

Report by the Chairman

SIXTH WORLD TELECOMMUNICATION/ICT POLICY FORUM 2021

PART I

- Originally established by the 1994 Plenipotentiary Conference of the International Telecommunication Union (ITU), the World Telecommunication/Information and Communication Technology Policy Forum (WTPF) has been successfully convened in 1996, 1998, 2001, 2009 and 2013.
- The purpose of WTPF is to provide a venue for exchanging views and information and thereby creating a shared vision among policymakers worldwide on the issues arising from the emergence of new telecommunication/ICT services and technologies, and to consider any other policy issue in telecommunications/ICTs which would benefit from a global exchange of views, in addition to the adoption of opinions reflecting common viewpoints ([Resolution 2 \(Rev. Dubai, 2018\)](#)). The WTPF shall not produce prescriptive regulatory outcomes; however, it shall prepare reports and adopt non-binding opinions by consensus for consideration by Member States, Sector Members and relevant ITU meetings ([Resolution 2 \(Rev. Dubai, 2018\)](#)).
- By [Decision 611 \(Rev. Council 2020\)](#), the 2019 session of ITU Council decided that the theme for WTPF-21 is as follows:
“Policies for mobilizing new and emerging telecommunications/ICTs for sustainable development:
The WTPF-21 would discuss how new and emerging digital technologies and trends are enablers of the global transition to the digital economy. Themes for consideration include AI, IoT, 5G, Big Data, OTTs etc. In this regard, the WTPF-21 will focus on opportunities, challenges and policies to foster sustainable development.”
- Further, in accordance with [Decision 611 \(Rev. Council 2020\)](#), the ITU Secretary-General convened an Informal Experts Group (IEG-WTPF-21), each of whom was active in preparing for WTPF-21 in this regard. With the approval of ITU Council 2019, membership of the IEG-WTPF-21 was opened to all stakeholders. The IEG-WTPF-21 met seven times under the Chairmanship of

Dr. Fabio Bigi (Italy) from 2019 to 2021, out of which five were virtual meetings taking into consideration the COVID-19 pandemic restrictions. In addition, the IEG-WTPF-21 conducted three online open public consultations and held numerous informal consultations.

- Over 170 experts participated in the work of the IEG-WTPF-21¹, and more than 70 contributions were received from all stakeholders towards the various drafts of the [Report of the Secretary-General](#) (six in total) and the draft Opinions. The IEG-WTPF-21 successfully concluded its work in November 2021 and at its seventh and final meeting, agreed by consensus to transmit a set of five draft Opinions annexed to the Report of the Secretary-General for the Forum's consideration. All documents of the WTPF-21 preparatory process are available on the [IEG-WTPF-21 website](#) without any restrictions. The regular Progress Reports delivered by the IEG-WTPF-21 Chairman to Council 2020 and 2021 are also available on the [Council website](#).
- The Sixth World Telecommunication/ICT Policy Forum (WTPF-21) was held virtually from 16-18 December 2021. It was attended by more than 400 delegates, representing 94 Member States, 42 Sector Members, and close to 10 Observer entities. 30 VIPs also participated in the Forum, including Ministers and Deputy Ministers as well as several heads of regulatory agencies. Her Excellency Ms. Ursula Owusu-Ekuful, Minister for Communications and Digitalisation of Ghana, was elected to chair the Forum.
- The Policy Forum opened with an address from Mr. Houlin Zhao, ITU Secretary-General. In his speech, Mr. Zhao highlighted thanked all the Regional Coordinators and all those who closely worked with the ITU secretariat in the lead up to WTPF-21 to address the challenges of hosting this event fully virtually under the difficult circumstances caused by the COVID-19 pandemic. He highlighted that new data from ITU reveals that there has been strong global growth in Internet use, but that the ability to connect remains profoundly unequal and that almost 3 billion people are still offline around the world. The ITU Secretary-General emphasized that the Forum and all the work that went into it can help put us on the path to get everyone connected, and to drive the development of new and emerging technologies central to the digital economy. He commended the efforts made by the IEG-WTPF-21 in preparation for the Forum and recognized the outstanding leadership of the Group's Chairman, Dr. Fabio Bigi. He encouraged the use of new and emerging technologies and ICTs in general to address future challenges and bring digital transformation to all. He also reminded the participants that WTPF-21 will help facilitate the preparation of three major ITU conferences to be held in 2022 - WTSA, WTDC and PP-22.
- Her Excellency Ms Ursula Owusu-Ekuful, Minister for Communications and Digitalisation of Ghana, who was chairing the WTPF-21, also addressed the Forum. In her speech, Minister Owusu-Ekuful emphasized the importance of new and emerging technologies for humanity and sustainable development. She encouraged the participants to "make history together," calling on them "to do our utmost to better harness new and emerging technologies and ICTs to accelerate the achievement of the 2030 Agenda for Sustainable Development."

¹ List of members of the IEG is available at: <https://www.itu.int/en/wtpf-21/Documents/IEG-WTPF-21-nominated-experts.pdf>

- Six Vice-Chairmen were elected for the Forum:
 - Mr. Mansour AlQurashi of Saudi Arabia for the Arab region
 - Mr. Alexander Olegovich Mokryagin of Belarus for the CIS region
 - Mr. Víctor Martínez Vanegas of Mexico for the Americas region
 - Ms. Cristiana Flutur of Romania for the Europe region
 - Mr. Ahmed Said of Egypt for the Africa region
 - Dr. Ahmad Reza Sharafat of Islamic Republic of Iran for the Asia Pacific region
- In accordance with [Resolution 2 \(Rev. Dubai, 2018\)](#), discussions at the WTPF were based on the [Report of the Secretary-General](#) (SG Report), which served as the main working document of the Forum. The contributions and comments of members of the IEG-WTPF-21 were incorporated into this SG Report. Annexed to the SG Report were five draft Opinions which were forwarded by the IEG-WTPF-21, by consensus, to WTPF-21 for further discussion.
- The Deputy Secretary-General presented the SG Report, on behalf of the Secretary-General, giving a broad overview of the SG Report which is based on the theme decided by Decision 611 (Rev. Council, 2020). Following this presentation, the Chairman of the IEG-WTPF-21, Dr. Fabio Bigi (Italy), also presented the five draft Opinions proposed by the IEG for the Forum's consideration.
- The presentation of the SG Report was followed by a succession of high-level statements by Member States and Sector Members on the theme of the Forum and the SG Report². It was noted that the body of the SG Report serves as an input document to the Forum and will not be revised during the Forum.
- [Three Working Groups](#) were established to discuss the five draft Opinions annexed to the SG Report and related contributions from Member States and Sector Members. The following were elected the Chairmen and Vice-Chairmen of the Working Groups.

Group	Chairmen	Vice-Chairmen
Working Group 1	Mr. Roberto Mitsuke Hirayama (Federative Republic of Brazil)	Mr. Aymen I. Almogherah (Saudi Telecom Company)
Working Group 2	Dr. Lidia Stepinska-Ustasiak (Poland)	Mr. Ahmed Riad Ismail (Huawei)
Working Group 3	Mr. Jim Paterson (Republic of South Africa)	Ms Natalia Vicente (ESOA - EMEA Satellite Operator's Association)

² <https://www.itu.int/wtpf21/en/statements-and-speeches/>

- The Working Groups worked constructively over one and a half days. The Chairmen of the three Working Groups presented the results of the work undertaken by the Working Groups to the Plenary for approval – see Annex I of this Report.
- The Chairman of the Forum presented the draft Opinions, which had been revised and endorsed by the Working Groups. She invited the Forum to adopt the following Opinions:
 - Opinion 1:** Enabling environment for the development and deployment of new and emerging telecommunication/ICT services and technologies to advance sustainable development
 - Opinion 2:** Affordable and secure connectivity in mobilising new and emerging telecommunications/ICTs for sustainable development
 - Opinion 3:** Digital literacy and skills for inclusive access
 - Opinion 4:** New and emerging technologies and services to facilitate the use of telecommunications/ICTs for sustainable development
 - Opinion 5:** Use of telecommunications/ICTs in COVID-19 and future pandemic and epidemic preparedness and response
- The Forum delegates thanked the Chairmen and Vice-Chairmen of the various Working Groups for their outstanding work
- The Forum adopted the Opinions as presented in Part II of this Report.



PART II

OPINION 1: Enabling environment for the development and deployment of new and emerging telecommunication/ICT services and technologies to advance sustainable development

The sixth World Telecommunication/ICT Policy Forum (Geneva, 2021),

recalling

- a) Resolution 75/202 of the UN General Assembly (UNGA) on “Information and Communications Technologies for Sustainable Development”;
- b) UNGA Resolution 70/1 on “Transforming our world: the 2030 Agenda for Sustainable Development”;
- c) Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on “Strategic Plan for the Union for 2020-2023”, which aims to foster an enabling policy and regulatory environment conducive to sustainable telecommunication/ICT development;
- d) Resolution 201 (Rev. Dubai 2018) of the Plenipotentiary Conference on “Creating an enabling environment for the deployment and use of information and communication technology applications”;
- e) Opinion 2 (Geneva, 2013) of the Fifth World Telecommunication/Information and Communication Technologies (ICT) Policy Forum on “Fostering an enabling environment for the greater growth and development of broadband connectivity”;
- f) Resolution 200 (Rev. Dubai, 2018) of the Plenipotentiary Conference on “Connect 2030 Agenda for global telecommunication/information and communication technology, including broadband, for sustainable development”,

considering

- a) that effective “*policies for mobilizing new and emerging telecommunications/ICTs for sustainable development,*” depend on a thorough understanding of issues such as access and inclusion, affordability, confidence and security, digital literacy, training and skills development;
- b) that the Preamble of the ITU Constitution fully recognizes the sovereign right of each Member State to decide on its own telecommunications policy;
- c) that various stakeholders, including policymakers, regulators, the private sector, consumers, academic institutions and others play an important role in creating an enabling environment that mobilizes new and emerging telecommunication/ICT services and technologies;

d) that the “Strategic Plan for the Union for 2020-2023” aims to foster an enabling policy and regulatory environment conducive to sustainable telecommunication/ICT development;

e) that the ITU 2018 report on “ICTs, LDCs and the SDGs: Achieving universal and affordable Internet in the least developed countries” notes that an enabling environment for investment and innovation in the broadband market includes “*liberalization of the sector, privatization of state-owned national incumbent operators, and separation between policy, regulator and sector operation functions, with a view to encouraging competition and foreign direct investment, and promoting universal access, innovation, content delivery and consumer protection*”,

recognising

a) that accelerating broadband development is a considerable challenge, especially in hard-to-reach, rural and remote areas where topography and demography make the return-on-investment challenging;

b) that investments in telecommunication/ICT services and technologies should also focus on all stages of development and deployment, including their mobilization for sustainable development at later stages;

c) that among sectors and stakeholders, ICT investments, including those in new and emerging telecommunication/ICT services and technologies, and complementary connectivity solutions, should be coordinated to avoid fragmentation and duplication of efforts;

d) that effective enabling environment for the development and deployment of new and emerging telecommunication/ICT services and technologies should consider building confidence and security in those telecommunication/ICT services and technologies;

e) that a coordinated government approach can play a role in support of a coordinated approach to ICT financing and investments with the aim of connecting the unconnected and driving the development of the services and technologies referred to in *recognizing ‘b’* above that are central to the digital economy, digital inclusion and sustainable development;

f) that the Buenos Aires Declaration adopted by the 2017 World Telecommunication Development Conference states “*that public investment, private investment, as well as public-private partnerships and resource mobilization, need to be further strengthened in order to identify and apply innovative technological solutions and financing mechanisms for inclusive and sustainable development*”,

is of the view

1 that inclusive access to and use of new and emerging telecommunication/ICT services and technologies and new and emerging technologies such as 5G, AI, IoT, Big Data, and OTTs, have the potential to accelerate progress towards the achievement of the UN Sustainable Development Goals;

2 that the establishment of an enabling environment for investment is critical to mobilizing such services and technologies as mentioned in *is of the view ‘1’* above for sustainable development;

3 that the removal of barriers to investment and innovation is essential to mobilizing the services and technologies mentioned in *is of the view ‘1’* above for sustainable development;

4 that facilitating investment alongside private sector investment in rural and remote areas by using targeted government support may be needed where the business case for private investment is otherwise lacking, and in support of affordable connectivity and mobilizing such services and technologies as mentioned in *is of the view ‘1’* for sustainable development;

5 that use of services and technologies as mentioned in *is of the view '1'* for sustainable development can empower marginalised groups and persons with specific needs, including women and girls, children and youth, older persons, persons with disabilities, and indigenous people.;

6 that use of new and emerging telecommunication/ICT services and technologies, and complementary connectivity solutions can promote sustainable development, and that policies in the field of telecommunications/ICTs should consider environmental challenges such as climate change mitigation;

7 that an enabling environment for the development and deployment of services and technologies as mentioned in *is of the view '1'* is based on transparent, stable, predictable, independent and non-discriminatory policies and regulatory and legal environments that promote innovation and investment, from both public and private sources;

8 that stakeholders should continue to work together to encourage and promote exchange of information, capacity building, and best practices to create an enabling environment for the mobilization of new and emerging telecommunication/ICT services and technologies,

invites Member States

1 to consider how best to foster an enabling environment that is conducive for mobilizing new and emerging telecommunication/ICT services and technologies, as well as complementary connectivity solutions for sustainable development, to maximize their benefits, and minimize their risks;

2 to consider adopting policies and frameworks that support, *inter alia*, a transparent, predictable, competitive, independent, innovative and non-discriminatory enabling environment;

3 to take a coordinated government approach to implementation of national digital strategies and telecommunication/ICT financing and investments, including for investments in new and emerging telecommunication/ICT services and technologies to advance sustainable development;

4 to encourage foreign and domestic investments in digital ecosystems and consider removing barriers in this regard;

5 to consider how best to make it easier for the private sector to invest, innovate and upgrade existing networks and encourage long term and sustained investment from the private sector in new and emerging telecommunication/ICT services and technologies;

6 to adopt flexible, streamlined, technology neutral, and innovative spectrum policies to encourage the development and deployment of new and emerging telecommunication/ICT services and technologies;

7 to foster an awareness of environmental challenges such as climate change and its mitigation in developing policies to advance sustainable development;

8 to consult with relevant stakeholders, including the private sector, academia, civil society, and the technical community to ensure that an enabling policy environment implemented at the national level reflects stakeholder views and needs,

invites Member States, Sector Members and other stakeholders to work collaboratively

1 to consider policies that enable the mobilization, including development and deployment of new and emerging telecommunication/ICT services and technologies to advance sustainable development;

- 2 to consider policies and frameworks that take into account evolving business models, and create a fair and conducive enabling environment for stakeholders that allows them to contribute to promoting economic development;
- 3 to facilitate an enabling environment through innovative access to finance, including through public-private partnership models;
- 4 to promote infrastructure sharing models in order to reduce the costs of investment in new and emerging telecommunication/ICT services and technologies, and their applications;
- 5 to promote competition and private sector investment to encourage the continuing growth and adoption of new and emerging telecommunication/ICT services and technologies that will advance economic growth and opportunities at the national, regional and global levels;
- 6 to foster policy environments based on transparency, stability, predictability, competitiveness and non-discriminatory measures, and the promotion of innovation;
- 7 to encourage innovation and locally based entrepreneurship in the provision of complementary connectivity solutions;
- 8 to encourage all stakeholders to develop applications and services integrating new and emerging telecommunication/ICT services and technologies to address diverse population needs;
- 9 to facilitate public-private investment by promoting closer cooperation between education and research centres and the private sector in emerging areas;
- 10 to share best practices regarding the development of enabling environments for investment,

invites the Secretary-General

to continue to strengthen ITU efforts to provide a platform for collaboration and dialogue among key stakeholders, including Member States, the private sector, academia, industry and international funding agencies to enable them to foster an enabling environment for the development and deployment of new and emerging telecommunication/ICT services and technologies that promotes innovation and investment and advances sustainable development.

OPINION 2: Affordable and secure connectivity in mobilising new and emerging telecommunications/ICTs for sustainable development

The sixth World Telecommunication/ICT Policy Forum (Geneva, 2021),

recalling

- a) Resolution 70/1 of the United Nations General Assembly (UNGA), on Transforming our world: the 2030 Agenda for Sustainable Development;
- b) UNGA Resolution 70/125: Outcome document of the high-level meeting of the General Assembly on the overall review of the implementation of the outcomes of the World Summit on the Information Society (WSIS);
- c) the Geneva Declaration of Principles and the Geneva Plan of Action, adopted in 2003, and the Tunis Commitment and the Tunis Agenda for the Information Society, adopted in 2005, all of which were endorsed by the United Nations General Assembly (UNGA);
- d) Resolution 101 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on Internet Protocol-based networks and other related Resolutions, such as Resolution 102 (Rev. Dubai, 2018) and Resolution 180 (Rev. Dubai, 2018);
- e) Resolution 130 (Rev. Dubai, 2018) of the Plenipotentiary Conference, Strengthening the role of ITU in building confidence and security in the use of information and communication technologies;
- f) Resolution 137 (Rev. Dubai, 2018) of the ITU Plenipotentiary Conference, on next-generation network deployment in developing countries;
- g) Resolution 200 (Rev. Dubai, 2018) of the ITU Plenipotentiary Conference, on the Connect 2030 Agenda for global telecommunication/ICT;
- h) Resolution 203 (Rev. Dubai, 2018) of the ITU Plenipotentiary Conference, on connectivity to broadband networks,

recognising

- a) that new and emerging telecommunications/ICTs services and technologies will underpin the digital economy of the future and enable advances in technologies and services including AI, IoT, 5G, Big Data and OTTs;
- b) that to enable such advances in technologies and services, including 5G, AI, IoT, Big Data and OTTs, in the context of a multi-stakeholder approach, it is important to increase awareness of relevant cybersecurity and other risks among individual users and other stakeholders, and to take measures to continue building confidence and security in the use of telecommunications/ICTs;
- c) that governments are pursuing digital transformations by adopting new and emerging telecommunication/ICTs services and technologies to deliver services to the public, recognizing that building confidence and security in those services is crucial in that context;
- d) that encouraging the deployment of next generation networks, including 5G and other new and emerging telecommunications/ICTs, especially in unserved and underserved areas, is critical for sustainable development;

- e) that the private sector has a leading role in deploying 5G and other new and emerging telecommunication/ICT networks, including non-terrestrial technologies such as satellite, and that it is exploring innovations in technology and business models alongside other stakeholders including government, academia, and civil society;
- f) that new and emerging telecommunications/ICTs services and technologies are rapidly evolving, bringing new opportunities and challenges to all stakeholders, including policymakers, such as those related to building confidence and security in the use of such technologies;
- g) that a digital divide remains between certain segments of populations who can access, afford and adopt new and emerging telecommunication/ICTs and those who cannot, and that in particular, obstacles in access to and use by women and girls affect prosperity and limit social and sustainable economic development;
- h) that policymakers can help connect the unconnected by creating an enabling policy environment that encourages and supports private sector investment and innovation;
- i) that frameworks, such as the ITU Global Cybersecurity Agenda (GCA) framework, can encourage confidence and security in the use of telecommunication/ICTs, including through international cooperation in this regard;
- j) that as the lead facilitator for the WSIS Action Line C5, the ITU has an important role in building confidence and security in the use of ICTs, through the on-going implementation of relevant ITU resolutions and the work of dedicated Study Groups and Questions,

reaffirming

- a) the importance of communication and access to means of communication for everyone;
- b) the need for greater global multi-stakeholder cooperation to bridge the digital divide and to mitigate the challenges to building confidence and security in the use of telecommunication/ICTs,

noting

the call by the UN General Assembly and the UN Secretary-General's Roadmap for Digital Cooperation to provide universal and affordable access to the Internet by 2030,

is of the view

- 1 that all stakeholders, including governments, should endeavour to work towards building confidence and security in the use of telecommunications/ICTs, including through frameworks such as the ITU GCA, and in the context of enabling advances in the use of technologies and services, including 5G, AI, IoT, Big Data and OTTs;
- 2 that there is a need for global multi-stakeholder cooperation to enable advances in technologies and services including 5G, AI, IoT, Big Data and OTTs, in the context of expanding affordable connectivity and building confidence and security in the use of telecommunications/ICTs;
- 3 that investment in terrestrial and space-based access infrastructure, in particular in broadband and 5G infrastructure, plays a fundamental role in promoting affordable connectivity and in mobilizing new and emerging telecommunications/ICTs for sustainable development;
- 4 that all stakeholders should endeavour to protect personally identifiable information and mitigate vulnerabilities, as well as work to strengthen confidence and security in the use of telecommunications/ICTs, and that particular attention should be paid to ensuring the protection of marginalised groups, vulnerable populations and persons with specific needs, including women

and girls, children and youth, older persons, persons with disabilities, and indigenous people;

5 that multi-stakeholder efforts to build confidence and security in the use of telecommunications/ICTs are essential to ensure increased connectivity solutions for sustainable development;

6 that within its mandate, the ITU should continue to collaborate closely with other UN agencies, international organizations, and stakeholders in relevant areas concerning building confidence and security in the use of telecommunication/ICTs;

7 that the following policies can be used to mobilize new and emerging telecommunications/ICTs for sustainable development:

- i) streamlining the processes to facilitate deployment of wireless and wireline communications networks, including policies for access to rights-of-way and other rules that may affect next-generation network deployment;
- ii) educating all levels of society – especially local government officials responsible for permitting wireless and wireline infrastructure – about the importance of next generation connectivity for socio-economic progress and the established safety standards for EMF emissions;
- iii) making sufficient spectrum available for a wide array of new and emerging telecommunications/ICT and services;
- iv) modernizing regulatory frameworks applicable to small cell infrastructure, which is essential to deployment of next generation services including 5G, and recognizing that not all rules applicable to the large cell towers would be appropriate for small cell deployment;
- v) mapping the coverage of existing networks in order to identify where broadband service is currently available, where it is still needed, and using that information to guide and shape policy responses;
- vi) ensuring that access to network connectivity, including for new and emerging telecommunications/ICTs, are fully incorporated into national economic and social development plans and strategies, and that it is recognized as central to a country's economic and social development,

invites Member States

1 to consider whether the adoption of the policies above would contribute to sustainable development in their own national context;

2 to continue to promote affordable connectivity, as a fundamental requirement for mobilizing new and emerging telecommunications/ICTs for sustainable development;

3 to consider how the use of shared digital services can support sustainable development by lowering the cost of doing business, improving service offerings and enabling access to new markets, particularly in areas such as 5G roll-out and new innovative space networks;

4 to consider adopting policy and regulatory measures that facilitate infrastructure deployment in rural and isolated areas, including the sharing of infrastructure, interconnection, effective and efficient use of spectrum,

invites Member States, Sector Members and other stakeholders to work collaboratively

- 1 to reinforce the existing links between the WSIS Action Lines for which the ITU is the lead facilitator (C2, C4, C5 and C6) and the Sustainable Development Goals and targets;
- 2 to consider policies aimed at benefitting citizens, businesses, governments and other stakeholders, particularly in areas such as AI, IoT, 5G, Big Data and OTTs;
- 3 to increase investment in network infrastructure deployment, including 5G and next-generation technologies, with a view to achieving universal access, which will mobilize new and emerging telecommunications/ICTs;
- 4 to continue to share their own experiences on deploying terrestrial and space-based access infrastructure for bridging the digital divide to the ongoing discussions at the ITU on promoting sustainable development;
- 5 to continue to work collaboratively and build confidence and security in the use of telecommunications/ICTs including in the application of new and emerging telecommunications/ICTs services and technologies;
- 6 to promote new and potentially transformative initiatives to accelerate connectivity, such as the GIGA initiative of ITU and UNICEF, and the ITU Partner2Connect Digital Coalition,

invites the Secretary-General

to continue to facilitate and strengthen ITU efforts to promote universal, affordable, and secure connectivity for sustainable development through new and emerging telecommunications/ICTs services and technologies for sustainable development.

OPINION 3: Digital literacy and skills for inclusive access

The sixth World Telecommunication/ICT Policy Forum (Geneva, 2021),

recalling

- a) Resolution 70/1 of the United Nations General Assembly (UNGA) on “Transforming our world: the 2030 Agenda for Sustainable Development”;
- b) Resolution 70/186 of the United Nations General Assembly (UNGA) on “Consumer Protection”;
- c) UNGA Resolution 72/235 on “Human resources development”;
- d) Geneva Declaration of Principles, adopted by the World Summit on the Information Society (WSIS) in 2003;
- e) the WSIS outcome documents;
- f) Resolution 71 (Rev. Dubai, 2018) of ITU Plenipotentiary Conference (PP) on the “Strategic Plan for the Union for 2020-2023”, *Goal 1 – Growth: Enable and foster access to and increased use of telecommunications/ICT in support of the digital economy and society*”;
- g) Resolution 139 (Rev. Dubai, 2018) of the Plenipotentiary Conference on “Use of telecommunications/information and communication technologies to bridge the digital divide and build an inclusive information society”;
- h) Resolution 198 (Rev. Dubai, 2018) of the Plenipotentiary Conference on “Empowerment of youth through telecommunication/information and communication technology”;
- i) Resolution 205 (Dubai, 2018) of the Plenipotentiary Conference on “ITU’s role in fostering telecommunication/information and communication technology-centric innovation to support the digital economy and society”;
- j) Resolution 40 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference on “Group on capacity-building initiatives”,

considering

- a) that a lack of digital skills is a barrier to the uptake and effective use of the telecommunications/information and communication technologies (ICTs) including Internet;
- b) that to capitalize on the benefits of new and emerging telecommunications/ICTs and keep pace with technology advances, new skills for the digital economy are necessary;
- c) that the development and improvement of human capacity building, including in new and emerging telecommunication/ICT services and technologies, is a fundamental part of an inclusive Information Society and will help promote sustainable development;
- d) that the ITU has been supporting countries in their efforts to use telecommunications/ICTs as a catalyst for development, including provision for assistance with capacity development through a variety of initiatives including the ITU Academy;
- e) that ITU partners with UN organizations, governments, the private sector, international and intergovernmental organizations, civil society, the technical community, academia and other stakeholders to advance programs and initiatives that aim to improve ICT education and equip people, including youth, with digital skills and improve digital literacy;

f) that there is gender and age gap in digital literacy and Science, Technology, Engineering and Mathematics (STEM) education;

g) that developing countries³ face specific challenges in digital skills development,
bearing in mind

a) that the rapid development of new and emerging telecommunications/ICTs creates new requirements and expectations on workers;

b) that ensuring digital literacy and skills for inclusive access requires a flexible approach to meet the various needs and conditions of each individual country,

is of the view

1 that digital skills in areas such as AI, IoT, 5G, Big Data and OTTs can help to leverage new and emerging telecommunication/ICT services and technologies for sustainable development;

2 that policies fostering digital literacy, training and skills development can be instrumental in mobilizing above mentioned technologies for sustainable development;

3 that education and training in digital skills is critically important to reduce the digital gap and promote equal opportunities between countries with different levels of economic and technological development;

4 that education and training in digital skills are also critically important in order to foster, *inter alia*, digital empowerment and inclusion, especially among marginalized groups and persons with specific needs, including women and girls, children and youth, older persons, persons with disabilities, and indigenous people;

5 that digital literacy and skills plays a vital role in empowering and protecting users/consumers online, for them to safely harness the advantages of new and emerging telecommunication/ICT services and technologies,

invites Member States

1 to collect and share data on the digital literacy and skills required for accessing new and emerging telecommunication/ICT services and technologies to advance sustainable development;

2 to identify gaps in digital skills curricula in education, apprenticeships and other youth and adult job skills development programs;

3 to identify barriers to closing gaps in digital literacy and skills and promote policies aimed at expanding opportunities and building capacities to leverage the abovementioned technologies through education, training and skills development for all,

invites Member States, Sector Members and other stakeholders to work collaboratively

1 to explore ways and means for greater collaboration and coordination among governments, the private sector, international and intergovernmental organizations, civil society, the technical community and academia to build digital skills, especially in developing countries;

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

- 2 to integrate digital literacy, and the development of ICT and Science, Technology, Engineering and Mathematics (STEM) skills into an overall approach to education and human resources development for all;
- 3 promote access to e-learning opportunities, particularly in rural and remote areas;
- 4 encourage investment in the quality of teaching, education and training of digital skills, including in areas such as AI, IoT, 5G, Big Data and OTTs, and with emphasis on marginalized groups and persons with specific needs, including women and girls, children and youth, older persons, persons with disabilities, and indigenous people, to promote skills in new and emerging telecommunication/ICT services and technologies for sustainable development;
- 5 to share best practices in digital literacy and digital skills-related education, skills and training programmes among ITU Members;
- 6 to organize and implement digital literacy campaigns specifically aimed at empowering users/consumers, promoting transparency, and protection of personally identifiable information,

invites the Secretary-General

to support the effective implementation of the relevant ITU capacity building programs and activities that promote education, digital literacy, training and skills development, including on new and emerging telecommunication/ICT services and technologies, to foster sustainable development and digital empowerment and inclusion for all.

OPINION 4: New and emerging technologies and services to facilitate the use of telecommunications/ICTs for sustainable development

The sixth World Telecommunication/ICT Policy Forum (Geneva, 2021),

recalling

- a) Resolution 70/1 of the United Nations General Assembly (UNGA) on “Transforming our world: the 2030 Agenda for Sustainable Development”;
- b) UNGA Resolution 70/125 on “Outcome document of the high-level meeting of the General Assembly on the overall review of the implementation of the outcomes of the World Summit on the Information Society”;
- c) relevant World Summit on the Information Society (WSIS) Action Lines and relevant UN Sustainable Development Goals (SDGs);
- d) Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the “Strategic Plan for the Union for 2020-2023”;
- e) Resolution 197 (Dubai, 2018) of the Plenipotentiary Conference on “Facilitating the Internet of Things and smart sustainable cities and communities”;
- f) Resolution 206 (Dubai, 2018) of the Plenipotentiary Conference on “OTTs”;
- g) Resolution 205 (Dubai, 2018) of the Plenipotentiary Conference on “ITU's role in fostering telecommunication/information and communication technology-centric innovation to support the digital economy and society”,

recognising

- a) that the continuous evolution of new and emerging technologies, such as 5G, AI, IoT, Big Data and OTTs, can facilitate the use of telecommunications/information and communication technologies (ICTs) for sustainable development, taking into account the discussions and initiatives underway across the UN system that are exploring diverse aspects of such technologies in support of sustainable development;
- b) that telecommunications/ICTs are an enabler of many new technologies and in turn new technologies can also facilitate the development and deployment of telecommunications/ICTs;
- c) that, by facilitating the use of telecommunications/ICTs, new and emerging technologies, such as AI, IoT, 5G, Big Data, and OTTs, can enable the global transition to the digital economy and accelerate the benefits of digital transformation for different industries, thereby furthering our shared goal to advance the SDGs;
- d) that while this transition will enable countries to harness the potential of such technologies to facilitate the use of telecommunications/ICTs and advance sustainable development, as countries take advantage of this potential, developing countries⁴ are at the highest risk of being left behind;

⁴ These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

- e) that the responsible development and use of such technologies, particularly AI, can help to empower future innovation and address related policy issues, and that stakeholders involved in their development and use should engage in policy discussions, including on accountability and sustainable development;
- f) that it is important to promote building confidence and security in and inclusive development of these technologies as well as to foster equitable access to their benefits;
- g) that enabling strategies, policies, regulations, guidelines or principles may contribute to maximizing the potential of new and emerging technologies to facilitate the use of telecommunications/ICTs for sustainable development;
- h) that ITU, as the UN specialized agency for telecommunications/ICTs, plays a leading role in the implementation of relevant WSIS action lines and their outcomes and, through them, the achievement of the SDGs;
- i) that there is ongoing work in ITU, including ITU study groups, related to new and emerging technologies to facilitate the development and deployment of telecommunications/ICTs,

is of the view

- 1 that Member States, through cooperation with all stakeholders, should foster an enabling environment for digital innovation ecosystems for inclusive growth and development of relevant new and emerging technologies, such as 5G, AI, IoT, Big Data and OTTs, to facilitate the use of telecommunications/ICTs for sustainable development;
- 2 that enabling policies to harness opportunities and address challenges related to such technologies need to be addressed at the national, regional and international levels, with the full involvement of stakeholders from countries, especially from developing countries;
- 3 that all stakeholders need to work closely together to harness the potential of the services and technologies referred to in *is of the view "1"* above for the benefit of all and to advance sustainable development, as well as address any common policy issues and other challenges, *inter alia*, related to confidence and security, reliability, inclusiveness, transparency and interoperability, that may arise in their use;
- 4 that ITU, in collaboration with other UN agencies and international organizations, and within its mandate, should continue to promote information and best practice sharing among its membership and other stakeholders in their efforts to use technologies referenced in *is of the view "1"* above to facilitate telecommunications/ICTs for sustainable development;
- 5 that stakeholders should be encouraged to implement projects, programmes, and initiatives to enable all nations to benefit from the use of such technologies to achieve the SDGs,

invites Member States, Sector Members and other stakeholders to work collaboratively

- 1 to utilize the potential of technologies referred to in *is of the view "1"* above to facilitate the use of telecommunications/ICTs to achieve the SDGs;
- 2 to promote public policies and strategies at the national, regional, and international levels to take advantage of opportunities and overcome challenges in the use and mobilization of technologies referred to in *is of the view "1"* above for sustainable development;

3 to encourage the participation of all stakeholders from developing countries, and in particular from Least Developed Countries (LDCs), Landlocked Developing Countries (LLDCs) and Small Island Developing States (SIDS), in the activities of relevant entities, organizations, institutions and initiatives that are working on the various policy matters set out in this Opinion,

invites the Secretary-General

to support the activities of ITU, within its mandate, relevant to the policy matters set out in this Opinion. This includes enabling the ITU membership to share information and best practices in order to take advantage of the opportunities and address the challenges relevant to policy matters set out in this Opinion.

OPINION 5: Use of telecommunications/ICTs in COVID-19 and future pandemic and epidemic preparedness and response

The sixth World Telecommunication/ICT Policy Forum (Geneva, 2021),

recalling

- a) Resolution 74/270 of the United Nations General Assembly (UNGA) on “Global solidarity to fight the coronavirus disease 2019 (COVID-19)”, which calls on the United Nations system “*to work with all relevant actors to mobilize a coordinated global response to the pandemic and its adverse social, economic and financial impact on all societies*”;
- b) UNGA Resolution 74/306 on “Comprehensive and coordinated response to the coronavirus disease (COVID-19) pandemic”;
- c) UN Sustainable Development Goal (SDG) 3 “Ensure healthy lives and promote well-being for all at all ages”, as well as SDG 9 “Build resilient infrastructure, promote sustainable industrialization and foster innovation”, and SDG 11 “Make cities and human settlements inclusive, safe, resilient and sustainable” of the 2030 Agenda for Sustainable Development;
- d) Article 40 of the ITU Constitution on the “Priority of Telecommunications Concerning Safety of Life”;
- e) Chapter VII of the ITU Radio Regulations on “Distress and safety communications” and Article 5 of the International Telecommunication Regulations on the “Safety of Life and Priority of Telecommunications”;
- f) Resolution 136 (Rev. Dubai, 2018) of the Plenipotentiary Conference on “The use of telecommunications/information and communication technologies for humanitarian assistance and for monitoring and management in emergency and disaster situations, including health-related emergencies, for early warning, prevention, mitigation and relief”;
- g) Resolution 202 (Busan, 2014) of the Plenipotentiary Conference on “Using information and communication technologies to break the chain of health-related emergencies such as Ebola virus transmission”;
- h) Subparagraph ‘c’ of paragraph 20 of WSIS Action Line C7 (Electronic Environmental Protection) of the Geneva Plan of Action, which calls for the establishment of “*monitoring systems, using ICTs, to forecast and monitor the impact of natural and man-made disasters, particularly in developing countries, LDCs and small economies*”,

bearing in mind

- a) the importance of telecommunication/ information and communication technologies (ICT) networks, and their resiliency and scalability, in face of the COVID-19 pandemic, and their role in helping get more people online in this time of crisis, as well as, the gaps and needs for further developing connectivity;
- b) the significant potential of telecommunication/ICT services and technologies and new and emerging technologies, such as AI, IoT, 5G, Big Data, OTTs, that facilitate telecommunications/ICTs, can improve the response to emergencies caused by the COVID-19 pandemic as well as other pandemics and epidemics and improving the effectiveness of their prevention and mitigation;

- c) the tragic events around the world related to the spread of the COVID-19 pandemic, which clearly show the need to expand affordable access to high-quality, sustainable and inclusive telecommunications/ICTs;
- d) the importance of access to relevant information about pandemics and epidemics to assist public safety, and support the work of health and disaster relief agencies and organizations;
- e) the need to promote digital inclusion, to ensure that everyone has access to telecommunications/ICTs and to maintain continuity of everyday social, educational and economic interactions and leaving no one excluded by using telecommunications/ICTs;
- f) affordable and effective telecommunications/ICTs are needed to minimize risks to human life and health, meet the urgent needs of the population for information and communication, support humanitarian assistance, and support economic responses for sustainable and inclusive recovery;
- g) the need to foster digital literacy and skills for all regardless of their age, gender, ability or location to ensure that everyone has an equal opportunity to participate in and to support the continuity of information society provided by telecommunications/ICTs,

recognising

- a) that substantial digital divides exist within and among countries and regions, and that many regions lack affordable access to telecommunications/ICTs;
- b) the critical role that governments, the private sector, civil society, the technical community and other stakeholders play in enabling affordable connectivity for all and the benefits of stakeholders working collaboratively together to this end;
- c) that relevant international organizations play a key role in convening stakeholders, supporting and facilitating sharing of best practices for the development of affordable connectivity and supporting humanitarian assistance and disaster relief efforts;
- d) that ITU, as the UN specialized agency for telecommunications/ICTs, plays a leading role in the implementation of relevant WSIS action lines and their outcomes and, through them, the achievement of the SDGs;
- e) the ongoing work in ITU related to new and emerging technologies that facilitate telecommunication/ICT services and technologies, ITU recommendations, particularly those that promote efficient use of telecommunication/ICT systems and technologies, as well as other relevant best practices, which may support response and recovery efforts;
- f) the ITU's efforts to gather best practices on how governments and stakeholders worked collaboratively to ensure connectivity during COVID-19 and how these lessons can be applied both to future pandemics or future efforts to promote connectivity and digital inclusion;
- g) the ITU's initiatives in response to the COVID-19 pandemic brought together stakeholders including ITU Members, partners and several UN agencies in areas as diverse and critical as resiliency, accessibility, e-education, digital skills and digital cooperation, including:
 - i) the creation of the Global Network Resiliency Platform (#REG4COVID);
 - ii) the launch of new guidelines on emergency telecommunications, child online protection, and on making digital information, services and products accessible to all people;

- iii) strengthening of partnerships such as between ITU and WHO, the ITU-UNICEF GIGA initiative to connect every school to the Internet, or the ITU-ILO initiative to boost decent jobs and enhance digital skills for the youth in Africa's digital economy;
 - iv) webinar series on Digital Cooperation during the COVID-19 pandemic;
- h) the vital importance of providing innovative tools to improve lives and accelerate sustainable development in many areas, including responding to the COVID-19 pandemic,

is of the view

expanding affordable access and connectivity to telecommunications/ICTs and new and emerging digital technologies, and advancing other related aspects such as digital inclusion and skills, will continue to play a critical role in helping to mitigate and manage the effects of the COVID-19 pandemic as well as future pandemics and epidemics,

invites Member States

- 1 to cooperate and offer assistance and support activities related to the use of new and emerging telecommunications/ICTs services and technologies by citizens, organizations, and, if possible, other countries, especially developing countries⁵, and to support, in collaboration with WHO and other UN organizations and stakeholders, sectors related to telecommunications/ICTs in order to help mitigate the effects of COVID-19 as well as future pandemics and epidemics and support the provision of humanitarian assistance and health services;
- 2 to consider how stakeholders, including telecommunications/ICTs providers, may contribute to supporting, if possible, jobs, especially for small and medium enterprises (SMEs), and to continue educational processes and initiatives during the COVID-19 pandemic, and mitigating its adverse social and economic consequences;
- 3 to assist in the implementation of projects and programs, including in the international arena, that enable deployment and use of telecommunications/ICTs as a support tool in responding to the consequences of the COVID 19 pandemic;
- 4 to consider appropriate actions in the telecommunications/ICTs sector aimed at reducing the severity and number of emergency situations caused by the COVID-19 pandemic, and aimed at alleviating its consequences, such as providing local communities with connectivity and information, especially in local languages, to help preserve human life;
- 5 to take an active role in developing and disseminating standards, guidelines and best practices in cooperation with other stakeholders for the use of telecommunications/ICTs in response to the COVID-19 and future pandemics;
- 6 to identify and share best practices, lessons learned, and effective measures, particularly in the areas noted in *invites Member States 1-5* above, for possible use in response to and preparation for potential future pandemics and epidemics,

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

invites the Secretary-General

to continue to reinforce the ITU's efforts, within its remit and in partnership with the WHO and other agencies and organisations, in collaboration with stakeholders to strengthen the resilience of telecommunication/ICT networks and services to meet the challenges posed by the COVID-19 pandemic and increase pandemic preparedness and response.

ANNEX I

1. REPORT OF THE CHAIRMAN OF WORKING GROUP 1 TO THE PLENARY

Working Group 1, chaired by Mr. Roberto Mitsuake Hirayama (Brazil) with Vice-Chairman Mr. Aymen I. Almogherah (STC), met on 16 December 2021 from 15:15 to 16:00 CET and on 17 December 2021 from 12:00 to 13:00 CET. The Chairman, Vice-Chairman and the BDT Director, Ms. Doreen Bogdan-Martin, provided opening remarks.

Working Group 1 discussed the following draft Opinions:

[Draft Opinion 1: Enabling environment for the development and deployment of new and emerging telecommunication/ICT services and technologies to advance sustainable development](#)

[Draft Opinion 2: Affordable and secure connectivity in mobilising new and emerging telecommunications/ICTs for sustainable development](#)

Given below are brief reports for the two draft Opinions:

1.1 Draft Opinion 1

The Working Group discussed [Draft Opinion 1: Enabling environment for the development and deployment of new and emerging telecommunication/ICT services and technologies to advance sustainable development](#), as well as the written contributions from Burkina Faso, Ghana, Kenya and Uganda (WTPF-21/5) and Internet Society (WTPF-21/7). The contributors presented their contribution orally for the meeting's consideration. Several oral inputs were also received from delegates during the meeting. Those changes that were agreed by consensus have been reflected in Opinion 1 set out in Part II of this Report.

In addition, some delegates made various proposals for the meeting's consideration including, *inter alia*, the following:

- Some members suggested including "IPv6" in the list of technologies set out in Opinion 1, however, the meeting agreed to retain the original list as mandated in Decision 611 (Rev. 2020, Council).
- Some members suggested including "unnecessary" prior to the word "barriers" in "is of the view 3". The meeting agreed to retain the original text.
- Some members suggested replacing "complementary access solutions" with "connectivity solutions", expressing concern with the ambiguity of the word "complementary". As a compromise, the meeting agreed to retain "complementary connectivity solutions".

In view of the discussions, Working Group 1 endorsed draft Opinion 1 with the changes agreed by the meeting and submitted it to the Plenary for further consideration and approval.

1.2 Draft Opinion 2

The Working Group discussed [Draft Opinion 2: Affordable and secure connectivity in mobilising new and emerging telecommunications/ICTs for sustainable development](#), as well as the written contributions from Brazil (WTPF-21/2) and Internet Society (WTPF-21/7). The contributors presented their contributions orally for the meeting's consideration. Several oral inputs were also received from delegates during the meeting. Those changes that were agreed by consensus have been reflected in Opinion 2 set out in Part II of this Report.

In addition, some delegates made various proposals for the meeting's consideration including, *inter alia*, the following:

- Some delegates suggested that the phrase "particularly in areas such as 5G roll-out" under section 3 of "invite Member States" be deleted. As there was no consensus, delegates agreed to retain the original text was retained.

In view of the discussions, Working Group 1 endorsed draft Opinion 2 with the changes agreed by the meeting and submitted it to the Plenary for further consideration and approval.

In closing, the Chairman thanked the Vice-Chairman, Elected Officials and Secretariat for their support, as well as the interpreters and captioners.

Mr. Roberto Mitsuake Hirayama
Chairman of Working Group 1

2. REPORT OF THE CHAIRMAN OF WORKING GROUP 2 TO THE PLENARY

Working Group 2, chaired by Dr. Lidia Stepinska-Ustasiak (Poland) with Vice-Chairman Mr. Ahmed Riad Ismail (Huawei), met on 17 December 2021 from 13:00 to 14:00 CET. The Chairman, Vice-Chairman and the TSB Director, Dr. Chaesub Lee, provided opening remarks.

Working Group 2 discussed the following draft Opinions:

[Draft Opinion 3: Digital literacy and skills for inclusive access](#)

[Draft Opinion 4: New and emerging technologies and services to facilitate the use of telecommunications/ICTs for sustainable development](#)

Given below are brief reports for the two draft Opinions:

2.1 Draft Opinion 3

The Working Group discussed [Draft Opinion 3: Digital literacy and skills for inclusive access](#) as well as the written contributions from Burkina Faso, Ghana, Kenya and Uganda (WTPF-21/6), and Internet Society (WTPF-21/7). The contributors presented their contributions orally for the meeting's consideration. Several oral inputs were also received from delegates during the meeting. Those changes that were agreed by consensus have been reflected in Opinion 3 set out in Part II of this Report.

In addition, some delegates made various proposals for the meeting's consideration including, *inter alia*, the following:

- Some delegates suggested that the phrase "enable infrastructure development" be included under section 4 of "is of the view" prior to "foster digital empowerment and inclusion". Following discussions by the meeting, it was agreed to not specifically list the suggested phrase but instead to modify section 4 so that it can be flexible enough to cover other options as well.

In view of the discussions, Working Group 2 endorsed draft Opinion 3 with the changes agreed by the meeting and submitted it to the Plenary for further consideration and approval.

2.2 Draft Opinion 4

The Working Group discussed [draft Opinion 4: New and emerging technologies and services to facilitate the use of telecommunications/ICTs for sustainable development](#) as well as the written contributions from Internet Society (WTPF-21/7). The contributors presented their contributions orally and expressed support for the draft Opinion.

Working Group 2 endorsed draft Opinion 4 in its unaltered form and submitted it to the Plenary for further consideration and approval.

In closing, the Chairman thanked the Vice-Chairman, Elected Officials and Secretariat for their support, as well as the interpreters and captioners.

Dr. Lidia Stepinska-Ustasiak (Poland)
Chairman of Working Group 2

3. REPORT OF THE CHAIRMAN OF WORKING GROUP 3 TO THE PLENARY

Working Group 3, chaired by Mr Jim Paterson (South Africa) with Vice-Chairman Ms Natalia Vicente (ESOA - EMEA Satellite Operator's Association), met on 17 December 2021 from 14:00 to 15:00 CET. The Chairman, Vice-Chairman and the BR Director, Mr. Mario Maniewicz, provided opening remarks.

Working Group 3 discussed the following draft Opinions:

[Draft Opinion 5: Use of telecommunications/ICTs in COVID-19 and future pandemic and epidemic preparedness and response](#)

Given below is a brief report for draft Opinion 5:

3.1 Draft Opinion 5

The Working Group discussed [Draft Opinion 5: Use of telecommunications/ICTs in COVID-19 and future pandemic and epidemic preparedness and response](#), as well as the written contribution from Internet Society (WTPF-21/7). The contributors presented their contribution orally and expressed support for the draft Opinion. Several oral inputs were also received from delegates during the meeting. Those changes that were agreed by consensus have been reflected in Opinion 5 set out in Part II of this Report.

In addition, some delegates made various proposals for the meeting's consideration including, *inter alia*, the following:

- Some delegates suggested including "and devices" after "affordable connectivity" under sections (b) and (c) of "recognizing". Other delegates highlighted that "affordable connectivity" includes "devices" and it is not necessary to mention them separately. It was agreed to retain the original text of the draft Opinion.
- Some delegates proposed to add "governmental and non-governmental organizations" prior to "international organizations" under section (c) of "recognizing". Other delegates suggested that the term "international organizations" is well recognized within ITU and it is not necessary to specify

further that it is inclusive of “governmental and non-governmental organizations”. It was agreed to retain the original text of the draft Opinion.

In view of the discussions, Working Group 3 endorsed draft Opinion 5 with the changes agreed by the meeting and submitted it to the Plenary for further consideration and approval.

In closing, the Chairman thanked the Vice-Chairman, Elected Officials and Secretariat for their support, as well as the interpreters and captioners.

Mr. James Paterson (South Africa)
Chairman of Working Group 3
