



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 ی 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 2019

Global Symposium for Regulators

*Inclusive connectivity:
The future of regulation*



Table of contents

Table of contents	iii
Executive Summary.....	v
Opening ceremony	1
Broadband Commission Special Session/Leadership Debate: Getting the next 3.7 billion online!	3
Session 1: Digital infrastructure policies and regulation: a multidimensional collaborative approach	5
Session 2: Investment, funding and new business models for connectivity in a post 50-50 digital world.....	7
Session 3: Connectivity for all: Do the basics still apply?.....	9
Session 4: Simulation exercise on inclusive disaster risk reduction in time of emergencies	11
Session 5: Building confidence in a data driven digital economy	13
Session 6: The need for spectrum.....	15
Session 7: Putting people at the center: Consumer protection and the changing consumer role.....	17
Session 8: Preparing for 5G	19
Adoption of Best Practice Guidelines.....	21
Way Forward and Closing	22
THEMATIC SIDE-EVENTS AND INFORMATION SESSION	23
10th Private Sector Chief Regulatory Officers' (CRO) Meeting: New partnerships for connecting the unconnected, 9 July	23
GSR 2019- Regulatory Associations (RA) Meeting, 9 July	25
Heads of Regulators' Executive Roundtable, 9 July.....	27
Training session for policy makers and regulators on Competition policy in the ICT/mobile sector, 9 July.....	28
Information Session: From First Mile to Last Mile- thinking out of the box, 11 July.....	29



The 19th edition of the Global Symposium for Regulators (GSR-19), held in Port Vila, Vanuatu, from 9 to 12 July, attracted over 325 participants including Government Ministers, Heads of Regulatory Authorities and C-level industry executives from 64 countries. GSR-19 was organized by the International Telecommunication Union (ITU) in collaboration with the Government of Vanuatu. Chaired by Mr Brian Winji, Chairman of the Telecommunications, Radiocommunications and Broadcasting Regulator of the Republic of Vanuatu, the theme of GSR-19 was “Inclusive connectivity: The future of regulation.”

A series of pre-events took place on 9 July, including the Regional Regulatory Associations’ Meeting (RA), the Private Sector Chief Regulatory Officers’ Meeting (CRO), the Heads of Regulators’ Executive Roundtable and a training session for

policy makers and regulators on Competition policy in the ICT/mobile sector.

Throughout the four-day GSR programme, participants acknowledged the importance of more actionable, collaborative and innovative outcome-based approaches to regulation to unlock the full potential of digital technologies and accelerate progress towards the United Nations Sustainable Development Goals (SDGs).

Regulators from around the world identified and endorsed a set of regulatory **Best Practice Guidelines** to fast forward digital connectivity for all and allow people across geographies, economic and social status to benefit from the digital transformation and participate in today's digital economy. The Guidelines urge regulators and all stakeholders to be open to new regulatory tools and solutions and act without further delay.

Opening ceremony



The opening ceremony welcomed distinguished guests:

- Honorable Charlot Salwai Tabimasmas, Prime Minister of the Republic of Vanuatu
- Mr Houlin Zhao, Secretary-General, ITU
- Ms Doreen Bogdan-Martin, Director, Telecommunications Development Bureau (BDT), ITU
- Mr Brian Winji, Chairman, Telecommunications, Radiocommunications and Broadcasting Regulator (TRBR), Republic of Vanuatu and GSR-19 Chair

In his opening address, Mr Brian Winji stressed the importance of inclusive connectivity, noting the need to adapt regulatory approaches to enable the inclusion of all citizens. Recognizing that there will be challenges ahead for regulators to connect the unconnected, he also noted the need to be transparent and collaborative in choosing and applying regulatory approaches. It is important for us regulators, he said, especially for Small Island States, to collaborate with the

respective governments to create and maintain a regulatory environment that will not only bring the remaining 3.7 billion people online, but also ensure the market environment is fair and allows innovation. The market environment should sustain competition and offer a meaningful choice of digital services to citizens.

In addressing the audience, Ms Doreen Bogdan-Martin stressed that regulation has entered a new age and that innovative and collaborative approaches to policy and regulation are more urgently required than ever. Recognizing the importance of ICTs to every country's economic prosperity, she also recalled how all regulators – from the largest markets to the smallest – benefit from international dialogue and exchange, and how GSR has provided such a platform for nearly 20 years. ICTs, she said, are no longer just about communicating, meaning that today's regulators have a crucial role to play in sustainable and inclusive social and economic development. Against this background, she called upon participants to be bold and define new ways of doing business that

deliver rapid benefits to governments, the industry and most importantly, people.

After thanking the Government of Vanuatu and the Telecommunications, Radiocommunications and Broadcasting Regulator (TRBR) for their warm hospitality and for hosting GSR-19, Mr Houlin Zhao emphasized the importance of collaborative regulation in today's digital economy, where the line between the ICT sector and other industries is increasingly blurry. Relationships between institutions, market players, and people, he said, are changing, and emerging technologies such as Artificial Intelligence, Blockchain, the Internet of Things and 5G are putting regulatory paradigms to the test. At stake is regulators' ability to unlock investment to support growth, jobs, innovation and digital transformation across sectors and regions, achieve SDGs and deliver on the promise of the digital economy.

Mr Charlot Salwai Tabimasmass, Prime Minister of the Republic of Vanuatu, warmly welcomed and thanked participants for their presence, and noted that Vanuatu was the first Pacific Island state to host GSR. Leaving no one behind is one of the 2030 SDG agenda items and many of the Member States of the United Nations as well as of ITU, national governments and other key players are committed to collaborating and having inclusive dialogues to find effective and workable solutions for digital connectivity. GSR-19, he further emphasized, offers Vanuatu and other countries in the Pacific, a unique opportunity for dialogue and exchange of ideas on the future of the ICT policy and regulatory environment, with a view to leveraging the vast opportunities offered by ICTs to transform economies.

Broadband Commission Special Session/Leadership Debate: Getting the next 3.7 billion online!



Moderator: Ms Doreen Bogdan-Martin, Director, BDT, ITU

Introductory remarks: Mr Houlin Zhao, Secretary-General, ITU and Co-Vice Chair of the Broadband Commission

Panellists:

- Mr Marcin Cichy, President, Office of Electronic Communications (UKE), Poland and Broadband Commissioner
- Mr Bocar Ba, Chief Executive Officer, Samena Telecommunications Council and Broadband Commissioner
- Ms Nerida O'Loughlin, Chair, Australian Communications and Media Authority (ACMA), Australia

Ms Doreen Bogdan-Martin reminded participants that the Commission was launched as a multi-stakeholder partnership in May 2010 by ITU and UNESCO, in response to a call from the former

UN Secretary-General Ban Ki-moon to step-up efforts to meet MDGs, the first set of global development goals. In almost 10 years since its inception, she said, the Commission has gone from strength to strength. It now gathers over 50 high-level global experts from across a wide range of business sectors. The Commission, she added, is an excellent example of a true multi-stakeholder approach that brings a range of different perspectives to the challenge of promoting the rollout of broadband networks and services, as well as providing a fresh approach to UN and private sector engagement.

In his remarks, the ITU Secretary-General, Mr Houlin Zhao, thanked President Kagame of Rwanda, Mr Carlos Slim of Mexico and Ms Audrey Azoulay of UNESCO for their leadership and for their commitment to bringing broadband to all. He further acknowledged all past and present commissioners who have spared no effort to deploy and use broadband networks and services to achieve SDGs. He explained that the 26

New Framework of Global Advocacy Broadband Targets 2025

1. All countries should have a **funded national broadband plan or strategy**, or include broadband in their universal access and services definition.
2. Entry-level broadband services should be made **affordable in developing countries**, at less than **2%** of monthly GNI per capita.
3. **Broadband-Internet user penetration** should reach:
 - a. **75%** worldwide
 - b. **65%** in developing countries
 - c. **35%** in least developed countries
4. **60% of youth and adults** should have achieved at least a minimum level of proficiency in **sustainable digital skills**.
5. **40%** of the world's population should be using **digital financial services**.
6. **Un-connectedness of Micro-, SMEs** should be reduced by **50%**, by sector.
7. **Gender equality** should be achieved across all targets

specialized Working Groups created so far made important recommendations in areas as diverse and critical as global access to education, bridging the digital gender gap, digital health and digital entrepreneurship, among others. He also recalled the seven Global Broadband Advocacy Targets (featured below).

Panellists shared their views on the role and the importance of the Broadband Commission, the role of government in the digital transformation process and the need for a collaborative approach among government entities and with stakeholders. In Australia, digital readiness builds on a mix of private sector investment and targeted government interventions. These interventions have been supported by regulatory arrangements that facilitate the rollout and diffusion of new technologies and services to Australian consumers, including businesses. The government has also played a strong role in facilitation, coordination and education to assist industry and civil society to adapt to the rapid and profound digital transformation. In Poland, broadband connectivity has reached over 80 percent. Cooperation, especially between entrepreneurs, as well as between local authorities and the government is seen as crucial to connecting the remaining population.

Panellists highlighted the need for leadership and cross-sectoral collaboration. Broadband, they said, has to become a priority in all countries and the Commission can play a role towards that

goal. Panellists further noted the need to look at broadband not from a business perspective, but from a public service point of view. When talking to Heads of State, a sense of urgency should be communicated with regards to concrete actions to make digital infrastructure universal. Collaboration and accountability should form the basis for joint action with all stakeholders. Regulators are seen as natural partners in this process. Beyond the technology hype, extending affordable broadband connectivity to the last mile can support the economic development of nations. Panellists emphasized that reliable and affordable infrastructure in all regions gives people the freedom to choose where to live, including in rural and remote areas. This, in turn, would reduce congestion in urban centers. Digital policies are about finding the right balance between infrastructure, digital skills and job creation. There is a pressing need to enhance trust in online services and content, ensure their relevance and strengthen countries' readiness against digital threats. Awareness about Child Online Protection is key to providing secure, meaningful connectivity. There is also a need for locally relevant content, in particular in local languages. Also, broadband coverage does not equal access and access does not equal affordability. All stakeholders and particularly regulators need to address all of those elements in a coherent and collaborative way and be innovative. Broadband must be a priority in every country, concluded the BDT Director.

Session 1: Digital infrastructure policies and regulation: a multidimensional collaborative approach



Moderator: Dr Kemal Huseinovic, Chief, Department of Infrastructure, Enabling Environment and e-Applications, ITU

Panellists:

- Mr Dan Sjöblom, Director-General, Swedish Post and Telecom Authority (PTS), Sweden
- Mr John Omo, Secretary-General, African Telecommunications Union (ATU)
- Ms Anne-Rachel Inne, Executive Director Government Affairs and Public Policy, American Registry for Internet Numbers (ARIN)
- Mr Len Cali, Senior Vice President, Global Public Policy, AT&T Services Inc.

Panellists shared examples of collaborative mechanisms applied by regulatory and technical bodies in different regions. The European Union's Digital Single Market Strategy provides

for an important role of the Body of European Regulators for Electronic Communications (BEREC) that includes 40 regulators from across Europe, and contributes to the development and better functioning of the internal market for digital services. The American Registry for Internet Numbers (ARIN), as a Regional Internet Registry (RIR), supports the operation and growth of the Internet in North America and 26 Caribbean and North Atlantic islands. Similarly, the African Telecommunication Union (ATU) has the mandate to catalyse the development of ICTs through collaboration on policy and regulatory development, skills development, and coordination at international forums at the regional level.

Panellists noted that to connect the other half of world's population, innovative policy approaches are needed. Such approaches must also respond to economic, social and technical realities and developments. Infrastructure must be in place

for the digital economy to thrive. Infrastructure must therefore be secure and resilient, particularly with regards to citizen data. The IPv6 transition needs to continue as new generations of devices get connected. Many countries are still struggling with the lack of human resources and the lack of awareness on technical issues related to infrastructure.

Africa has seen tremendous growth in ICTs recently and examples of innovative business models and regulatory approaches have proliferated. Digital financial services in Africa have relied on innovative business models and regulatory approaches combined with collaboration between Central Banks and ICT regulators, leading to an enabling environment for operators and greater inclusion of people in the digital economy. Thinking out of the box to connect the other half, panellists agreed, could include light-touch approaches to regulation and innovative regulatory tools such as regulatory sandboxes.

Panellists also recognized that broadband rollout requires a significant amount of investment and agreed that regulation is more important than ever. With the caveat that there is no one-size-fits-all model, they emphasized that spectrum policy, tax policy and regulatory and competition policy are the four main drivers of investment in digital markets. By getting those levers right, policy makers and regulators can help drive investment.

In terms of spectrum policies to foster investment, panellists put forward that 5G is going to be a key driver and spectrum policy and policy harmonization are crucial. Spectrum licences should be technology neutral and long enough to encourage investment. 5G, panellists said, is a transformative technology with low latency, high speed and high capacity machine interaction capabilities (IoT, sensors). Within that context, it will be key to address the availability of low, middle and high bands of spectrum due to the different characteristics that are important for the different use cases.

In terms of regulatory approaches, panellists suggested reducing regulatory burdens, encouraging competition and facilitating facilities deployment. In a competitive environment, they said, if the quality of service is not good enough, consumers can move to other service providers. Regulators must also address accessibility, both in terms of the offer of accessible products and awareness raising.

Panellists agreed that it is also imperative to address taxation, both of operators and consumers (e.g., tax on devices, services). An important question for policy makers and regulators, panellists stated, is whether ICTs is a revenue opportunity for the government or an economic growth opportunity for the country.

Session 2: Investment, funding and new business models for connectivity in a post 50-50 digital world



Moderator: Mr Flavien Bachabi, Chairman, Autorité de Régulation des Communications Electroniques et de la Poste (ARCEP), Benin

Panellists:

- Mr Charles Millogo, President, Autorité de Régulation des Communications électroniques et des Postes (ARCEP), Burkina Faso
- Mr Edward Zhou, Vice President of Global Public Affairs, Huawei
- Mr Rajnesh Singh, Regional Bureau Director for Asia Pacific, Internet Society
- Mr Peter Stiffe, Pacific Business and Regulatory Advisor, Digicel

How can regulators ensure fair and competitive markets while enforcing universal access and service regulations and infrastructure sharing? What is required to facilitate investment in new technologies? Those questions formed the basis for the discussion.

Panellists highlighted the urgency of connecting the other half of the world's population, often living in remote and rural areas, so that everyone could take part in the digital economy and benefit from the opportunities on offer. On one side, panellists said, billions of disadvantaged unconnected people are looking for service. On the other hand, operators are willing to connect more people, but are hesitant to go into unprofitable or remote areas – as they require significant investment while the return on investment is often challenging. Balancing incentives for greater infrastructure investment with obligations to connect the unconnected is necessary to unlock market potential.

Panellists emphasized the importance of the right enabling environment for increasing investor confidence. Government needs to have a vision for the sector and work towards clear goals and outcomes. Investors look for stability and certainty as well as efficiency in terms of

government processes. Regulation and decision-making processes must be clearly defined and transparent to provide investors with confidence. Panellists recognized that business models have changed and many regulators face challenges related to new players, including global players. From enforcing regulation on overseas digital service providers without domestic presence to taxation and business registration to licensing and contribution to universal service – many questions remain unanswered and require further discussion. The BDT Director noted that a new Resolution on OTTs was adopted by the 2018 Plenipotentiary Conference and invited participants to consider this resolution and the work of ITU on this issue. The Broadband Commission, she said, also has addressed these issues and identified a number of policy recommendations with this regard.

Regulators need to collaborate with non-traditional stakeholders to facilitate infrastructure deployment. Some panellists highlighted that more collaboration with municipalities and ministries responsible for land and urban development will be needed since licences or authorisations for the use of public land or rights of way are often required for infrastructure rollout. Others mentioned the case of community networks, where the community itself becomes the provider for its own connectivity needs and has ownership over the technology in place. Such networks are complimentary to existing commercial networks and can meet the needs of unserved areas, allowing people to benefit from the digital economy. From a regulatory perspective, licensing should be adapted to allow for such last mile solutions.

In terms of financing mechanisms, panellists noted that regulators should consider different mechanisms – from Universal Service Funds to reverse subsidies. The role of the private sector is key; however, regulatory incentives need to match the effort required from investors and operators.

On the business side, panellists noted the case for digital financial services (DFS) and recalled that in Africa, DFS has generated significant revenues for telecommunication operators and turned previously uneconomic areas into viable markets as demand increased.

New and emerging technologies, panellists also noted, can also offer more cost-effective solutions to infrastructure development. Artificial Intelligence or drones, for example, can be used during the network construction phase to reduce costs.

Collaboration between operators, manufacturers and technology providers contributes to a more effective use of networks. By bringing technology providers and network operators together, use cases can be clearly defined, innovative technology solutions created and their business case understood. Regulators could also be invited to be part of the discussions, in particular if subsidies are required.

In conclusion, the moderator noted the important role of regulators in creating the right regulatory environment for investment, in fostering collaboration between different stakeholders and in bringing the different elements together to achieve inclusive connectivity.

Session 3: Connectivity for all: Do the basics still apply?



Moderator: Mr Martin Mokgware, Chief Executive, Botswana Communications Regulatory Authority (BOCRA), Botswana

Panellists:

- Ms Dimakatso Qocha, Councillor, Independent Communications Authority of South Africa (ICASA)
- Mr Rafael Munte, Chairman of the Board, Organismo Supervisor de Inversión Privada en Telecomunicaciones (OSIPTEL), Peru
- Mr Peter Girvan, Vice President, Asia-Pacific Headquarters, Viasat Inc./GSC
- Mr Erick Huerta, Board Member, Rhizomatica Communications

In introducing the panel, the moderator emphasized the role of incentive-based regulatory measures to achieve connectivity for all. Panellists shared their experiences on the rollout of Internet connectivity, broadband and policies their countries have put in place, highlighting that the basic regulatory principles still apply. They recognized that regulators need to adapt to change and not be confined to addressing new challenges with old approaches. In South Africa, the strategic objectives

of the regulator focus on facilitating investment in broadband infrastructure and licensing broadband spectrum for sustainable socio-economic development while promoting competition and universal access to communication services at affordable cost. A number of initiatives have been launched, such as the rollout of white spaces and the national 5G forum.

Regulators are facing several challenges related to the issue of spectrum and 5G, the deployment of networks and, in countries like Peru, the fear of the population of the radiation around antennas motivated by health concerns. Regulators have a role to play in educating and communicating with people on these issues. On the wireline side, fiber optic deployments are needed around cities and to-the-home. These are some of the central issues to the modernization and the digitalization of societies.

To connect the remaining 49 percent, a combination of networks is needed, and satellites and alternative technologies such as balloons are part of the solution, noted private sector representatives. Billions of dollars of investment are being made by the satellite industry and it is therefore important for them to be able to

trust the spectrum allocation process at WRC and have certainty in its outcomes. The basics still apply and the commercial economics are still required to foster rollout and cover the entire population. Regulators need to look at new forms of Internet delivery, be flexible and open to testing and allocating e-bands for new services – such as balloons – that complement existing options. Falling technology costs and open regulatory frameworks enable solutions such as community networks in areas that are considered uneconomical. The question remains as to whether regulation can support small, medium sized companies and social enterprises in

operating in a sustainable manner. Progressive and market-wise policies have impact and economically empower local communities, thus contributing to poverty reduction. Stimulating innovation by allowing market players to experiment can serve both regulatory and economic goals. A greater multi-stakeholder collaboration and a light-touch approach is important to foster connectivity for all. Infrastructure sharing remains key to avoid duplication of effort and resources. We need to transform ourselves, be open minded and our leadership will transform our society, emphasized one panellist.

Session 4: Simulation exercise on inclusive disaster risk reduction in time of emergencies



Facilitators:

- Ms Hlekiwe Kachali, Emergency Telecommunications Cluster (ETC) Coordinator, World Food Programme (WFP) Pacific Office
- Ms Ria Sen, Preparedness Officer, ETC Technology Division, WFP

The number of people affected by disasters is on the rise in the world. In this context, timely, predictable and effective ICT services are a critical necessity for saving lives in emergency situations and achieving resilience. This allows for better

response and coordination among response organisations as well as improved decision-making through timely access to critical information.

This exercise demonstrated that, in emergencies, in the case a cyclone, regulatory provisions and guidance – including regarding equipment and radio frequencies – enable timesaving assistance to affected communities.

The facilitators guided participants through the disaster scenario through a series of questions introduced through an online direct poll, in real-time.

Session 5: Building confidence in a data driven digital economy



Moderator: Ms Wendy Klass-Jap-A-Joe, Acting Director, Telecommunications Authority Suriname (TAS)

Keynote: Mr Alan Horne, Consultant, presented the GSR-19 Discussion Paper “**Building confidence in a data driven economy by assuring consumer redress**”

Panellists:

- Ms Irene Kaggwa Sewankambo, Director Engineering and Communication Infrastructure, Uganda Communications Commission
- Mr Moin Ahmed, Director General, International Mobile Satellite Organization
- Mr Antony Chigazira, Executive Secretary, Communications Regulators’ Association of Southern Africa (CRASA)
- Mr Ansord Hewitt, Director General, Office of Utilities Regulation, Jamaica
- Mr Joe Pakoa Lui, Director, Department of External Trade, Ministry of Foreign Affairs, International Cooperation and External Trade, Vanuatu

The panellists highlighted that the digital economy leads to the generation of large volumes of data and that there is a role for ICT regulators

in protecting consumers. Building confidence in digital services requires collaboration within the government and between the private sector and government, involving operators, national sector- and multi-sector regulators as well as regional and international regulatory associations. There is also a need to establish effective channels for collaboration with users.

The benefits of collaboration have been widely recognized; however, the best mechanisms for collaborating effectively need to be defined in every case leveraging the assets of all stakeholders. Regulators face challenges, they said, in creating the right environment to protect consumers, importantly their data. Uganda, for example, has recently defined a telecommunications data sharing strategy and guidelines covering competition, innovation and consumer protection. Uganda Communications Commission (UCC), the ICT regulator, is working with the Central Bank and the data protection agency to address challenges along the way. Panellists noted the need for greater internal and external collaboration to ensure enforcement of rules and create confidence in digital markets. Policy makers and regulators need to define ethics standards and feed those into the governance mechanisms, including in the area of network

security and data protection. Since technology evolves quickly, emerging risks must be identified in a timely manner and the private sector is a natural partner in this regard. Inclusive and fluid stakeholder dialogue is key to support regulators in making informed decisions.

Furthermore, there is a need for regulators to understand what data to collect, who should collect what and what the specific relevant interests of government institutions, industry and consumers are. In some countries, different government departments collect the same data due to the lack of collaboration and clear purpose. Data collected by regulators must be aimed at improving the quality of service and experience, panellists noted, and at protecting the interests of consumers.

Panellists also addressed the issue of consumer redress, for example in the case of scam, and noted the importance of identifying the institutional channels for redress, especially for cross-border issues. Often, they said, redress would involve more than one agency, emphasizing

the importance of information sharing and collaborative mechanisms to resolve issues.

Panellists commented that countries should aim to have an autonomous authoritative body responsible for consumer protection, with a clear mandate set by the government, established by law and adequately funded. Such body should be close to the consumer, they said, and must be transparent in its operations.

Data governance should be about collaboration and a multi-stakeholder approach, too. Exchange of experiences and common solutions design can ensure better governance of data. Countries have different regulations regarding cross-border data flows and collaboration and international standards should be put in place to enhance trust and confidence in digital services. A common regional approach to deal with large online platforms is desirable and bilateral and international cooperation can further assist to address cross-jurisdictional issues.

Session 6: The need for spectrum



Moderator: Mr Thomas Sullivan, Chief International Bureau, Federal Communications Commission (FCC), United States

Keynote: Mr Mario Maniewicz, Director, Radiocommunication Bureau (BR), ITU

Panellists:

- Mr Jonathan Weeks, Associate General Counsel and Senior Director, Intel
- Mr Cristian Gomez, Director Spectrum Policy and Regulatory Affairs in Asia-Pacific, GSMA
- Ms Donna Bethea-Murphy, Senior Vice President Global Regulatory, Inmarsat/GSC
- Ms Cathy Rainsford, Assistant Secretary, Spectrum and Security Branch, Department of Communications and the Arts, Australia

In opening the discussions, the moderator highlighted the importance of spectrum in achieving inclusive connectivity and provided examples of FCC initiatives to bridge the digital divide, focusing in particular on spectrum for 5G. FCC, he said, addressed spectrum needs for fixed, mobile and satellite services while taking

into consideration the need for next generation technologies. Provisions have also been made to supply over 20 GHz of unlicensed spectrum for innovators to develop next generation technologies.

In addressing participants, Mr Maniewicz discussed the importance of spectrum in the digital economy and the role of ITU. Spectrum harmonization, he said, helps ensure the efficient use of spectrum worldwide. Where harmonization is not possible at the global level, regional harmonization helps to ensure non-interference and interoperability. Mr Maniewicz also provided insights into spectrum sharing and unlicensed spectrum, referring participants to the GSR-19 background paper “**Understanding the issues at stake and the impact of decisions to be made**”. Finally, he gave an overview of WRC-19 preparations and agenda items.

Recognizing that spectrum is a vital component for services such as 5G, NGSO satellite systems, High Altitude Platform Services (HAPS) and enhanced unlicensed and Wi-Fi technologies, panellists highlighted the role of regulators in creating the enabling environment for spectrum to be used

efficiently and effectively. Panellists agreed that to bridge the digital divide, regulators should be mindful of technology neutrality and incentives in their domestic regulations and spectrum allocations to enable an environment that meets the spectrum needs of all stakeholders.

Panellists also addressed the spectrum needs of Small Island Developing States and agreed that there is no one-size-fits-all approach to spectrum needs and approaches.

Panellists also noted that many Administrations are confronted with concerns from public stakeholders on the electromagnetic safety as advanced technologies emerge. Administrations,

they said, need to obtain reliable data from the appropriate organizations and authorities in order to support their regulatory decision-making.

In concluding, the moderator noted that, given the variety and evolution of technologies, policy makers and regulators should maintain a flexible approach to WRC-19. Such approach will allow for technical and regulatory solutions enabling as many services as possible to be deployed in the future while still protecting critical incumbent services. WRC-19, he said, will be important to all stakeholders working to increase connectivity in their respective countries and deliver the benefits of new technologies to citizens.

Session 7: Putting people at the center: Consumer protection and the changing consumer role



Moderator: Mr Marcin Cichy, President, Office Electronic Communications (UKE), Poland

Panellists:

- Ms Unutoa Fonoti, Regulator, Office of the Regulator, Samoa
- Ms Monica Desai, Public Policy Director, Facebook
- Mr Robert Suber, Managing Sales Director Oceania, Intelsat/GSC
- Mr Klée Aiken, Senior Advisor Strategic Engagement & Capacity Building, APNIC

In opening the panel, the moderator noted that national and global markets are changing and there is increasing competition in digital services. In the changing ecosystem, consumers are key players as they are data users and producers, enabling Smart Cities to thrive. Ensuring consumer protection and user security in the smart data-driven economy and building trust has become core mandate of all stakeholders, the moderator acknowledged.

Panellists stressed that in the digital economy, the most important players are the people using digital platforms, the consumers. Regulators have to ensure that adequate protection is available to consumers of digital services and products to allow them to reap the benefits of the digital revolution. Regulators need to make relevant information available to enable consumers make well-informed choices. They also need to ensure that consumers have the choice of service based on affordability, accessibility, quality and their preferences.

Empowered and engaged consumers will drive innovation. Panellists stressed the need to think differently about bringing the remaining half of the world's population online through new solutions, more education, new business models and partnerships, taking the example of connectivity initiatives to deliver free Wi-Fi together with local partners. It is important to continue the conversation about the importance of the Internet and the ways to improve inclusion for all in the digital economy. Panellists agreed that a coordinated common approach is needed. If we, as regulators and industry, can work together and create the demand, connectivity will follow, said

one panellist. We need to go beyond the usual collaboration to build awareness of how things work at the technical level, on the ground with the users, at the policy level and at the business level – in order to build a cohesive and informed approach to regulation.

Regulators need to be pro-active and listen to other stakeholders and consumers. Regulation is about understanding markets and consumers' needs. It is also about consumer education and engagement. We need to bring people together and build tools that enable services and platforms to be accessible to all consumers.

Session 8: Preparing for 5G



Moderator: Mr Mario Maniewicz, BR Director, ITU

Keynote presentation: Mr Rolando Balsinde, Director Emeritus, McKinsey Company gave a keynote presentation on the 5G inflection point from an operator's perspective.

Panellists:

- Mr Jailani Buntar, Deputy Chief Executive, Authority for Info-communications Technology Industry of Brunei Darussalam (AITI)
- Ms Gisa Fuatai Purcell, Acting Secretary General, Commonwealth Telecommunications Organization (CTO)
- Mr Cristian Gomez, Director, GSMA Spectrum Policy & Regulatory Affairs, on behalf of GSA
- Ms Michelle Phillips, Principal Government and Industry Relations Advisor, Ericsson Inc.
- Mr David Redl, Former Administrator, National Telecommunications and Information Administration, Department of Commerce, United States

Introducing the session, Mr Maniewicz presented ITU's work regarding 5G standards, both in respect of identifying frequencies and defining the air interface standards. He recalled that the first and second generation of mobile communications had no common standard; however, such standards were developed for the third and fourth generations while ITU Membership is working to finalize the 5G standards by 2020. He further recalled that the low and middle bands were identified in previous WRCs and WRC-19 is expected to identify the higher bands. He also informed that pre-5G trials are going on and some countries have started work on assigning spectrum for 5G. Mr Maniewicz noted that 5G is one aspect of strategies to connect people and called for broadening the scope of the discussion on connectivity for the digital age.

Panellists reflected together on what regulators and operators can do to support 5G licensing, investment and products in order to foster

Industry 4.0. They suggested some areas regulators may consider when preparing for 5G, including:

- defining a vision for investment in digital society (e.g. connecting smart city, industry, cars, machines);
- identifying spectrum in the lower range, middle range and high range frequencies, and ,
- taking into consideration the need for higher densification of networks, as 5G needs more base stations and hence *capex* and *opex* will be higher.

Emphasizing the importance of different models of pricing and allocating spectrum, panellists shared examples where governments opted for beauty contests with a focus on investment commitment, instead of spectrum auctions. Auctions, others argued, provide sound incentives to licensees to meet investment commitments. New auctions, one panellist suggested, can take into account the amount of investment, the increase in coverage or the usage of the technology by industries. The example of Australia was also highlighted, where a mature spectrum licensing regime and initiatives such as a 15-year spectrum licence as well as secondary trading are seen as mechanisms increasing confidence and incentives to investors.

Other panellists highlighted examples of 5G rollout that leverages on IMT-Advanced networks. While preparing for 5G, they said, it is important to provide support on building the broad ecosystem, including backhaul, backbone connectivity and spectrum). Regulators should also examine how to define incentives for carriers to invest across all market segments.

Panellists voiced appreciation of the assistance provided by ITU on 5G readiness in terms of

technology, market and regulatory readiness, in four areas:

- Spectrum assessment (which band is the best)
- Access to the infrastructure not only from telcos but also from the energy sector (lamp posts) and local authority-managed infrastructure
- Backhaul (robust 4G network to light 5G) for large and small players
- Spectrum licensing conditions (period of licence, fees).

Discussions also addressed the need for harmonized spectrum, noting that the first bands for 5G will be 600/700 MHz, 3.5 GHz and 26 GHz. Technology neutral regulation, participants agreed, would allow mobile operators to transition from 2G to 3G or 4G seamlessly.

Different technologies will be part of 5G connectivity as 5G will be a network of networks. An inclusive and technology agnostic regulation should be considered, where any technology could be used to provide broadband services, including HAPS and satellites. Satellite, for example, can provide universal coverage, with 5G leveraging on fixed and satellite networks for backhaul. Latency will remain critical for specific applications, but not for the majority of IoT applications. Other key issues discussed ranged from the density of base stations to electromagnetic fields (EMF) radiation.

Mr Maniewicz stressed that ITU and regulators recognize the importance of co-existence of technologies as each has its purpose and contribution towards inclusive connectivity. It is important that both regulators and industry have a roadmap towards this common goal. Mr Maniewicz concluded that it is up to every country to choose the appropriate model and time for introducing 5G.

Adoption of Best Practice Guidelines



The GSR-19 Chairman, Mr Brian Winji, presented the draft Best Practice Guidelines to regulators, highlighting the consultation process that led to their

elaboration and thanking regulators for their input and contributions. The Best Practice Guidelines were adopted without further comments.

Way Forward and Closing



The BDT Director, Ms Doreen Bogdan-Martin, thanked participants for the interesting and enriching discussions during GSR, noting that the event provided all with the opportunity to exchange views, share experiences. The ideas discussed and the regulatory best practices show the way forward to connecting the other half and cooperating to build a better, more reliable, affordable, safer and more inclusive digital world. Reflecting on the nearly 20 years of GSR, she underscored the importance and benefits of GSR as a platform for global dialogue among regulators.

Ms Bogdan-Martin thanked Mr Brian Winji, for leading the preparation of the GSR Best Practice Guidelines. Recognizing the rapid pace of development of technology, Mr Winji noted that the Guidelines put forward tools and pillars for

collaboration between regulators as well as with a wider range of stakeholders. Such collaboration, he said, is required to overcome the challenges regulators face when addressing the digital world and changes in technology, business models add market structures.

Ms Areewan Haorangi, APT Secretary General, presented the report of the Regulatory Associations' Meeting, reminding participants of the important role and work of the associations and thanking the ITU Secretary-General, Mr Zhao, and the BDT Director, Ms Bogdan-Martin, for attending the meeting.

Looking ahead, Ms Bogdan-Martin called upon participants to share their feedback on GSR and send suggestions on future topics for GSR.

THEMATIC SIDE-EVENTS AND INFORMATION SESSION

10th Private Sector Chief Regulatory Officers' (CRO) Meeting: New partnerships for connecting the unconnected, 9 July



The 10th Private Sector Chief Regulatory Officers' Meeting (CRO) on the theme "New partnerships for connecting the unconnected" was held on 9 July 2019, preceding the 19th Global Symposium for Regulators (GSR-19). The meeting was chaired by Mr Bocar Ba and was attended by 33 participants representing APNIC, AT&T, ARIN, Digicel, ESOA, Facebook, GSMA, Huawei, ICANN, IMSO, Intel, ISOC, ITU, KACIFIC, Lockheed Martin, Loon, OneWeb, SES World Skies, TRBR Vanuatu, Telkom South Africa and Viasat.

Mr Bocar Ba, the CRO Chairman, welcomed participants and expressed his gratitude to ITU and the Government of Vanuatu for organizing and hosting the meeting.

Mr Houlin Zhao, ITU Secretary-General, emphasized on the importance of private sector participation in the work of ITU. New technologies, including 5G, he said, can offer opportunities as well as challenges, and the role of the private sector is important. The right enabling environment, he continued, can foster innovation, enable the emergence and adoption of

new technologies and standards, and strengthen the business case for investment. This, in turn, will contribute to achieving the UN Sustainable Development Goals (SDGs).

Ms Doreen Martin-Bogdan, BDT Director, in her opening remarks, emphasized on the need to achieve inclusive connectivity. She highlighted the changes that shape the approach to ICT regulation in the digital economy, including through multi-stakeholder collaboration and cooperation. As the world increasingly depends on ICTs to attain the 17 SDGs, she said, partnerships will play an even greater role to allow us to meet these goals.

The CRO Chairman highlighted the importance of connecting the other half of the population and emphasized on the need for the private sector to adopt innovative collaborative and partnership approaches, including with government, to help achieve universal connectivity. The public and private sectors, he said, must work together to achieve SDGs.

Mr Ba also noted that, while different technologies are available to drive connectivity, pushing connectivity to 100 percent requires the right support ecosystem for technology deployment and scaling. Different policy and regulatory choices can strike the right balance between regulation, public sector involvement and competitive market forces.

Following the Chairman's introductory remarks on industry players' achievements and their vision for partnerships to connect the remaining 49 percent, discussions focused on challenges and opportunities to achieve inclusive connectivity in the digital economy, and in particular on:

Business Solutions:

- What are the business solutions, best market approaches, concrete experiences and use of innovative connectivity partnerships to connect the remaining 49 percent?
- What different types of investment and business models can drive meaningful and inclusive connectivity to 100 percent?

- What partnership solutions can scale across different countries? What are the common elements and enablers?
- What are some of the regulatory and collaborative best practices the industry can share in a converged ecosystem?

Technological Solutions:

- What are the solutions and concrete projects the industry proposes in working with ITU to drive innovative connectivity solutions and make ubiquitous different technology mix coverage solutions for remote areas or emergency relief situations and countries with special needs a reality in the shorter term?
- What experiences can be shared and learned from and inform solutions going forward?

Key outcomes from CRO-19

In addressing critical questions and proposed ways forward, CRO participants agreed on the outcome statement below that was shared by the CRO Chair during the Leadership Debate on 10 July, as part of GSR-19.



GSR 2019 - Regulatory Associations (RA) Meeting, 9 July



The 2019 annual RA meeting was chaired by Ms Areewan Haorangsi, Secretary General of the Asia-Pacific Telecommunity (APT). She welcomed Regulatory Associations (RAs) and participants and reminded that the purpose of the meeting was to provide RAs with the opportunity to exchange on activities, opportunities and challenges.

In her welcome remarks, Ms Doreen Bogdan-Martin, BDT Director, acknowledged the key role that regional regulatory bodies play in today's complex and fast-moving digital environment. She further noted that they serve as a vital resource for ICT regulators in helping them interpret the evolving regulatory requirements, in facilitating coordination around major ICT issues and in helping strengthening their respective regions' international position in global markets. Their expertise and commitment will help drive the transition to '5th generation' regulatory practice among their members, she concluded, referring to the now established concept of generations of regulation initially developed by ITU.

Mr Mario Maniewicz, BR Director, supported the views of the BDT Director on the important coordination role RAs play. In particular, he emphasized the role of RAs in engaging with national regulators, supporting them in making the right decisions to facilitate the use of spectrum to boost socio-economic development and planning for future needs for spectrum. Mr Maniewicz

further stressed the importance of adopting a harmonized approach to spectrum management, an issue which is central to the discussions in the upcoming WRC-19. The BR Director reminded the audience that WRC-19 will take place in Sharm El-Cheikh, Egypt, from 28 October to 22 November 2019, and encouraged the active engagement of all regulators.

Mr Houlin Zhao, ITU Secretary-General, recognized the vital role RAs and regional organizations play in fostering collaboration and cooperation among stakeholders at the national, regional and international level.

This year, more than 50 participants from nine Regulatory Associations and regional organizations attended the meeting, namely APT, ARCTEL, ATU, BEREK, CRASA, FRATEL, PITA, REGULATEL and SATRC.

Presentation of the main projects and activities of Regulatory Associations

The RA Chair highlighted the activities and the ongoing work of APT. Interventions from the other RAs and regional organizations followed providing detailed presentations on their structure, membership and latest activities and projects. Among the working areas that were mentioned as the focus of ongoing or upcoming activities were: digital transformation, digital strategies, 5G,

spectrum, quality of service, new technologies (such as AI and IoT), consumer protection and empowerment, digital skills, interconnection, cybersecurity and mobile roaming. Participants noted the value of sharing experiences and knowledge on topical regulatory issues. Examples of cooperation between RAs were highlighted showing the potential of such cross-RA collaboration.

The ITU-BDT Secretariat provided an overview of the online portal developed and presented in 2018, which serves as a one-stop-shop for RAs to share information and learn from each other's activities, work streams and products (such as guidelines,

recommendations and reports). The Secretariat also referred to other ITU portals of interest to RAs, such as those dealing with international mobile roaming (IMR), digital economy, quality of service, infrastructure sharing and the ICT Regulatory Tracker. To ensure the information posted on the portal remains relevant and accurate, RAs were encouraged to share with BDT, on a regular basis, their latest information and reports. It was also suggested to create a contacts' page for RAs so they can more readily engage with each other.

All presentations from the meeting are available on the online [RA portal](#).

Heads of Regulators' Executive Roundtable, 9 July



The Roundtable sought to build on the frank discussions between Heads and senior management of regulators, previously held during the Director's breakfast at GSR events. Given the positive feedback from past meetings, a full-fledged session was organized to allow more time to exchange on topical regulatory issues.

The Executive Roundtable started with an ITU presentation of the **2018 ICT Regulatory Tracker** looking at where countries stand in terms of the generations of regulation. The presentation also introduced 5th generation collaborative regulation, a concept first launched by ITU in 2016, and presented **the new G5 benchmark**.

A number of interveners jump-started the discussion, in particular sharing their experiences on the path towards G4 (integrated regulation led by social and economic goals) and ultimately G5 (collaborative regulation for the digital transformation). Participants highlighted changing realities and the need for regulators to adapt, in particular by adopting more collaborative approaches to regulation. ICT regulators, they agreed, must be collaborative as ICTs impact many sectors and stakeholders.

Discussions focused on the following questions:

- In moving towards G4 and G5 regulation, creating trust between stakeholders continues to be a challenge. Transparency was identified as a key element to overcome this barrier.
- Key counterparts in efforts to move towards more open, collaborative regulation include policy makers as well as regulators from other sectors where ICTs are impacting development. Energy, transport and financial services were highlighted as the sectors where collaboration is most needed. In addition, competition, data protection and spectrum agencies were highlighted as requiring ongoing collaboration.
- The Top Three most important actions a regulator can undertake in starting the move towards more open, collaborative regulation included stakeholder awareness raising, harmonization of regulatory approaches and transparent consultation mechanisms.
- In terms of challenges in achieving full national connectivity, issues relating to taxation and the regulatory treatment of OTTs were addressed since predictability was highlighted as being a key element to foster continued investment.

Training session for policy makers and regulators on Competition policy in the ICT/mobile sector, 9 July



Within the framework of the ITU Academy, GSMA offered a ‘taster’ training session for policy makers and regulators on Competition policy in the ICT/mobile sector, led by Ms Emanuela Lecchi of GSMA. The session provided a half-day introduction to the topic, based on content from the UK Telecoms Academy-accredited two-day course, *Competition Policy in the Digital Age*, which will be offered as an online course to policy makers and regulators through the ITU Academy later in 2019.

The taster session addressed several issues:

- The application of competition law to the telecommunications sector, especially regarding abuse of dominance and merger control.
- The interaction between competition law and regulation, especially regarding Significant Market Power and dominance.
- The evolution of competition issues and their treatment under competition law and sector regulation, in the telecommunications sector versus the wider communications ecosystem.

Information Session: From First Mile to Last Mile - thinking out of the box, 11 July



Moderator: Mr Bocar Ba, CEO, SAMENA Telecommunications Council, CRO Chair

Speakers :

- Ms Ruth Pritchard-Kelly, Vice President, Regulatory Affairs, OneWeb/GSC
- Ms Jennifer Miller, General Counsel, Loon LLC
- Mr George Samisoni, President, Pacific Islands Telecommunications Association (PITA)
- Mr Steve Song, Fellow, Mozilla Foundation
- Mr Naveed Haq, Regional Development Manager, Asia Pacific, Internet Society
- Dr Robert Pepper, Head of Global Connectivity Policy and Planning, Facebook

Recognizing challenges ICT regulators face in addressing rapidly changing markets and technologies, this session provided information on

emerging technologies and innovative regulatory approaches to connect the other half.

The session addressed innovation in first mile connectivity solutions, looking at:

- The satellite industry and the role that satellites can play, particularly for small island developing states
- Submarine cable deployments
- HAPS.

The Information Session also addressed last mile connectivity solutions and community-based approaches in sparsely populated and economically disadvantaged regions to bridge the connectivity gaps. The session featured innovative initiatives in sustainable rural service delivery from around the world. The discussions also addressed the importance of measuring progress, identifying the gaps and getting the next 3.7 billion people online.

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

Published in Switzerland
Geneva, 2019