

RSPG: EU-level policy approach to satellite Direct-to-Device connectivity and related Single Market issues

techUK champions the UK's technology sector, working closely with regulators, devolved governments, and industry partners at both national and international levels to drive economic growth and resilience.

techUK welcomes the opportunity to provide its views on RSPG's draft opinion on the EU-level policy approach to satellite Direct-to-Device connectivity and related Single Market issues. We recognize the diverse interests surrounding access to the MSS and MS bands for delivering Direct-to-Device services. Our response seeks to highlight key considerations for techUK's members as reflected in this proposal.

Notably, techUK's [position paper on Network Convergence](#) explores the transformative potential of integrating terrestrial and non-terrestrial networks (TN-NTN) to create a "network of networks." This approach can help bridge the digital divide, unlock economic opportunities, and strengthen the UK's position as a global telecommunications leader.

This position paper is the product of extensive engagement, including roundtables, workshops, stakeholder consultations, and research conducted in collaboration with member companies across the mobile and satellite sectors. It presents critical insights and actionable recommendations to advance network convergence. Key takeaways include:

1. Importance of MSS Spectrum and GEO Integration

MSS spectrum, particularly when integrated with GEO satellites, is vital for global service delivery. Regulatory bodies should prioritize the stability of MSS allocations in L-band and S-bands to support sustainable growth, especially in the context of agenda items 1.12, 1.13, and 1.14 at WRC-27.

2. Leveraging Mobile Spectrum for Satellite Services

Utilizing mobile spectrum through agreements with MNOs presents an efficient way to expand satellite connectivity, including bands between 698MHz to 2600 MHz. However, this requires:

- **Interference Management:** Ensuring that satellite operations do not disrupt terrestrial IMT services.

- **Regulatory Harmonization:** Aligning requirements for lawful intercept and emergency calling to enable seamless satellite-mobile integration.

3. Future Spectrum Expansion and mmWave Opportunities

The increasing demand for bandwidth necessitates further spectrum allocations. While 3GPP has expanded licensed spectrum in recent releases, additional measures are required, such as exploring mmWave bands (e.g., 17, 20, 28 GHz) to address capacity challenges.

4. Managing Coexistence Between LEO and GEO Systems

As LEO systems expand, ensuring coexistence with GEO-dominant networks is vital. In L-band, where terminals struggle with interference, collaborative spectrum-sharing approaches should be developed.

5. Regulatory Acceleration and Flexibility

Traditional four-year cycles for spectrum policy updates may not keep pace with industry needs. Expedited and flexible authorization processes, as seen with the FCC, would enable new 5G applications while also setting the foundation for the adoption of future 6G standards.

Balancing spectrum efficiency, interference mitigation, and regulatory compliance is essential to supporting the continued growth of satellite communications. We encourage regulators to adopt policies that promote collaboration between satellite operators and MNOs, enable the efficient use of mobile and mmWave spectrum, and facilitate the coexistence of LEO and GEO systems. Additionally, accelerating regulatory approvals where feasible will help meet urgent connectivity needs while maintaining protection for existing users.

We commend the RSPG's opinion on the EU-level policy approach to satellite Direct-to-Device connectivity and its recognition of the need for harmonized spectrum management. In particular, we support efforts to enhance coordination between terrestrial and satellite networks while ensuring regulatory stability.

techUK members stress the need for international compatibility within the EU to ensure the success of Direct-to-Device (D2D) services, which requires economies of scale to reduce terminal costs and enable seamless integration with cellular networks. They also highlight the importance of harmonized technical conditions for D2D-IMT satellite operations and call for clearer updates to the EU legal framework regarding compliance mechanisms, coordination, and best practice exchanges among Member States. These steps are crucial for efficient spectrum use and the sustainable growth of satellite communications across Europe.

Background and further considerations

The satellite market can be divided into four key segments. The first focuses on backhaul and wholesale services, where satellites provide connectivity to mobile operators. This has traditionally been the starting point for satellite communications.

A second market addresses coverage and integration, where satellites can complement terrestrial networks by filling coverage gaps. Collaboration is needed to ensure seamless access and communication between satellite and cellular systems. The third revolves around IoT services, supporting applications like connected cars, rail networks, and smart meters. Rather than relying solely on conventional satellite infrastructure, there is a growing need to explore direct satellite connectivity for these devices. Lastly, Earth Observation (EO) is a long-standing function of satellites that is becoming more valuable for business applications such as disaster relief, erosion monitoring, and deforestation tracking.

If devices have sufficient memory and processing capabilities, D2D could also play a role in EO, potentially enabling more advanced data collection and analysis. We encourage the Radio Spectrum Policy Group (RSPG) to keep promoting clarity to encourage commercial activity.

Industry would welcome further direction from policymakers and regulators across Europe on what types of devices and capabilities are required, what specific services will be delivered to customers, and what speeds, file sizes, real-time availability, and latency levels can be expected. These factors have significant implications, particularly for battery life of devices. The approach needs to consider user-market perspective, making it essential for the industry to align on these key considerations.

In terms of Non-Terrestrial Networks, the discussion should not be limited to Low Earth Orbit (LEO), Geostationary Orbit (GEO), or Medium Earth Orbit (MEO) satellites alone. Vertical solutions should also include drones and High-Altitude Pseudo-Satellites (HAPS). In that sense, we commend the RSPG for the position outlined in the “6G Strategic Vision,” recommending a unified design across different types of networks.

Nevertheless, the timeline for D2D solutions is likely to arrive well before 6G becomes widespread. A multi-constellation approach should be considered now to maximize efficiency and coverage. Furthermore, there needs to be a clearer understanding of device diversity—different devices may be required for different services.

More clarity is needed regarding terminals, devices, vertical applications, and usage scenarios. Integration with terrestrial networks is another key aspect that must be addressed to ensure seamless connectivity between satellite and cellular systems.

Addressing these concerns will be crucial for ensuring the successful evolution of satellite communications and their integration with broader connectivity solutions. The growing number of companies showcasing satellite solutions at Mobile World Congress (MWC) highlights the market’s rapid expansion and the increasing variety of services available.

Annex I - techUK Network Convergence Report



Annex I - techUK
Network Convergence