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From:	General Secretariat of the Council
On:	16 May 2025
To:	Permanent Representatives Committee/Council
Subject:	Satellite connectivity as a building block for strategic autonomy - the need for a comprehensive approach - Exchange of views

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In the current, constantly changing geopolitical situation, connectivity constitutes a cornerstone of the EU's strategic autonomy. Without reliable and resilient connectivity, leveraging existing terrestrial and non-terrestrial infrastructure, the EU will not be able to achieve its ambitious goals, nor secure its competitiveness in the long term. In an increasingly interconnected world, treating connectivity as a series of isolated technological domains - such as space systems, submarine cables, fixed networks, and mobile infrastructure - no longer reflects the complexity of modern data exchange. Today, data transit through these different infrastructures seamlessly: a user accessing cloud-based services from a mobile device may rely on local 5G connectivity, terrestrial fibre backbones, undersea cables spanning continents, and satellite relays, while several network functions are virtualised and performed in the cloud. This interdependence creates a tightly woven system in which disruption or underinvestment in one component can undermine the performance, resilience and security of the whole.

Over the past decade, the EU's focus has been primarily on terrestrial infrastructures (4G/5G, fibre). However, following the technological breakthrough which has enabled the reduction of the cost of building and launching satellites, private companies and new actors have seized the opportunity to develop and offer new services, particularly low Earth orbit constellations offering reduced data latency compared to traditional communication satellites. Satellite connectivity plays an increasingly important role in ensuring affordable broadband internet access in remote areas, as well as services for security, resilience, crisis management, defence, and other critical applications, by its independence from land-based energy supply and other disruptions. As global challenges intensify, satellite connectivity is essential for the EU's ability to respond effectively to emergencies, protect its digital sovereignty, and support competitiveness and economic growth.

To that end, and to address concerns about the lack of EU sovereignty over space-based connectivity, the Union decided to establish its own secure connectivity satellite system IRIS<sup>2</sup>, which will initially become operational in 2030 (IOC) and will offer initial services through GOVSATCOM as from this year (2025), while progressively expanding its portfolio to encompass services for governmental users, including military applications, and assured connectivity solutions for wider civilian and commercial use.

Other actors are also developing satellite connectivity systems and assessing their strategies. Given the evolving technological landscape and emerging challenges, this is the right time to redefine our approach and make EU systems a success.

**We need to strengthen our strategic autonomy in satellite communications, which will secure and improve our resilience and safeguard our Single Market.**

Satellite connectivity is already included in 5G standards, and the convergence of non-terrestrial and terrestrial networks will become increasingly prevalent in several forms, such as 5G core integration and seamless satellite and terrestrial network roaming, and will likely be important also for 6G, expected to be standardised by 2030. The evolution of satellite technologies, such as Direct to Device (D2D), and the growing number of partnerships between mobile network operators and satellite providers, create new opportunities but at the same time raise challenges and risks, with satellite operators being partners but also competitors to mobile operators. A key component for strategic autonomy is also the integration of the ground component necessary for satellite connectivity, including backbone connectivity, such as land and submarine cables.

There are several questions raised as regards the extent to which the sector can rely on satellites to deliver on universal services or coverage objectives or obligations, and what would be the implications in terms of regulation, including state aid. Ensuring equitable access to the EU and national markets would also be critical for maintaining an open and competitive market with diversified offerings to the benefit of end-users, including governments and consumers.

Harmonised market access rules and common conditions attached to spectrum authorisations for satellite services could level the playing field for EU and non-EU operators, incentivise compliance, and support competition. This will enhance Europe's position in the global scene in support of European constellations, the financial viability of which depends on achieving global service.

At the same time, the potential use of terrestrial frequencies from base-stations in space, for certain services such as direct-to-device (D2D), raises technical questions, such as avoidance of harmful interference, in particular in a fragmented authorisation landscape like the European one. While Europe should not wait until the next World Radiocommunications Conference 2027 (WRC-27) meeting to engage in this discussion lest risk lagging behind other parts of the world. The EU should, at the same time, take full advantage of its harmonised approach in the Mobile Satellite Services (MSS) 2 GHz band. Precisely, the future of the EU harmonised 2 GHz frequency band requires timely actions, as existing authorisations expire in May 2027. The Radio Spectrum Policy Group has identified competing demands for this finite resource, including traditional MSS applications, IoT/M2M ecosystems, and emerging D2D services. It is critical to seize the opportunity and use this band to accelerate the deployment of this technology, provide regulatory certainty for stakeholders and adopt a strategic approach to the preparations for the WRC-27 where additional MSS allocations will be addressed. Timely action is essential to balance continuity for existing operators with opportunities for new entrants, ensuring technology neutrality while fostering innovation and competition in the MSS sector.

Another key challenge is protecting EU satellite systems and their services, especially the Global Navigation Satellite Services (GNSS) Galileo, from harmful interference. Strengthening mechanisms for information exchange, interference monitoring, the development of alternatives, the implementation of countermeasures and mitigation are essential to maintaining the resilience and reliability of the Union satellite systems.

Efficient and timely preparations for World Radiocommunication Conference 2027 will be crucial in securing the Union's interests in global spectrum allocation and access, not only for shaping the future of advanced electronic communication services, like D2D, but also for support of other EU policies that rely on spectrum, e.g. monitoring climate change through the Copernicus programme. A proactive and well-coordinated EU approach will be necessary to ensure that Europe remains competitive and strategically autonomous in the rapidly evolving satellite communications landscape.

**Proposed questions:**

1. What role do you see for satellite infrastructure in ensuring Europe's competitiveness and strategic autonomy, taking into account its evolution in the near future?
  2. How can harmonised market access and enforcement rules support both innovation and strategic autonomy, and ensure that all players respect rules?
  3. What specific measures should the EU take to strengthen its technological independence in satellite connectivity?
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