Chairman's report

Global Symposium for Regulators

Global sessions | June 21 – 25, 2021

Regulation for digital transformation: Accelerating inclusive connectivity, access and use

ITUGSR ONLINE2021

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Regulation for digital transformation: Accelerating inclusive connectivity, access and use

The core sessions of the 21st edition of the Global Symposium for Regulators (GSR-21), held online from 21 to 25 June attracted **637** participants, including **439** delegates representing **115 Member States countries**, that included Government Ministry officials, Heads of Regulatory Authorities and C-level industry executives. As robust regulation matters not just in times of crisis, the event focused on a crucial long-term theme: "Regulation for digital transformation – Accelerating inclusive connectivity, access and use".

Discussions focused on challenges seen by regulators and policy makers over the past 15 months while they address their core mission during the pandemic and seek how to build forward better to bring affordable, accessible, meaningful, trusted, safe, and high-quality connectivity to people everywhere. Regulators recognized that they need to be inclusive, transparent, agile, and data-driven in making their decisions, and that they need to be ready to adapt to ever-changing circumstances. Although connecting 3.7 billion people may still be a far cry, regulators agreed that enabling partnerships and digital collaboration with all the necessary regulatory tools and approaches as well as innovative, financing mechanisms and practices can make this dream into reality.

In the lead up to the main programme from April to June, a series of interconnected events was held, intended to facilitate discussions of regulatory perspectives, challenges, and innovative solutions specific to each region. This new format aimed to boost inclusion and increase the participation of the global regulatory community in the critical discussions that have made GSR such an important platform since 2000. The outcome reports of the regional events can be found here.

In addition to the high-level panels on topical, cutting edge policy and regulatory issues, GSR-21 core sessions featured new interactive sessions and training on emerging technologies, the role of youth in the future of regulation as well as the promotion of women's leadership in the ICT regulatory space.

GSR-21 provided ITU Members with the opportunity to share experiences and knowledge, collaborate and identify evolving regulatory tools and approaches to ensure trust in a digital space; connectivity and regulatory enablers for digital transformation; financing to achieve affordable connectivity, meaningful access, and use; safe digital inclusion; and partnerships for digital transformation.

The GSR-21 website at: www.itu.int/gsr21 contains the complete listing of GSR documents and events.

The GSR-21 Best Practice Guidelines adopted by regulators are included in annex to this report and can also be found on the GSR-21 website at www.itu.int/gsr21.

Special sessions

Heads of Regulators Executive Roundtable

The Heads of Regulators Executive Roundtable brought together over 70 participants from 45 member states.

Recalling the rich discussions across all regional regulatory and economic roundtables since April, Ms Doreen Bogdan-Martin, ITU BDT Director, highlighted that the COVID-19 has brought into focus how collaborative regulatory approaches in addition to enabling policy frameworks are key to building forward better. Although there can be no "1 size fits all" comprehensive blueprint and these regulatory models need to be compatible with local conditions. She also reminded regulators that regional and global trends, priorities and challenges provide a framework for regulatory progress. The regulators should focus on innovative tools and novel approaches to lead the way in choreographing policies that drive digital transformation for all.

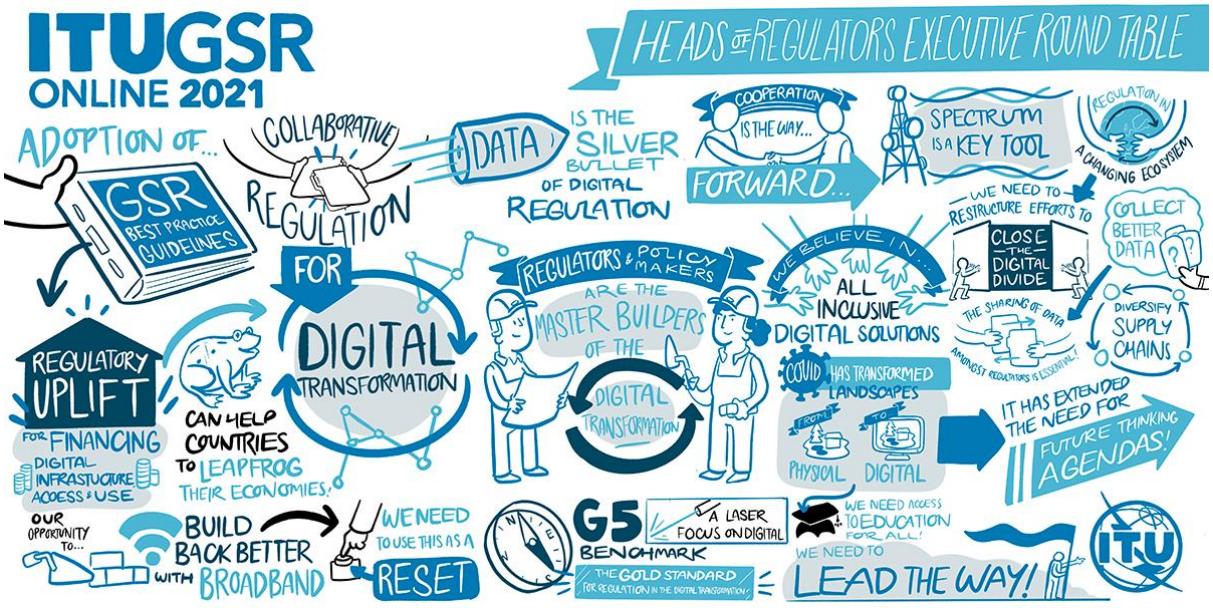
Platforms such as the GSR-21, chaired by Ms Mercy Wanjau, who is the Acting Director-General of the Communications Authority of Kenya, provide regulators with a place to share experiences and best practices, which, if widely adopted, can help countries to leap-frog their economies and benefit from the immense possibilities that ICTs continue to present us all. The Best Practice Guidelines for 2021, adopted by the Heads of Regulators during the Roundtable, focus on the regulatory uplift for financing digital infrastructure, access and use, and come at an opportune time when we need to find novel, bold, innovative and ground-breaking approaches to develop tools for digital regulation and digital transformation. Noting that over 20 contributions were received to help shape the Best Practice Guidelines, Ms. Wanjau emphasized innovation-driven leadership and

mechanisms that are needed to unlock the power of new and emerging technologies and enable the delivery of a more reliable, resilient, high-capacity Internet to homes, government and businesses. We, regulators, are the master builders of digital transformation, she said, and as such we must develop digital policies and regulations that hold a threefold promise: we need to use these tools for the digital transformation of the economy; we need to define a much-needed framework for the digital transformation of regulators and regulatory governance and thirdly, we need to act as an interface for cross-border collaboration and coordination on issues related to digital markets.

Ms Bogdan-Martin then introduced a presentation on the Benchmark for Fifth Generation Collaborative Regulation, the gold standard for fast-track collaborative cross-sector regulation, and based on four pillars: national collaborative governance, high-level policy design principles, digital development toolbox and Digital Economy policy agenda. The Benchmark has proven itself a practical navigator for country regulators helping them establish roadmaps towards G5 and inclusive digital transformation in all sectors of the economy. Evidence suggests that digital development trajectories are shifting, and economies in the course of digital transformation in this decade will follow a different path. The benchmark is there to guide regulators, not nearly to rank a country or calculate a score. The benchmark combines high-level principles and specific instruments that recognize fifth-generation regulation as contextual, modular and multidimensional. Different layers of regulation are integrated to highlight the complexity of regulatory action in the Digital Age. The benchmark takes in to account the breadth and depth of collaboration between the ICT regulator and sector-specific or multisector regulators, an essential ingredient for regulatory relevance, coherence, and impact.

Over 15 Heads of Regulators from all regions shared views and insights on 3 questions:

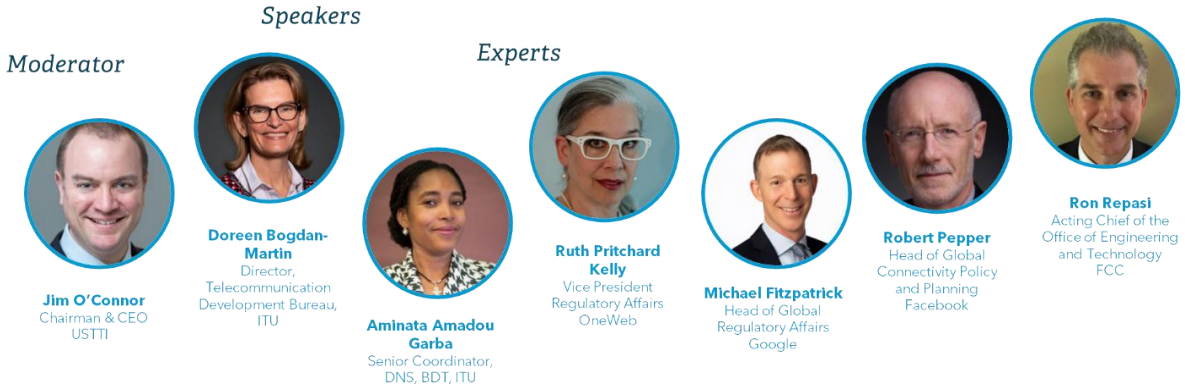
- A whole of governance approach - the voice and role of sectoral regulators (energy, competition, broadcasting, digital content, data protection, financing);
- Moving the regulatory cursor to adapt to a changing ecosystem; and,
- Impact of regulatory tools – evidence-based regulation.



Key issues raised included:

- The COVID-19 pandemic has put universal connectivity at the forefront of global agendas and has taught us that we need to restructure our efforts to close the digital divide and address challenges that limit broadband adoption in both rural and urban communities. Regulators must implement new policies to help keep citizens connected during the pandemic.
- COVID-19 has also accelerated the move towards more holistic agendas the focus of which has moved from being a regulator of access to being a regulator of digital transformation. Collaboration through concerted actions across ministries, regulations, and even environments is the mantra for the new-normal.
- Cooperation is the way forward, but it is also important to agree on how to collaborate. Regulators, participants, suggested, should act as facilitators and collaborative partners and promote institutional engagement. This means that the ICT regulator has to be more agile and adaptive in following a collaborative style that is more consumer-centric with benefits and safety regulations. Regulation in the digital era should also evolve more towards cross-border collaboration and coordination on issues related to digital markets.
- The next important issue that was discussed was the importance of open data in data-driven and evidence-based policymaking and regulation. Crowdsourcing tools can enhance data collection and bring in the voices of end-users. Data can help regulators identify with precision where broadband is and is not across a country so they can better direct their efforts, and consumers can understand where the local broadband gaps are. Data platforms can bring together a wide variety of agents and datasets for stakeholders across different sectors to develop a more transparent regulatory framework with enforcement mechanisms in place. Open consultation process with respect to regulatory frameworks and enforcement mechanisms enhance transparency.
- To build back better in a post-COVID-19 world, all participants agreed upon more path-breaking approaches such as regulatory sandboxes.
- The novelty of many issues and complexity of innovation transformation has created a new ecosystem, which means that ICT regulators have an even more important task - they need to lead the way through transformational leadership and adopt new and revisited approaches to digital and collaborative regulation.

ITU-USTTI training



This joint ITU-USTTI event provided regulatory officials with information and insights on how emerging technologies can accelerate the digital transformation process, and how such smart technologies and innovation have so far strengthened digital resilience. This training session, moderated by Mr Jim O'Connor, saw experts further discuss how these emerging technologies interact with key policy and regulatory trends.

In welcoming participants, BDT Director, Ms Doreen Bogdan-Martin, thanked Jim O'Connor, a long-standing partner in ICT capacity-building development programmes, for bringing together distinguished speakers and experts to share their knowledge on the latest emerging technologies trends and their impact on market developments and regulation. COVID-19 has exposed the state and potency of global connectivity and reinforced the need to accelerate digital transformation across all sectors to build resilience in the face of future crises. Despite digital being the new-normal for a many, paradoxically the statement does not hold true for 49% of the global population who are still unconnected. The crisis has further demonstrated how increasingly crucial digital technologies are for public sectors such as education, transport, and health. Technology is not an end in itself, but a tool to improve our world.

Ms. Bogdan-Martin invited the audience to join the Global ITU Emerging Technology for Connectivity 2021 event, from 5 to 9 July 2021, with a focus on the Least Developed Countries (LDCs), Landlocked Developing Countries (LLDCs), and Small Island Developing States (SIDS). Ms Aminata Garba, ITU senior Coordinator, provided more information on the event's agenda adding that a capacity-building programme will take place on the second week.

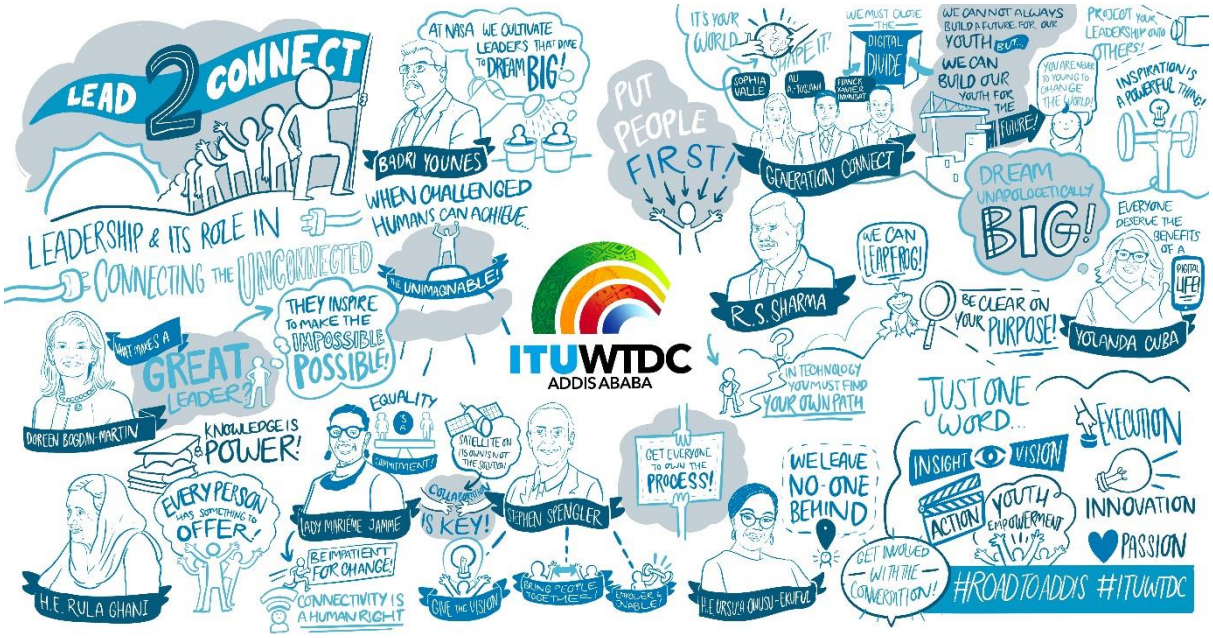
Throughout their interventions, the speakers emphasized the need for cooperation and collaboration among stakeholders at all levels within and across borders. They unanimously agreed on the need to set up agile regulatory frameworks that foster innovation and experimentation and target at building trust.

Some of the key messages shared by the speakers included:

- The power and adaptability of technology in bringing people together as a global community is allowing us to react in extreme circumstances as faced with the pandemic.

- Effective policies account for macro-economic benefits, to maximize social benefits and bring trust and accountability.
- We are today in the middle of the next big technology shift as we are moving from integrated and proprietary networks to a new supply chain ecosystem based on open, interoperable, and disaggregated technologies working together with new interoperable standards that are leading to greater modularity and a change in the way networks are designed. This new approach, brings the OPEX and Capex expenses down by combining software and hardware disaggregation, using open interfaces and standards, (including open RAN) improving thereby network economics and accelerating innovation and connectivity. Open network solutions are becoming a global commercial reality with mobile operators around the world deploying at scale open RAN Rand technologies for 4G and 5G deployments.
- For disruptive technologies and their experimentation, having access to the radiofrequency spectrum is very important. It is about having a good mix of the high band, mid-band and low band spectrum for new technology development and deployment conducive to meeting coverage and capacity requirements, and densification. 5G applications, particularly machine-to-machine and industrial IoT can flourish in some of that lower band spectrum. The FCC decision to make the 3450 to 3550 megahertz band available for wireless services in the United States brings another approach to dynamic spectrum access and gaining access to the spectrum for new technologies and new applications, including 5G. New rules from the FCC will protect the communication supply chain through the equipment authorization program.
- The benefits of technology are huge but as technology scales, some challenges need to be addressed, and therefore it is important to understand when and how to intervene.
- New technologies come to market faster than a regulator can respond to. When a new technology comes along, the industry does not know how it is going to work with the regulators, hence the need for regulators to encourage good behaviour, different technologies for different users, low prices and options, and good quality of services. Therefore, it is not about prescriptive regulation, us versus them, it is about working together. It can be through policy announcement, guidelines, public consultations and working on standards with the industry.
- Regulators play an essential role in society in terms of promoting competition, protecting consumers and in addressing externalities. A certain baseline of good regulatory processes or practices needs to be in place across borders and boundaries.
- Regulations should also be evidence-based, risk assessed, and in compliance with the divergent and different views of the stakeholders. While self-regulation and coregulation are important in the digital space, and regulatory experimentation supports innovation, it is crucial to keep in mind that disruptive technologies can also bring real challenges in the longer run.
- When a single nation goes its way, it is very difficult for these transnational technologies to adjust. Satellite operators face two kinds of regulatory issues: spectrum issues and issues related to being an object in outer space (debris, traffic and control, etc.). There are a lot of regulations covering these constellations. It is not about industry versus regulators, it is about having a conversation.

Road2Addis Series: Lead2Connect



Lead2Connect: Redefining Leadership and its Role in Connecting the Unconnected, held 22 June, 2021, in conjunction with ITU's Global Symposium of Regulators (GSR) 2021, featured distinguished global leaders who provided their views on the leadership necessary to bring the power and potential of connectivity to all populations worldwide.

Participants answered the following questions:

- What constitutes a great leader and what are the skills required from the leaders of the future?
- What kind of leadership is needed to enable the digital transformation of an entire planet?
- What leadership lessons can be applied for solving the universal and inclusive connectivity challenge by 2030?
- What does it take to guide people in accomplishing the unimaginable?

The event featured insights on the leadership that we need to shape and connect the world.

- "Youth can shape the future world by using the knowledge available thanks to technology, said **Rula Ghani**, First Lady of Afghanistan.

- **Stephen Spengler,** chief executive of Intelsat and chairman of ESOA stressed the importance of outlining an inspiring vision, purpose and mission for young leaders and young employees today.

- Reflecting on successful types of leadership, **Badri Younes**, Deputy Associate Administrator for Space Communications and Navigation at the US National Aeronautics and Space Administration (NASA), said leaders need to inspire teams to explore the boundaries of their imagination. "To inspire others, leaders must be able to communicate a great vision."

- Achieving global broadband connectivity will require a focus on inclusion, innovation and responsibility, particularly to design and accelerate products that are socially and environmentally responsible, added **Yolanda Cuba,** MTN Group Vice President for Southern and East African Markets.

- To **Ursula Owusu-Ekuful,** Minister of Communications and Digitalisation of Ghana, "Leadership is a cause, and everything else is the effect."

- **R.S. Sharma,** Chairman of Telecom Regulatory Authority of India, said leaders need the courage to follow their compasses. "In technology, you should find your path and not take the path travelled by others."

- **Lady Mariéme Jamme,** Founder and CEO of *iamtheCOD*, said she had an "impatience for change". "She wanted to make sure that as I grew up as a woman, as I got my influence and my seat in this world, we create and change systems," she stressed.

The session was joined by three Generation Connect Youth envoys: **Francis Xavier Inyangat, Sofia Valle and Ali Al-Toblani.**

Connecting the unconnected and enabling equitable digital transformation, above all, requires leadership, observed Ms **Doreen Bogdan-Martin,** Director of the ITU Telecommunication Development Bureau and host of the event. "Leaders have often had a defining quality in common: the ability to identify a problem and mobilize communities to work with them in creating solutions," she said. "We now look to leaders from all walks of life to provide the vision and the guidance that will mobilize global will, as well as direct actions towards achieving meaningful universal connectivity."

Regulatory Associations' Meeting

The 2021 annual Regulatory Associations (RA) meeting was attended by over 16 Associations from around the world. Discussions centred around how Regulatory Associations can promote the use of Broadband mapping tools to foster investment and competition for inclusive and sustainable connectivity.

Ms Doreen Bogdan-Martin, ITU BDT Director, stressed that while the world continues to struggle to manage the COVID-19 pandemic, digital technologies have proven to be critical tools for the continuity of our daily lives, the growth of our economies and simply for our ability to connect. To address this issue, the *ITU Broadband Maps* provide a useful tool for Member states, regulators, the private sector and ICT stakeholders. Such maps help identify ICT infrastructure availability to leverage infrastructure sharing strategies and reduce the cost of infrastructure deployment and service provision.

Ms Bridget Linzie, highlighted that while COVID-19 has driven public service delivery and economic and social activities, broadband access has become an ever-crucial commodity to secure continuity of business and social activities. COVID-19 has however also clearly revealed that there are gaps in access to broadband, especially in developing and emerging economies. The lack of adequate broadband infrastructure is contributing to the digital divide and poor quality of service. In this regard, regulators have a good understanding of broadband mapping tools, to ensure that they work towards offsetting the negative equity impacts of COVID-19.

Key points discussed included:

- Participants agreed that broadband mapping is critical for both ICT policymakers and regulators, allowing them to make informed decisions on investment in broadband infrastructure, and foster effective competition for inclusive and sustainable connectivity. Quality of Service should also be addressed. Several regional regulatory associations have developed guidelines for regulators on the mapping of broadband networks. A good practice is to cooperate with network operators and investors to collect such data.

- Regulatory Associations have a critical role to play in broadband mapping, especially in disseminating tools and guidelines developed among their country's members and by ITU. Collaboration is essential at regional but also inter regional level, and harmonization of broadband mapping systems could be further developed. Regional Regulatory Associations need to be the driving force of development through ICT information, they agreed.
- Participants concluded by encouraging all Regulatory Associations to reach out to ITU in terms of broadband mapping, and to use ITU tools and platforms to exchange best practices and define common principles to harmonize methodologies in terms of data collection and mapping. Having access to such information and platforms will not only allow for better expansion of infrastructure, but also cost reduction that could drive to affordable access for consumers.

Industry Advisory Group on Development Issues and Private Sector Chief Regulatory Officers (IAGDI-CRO)

The (IAGDI-CRO) meeting was held online on 22 June 2021 during GSR-21 and served as a platform for industry and private sector participants to reflect on the impact of the pandemic and the recovery process.

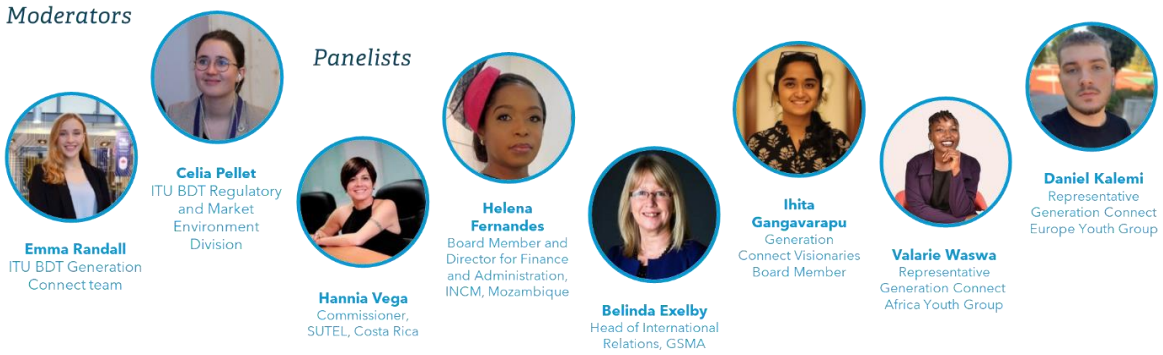
The meeting facilitated a constructive exchange of perspectives on the importance of innovative policies and the right regulatory incentives to foster new investment for achieving meaningful connectivity as well as to effectively address new development issues faced by the ICT Industry and private sector players.

The diversity of industry participants in the meeting underpinned the importance of multi-stakeholder participation and the urgency for resetting policy, regulatory, and enforcement frameworks. The meeting also drew attention to flexibility as regards to 0spectrum availability and allocation with better policies and harmonization on data sovereignty, privacy, and security.

All acknowledged that societal and industry dynamics have changed, driving an accelerated pace of digitization. Operating in such dynamics is now heavily reliant on technology-neutral advanced and converged resilient broadband networks, which require sustainable mechanisms and approaches to their financing, funding and investment.

To move forward and accelerate actionable measures and to put into force earlier recommendations made by the IAGDI-CRO, the meeting re-affirmed the private sector's commitment to supporting governments, particularly regulators and policy makers, during the post-pandemic phase and to achieve common goals both in the near and long term. For the full Outcome Statement and Chairman's report: https://www.itu.int/en/ITU-D/Conferences/CRO/Pages/default.aspx

Generation Connect @GSR



The GenerationConnect@GSR session was the first conversation hosted between young people and the regulatory community in GSR's more than 20-year history. The session featured a candid dialogue between speakers on how young people could be currently engaged in regulatory processes relating to ICTs and their role and impact in driving regulatory change to build a digital future for all.

Key issues raised included:

- While youth engagement in regulatory processes has often been distant and passive, there are many benefits to including youth in such discussions. Judging from their own experience being involved in the ITU Generation Connect initiative, the young speakers stressed that the understanding they gained of policy lifecycles and regulator's roles through the training received, created an environment in which they could finally actively and impactfully engage. From the regulatory community's standpoint, when young people are actively present before decisions are made, they are best placed to express the concerns and needs of their communities as well as the needs of vulnerable populations they are often from.

- Panellists emphasized that because policy processes are long and the consensus is difficult to achieve, it is important to make the most of the legislation currently in place. As an example, this applies to making sure that definitions of universal access meet the expectations of young people who are looking for quality services to fully reach their potential in their professional lives.
- Panellists agreed that ICTs themselves provide more opportunities to engage with young people. They cited passive mechanisms, for example when public consultations are extended online to reach a far broader audience and active mechanisms such as using social media to solicit young people's opinions directly. Indeed, more than just putting information online, policymakers and regulators can be more effective by entering youth spaces such as schools, universities, social media platforms, etc.
- By measuring the distance between regulation and the expectations of young people and by generating spaces to continually communicate with youth (the largest population of consumers of ICTs) about their needs, the regulatory community will be able to foster futuristic innovative policies.
- In the discussion around how to regulate for the future, panellists identified three challenges: mitigating the digital divide; security and privacy for emerging technologies; and identification and authentication for delivery of ICT services, especially regarding financial inclusion. Just as no one could predict 20 years ago the impact ICTs would have, young people today cannot predict future trends. However, as heavy users of ICTs, youth push current technologies to their limits and therefore influence the direction of future regulatory requirements, technological developments, and ICT usage.
- In addition to their prominent user role, young people will also likely be employed in the ICT field as one speaker recalled that already today 44 million people are directly or indirectly employed by the industry. The industry can have a key intermediary role in cross-sectoral and cross-generational collaboration as it has direct visibility towards how young people use technology. Industry can work with regulators to implement the innovative digital tools needed to actively encourage young people to engage.

Network of Women for WTDC (NoW4WTDC)

The Network of Women for WTDC (NoW4WTDC) was held as a side event during the GSR-21. The session's topic - 'Promoting Women Leadership in the ICT Regulatory and Policy Space', was meant to stimulate discussions drawing from the diverse perspectives and experiences that can help build the capacity of potential women leaders in National Regulatory Agencies, ICT policy agencies and in the industry in general.

In her opening remarks, Doreen Bogdan-Martin, ITU's BDT Director, reiterated the vision of the Network which she said, "goes beyond WTDC, to transform the current, unacceptably low level of women's leadership across the ICT industry as a whole."

She highlighted the important role of mentorship in guiding and instilling confidence in young women to take up leadership positions. She announced the ongoing selection of mentors and the launch of an application for mentees, as a step towards the mentorship programme which constitutes a vital component of the Network.

With 197 participants, the session, which incorporated a fireside chat and audience discussions, brought to the fore several critical principles that have proved valuable to boost the participation of women in leadership. These include:

- The need for women to take a personal interest in the sector and lead the change to generate the desired results of more women in leadership positions in the ICT sector.
- Creating a supportive work environment for women to thrive, including making the leadership positions more friendly. This includes programmes to help develop female talent in tech roles, with the integration of four Es: education, experience, engagement and employment, by both government and private sector to generate holistic outcomes. It equally involves the integration of models that accommodate personal situations.
- Leveraging opportunities that are available for Sector Members as they are for the Member States in ITU. Such opportunities include exploitation of private sector engagement platforms in ITU-D, active lookout for inclusion of private sector in national delegations, involvement in national consultations and other activities of national delegations to ITU-D policy meetings.
- Utilization of role models, with an active focus on attracting women into technical roles. While acknowledging that this may take longer, discussions also emphasized the importance of putting in place measures to retain the women in those roles and also a demonstration of success through existing role models.
- Amplifying qualities that boost leadership potential including a focus on listening, self-belief, tapping into support networks, self-motivation in the roles, and eliminating self-doubt.
- Exploration of opportunities from the expansion of the sector, creating the awareness on and exposing young women to possible career paths towards executive roles, and positioning the requisite help that women need on the growth path.
- Recognition of the role of mentorship in the growth process.

NoW4WTDC aims to boost women's representation in leadership positions in the structures that make up ITU-D, such as committee chairs, working group chairs and other management roles related to processes for WTDC and future conferences. The ultimate goal is to empower women for larger responsibilities in their delegations and leverage the innovative ideas they bring to the table when shaping ICT development policies.

Core sessions

Opening ceremony

Ms. Doreen Bogdan-Martin
Director, BDT, ITU

Ms. Mercy Wanjau
Acting Director-General
Communications Authority, Kenya

In her welcoming remarks, **Ms Doreen Bogdan-Martin**, ITU-BDT Director, highlighted the importance of digital networks and services, as the pandemic continues to surge sporadically and often unpredictably across different regions. It has also put the spotlight on a way forward, based on closer collaboration – a collaboration among regulators, operators, platform providers, different industry sectors, countries, and regions.

She also provided that as markets rapidly morph into increasingly digitized pandemic proof models, the role of regulators is changing. Where regulators once served as market overseers, gatekeepers, the new role of a regulator is evolving into what we call an architect, an architect of fit for purpose, collaboration regulation. The job of this new modern-day regulator increasingly involves a degree of Socratic questioning: is it best to have or not to have certain regulations and best for whom?

Addressing regulatory measures that will lead most rapidly and most effectively to desired social and economic gains in fast-evolving digital markets, she provided that fifth-generation collaborative regulation is about future-proofing regulatory frameworks to allow them to be flexible enough to respond to the challenges of digital transformation in the aftermath of global crises and beyond. At the same time, they need to consider inter and intraregional differences that can have a profound influence on market dynamics.

The highly dynamic nature of today's digital markets, she highlighted, also means regulatory frameworks will need to be regularly reviewed, to ensure that they continue to meet the public policy objectives for which they were created.

Our collective challenge, she reminded participants, is to find fast and effective ways to keep pace, to keep pace with the accelerating digital evolution while doing our utmost to promote universal, affordable, accessible, meaning access to connectivity. COVID has shown us all too clearly that universal connectivity must be every nation's new benchmark and most urgent priority.

Mrs Mercy Wanjau, GSR-21 chairperson and Acting Director-General of the Communications Authority of Kenya, emphasized that challenges brought about by the

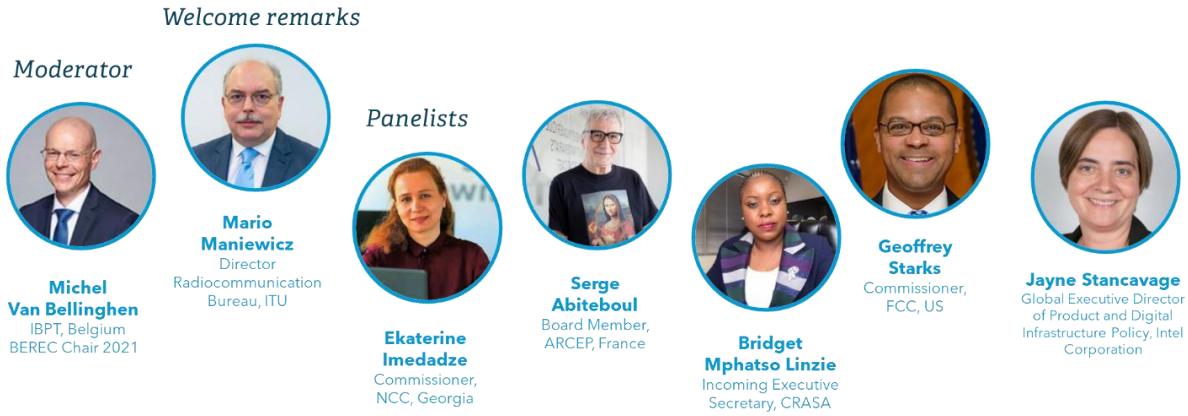
COVID 19 pandemic have created new realities for regulators, and shown them that now more than ever before is the time to open new regulatory frontiers. Now is the time, she urged, to adopt agile and flexible approaches designed to accelerate the inclusive growth of ICTs.

Coupled with these realities, she said, is the knowledge that for ICTs to be meaningful to people, we must go beyond just availing services, and ensure that affordability, acquisition of requisite skill as well as the availability of relevant content are at the centre of regulatory decision-making. This year's GSR theme Regulation for Digital Transformation: Accelerating Inclusive Connectivity, Access and Use, she highlighted, speaks to the real need for regulators and policymakers to reflect deeply on what else they can do to ensure that we leave no one behind.

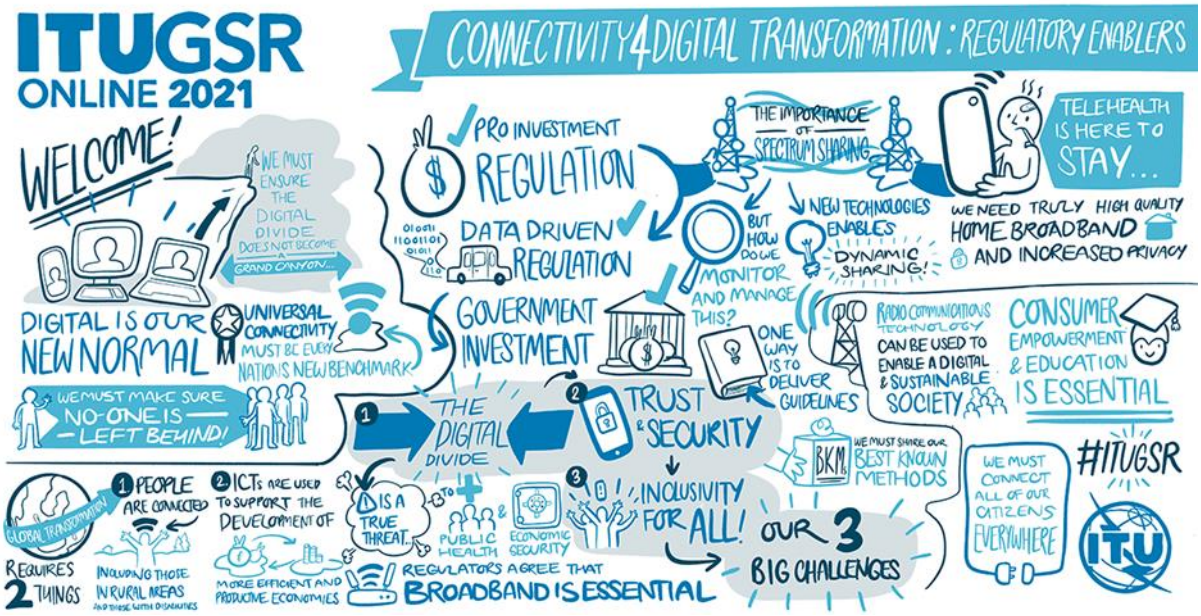
GSR, she said, continues to be that place where we can put our minds together and come up with proactive approaches.

In conclusion, Mrs Wanjau presented the 2021 Best Practice Guidelines, built on a large number of contributions from around the world and across the stakeholder community, and called upon regulators everywhere to leverage the GSR best practice Guidelines in adopting and implementing the globally acceptable approaches that are relevant to their jurisdictions and global collaborations in the ICT field.

Session 1: Connectivity 4 digital transformation: regulatory enablers



The session focused on regulatory enablers for connectivity. Key questions addressed included: importance of sharing: spectrum, networks, infrastructure co-deployment, how to balance affordability, Return on Investment and technologies innovation, and why regulation matters; Fair competition in a globalized digital world: how to lift remaining regulatory, commercial and business anticompetitive practices; and, building digital resilience, and what are the lessons learned from the pandemic and addressing urgent challenges (climate change, emergency).



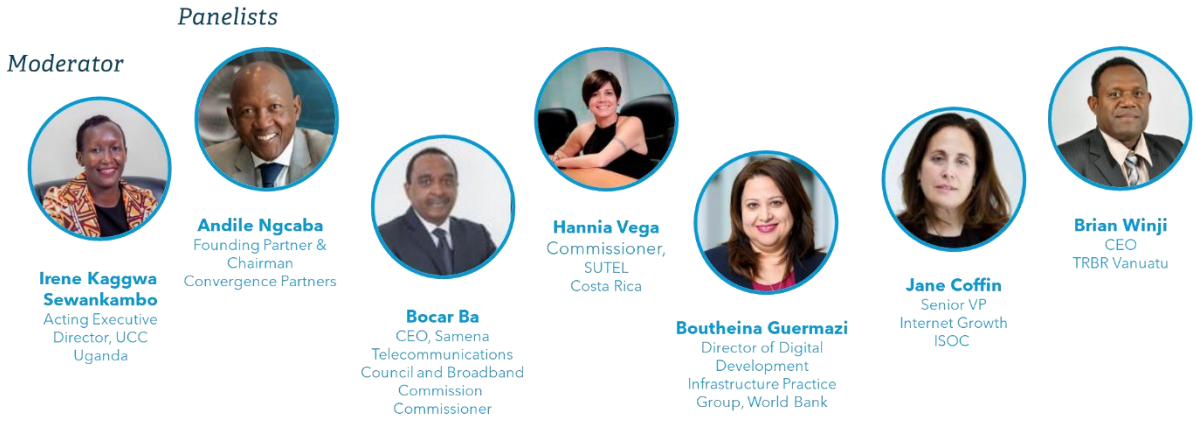
In his introductory remarks, Mr Mario Maniewicz, ITU-BR Director, reminded participants that connectivity is essential in our daily lives, highlighting that regulators should reflect on what regulatory frameworks should be put in place to accomplish this goal. Raising the importance of sharing and increasing competition are, in his opinion, the only two ways forward. Deploying new technologies and building digital resilience is the key. Whatever framework administrations put in place, he said, we must keep in mind that a truly global transformation will mean two main things: firstly, all people must be connected, including

those living in rural and remote areas, lower-income population, and persons with disabilities; and secondly, ICTs should be used to support the development of more efficient and more productive economies. Connecting everyone has a cost, implying that comprehensive policies and information need to foster investment and infrastructure while tackling affordability.

Key messages emphasised during discussions included:

- The panel acknowledged the importance of connectivity and addressing the digital divide to foster economic growth and drive social inclusion and enable digital transformation.
- Three critical barriers to digital transformation, especially in developing and emerging economies are the digital divide, especially between urban and rural areas; fostering trust and security in terms of use and data privacy; and the rolling out of digital technologies and infrastructure to be inclusive and ensuring that all citizens have affordable access to ICTs.
- It is not only about how we spur coverage to the people who are unconnected or have limited access, but also about how we make sure that those who can get the service but will not adopt the service. How do we get to those consumers as well?
- One cannot separate access to telehealth from broadband access generally. Anchor institutions, hot spot lending programs, other community efforts continue to fill the gap, in particular for health care where high-quality home broadband connection is imperative.
- We have recently witnessed the importance of digital resilience, with countries that have a robust terrestrial and satellite communication network in place being able to sustain the increase of traffic flow due to the confinement and teleworking related measures.
- How regulations enforce infrastructure sharing is of great importance since regulators want to maximize the use of resources, while reducing barriers to entry and increasing competition. Regulators need to find a balance however between achieving such goals while not jeopardizing existing investments or discouraging future ones. In the case of spectrum sharing, additional and very important consideration refers to the technical feasibility of sharing. Spectrum sharing can be analyzed from many perspectives: sharing can be considered among many services or devices of the same service. Spectrum sharing is at the heart of the work of the ITU of the World Radiocommunication Conferences and the radio regulations.
- The goal of pro-investment regulation, participants shared, is to reach a delicate balance between encouraging operators to continue investing while also encouraging them to share network resources. Data-driven regulation is at the core for it can lead markets in the right direction and empower the users.
- Government has a role to play in investing in areas where operators are not investing to further reduce the digital divide.
- Regulators also need to consider providing the necessary frameworks and tools to enable small and medium operators to bring innovative products to end-users. For example, for the business segments or even finding the niche whenever digital products can be developed. By allowing MVNOS, for example, larger network operators can share infrastructure with smaller and more flexible operators and enable them to monetize through wholesale services, the investment that they put in a sector.

Session 2: Financing to achieve affordable connectivity, and meaningful access and use



The session focused on innovative financing models to ensure the delivery of affordable and meaningful universal connectivity and its use and access across the globe.

In his introductory remarks, Mr Andile Ngcaba stressed the importance of hybrid funding models and novel approaches of their ownership in the last-mile connectivity infrastructure.

Hyprid funding models

Traditional

- Development Finance Institutions Private Equity – PE
- Venture capital – VC
- Capital Markets - Equities Debt & Loans
- Build-operate-transfer (BOT) Treasury Bonds
- License fees
- Universal service Fund
- Tax Incentives

Measurement and outcomes

Emergent

- Digital Bonds Cryptocurrency Tokenization
- Coin offerings (ICOs)
- Security Token Offerings (SCOs)
- Crowd Funding
- Advertising Carbon Credit Connectivity Credit

New funding models

- The changes of Edge high-performance compute, storage, and network will require different models to funding.
- Funding connected cars will be different from the traditional model of funding the classic last mile.
- **Tokenization of infrastructure** can be used to help fund last-mile connectivity. 10% of global GDP is projected to be tokenized and traded using blockchain. technology by 2025 representing $24 Trillion of financial & non-financial assets that can help fund last-mile connectivity infrastructure.
- **Fractional Ownership** - putting the ownership of the last mile connectivity infrastructure on the blockchain can help drive down costs for investors.
- There will be exposure of the last mile assets to blockchain funds placed on initial Coin offerings **(ICOs)** and Security Token Offerings **(SCOs).**

A sustainable ecosystem can only be achieved through a combination of public-private funding, exploring also hybrid models, to deploy the infrastructure needed with effective policies in place. All this require first and foremost a change in the mindset.

The following key messages were emphasized:

- It is about addressing the connectivity gap by adopting a technology-neutral approach while deploying fibre, having access to the radio and creating demand in markets where demand is unmet, more particularly in the last mile.
- We need to think of a hybrid model that considers the traditional ways of funding along with more innovative ways such as the use of blockchain, crypto currency, digital bonds and tokenisation of the last mile, using AI and open sources. It is about testing new ideas and creating for example an innovation observatory within the ITU.
- We have to look at infrastructure, fit-for-purpose regulations, policies and financing. A hybrid infrastructure and model would also require hybrid financing. We also have to collaborate more across sectors to fund access to the rural areas and address the unmet demand. It is also about creating favourable conditions for the private sector to invest notably through a public-private partnership, with simple, easy, and less costly processes and flexible regulations that involve new stakeholders and are compatible with local circumstances.
- It is essential to have a predictable enabling environment, a very clear roadmap to help identify the players who will contribute in the achievement of these goals, and finally a funding mechanism with good governance in place. Innovation and out-of-the-box thinking are essential to reach these targets, as well as extending beyond USFs.
- Adopting a whole of governance approach for digital cooperation and collaboration is crucial to achieving universal connectivity as expressed in the manifesto of the Broadband Commision for Sustainable Development. It also requires broadband infrastructure and this means that someone has to invest, someone has to pay. We need models that are built on greater efficiency and based on true collaboration among all the digital communication stakeholders. It will not be easy and new approaches are needed as market realities have changed, as examined in the upcoming report of UN Broadband Commission's Working Group on 21st-century financing models.

Session 3: Regulation 4 Innovation

Session 3 focused on regulatory innovation tackling extending digitalization across infrastructure and the platform value chain, emerging technologies uptakes, and local development and entrepreneurship for digital transformation.

The following key messages were emphasized:

- Most industries and governments are making efforts to develop innovative digital strategies and while some are focusing on a few of the components in digital transformation, the others focus on developing a more holistic strategy making use of these emerging technologies.
- Panellists agreed that regulatory innovation and cross-sectorial regulatory collaboration foster local entrepreneurship. The regulatory sandboxes are excellent innovative solutions, the case of Colombia was largely discussed as this initiative has very positive feedback from stakeholders in the sector with 23 projects underway at present. This is a mechanism that grants regulatory exemptions and incentives to

companies, so that new products, services or business models can be tested under the supervision of the regulator. The sandboxes seek to drive innovation in communications networks and services thus prioritizing the access and use of ICTs, especially in areas with low connectivity, encouraging competition and generating timely responses to changes in the industry. A relevant regulatory sandbox can also be a very useful approach to facilitate cross-sector collaboration.

- In discussing 5G development in urban and rural areas, it was noted that when regulators think about how to develop regulations, it is important to think about technology neutrality and flexibility. Technology neutrality is important, as it does not mean that all technologies are treated equally, it simply means that all technologies are included.
- In terms of key policies and regulatory measures that are needed to deepen digital access across the infrastructure and the path from the value chain, it was noted that the convergence of communications, digital platforms and new technologies are changing the nature of ICT products and services and the way people interact. However, the fundamentals remain the same, the following main components were highlighted: developing and implementing broadband strategies; having policies that lower data costs for consumers by promoting choice, new competition and encouraging new business models that will benefit consumers; foster competition in all layers of the Internet and spectrum pricing and availability; infrastructure sharing for faster rollout and reducing the cost and the right of way, in particular how to minimize the bureaucratic processes and approvals and reduction of regulatory levies for cost structure; is also important as well as to reduce financial, legal and regulatory barriers to entry.
- Regulators must be agile in adopting new models and collaborative while taking on challenges posed by the fast-paced nature of emerging technologies in the market. One panellist said: We can't predict the future of technology, but we have to be able to adapt to it and part of laying the groundwork to adapt is not creating barriers for the future. The challenges that come with connecting the next 3.5 billion people during the pandemic are complex and will require continued evolution of policy and regulations, technology, business models and public/private partnerships.

Session 4: Safe digital inclusion - Child Online Protection

This inter-sectorial and inter-generational dialogue raised multiple common concerns in addressing challenges to child online protection. The COVID-19 pandemic has opened doors for the endless opportunities offered by the digital world that a child can benefit from while exacerbating its vulnerability in spending more unmonitored time online. Hence, a proper balance in children's rights, risks, and opportunities is recommended.

Key issues raised included:

- The solutions proposed by the panellists and their recommendations on regulations for child online protection revolved around the three concepts of protection, prevention and proactive change. Education and raising awareness were underlined as two broad tools which need to be implemented across sectors and communities to ensure safe digital inclusion for all children.
- The panellists discussed two important aspects of creating future solutions for child online protection, which are positive, meaningful, and evidence-based.
    - The first is the co-creation of solutions, incorporating the expertise of specialists in various sectors.?

    - Furthermore, children and the youth should be involved in the process of creating solutions that address their needs. In fact, diverse young people must be involved in the process of creating safe digital platforms, fostering a sense of shared responsibility within society as well. Secondly, the solutions being formulated must address the diversity of the communities and the children which they are trying to reach.
- In creating global solutions for child online protection, the panelists agreed to address the local needs of a child separately instead of a "one-size-fits-all" policy.

Session 5: Partnerships 4 digital transformation

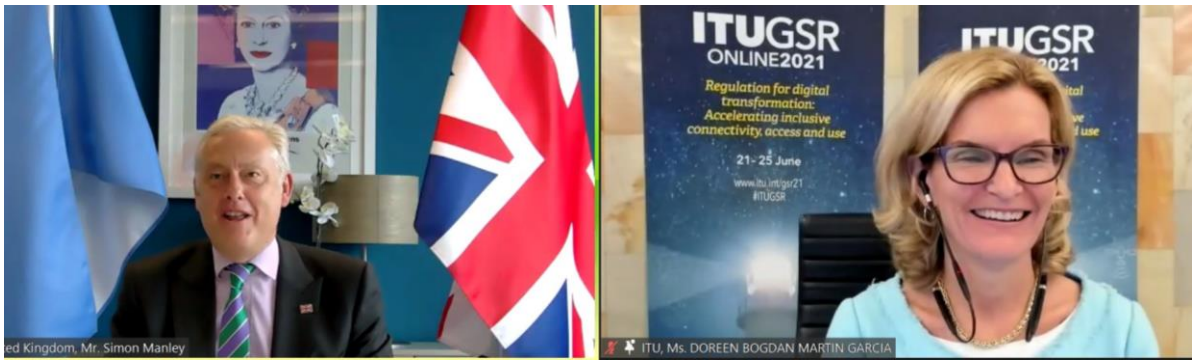
The session explored the enabling role of partnerships in fostering collaborative cross-sectorial regulations to drive digital investments for the sustainable development of an ever-changing ecosystem.

Key issues raised included:

- Regulations must be customized for different economies rather than designed with a "one-size-fits-all" approach.
- While collaborative regulation does help countries reach digital transformation, for many the focus remains on access and affordability which requires a hybrid policy model enabling investment, content delivery and consumer protection as well as the attainment of economic and policy goals.
- The pandemic strengthened the importance of collaboration as it brought together different players to deliver on the needs of users. In getting back to normal, policymakers should seize the opportunity to reset to a more balanced approach where transformative and meaningful connectivity for all is prioritized and where the user and not one technology is at the centre of the debate. Another important lesson learned is that that preparedness is everything.

- Regulatory decisions also need to be evidence-based and future-proofed to adapt to the changing ecosystem. For example, service and technology-neutral licensing regimes are required to respond proactively to new business models. While transitioning from telecom to digital markets, the regulators must map connectivity and invest in R&D.
- Working and collaborating with regulators on incentives is key for the private sector to advance the interests of consumers. Human-centred connectivity is about getting people connected, affordable broadband connectivity and devices, and getting people who have never been online trained, to upscale for employment. It is about collaboration between the private sector and governments, having the right mix and the right collaboration.
- Ensuring an inclusive and consultative dialogue between regulators and all relevant industry stakeholders to leverage the industry's experience is key for improvement and to overcome obstacles and develop skills. Having the right connectivity in all areas is fundamentally an economic issue, and not a technical one, commercially viable sustainable solutions are needed along with transparent and harmonized regulations. It is about providing consumers with more choices. It is also about opening the spectrum for new solutions and embracing the multiplicity of approaches. To improve the funding mechanisms, it is essential to engage local players.

The session concluded with a special announcement by ITU and FCDO on their new partnership to drive inclusive connectivity by supporting telecom regulators and digital inclusion of stakeholders in five partner countries under FCDO's Digital Access Programme, Brazil, Indonesia, Kenya, Nigeria, and South Africa.



The Partnership project will be focused on the provision of technical assistance and capacity building in four key areas: supporting telecom regulators to enhance regulatory frameworks; promoting a more conducive environment for public and private investment in digital inclusion, developing sustainable and inclusive technology and business models to expand school connectivity in underserved communities and lastly, advancing digital skills as a means for decent jobs for young people in these five countries. The new partnership will be impactful in transforming the lives of the unconnected people in underserved communities.

Wrap up and Closing

In her closing remarks, Ms Bogdan-Martin stressed that the challenges seen over the past 15 months have shown the urgency and imperative of the mission of regulators, which is a mission to bring affordable, accessible, meaningful, trusted, safe, and high-quality connectivity across the globe. Regulators, she said, need to be agile and adapt to the ever-changing circumstances. Although connecting 3.7 billion people may still be a far cry, she believed that enabling partnerships and digital collaboration with all the necessary tools and practices available can make this dream into reality.

Looking back at the enriched discussions during the GSR-21 Programme spanning from April to June, Ms Wanjau reflected that these events showed pathways for innovative solutions to tackle regional regulatory and economic challenges. This flexibility and inclusiveness, she said, further reinforced the importance of GSR as a global platform for diverse insights from around the world. This year's theme Regulation for Digital Transformation: Accelerating inclusive connectivity access and use allowed us to reflect and exchange on continuing challenges and issues such as infrastructure sharing, spectrum management, competition, and market access issues. In concluding, Ms. Wanjau reminded participants that a post- COVID digital world needs a new take on regulation in order to enhance regulatory oversight, in order to harness data, to target interventions and to create a space for regulators and industry to experiment together.

The Best Practice Guidelines give an overview of the fit-for-purpose, collaborative, future-proof and flexible regulatory frameworks to respond to the challenges of digital transformation in the aftermath of global crises.

In presenting the outcomes of the Regulatory Associations meeting, Ms Bridget Linzie, recalled that Associations agreed that broadband mapping tools can foster investment and competition for inclusive and sustainable connectivity.

Summarizing the discussions and outcome statement of the IAGDI-CRO meeting, Mr Bocar Ba highlighted the preparedness of the private sector to work closely with governments to achieve common goals and extend support to the regulators to define new frontiers for the fifth generation of collaborative approaches and make progress in the final Decade of Action.

ITU GSR ONLINE 2021

Global Symposium for Regulators (GSR) 2021

Best Practice Guidelines

Regulatory uplift for financing digital infrastructure, access and use

Ms Doreen Bogdan-Martin,
Director, Telecommunication Development Bureau (BDT), International Telecommunication Union

A fit for purpose regulatory framework is key to successful digital transformation that is sustainable and minimizes unwanted consequences for market structures and consumers alike. As the pace of digital transformation accelerates, formulating an effective regulatory approach becomes all the more imperative.

I am confident that this year's GSR Best Practice Guidelines will help countries optimize their regulatory strategies to drive faster and more inclusive connectivity. As in previous years, the Guidelines will also facilitate high-value debate on the future of markets and regulation.

Ms Mercy Wanjau
Acting Director-General, Communications Authority, Kenya

ITU has been the convener of a global dialogue on the evolution of ICT and, more recently, digital policies and regulations over the past 20 years. The regulatory Best Practice Guidelines crafted and adopted by regulators and policy makers at GSR have been guiding all of us through challenges and new endeavors.

This new 18th edition of the Guidelines is more than ever community-owned, by the regulatory community and for the regulatory community, across regions and globally. I call upon regulators everywhere to leverage the Guidelines in adopting and implementing globally agreeable approaches, that are relevant to their national circumstances and leverage collaboration across the board.

Digital technologies are now powering our economies and the way we live – our very future.

Digitalization is fast revolutionizing productivity, employment, skills, services and markets. It changes the means of production, methods of delivery, lifestyles, patterns of consumption and the fabric of social intercourse. ICTs are now the foundation for every economic sector, for business performance and for national growth. This change is profound. Collaborative digital regulation addresses the complexity and the opportunity of this change through flexible and enabling policy frameworks.

The COVID-19 pandemic has underlined how important reliable broadband is to people and businesses. Investment in rolling out and upgrading ICT infrastructure to deploy super-fast broadband networks to meet future needs is vital to ensuring affordable access and expanding digitalization for social and economic good.

We, the regulators participating in the 21st Global Symposium for Regulators, recognize that there is no single, comprehensive blueprint for best practice and that regulatory patterns for the digital transformation will be rooted in local circumstances while addressing regional and global challenges. Recalling the series of GSR Best Practice Guidelines since 2003 that capture established regulatory principles, expertise and tried-and-tested practices, our focus is on novel, bold and ground-breaking approaches and tools for digital regulation.

We have collectively identified and endorsed these regulatory best practice guidelines to continue setting the gold standard for digital regulation. We are more engaged than ever to put these to work to build the digital momentum in the Decade of Action.

I. Inducing new, effective and agile financing mechanisms to digital infrastructure, access and use

Government and private industry are making significant investments to upgrade digital infrastructures and promote access for all, to deliver more reliable, resilient, high-capacity Internet to homes, government offices and businesses. However, achieving universal connectivity will require new enablers and a holistic perspective.

The role of government is to clear the way to such investment and support a vibrant, competitive markets for future-proof broadband and digital services. On the other hand, regulators and policy makers might need to adopt alternative approaches to spur investment in non-commercial or challenging areas.

Policies and strategies can trigger the multiplier effect of digital by providing predictability and direction

- Design an overarching strategy setting out the long-term plan for digital development and economic recovery, including for developing the infrastructure for superfast broadband with the right mix of models and approaches to support affordable fibre availability over as wide an area as possible.

- Rescope rural connectivity policies to give priority to technologies and projects that show sustainability, efficiency, and rapid implementation.

- Consider adopting an overarching digital transformation strategy and augment it with new generation policies for the digital economy with a focus on stimulating financing mechanisms for innovation, skills development, job creation and the development of the startup and small and medium enterprise (SME) ecosystem with concrete implementation mechanisms and targets.

- Engage in whole-of-government collaboration and coordination and the national and local level to leverage synergies and the pooling of funds, and address social and economic priorities, notably between Ministries of ICT, Economy/Finance, and Planning but also other Ministries (e.g. Education, Health, Agriculture, Transportation, Energy, etc.) and with local authorities, and convene a multistakeholder policy dialogue involving the public and private sectors, international donors and organizations, and civil society.

Investment is the cornerstone of the digital transformation

- Design incentives and opportunities for blended public and private financing and partnerships in high-capacity broadband infrastructures, and consider providing smart government subsidies to support deployment in the near-term.
- Promote public spending on basic infrastructure, such as energy and transport, which represent a substantial cost in the provision of broadband.
- Promote sustainable and green investments to accelerate progress on achieving the 2030 Agenda.

Regulatory tools are at hand to bridge the funding and financing gap in digital markets

- Ensure the efficient and responsible disbursement of existing Universal Service and Access Funds (USAF) to extend digital connectivity to unserved and underserved communities. New breeds of national Funds could support the development of digital infrastructure, such as Infrastructure Funds and Innovation Funds, across economic sectors.
- Support innovative financial instruments and create targeted incentives for traditional and new economic agents in infrastructure deployment with a focus on underserved areas, such as blended grants and guarantee schemes to provide tailor-made solutions.
- Promote local innovation ecosystems and provide incentives for the participation of small and community operators in deploying low-cost rural networks, including specific licensing measures, access to key infrastructure and funding, and social coverage promotion programs.
- Implement sound tax policy strategy to foster digital economy, including tax incentives or tax deductibility for new investments in infrastructure, tangible and intangible assets such as ICT equipment and software, and remove sector specific taxes on digital services, devices and equipment.

A sharp focus on policy implementation is needed to ensure impact

- Adopt policy and regulatory measures to make digital devices and services available and affordable, including through connecting schools, local government offices and health centers; subsidized Internet

access and digital devices ownership schemes, creating e-government applications and promoting local digital content.

- Design and implement demand creation for broadband services and digital literacy programs, including with focus on women and girls, people with disability and marginalized groups.

Regulatory basics still apply

- Adopt streamlined regulatory and licensing policies and procedures and reduce costly regulatory fees and licensing burdens, making it easier for businesses to invest, create jobs and grow the economy.

- Consider adopting cost-based charge controls applicable to operators with market power to ensure they are able to cover the costs of their investment in rural and underserved areas.

- Leverage infrastructure sharing strategies to reduce the cost of infrastructure deployment and service provision, as defined in the GSR-08 Best Practice Guidelines.

II. Prototyping regulatory patterns for the post-COVID digital world

The post-COVID digital world needs a new take on regulation. New approaches may be needed to enhance regulatory foresight, harness data to target interventions and create space for regulators and industry to experiment together. This is key in finding market solutions to new challenges as new technologies, business models and players continue to test existing regulatory paradigms. Such new approaches will build sound solutions that protects consumers while encouraging market growth and innovation.

Novel regulatory tools can unlock the power of new and emerging technologies

- Commit to the adoption of multi-modal regulatory frameworks that enable the development of emerging technologies and business models. A range of co-regulatory and self-regulatory patterns can allow technology developers and providers to respond rapidly during a crisis without the need for emergency legislative changes and, in normal times, enables faster and more efficient network rollout at a lower cost for consumers and businesses.

- Extend the ex-post approach to regulation and competition to digital markets and where the market can sustain it, promote broadband network infrastructure competition, in addition to access-based service competition and infrastructure sharing.

- Enhance innovation in emerging areas by creating safe space for regulatory experimentation such as innovation testbeds and regulatory sandboxes to allow fine-tuning new business models and foster resilience of future networks and services.

- Allow broadening legal frameworks for experimental regimes for digital innovation using regulatory sandboxing to multiple sectors, such as medicine, transport, agriculture, finance, commerce, and government services and oversight. Such regimes would allow for safe and sound testing of emerging technologies and their applications ahead of hitting markets (e.g., artificial intelligence, blockchain, big data, neurotechnology, quantum technologies, virtual reality). Such measures will facilitate the digital transformation and help address new challenges and emergencies.

Spectrum innovation is key for the digital future

- Set policies that guarantee an effective use of spectrum through moderate pricing and prioritize the expansion of networks over maximizing revenues for the government can have a significantly favorable impact on the digital economy, infrastructure investment and bringing benefits to remote or more disadvantaged areas, in particular in the context of emerging technologies (such as 5G and Internet of Things, IoT).

- Adopt a multifaceted approach to freeing up additional spectrum in the low, mid, and high bands for a variety of business plans to successfully meet the need for additional network capacity while facing finite spectrum resources, including releasing spectrum for the establishment of community networks on a technology-neutral basis.

- Enable more efficient spectrum usage by balancing both licensed and unlicensed uses and consider new rules for expanding unlicensed broadband into the 6 GHz band to create an opportunity for innovators to provide new and advanced services, such as the next generation of Wi-Fi (i.e., Wi-Fi 6), while also ensuring that licensed incumbent operations in the band continue to flourish.

- Allow setting up trial platforms for new technologies where licensed and unlicensed operators and industry players can access available infrastructure for trialing their own use cases (including for 5G, the IoT).

Data is the silver bullet of digital regulation

- Build research and data analytics capabilities to inform regulatory decision making and foresight, monitor policy implementation and identify emerging regulatory issues with regards to industry, consumer and market developments.

- Adopt data-driven tools in decision-making (including big data and open data schemes), machine learning tools and online platforms, including national GIS systems to identify white and grey areas and coordinate the deployment and sharing of digital infrastructures, such as national infrastructure mapping systems.

- Ensure that regulators are empowered to collect relevant data from market players and have capacity to develop regulatory tools to address identified failures in ICT and digital markets.

III. Transformational leadership to unleash the power of emerging technologies and business models

Technology developments and economic disruptions in the aftermath of the global COVID-19 crisis are affecting policy settings. Investment gaps and scarce available funding for digital infrastructure and services are exacerbating the need to review policy and regulatory frameworks beyond national boundaries or sectors. The COVID-19 pandemic highlighted the need for agile, responsive regulatory action and leadership.

Digital policies and regulation hold a three-fold promise - as a tool for driving the digital transformation of the economy; as a framework for the digital transformation of regulators and regulatory governance; and as an interface for cross-border collaboration and coordination on thorny issues related to digital markets.

Transformational leadership will be rooted in new and revisited approaches to digital and collaborative regulation.

Regulators and policy makers are the master builders of the digital transformation

- Be equipped with clear, ambitious but executable regulatory roadmaps, integrating a medium-term strategic perspective on the broad digital market development. The roadmaps need to define priorities, responsibilities and set measurable targets and metrics for markets and the regulator. Their implementation needs to be coordinated across government agencies and with private sector stakeholders.

- Adapt regulatory governance structures to the new digital mandates, capacitate regulators to ensure they are adequately equipped to deal with the old and new issues and define mechanisms for coordination and collaboration amongst government agencies to allow for pooling of resources and expertise.

- Ensure the engagement of regulators in the legislative initiatives that have impact on the sector under their mandate and within their competences.

- Develop the advisory role of regulators across sectors towards industry and citizens, specifically through engaging in new initiatives such as innovation labs that help startups grow and work together, digital mentorship schemes, and research programs.

A regulatory paradigm shift is needed to deliver on the digital dividend for all

- Build accountability, focus on outcome in the design and implementation of collaborative regulation practices by integrating regular and transparent stakeholder engagement and building new regulatory partnerships, including for overseeing the development of voluntary codes of practice by digital platforms.

- Reinforce regulatory agility and transparency by providing a clear rationale to the public for how and why regulatory decisions are made; monitoring and implementation of rules and guidelines with stakeholders.

- Enhance the design, administration and effectiveness of regulation, de-regulate areas that no longer require extensive regulatory oversight and reconfigure regulatory capacity to address gaps and new areas.

Given the borderless nature of the digital economy, introducing international and regional cooperation mechanisms with a focus on addressing the thorny issues related to digital trade, data protection, Internet of things and taxation will allow 5th generation collaborative regulation (G5) span geographies and markets to facilitate cross-border collaboration.

National regulators and policy makers have a role to play at the international arena

- Step up national and international engagement strategies and work closely with the international multi-stakeholder community as well as with other national and foreign regulators on transboundary issues in the digital ecosystem.

- Cooperate and build a common understanding at the international level on issues surrounding anti-competitive behaviors in the digital economy and converge towards a certain level of regional harmonization in view of spearheading innovation and investment in digital.

- Encourage regional and international cooperation on data privacy and cybersecurity initiatives to streamline the patchwork of data privacy and cybersecurity rules and practices into common regional or global standards and laws and allow free flow of data and digital trade.

- Intensify international cooperation on cross-border data flows to ensure that data localization requirements and other restrictions on cross-border data flow do not unduly interfere with cross-border communications and the economic and societal benefits that global data networks make possible and are minimally trade-restrictive, while promoting trust.