is increasingly and fundamentally changing societies and economies and disrupting many sectors in what has been termed the 4th Industrial Revolution. Meanwhile, ICT regulation has evolved globally over the past ten years and has experienced steady transformation. As regulators, we need to keep pace with advances in technology, address the new regulatory frontiers and create the foundation upon which digital transformation can achieve its full potential. Being prepared for digital transformation and emerging technologies such as Artificial Intelligence (AI), the Internet of Things (IoT), Machine to Machine communications (M2M) and 5G is fundamental.

We, the regulators participating in the 2018 Global Symposium for Regulators, recognize that, flexible and innovative policy and regulatory approaches can support and incentivize digital transformation. The best practices in this regard would allow us to respond to the changing landscape and address the continuing need for secure and reliable ICT infrastructure, affordable access to and delivery of digital services, as well as protect consumers and maintain trust in ICTs.

We have therefore identified and endorsed these regulatory best practice guidelines on new regulatory frontiers to achieve digital transformation.

I. Fostering the potential of emerging technologies for digital transformation

Advances in technology are creating new social phenomena and business models that impact every aspect of our personal and professional lives – and which challenge regulatory paradigms. M2M, cloud computing, 5G, AI and IoT are all bringing further profound change. Recognizing the potential of emerging technologies and the impact that policy and regulatory frameworks can have on their success, regulators should encourage a regulatory paradigm pushing frontiers and enabling the digital transformation. We therefore call for:

- implementing an agile framework for an innovative digital ecosystem through flexible

light-touch, multi-sectoral, forward-looking, neutral and transparent policy and regulatory approaches;

- encouraging policy and regulatory **measures to facilitate deployment and use of emerging technologies for affordable digital infrastructure and services**, including in the area of infrastructure sharing, interconnectivity, quality of service and effective use of spectrum;
- addressing the **enabling environment for emerging technologies** including, as appropriate and within our respective mandates, issues such as intellectual property rights (IPR), artificial intelligence (AI), investment, job creation and cybersecurity, technological neutrality;
- **addressing the commercial and investment case for 5G**, and the enabling regulatory and policy measures related thereto, recognizing that 5G is expected to contribute to the further evolution of digital economies, improving economic growth, enhancing citizens' life experiences and creating new business opportunities;
- reiterating that **access to scarce resources** (e.g., frequencies, telephone numbers, IP addresses) is essential for offering effective and innovative communication services; in addition, keeping sufficient flexibility of rules and procedures is important to allow innovation, so that new uses and new technologies can be conceived, designed, tested and deployed;
- integrating **ICT intensive research in our activities** through close collaboration and partnership with academia and research institutions;
- creating **innovation spaces** to promote opportunities for youth, foster the development of innovative ICT solutions, and nurture a community of entrepreneurs and mentors;

- recognizing that emerging technologies also require measures to continue **building the digital skills of people** not only as consumers but also as citizens;
- defining the appropriate response mechanisms to threats and cyberattacks including early warning service and the establishment of **cybersecurity emergency response teams (CERT)** to enhance consumer confidence in the digital economy while protecting already existing investments (Networks, Systems, Applications and content).

We further recall and reaffirm the importance of such measures and incentives, as iterated in GSR best practice guidelines from previous years.

II. Business and investment models to support digital transformation

An investment-friendly policy and regulatory framework is needed to support digital transformation which permeates all industries and impacts markets in all sectors.

We reiterate the need to design a long-term policy view to **ensure the predictability and regulatory certainty** that is needed to **promote business and investment** models and deliver connectivity for all use cases. Regulators and policy makers need therefore to work together proactively to:

- promote policies that encourage both **innovation and effective competition among sector players** in the ecosystem, and that also support the **protection of consumers**;
- enforce or collaborate in the enforcement of competition law to ensure that service providers comply with all the rules of fair and healthy competition;
- consider **pro-investment economic reforms and business approaches for the different players in the value chain** to help promote investment in infrastructure and increase business activities across industries and sectors, thus fostering greater demand for and use of ICTs;
- support the foundations of the digital ecosystem, addressing principles of cross-

sectoral collaboration, as well as competition, convergence and administrative simplification; furthermore, strive to address market access across the value chain, foster innovative and sustainable business and investment models, and identify economic incentives to support digital transformation;

- **support small and medium-sized enterprises (SMEs) by reducing barriers to entry** related to licensing regimes and fiscal and taxation policies, while supporting an enabling environment for SME development through protection of Intellectual Property Rights (IPRs) and economic incentives that are essential for business development;
- raise awareness that digital transformation is creating many benefits to society and its adoption is improving productivity and competition, and that this must not be seen as a threat to job security;
- Promote uptake and effective use of digital services across the country, particularly in **rural and remote areas**, through incentives that are attractive to both the public and private sectors.
- create the adequate regulatory arrangements and connectivity measures and programmes **to foster infrastructure and spectrum sharing practices, encourage national coverage and enhanced performance of the networks** to enable end-users to use digital technologies and services with fast and reliable access, taking into consideration wireless connectivity, potential incompatibilities of wireless systems, and facilities for the deployment of IoT networks;
- **foster fair, non-discriminatory and affordable tariffs**, while maintaining healthy competition between network providers;
- encourage the development of **big data technologies with regards to storage and transmission of information** in large public/ national data centres to facilitate access to data to promote the development of new digital services and applications, and ensure fair and equitable treatment of telecommunication/ICT market players and OTT providers.

III. Policy and regulatory approaches for continued innovation and progress

Amidst the technology swirl of the last decade, new technologies, new players and new business models are rapidly coming of age. Proactive measures and exchanges with all players in the value chain in the sector (start-ups, competition hubs, manufacturers, operators, as well as users) are key for boosting the emerging digital ecosystem. ICT policy and regulatory frameworks need to be up-to-date, flexible, incentive-based and market-driven to support digital transformation across sectors and across geographical regions. Next-generation collaborative ICT regulatory measures and tools are the new frontier for regulators and policy makers as they work towards maximizing the opportunity afforded by the digital transformation.

We believe that clear consideration is needed to ensure that the policy and regulatory approaches adopted are not a barrier to future innovation and progress while protecting consumers and extending connectivity to those who remain unconnected. To this end, we the regulators participating in the 2018 Global Symposium for Regulators, believe that we need to:

- consider putting in place **innovative, out-of-the-box measures** such as:
 - regulatory sandboxes for enterprises wishing to test an emerging technology or innovative service without being bound by all the regulations that would normally apply;
 - “start-up and experiment” interfaces to support start-ups, enterprises and communities in their experimental initiatives;
- 5G pilot projects to obtain initial feedback and facilitate reflection and design of future spectrum allocations while stimulating the take-up of services, building specific use cases and assessing future challenges related to emerging technologies under real-life conditions;
- promote further **public participation and consultation in the regulatory process** through *regulation by data*, that is based on information and observations of digital stakeholders and users, providing citizens and stakeholders with the most detailed and transparent information, and allowing consultation and participation in the regulatory decision-making process to complement the regulator’s traditional tools;
- establish **effective mechanisms for cooperation** across the sectors to promote the development of cross-cutting services such as e-commerce, e-banking, and e-health, including with consumer protection authorities, service providers and other relevant bodies at the national, regional and international levels;
- consider, as appropriate and within our mandate, the necessary frameworks to ensure **privacy and security of government, business and consumer data** so that stakeholders are adequately informed about potential security and privacy challenges they may face with online services, and have access to timely and accurate information regarding the services and applications they use (including reliability, speed, quality of service and data traffic management).

International Telecommunication Union
Telecommunication Development Bureau
Place des Nations
CH-1211 Geneva 20
Switzerland

Published in Switzerland
Geneva, 2018