ESOA Contribution - RSPG Work programme 2022 Consultation

December 2021

ESOA, the EMEA Satellite Operator's Association (ESOA), representing the satellite communications sector as part of the space industry, would like to thank the Radio Spectrum Policy Group (RSPG) for the opportunity to provide a contribution to the RSPG Work Programme 2022 (WP 2022).

ESOA[1] is a non-profit organisation established with the objective of providing a platform for collaboration between satellite operators globally and a unified voice for the sector. ESOA is recognised as the representative body for satellite operators by international, regional and national bodies including regulators, policymakers, standards-setting organisations such as 3GPP and international organisations such as the International Telecommunications Union and the World Economic Forum. As the world's only CEO-driven satellite association, ESOA leads the sector's response to global challenges and opportunities. It offers a unified voice for the world's largest operators, important regional operators and other companies that engage in satellite-related activities.

ESOA is submitting comments on three important chapters of the WP 2022: WRC-23, Digital Decade 2030 and the development of 6G.

1) WRC-23

ESOA fully supports the RSPG's approach to recommend "a forward-looking approach on EU coordination at WRC, which was successfully applied during WRC-19."

The ITU-Radio Regulations is of fundamental importance to the satellite sector, and we are looking forward to assisting the RSPG in ensuring that Europe defends satellite matters at the World Radiocommunications Conference 2023 (WRC-23) on the various agenda items of importance to our sector.

2) Digital Decade 2030

ESOA welcomes the RSPG's initiatives and further proposal to address spectrum related matters in relation to the EC Digital Decade objectives for 2030 as a priority in its 2022 Work Programme. One key goal of the Digital Decade is to ensure universal access to ICT services in Europe.

As recognised by the European Commission in their recent report on stronger, connected, resilient and prosperous rural areas by 2040, broadband coverage is key for businesses and citizens and *"a combination of terrestrial and space-based connectivity, ensuring high-speed broadband everywhere for resilient and cost-effective services will help achieve this."*[2] Indeed, several technological options and especially hybrid solutions (with a mix of technologies involving Satellite, Terrestrial Mobile, WiFi) exist and have proven successful in enabling meaningful/ high speed connectivity, especially in the areas where it is not cost-efficient to deploy Fibre or IMT 5G to everyone. This fundamental universal

[1] The members, activities, and other details about ESOA can be found at www.esoa.net

[2] EC Communication on A long-term Vision for the EU's Rural Areas, https://ec.europa.eu/info/sites/default/files/strategy/strategy_documents/documents/ltvra-c2021-345_en.pdf, page 18

service objective will only be achievable by ensuring that all wireless systems contributing to high-speed connectivity continue to have access to spectrum.

ESOA notes that the description of the 2030 roadmap is heavily concentrated on evolution of mobile terrestrial networks and that RSPG considers spectrum harmonisation initiatives in support to 5G and 6G as part of this work item however, satellite operators have invested massively into new systems, and as a result, the satellite communications sector has been through several major innovations during the last decade: Both Non-Geostationary (NGSO) and Geostationary (GSO) systems have advanced its technologies, offering users today an unprecedented variety of cost-effective satellite services to suit the high-speed, capacity, coverage, and latency requirements of their desired applications. Combined with the advent of new ground antennas and reliance on steerable spot beams using various frequency bands, these progresses have increased flexibility in geographical coverage and spectrum usage.

Satellite players see synergies and opportunities deriving from the 5G ecosystem for their new businesses, which gives meaning to the "Network of Networks" for 5G that the European Commission has pioneered. The fact that the Commission itself now recognises the potential of satellite communications and has taken first steps towards a European secure, space-based connectivity (ESSCS) initiative is a great opportunity to better understand the potential of satellite communications and its essential role in enabling 5G applications and services from the extension of their reach to ensuring network resilience and availability for reliable and ultra-reliable services.

Therefore, ESOA believes that to realise a viable 5G ecosystem and ubiquitous coverage, the integration of satellites into 5G networks at an early stage will be critical to make it seamless. As well as extending the reach of 5G terrestrial systems, satellite communications will be essential to an invisible and resilient overlay for terrestrial networks to help realise the vision for a 'Gigabit Society';

It is only by guaranteeing that satellite can keep access to the various frequency bands which the industry is increasingly using today that satellite communications solutions will further deploy in Europe.

3) Development of 6G

ESOA notes the RSPG's intention to "further investigate and identify early indications of additional spectrum and harmonisation needs and/or potential implications on spectrum regulation in order to be prepared for the development of 6G roadmaps later on (beyond 2023)." Our members expect the RSPG to take account of *all* wireless users when addressing 6G spectrum needs.

ESOA maintains that the European vision for future networks is one that is increasingly based on a network of networks in order to ensure that a maximum of citizens can access 5G and 6G starts developing, both in parallel. Already the role of satellite in the global 5G ecosystem cannot be underestimated. Satellite networks constitute an essential but often invisible overlay for terrestrial networks to help realise the EU Gigabit society in which millions of connections between people, devices and things will require inter-connectivity and stability at unprecedented levels that terrestrial networks alone cannot deliver for citizens of modern societies.

6G is building on the important work that was done to bring 5G to the world. While it remains to be seen which use cases for 6G will become widely deployed, 6G will need to incorporate the full range of terrestrial and non-terrestrial technologies if its benefits are to be enjoyed by all. As all previous generations of wireless technologies have demonstrated, the use of non-terrestrial technologies has been essential for maximizing coverage and bridging the digital divide. Specifically, 6G needs will be

best addressed by the capabilities of satellite in terms of coverage and reach, energy efficiency, reliability and resilience and, last but not least, capacity requirements.

As representative of 20+ global and regional satellite operators, providing a platform for collaboration between satellite operators globally and a unified voice for the sector, ESOA is looking forward to providing its feedback on the potential of satellite communication solutions to contribute to 6G development.