



7 July 2017

via email to: [strategy@itu.int](mailto:strategy@itu.int)

Dear ITU Council Working Group:

The EMEA Satellite Operators Association (ESOA) and the Global VSAT Forum (GVF) together thank the "ITU Council Working Group for Strategic and Financial plans for 2020-2023 (the "CWG-SFP")" for initiating this first public consultation on the draft ITU strategy for 2020-2023.<sup>1</sup>

ESOA is a non-profit organisation established with the objective of serving and promoting the common interests of EMEA satellite operators. The Association is the reference point for the European, Middle Eastern, and African satellite industry and today represents the interests of 34 members, including satellite operators who deliver information communication services across the globe as well as EMEA space industry stakeholders and insurance brokers. More information may be found at our website: [www.esoa.net](http://www.esoa.net)

The GVF is the leading voice of the international VSAT and satellite community. This non-profit organization is composed of more than 200 members from every major region of the world and from every sector of the satellite industry, including satellite operators, manufacturers, system integrators and satellite service providers. The GVF works with regulators around the world to design and promote regulatory structures that permit effective satellite services. A complete list of the members of the GVF is available at our website: [www.gvf.org](http://www.gvf.org)

Mobility and broadband are the future of global communications and will enable the successful implementation of the UN's 2030 Agenda for Sustainable Development, the Sustainable Development Goals, and most importantly, the ITU's Strategic Plan for the Union.

ESOA and the GVF respectfully provide the following responses to the ITU's questions.

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<sup>1</sup> <https://www.itu.int/en/council/cwg-sfp-2020-2023/Pages/first-public-consultation.aspx>

**Question 1 - What should be the key strategic priorities for the ITU for the 2020-2023 period, taking into account the UN 2030 Agenda for Sustainable Development and the Sustainable Development Goals?<sup>2</sup>**

Telecommunications/ICTs are essential for economic and social development in every part of the world. They are critical enablers of the 2030 Sustainable Development agenda:

I. Key Priorities

- A. Efficient spectrum management: In the 2020-2023 period, the ITU should enable its member nations to efficiently manage the radio-frequency spectrum which will be needed to help those nations meet the UN's sustainable development goals while ensuring regulatory certainty and continuity. Global harmonization of this spectrum, to the extent possible, would bring economies of scale and access to new technologies for more nations.
  
- B. Universal access to the internet: The ITU should support is universal access to the Internet which the UN Universal Declaration of Human Rights has declared is a human right.<sup>3</sup>
  - i. Broadband: Simply providing access to the Internet is no longer sufficient. The Internet is not only a vast source of knowledge, but provides mission critical information for education, health care, critical infrastructure, good governance, and social inclusion. As the Internet continues to deliver media-rich content such as video, access to Broadband Internet is a must.
  - ii. Mobility: Recently, many Internet users have migrated from their home platforms and other fixed locations, such as schools, libraries and community centres, to the mobile Internet, especially with the deployment of high speed mobile networks (e.g., LTE) and the pervasiveness of technologies such as WiFi, which have resulted in a plethora of consumer-friendly devices, such as smart phones, tablets and small computers.
  
- C. Technology neutrality: The ITU should maintain technology neutrality and encourage member nations to establish regulations that are technology neutral.
  - i. 5G will be a 'network of networks' ecosystem. The next generation mobile systems (5G, IMT-2020) will not rely solely on a single mobile technology, but will require an entire ecosystem comprising the basic RF Access Technology(ies), the wireline and wireless backhaul, and the back-end systems such as authentication, billing and customer care. Whilst the ITU will remain a leader in the development of standards and the identification of bands for the radio access portion of the networks, it must also take care to allocate spectrum for supporting technologies, such as fixed microwave and satellite transport.

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<sup>2</sup> [http://www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/70/1&Lang=E](http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E)

<sup>3</sup> [https://www.article19.org/data/files/Internet\\_Statement\\_Adopted.pdf](https://www.article19.org/data/files/Internet_Statement_Adopted.pdf)

- ii. Satellite communications are already playing a role in this ecosystem. Technology neutral policies will include satellite as part of a range of technologies that form 5G ecosystem support. Satellites can play a key role in providing 5G backhaul, especially in areas where fibre optic cable deployment is non-existent, and where terrestrial installations, either fibre or microwave, are cost prohibitive or simply not possible. HTS and NGSO satellites can also play a vital role in bridging the digital divide by providing last-mile solutions for sparsely populated areas, hard to reach communities, or anywhere where conventional terrestrial facilities cannot be deployed.
- D. Regulator “best practices: The ITU can best enable its member countries to efficiently manage their spectrum use by encouraging regulatory ‘best practices.’
- i. Light-touch regulations on Spectrum access, harmonised with ITU frequency allocations, helping access to spectrum for international operators, so that lowers cost for access to end users.
  - ii. Lowering barriers to entry for foreign communication infrastructure providers (such as satellite network), so that the country can benefit from infrastructure being deployed by international commercial ventures at no cost for the country under consideration and that would help those communities in need of connectivity. Also, lowering cost to spectrum access usually an inhibitor to access low cost broadband services. For example, in many countries where satellite technology operates without causing harmful interference to and on a not protected basis from other systems and services the spectrum cost could either be on a cost recovery basis, or with a no fee basis).
  - iii. Non-discriminatory and reciprocity in market entry – no restrictions on the number of licensed satellite networks and no requirements to subsidize local services by charging more for long-distance and international telephone service.<sup>4</sup> Also, no restriction to nationality and ownership of satellite networks. Market entry could also be recognized on the principle of reciprocity.
  - iv. Open Skies – satellite service operators should not be required to have a corporate presence in a country in order to provide services.<sup>5</sup> At most a local point of contact should suffice.
  - v. Blanket licensing policies for satellite terminals to reduce costs on terminal licensing, which greatly will benefit end users and will benefit better adaptation of technologies that will benefit economically a country.
  - vi. Government transparency, regulatory certainty, and continuity. ITU Member States should regularly publish laws and regulations regarding spectrum and equipment use online, preferably in one of the ITU languages, and have staff available to answer questions.

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<sup>4</sup> GVF, “Strengthening Access to Communications,” Policy & Regulatory Guidelines for Satellite Services

<sup>5</sup> GVF, “Strengthening Access to Communications,” Policy & Regulatory Guidelines for Satellite Services

- vii. Technology neutral regulations, for example licensing regulations that can be equally applicable to GSO and Non-GSO systems operating across a range of frequency allocations.

**E. Promoting recognition of international equipment standards**, especially for telecommunication services that are of global reach. Manufacturer of equipment and global operator require international regulations and standards that will allow adaptation of their equipment internationally and at the lowest technical and administrative cost. For this the ITU should promote equipment type approval standards and ITU marking, very much like its done by the European Telecommunications Standards Institute (ETSI). ETSI standards ensure that in whatever case the equipment is tested to operate without causing harmful interference, even in cases of sharing spectrum and in the out-of-band/spurious frequency domain. As such, the ITU could structure its working methods to promote such equipment standardization, one that will benefit economically both the member states that promote new technology and the member states that adopt such technology.

**F. Promoting greater collaboration within the ITU technical and regulatory forums** – the ITU needs to promotes greater collaborative working methods between technical experts, academia, R&D community, operators and law makers, so that it creates value for all of its members. Often the ITU-R is slow in adopting innovation and new technologies, and this hurts greatly populations of developing countries the most. It is well understood that greater technological adaptation and greater access to communications technologies will also result in greater education, better services, greater health prospects, greater economic benefits and political stability of a country. The ITU has a responsibility to foster such greater collaboration that ensures greater adaptation of innovative communication technologies.

## II. Satellite Industry Case Studies that Relate to the UN 2030 Agenda

At the highest level, telecommunications can help the UN achieve all 17 of its sustainable development goals, and the ITU should continue its good work in enabling the adoption of ICT throughout the world. Reliable and cost-effective communications across the globe is the key to achieving each of the 2030 Sustainable Development Goals, and satellite communications plays a vital role in that success. According to the United Nations, for sustainable development to be achieved, it is crucial to harmonize three core elements: economic growth, social inclusion and environmental protection.<sup>6</sup>

### A. Economic Growth



<sup>6</sup> <http://www.un.org/sustainabledevelopment/development-agenda/>

Satellite communications already play a vital role in encouraging economic growth around the world, by enabling governments and businesses to reach the entire population of their country and also of the world. The UN's goal of building resilient infrastructure, promoting inclusive and sustainable industrialization, and fostering innovation<sup>7</sup> is enabled time and again by satellites, which foster the broadband economy.<sup>8</sup>

## B. Social Inclusion



Satellite communications are key to fostering social inclusion, as well as a way to promote well-being for all.<sup>9</sup> Satellites provide true geographic ubiquity, to include all the world's population, not just those in city centers. Satellite provide wide-spread access to quality education<sup>10</sup> and e-government<sup>11</sup> which expand the possibilities for social inclusion.

Reliable satellite broadband communications are also helping farmers share farming techniques and knowledge on a peer-to-peer network so they no longer have to rely on word of mouth or advice passed down from generation to generation. Satellite data is even being used to predict droughts to enable preemptive changes in food production and to secure insurance payouts when crops fail.<sup>12</sup>

Additionally, satellite communications have brought advances in telemedicine, bringing quality health services to those in the most remote areas of the world, connecting doctors to patients.<sup>13</sup> Notable examples include MercyShips, an organization that relies on satellite communications to transmit lab results from remote locations back to the U.S.,<sup>14</sup> and NetHope, a consortium of humanitarian organizations, which – among other things - coordinated a strong response from satellite companies when Ebola broke out in West Africa.<sup>15</sup>

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<sup>7</sup> UN Sustainable Development Goals 1, 8, and 9. <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

<sup>8</sup> <http://www.sspi.org/cpages/building-the-broadband-economy>

<sup>9</sup> UN Sustainable Development Goals 2 and 3. <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

<sup>10</sup> <http://www.oecd.org/dev/european-space-agency-and-the-un-sustainable-development-goals.htm>

<https://artes-apps.esa.int/projects/sway4edu2>

[http://www.esa.int/Our\\_Activities/Telecommunications\\_Integrated\\_Applications/Satcoms\\_linking\\_rural\\_schools\\_in\\_South\\_Africa\\_and\\_Italy](http://www.esa.int/Our_Activities/Telecommunications_Integrated_Applications/Satcoms_linking_rural_schools_in_South_Africa_and_Italy)

<sup>11</sup> <https://www.ses.com/blog/how-satellite-connectivity-helped-increase-transparency-burkina-faso-elections>

<sup>12</sup> <http://www.cnn.com/2017/02/23/health/tech-apps-solving-global-hunger-famine/>

<sup>13</sup> <https://www.ses.com/press-release/ses-and-luxembourg-government-extend-satmed-e-health-contract>

<sup>14</sup> <http://www.sspi.org/cpages/taking-medicine-to-the-ends-of-the-earth>

<sup>15</sup> <http://www.sspi.org/cpages/taking-medicine-to-the-ends-of-the-earth>

Broadband connectivity provided by satellite also helps to ensure inclusive and equitable education, promote lifelong opportunities for all, and achieve gender equality and empowerment of all women and girls.<sup>16</sup> Better education brings a higher standard of living for parents and their children,<sup>17</sup> and satellite technology is bringing that education to some of the most remote areas of the globe.<sup>18</sup> Satellite technology provides access to ICT in even the most remote areas, which has the potential to improve access to information, education, and commercial opportunities, which ultimately improves global society as a whole.<sup>19</sup> GVF applauds the ITU for the vital work it engages in through its partnership with the UN in the EQUALS program.<sup>20</sup>

Broadband connectivity also has the power to reduce inequality within and among countries and to build effective governance at all levels.<sup>21</sup>

### C. Environmental Protection



The third core element of promoting sustainable development is environmental protection. Satellite plays a crucial part in helping to ensure availability and sustainable management of water and sanitation; ensuring access to energy for all; ensuring sustainable consumption and production patterns; combatting climate change and its impacts; conserving and sustainably using our oceans and seas; and protecting, restoring, and promoting our terrestrial ecosystems.<sup>22</sup>

## **Question 2 - What are the key technological trends ITU should consider while planning its strategy?**

### I. New satellite architectures providing better connectivity at lower costs:

- A. NGSO Constellations: Recent advances in technology and access to lower cost technology both for the space and ground segments of satellite networks have led to multiple proposals for constellations using non-geostationary satellite orbits (NGSOs). An innovative MEO constellation has already proved the viability of business-to-business networks, and the newest generation of NGSOs will use a variety of low earth orbits (LEOs) to provide

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<sup>16</sup> UN Sustainable Development Goals 4 and 5. <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

<sup>17</sup> <http://www.sspi.org/cpages/schools-go-online-in-the-unconnected-world>

<sup>18</sup> <http://www.sspi.org/cpages/schools-go-online-in-the-unconnected-world>

<sup>19</sup> <http://www.itu.int/en/mediacentre/Pages/2016-PR38.aspx>

<sup>20</sup> <http://www.itu.int/en/mediacentre/Pages/2016-PR38.aspx>

<sup>21</sup> UN Sustainable Development Goals 10, 11, and 16. <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

<sup>22</sup> UN Sustainable Development Goals 6, 7, 12, 13, 14, and 15.

<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

consumer applications, Machine-to-Machine and Internet of Things applications, and direct-to-handheld communications. The proposed constellations of NGSOs for the near future will provide high-speed, global broadband connectivity. The ITU will be at the epicenter of spectrum and orbital use decisions for such constellations. It is essential that new regulations under consideration by the upcoming World Radiocommunication Conference (WRC-19) not stifle these new projects.

- B. High throughput satellites (HTS) in geostationary orbit have already demonstrated their role in providing ubiquitous broadband connectivity, including in remote and underserved areas. Currently ongoing developments in Very High Throughput Satellites (VHTS) implement innovative technologies to take this further with new systems that can provide up to a terabit of capacity per geostationary satellite. The ITU will play a vital role in ensuring continuing spectrum access to these systems, especially in the higher frequency bands such as Ka-band (18-30 GHz) and V/Q bands (37-52 GHz). These systems will continue to deliver the ubiquitous broadband connectivity key to bridging the digital divide in line with the UN's sustainable development goals.
- II. Mobility in general (such as earth stations in motion – “ESIMs”), and the desire to be connected at all times in all places (whether on land, at sea, or in the air). In this sense, new antenna technology, such as more efficient ground terminals and phased array antennas, and the necessary regulatory provisions required to harmonize free circulation of such technology, will mitigate concerns with mobility and interference.

**Question 3 - What do you consider to be the top three challenges for the ITU and the top three achievements you would like to see the ITU accomplish in the 2020-2023 timeframe?**

- I. The top three challenges will include:
  - 1. Respect for and adherence to the Radio Regulations and WRC resolutions. Although every member nation is a sovereign state, when one or another of the member states decides to ignore a decision taken at a WRC, it shows a disregard for the main purpose of the ITU (spectrum coordination), and sows doubts as to the ability of the member states to find globally harmonized spectrum for the future, for example, for 5G (IMT2020).
  - 2. Co-existence of satellite and terrestrial infrastructure in the implementation of the 5G ecosystem: The ITU will play a vital role in fostering cooperation amongst regulators and stakeholders to ensure the deployment of ubiquitous broadband access. Regulators will continue to be challenged to evaluate fairly the requests for spectrum, and the ITU can assist by providing impartial demand assessments and sharing studies.
  - 3. Financial Stewardship: The ITU continues to face financial pressures, due to increasing costs and stable revenues, combined with pressure on administrations to reduce their contributions. In order to ensure that the Union's money continues to be put where the

need is the greatest, it is essential that its work and resource allocations be closely aligned with the two most important aspects of its mandate:

- i. the adoption of treaty agreements and the management of the shared worldwide asset consisting of the radio-frequency spectrum and the space/orbit resource for all of humanity; and,
- ii. the help provide access to ICT's by all the world's citizens, namely through support for the developing countries.

Thus, some of the ITU's other important tasks (e.g., developing and adopting ICT standards) could be achieved through cooperation with other SDO's, avoiding duplication and overlap to the extent possible.

II. The three top achievements would include:

1. Adhesion of the majority of member states to best practices.
2. Technology neutrality in the majority of member states.
3. Efficient management of spectrum to close the digital divide.

The ITU plays an important role in the development of telecommunications/ICTs by providing a unique platform where governments and other stakeholders can collaborate on a set of common challenges to bridge the digital divide:

- to allocate radiospectrum and coordinate satellite filings helping to maximise the value of scarce spectrum resources, enabling innovation and managing satellite filings efficiently;
- to support developing countries by building capacity, encouraging public/private partnerships, and promoting an enabling environment for investment based on regulatory best practices, open markets, and competition.

The ITU also has an important role to play in promoting sustainable development and in championing the contribution that telecommunications/ICTs can make to development.

The ICT environment has been transformed in recent years and the ITU needs to continue to respond to that change in order to fulfil its role, particularly as regards its telecommunications expertise and remit.

**Question 4 - Any other thoughts or comments you would like to make?**

- I. Satellites are the only technology with true geographic ubiquity on land, sea, and air.  
The provision of communications services cannot rely on a single platform or technology, but requires a myriad of tools, consisting of wireline and wireless technologies, the latter using various radio services, and a host of applications. The world is rapidly converging to an all-IP infrastructure that still relies on various transport mechanisms. Since their inception about 60 years ago, satellites have played a key part in connecting the world, and today remain the only technology that can truly serve any user whether on land, sea and air, no



matter where they are. Satellites will never replace fibre for point-to-point, or IMT for mobile services to the many. However, it plays an integral role in extending fibre connections, providing backhubs for IMT, and supplementing it in areas that are not economically served by terrestrial technologies.

- II. Satellites are the key infrastructure linking the globe. Many nations in the world have limited or no access to international fibre routes, and even those that do have access rely on satellites to extend the fibre backbone to rural and remote areas. Such communities, even when they are able to deploy the new mobile IMT technologies, often rely on satellites to provide the connectivity to the Internet, and the rest of the world. Exciting new applications are being developed that depend on such new technology: M2M, IoT, Smart Cities, Smart Cars – all need the high throughput and lower latency of the newest satellite systems, and the geographic ubiquity of satellites (whether GEO, MEO, or LEO), ensures regulators everywhere of being able to provide universal access to these new applications.
  
- III. ESOA and the GVF encourage the ITU to maintain its vision and purpose as the focal point for spectrum coordination, because the wireless operators of the world need an ITU which is widely respected and recognised for the value that it brings. We need an ITU which is fully engaged with industry and the technical community, which listens to the private sector and the technical community, and which builds understanding of future trends by attracting industry and technical experts to the secretariat. For the ITU to remain relevant and deliver on its core mission, it must avoid mandate creep. As the premier world organization on ICT, it can be tempting for the Union to get involved in all aspects related to ICT's. However, as mentioned before, the financial resources of the Union are limited, and can be expected to become more strained in the 2020's, so the organization needs to continue its focus on its core mandate:
  - a. The ITU should ensure that it does not duplicate, or compete with other SDOs; for example, the ITU-R has successfully worked with 3GPP in the development of mobile standards, avoiding such duplication;
  - b. Better coordination its activities with other U.N. bodies to avoid duplication, for example, in social issues, education and health, where the ITU should only play an advisory role.; and,
  - c. The satellite industry would advise the ITU not to take on new obligations outside its purview, such as a supervisory role with regard to the UNIDROIT Space Protocol.<sup>23)</sup>

ESOA and the GVF look forward to continuing to work with the Secretariat and all the member states.

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<sup>23</sup> <http://www.unidroit.org/instruments/security-interests/space-protocol>