

GSOA Contribution - RSPG Work programme 2024 Consultation

14 December 2023

The Global Satellite Operator's Association (GSOA, 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 for 2024 and Beyond (WP 2024).

GSOA is the global association led by the CEOs of global and regional satellite operators and represents the unified voice of the industry and establishes a platform for collaboration between global and regional satellite operators. Our vision is to help public policy makers improve the world by bridging the digital, educational, social, health, gender, and economic divides across diverse geographies and mature and developing economies. GSOA is recognized as the representative body for satellite operators by international, regional, and national bodies including regulators, policymakers, standards-setting organizations such as 3GPP, and international organizations such as the International Telecommunications Union (ITU) and the World Economic Forum (WEF).

Introduction

As a preliminary remark, GSOA appreciates that the RSPG WP 2024 promotes an approach that recognises the importance of relying on a mix of technologies.

In relation to the upper 6 GHz band which is allocated to FSS in Europe (ref to ECA):

In the context of technology neutrality, which is a guiding principle for digital connectivity infrastructure of the highest performance, resilience, security and sustainability, all types of communications technologies can contribute to the achievement of gigabit connectivity, including the current and upcoming generations of fibre, satellite, WBB ECS, WAS/RLAN or other future systems, whereby all technologies and transmission systems able to contribute to the achievement of this digital target should be treated equally.

In relation to the 6G Vision:

This early recognition of spectrum needs should be based on a proper evaluation of coverage and capacity needs for 6G use cases and usages scenarios, also considering Non-Terrestrial and licence exempt use.

It is therefore critical that radio spectrum needs are duly considered for all technologies contributing to high-speed connectivity. To ensure connectivity across Europe and beyond, it will be necessary to guarantee that satellite operations have access to frequency bands allocated to FSS and MSS. Furthermore, satellite operations should be able to use spectrum in a more flexible and optimal manner and to obtain access to new spectrum allocations to support increased demand.

GSOA is submitting its comments on four important chapters of the WP 2024: WRC-23, the long-term vision for 6 GHz, the 6G strategic vision and strategic spectrum matters.

1) WRC-23

GSOA welcomes CEPT's transparent, open and coordinated approach to adopt European Common Proposals (ECPs) for the World Radiocommunications Conference (WRCs) with the very active contribution of the EU member states, as reflected in the RSPG's activities and positions.

The role and importance of the CEPT on international negotiations for spectrum matters are critical and should be maintained and improved. The CEPT already has mechanisms that fully associates the European industry with lots of expertise, but where decisions are taken by administrations. The CEPT is considered the main actor and interlocutor in the ITU context, and the CEPT does defend the EU's interest on the international scene.

The ITU Radio Regulations (ITU-RR) are indeed of fundamental importance to the satellite sector, and satellite matters have been manifold at the WRC-23, benefiting from a welcome support of the CEPT countries.

2) Vision for 6 GHz

GSOA welcomes the RSPG's initiative to define a long-term vision (2030 and beyond) for the upper 6 GHz band (6425-7125 MHz), based on a technology neutral approach. Nonetheless, it is important to highlight the lack of compatibility amongst some services.

There is a real issue about the feasibility of coexistence between outdoor IMT and Fixed Satellite Service (FSS) receivers, which would require significant constraints on IMT stations to ensure coexistence with FSS. Subject to the outcome of WRC-23, GSOA thus suggests that RSPG invites the EC to develop a harmonized regulatory framework based on WRC-23 decisions on Agenda Item 1.2 that is ensuring unfettered operation of FSS uplink operations in the upper 6 GHz band.

3) 6G Vision

The satellite industry is going through unprecedented growth and innovation. with total annual investment going up from US\$300 million in 2012 to more than US\$10 billion in 2022.¹

The fast-paced development of the satellite industry has been evidenced by the large-scale implementation of Non-Geostationary (NGSO) systems, the design and launch of a new-generation of very high-capacity Geostationary (GSO) satellites, progressive integration of Non Terrestrial Networks (NTN) and Terrestrial Networks (TN) in 5G and future 6G solutions, industrial IoT (such as NTN NB IoT solutions) and satellite direct to cellular communications, to name but a few. As a result, the number of satellite broadband users globally is set to grow to at least 500 million people by 2030.² These innovations and progress will have a direct impact in the inclusiveness and quality of life of all citizens, including in Europe and its neighbouring regions.

Satellite systems are part of NTN: 3GPP Release 17, the soon to be adopted Release 18 and future Release 19 which will be key to pave the way to further integrate satellite communications into the 5G/6G ecosystem. Innovation in the satellite industry ensures that both GSO networks and non-GSO systems contribute to 6G networks in providing sustainable coverage, resilience, security and energy-

¹ [A different space race: Raising capital and accelerating space investment | McKinsey](#)

² [The Socio-Economic Value of Satellite Communications – GSOA – Global Satellite Operator's Association \(gsoasatellite.com\)](#)

efficiency/sustainability.³ Importantly, satellite communications are a key element of connectivity not only for mobile communications, but also for fixed communications including broadband services to homes, enterprises and government / institutions.

Currently 3GPP defines two flavours of NTN which is related to the type of Access but also the use case:

1. NTN for IoT: provides direct to device services based on Cellular IoT access technologies
2. NTN based on NR provides direct to device services to terminal (primarily smartphones) for data services, voice and messaging services

Satellites will be part of the 6G solution to provide immersive communications that satisfy European efforts to tackle digital inequity and achieve sustainable growth. As explained in our GSOA brochure on the role of satellite in enabling 6G, there are three main roles for satellites in 6G:⁴

1. Expand the reach of 6G to all sensors and devices that transmit and receive data for immersive applications
2. Help promote sustainable 6G network growth and facilitate projects that aim to further ecologically-sound progress
3. Foster resilient 6G networks that protect connectivity requirements when TN succumb to disasters

When discussing the 6G spectrum roadmap, all TN and NTN technologies are critical components of 6G. NTN technologies, and satellite in particular, will serve as a basic element of 6G communications and adequate spectrum resources (including existing allocations) must be protected and ensured regulatory certainty in order to be always available for NTN to meet Europe's goals for 5G and 6G.

4) Strategic Spectrum Matters

GSOA has taken note of the reflection at EU level on the design of the regulatory framework for electronic communications and a potential revision of the radio spectrum policy programme. In this context, GSOA fully appreciates the role and importance of the RSPG in advising and endorsing the EU decisions on spectrum matters.

In our response to the EC consultation on "The future of the electronic communications sector and its infrastructure", in May 2023, GSOA highlighted the importance of the CEPT in matters concerning the coordination of radio spectrum policies in Europe. The perimeter of the CEPT (48 countries) is much wider than the EU (27 Member States) to the advantage of satellite operators with large footprints (noting that the CEPT memberships of Russia and Belarus have been suspended). As indicated above, the EU member states are amongst the most active members in the CEPT, and the mechanism whereby CEPT provides the technical expertise for the EU spectrum policy and CEPT decisions are transposed within the EU is an efficient one.

GSOA notes that participation of other non-EU countries in the definition and adoption of policy standards (CEPT) or technical standards (ETSI) is also important for their wider adoption and the competitiveness of the European players. When European standards are adopted by other countries, it creates a level playing field for European companies, enabling them to access new markets and expand their business operations.

³ [GSMA and ESA Partner on Satcom/Terrestrial Convergence - Via Satellite \(satellitetoday.com\)](#)

⁴ See from: [Satellite Communications and their role in enabling 6G – GSOA – Global Satellite Operator's Association \(gsoasatellite.com\)](#)

GSOA therefore fully subscribes to RSPG's views that: "the European spectrum management model, with the participation of non-EU countries, as a multiplier for EU interests, [which] benefits the Union itself, the EU market and its citizens. This model provides efficient contributions to international harmonisation and a voluntary harmonisation coherent with the EU framework. (...) The work done in CEPT plays a strategic role in international and European harmonisation which benefits EU interests."⁵

Specifically, radio spectrum is a key enabler of the Digital Decade 2030 targets, including to reach universal broadband coverage. Very importantly, EU decision-makers should ensure that bridging the digital gap remains a high priority. As a reminder, many rural and remote areas of Europe still do *not* benefit from a high-quality broadband or always-on 4G level of connectivity.⁶

The digital future of Europe definitely relies on ensuring that all technologies can contribute to delivering for the wellbeing of society. Notably, there has been significant recent technological evolution in GSO and NGSO satellite technologies which offer broadband capacity across the globe, bringing reliable and affordable connectivity to the hardest-to-reach areas across Europe. For example, recently deployed and upcoming NGSO systems in medium or low-Earth orbits can now provide low-latency connectivity capable of supporting a wide range of applications in all geographical areas. Advances in satellite construction and competitive pressures are also reducing the costs of these services for users.

Consequently, it is important to also guarantee continued access to spectrum for the services that can provide connectivity solutions meeting, or scalable to meet, the sustainable, resilient and affordable standards of the EU Digital Decade.

⁵ In [RSPG23-016final-RSPG Opinion on future of electronic networks and services.pdf \(europa.eu\)](#)

⁶ "only 59% of households in rural regions have access to next generation access (NGA) broadband (>30Mbps), compared to 87% of the households in the EU", from EC Communication **A long-term Vision for the EU's Rural Areas - Towards stronger, connected, resilient and prosperous rural areas by 2040** [EUR-Lex - 52021DC0345 - EN - EUR-Lex \(europa.eu\)](#)