



28 March 2025

**From** : Plan-S Space and Satellite Technologies Inc. (**Plan-S**)

**To** : Radio Spectrum Policy Group Secretariat  
[CNECT-RSPG@ec.europa.eu](mailto:CNECT-RSPG@ec.europa.eu)

**Subject:** Plan-S response to Public Consultation on the Draft RSPG Opinion on the EU-level policy approach to satellite Direct-to-Device (D2D) connectivity and related Single Market issues

Dear RSPG members,

We appreciate the opportunity to contribute our insights into the Public Consultation on the Draft RSPG Opinion on the EU-level policy approach to satellite D2D connectivity and related Single Market issues. As a satellite operator specializing in IoT services employing frequency bands identified under D2D-MES, D2D-IoT-SRD and D2D-IoT-MSS services, we kindly propose the attached comments aligned with the structure of your draft opinion.

We remain at your disposal for any further discussions or clarifications and are eager to collaborate with RSPG on matters to which we can contribute.

Respectfully submitted,

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**Attachment:** Plan-S response to Public Consultation on the Draft RSPG Opinion on the EU-level policy approach to satellite D2D connectivity and related Single Market issues

## Introduction

In a world where 85% of the Earth's surface remains without terrestrial networks due to geographic and economic constraints, the utilization of satellite technology to bridge this digital gap carries great importance wherever terrestrial networks are not economically feasible to cover large remote and rural areas. Therefore, we believe that satellite connectivity is an essential instrument for seamless coverage of IoT devices, regardless of their location, thereby assisting in reducing the connectivity disparities between different parts of a region, a country or the globe.

The IoT ecosystem is experiencing rapid global growth, with a market value in billions of euros. While millions of IoT devices are already connected in urban areas, remote, rural, and sparsely populated regions remain largely disconnected due to the lack of terrestrial infrastructure. Satellite-IoT systems offer a unique solution to close this gap, providing connectivity to these underserved areas, helping to reduce the digital divide, and thereby bringing new opportunities to industries, citizens and operators.

Specifically, satellite IoT presents a significant market opportunity for D2D services, as it can greatly enhance efficiency and effectiveness in industries like smart metering, maritime, agriculture, and logistics. Additionally, D2D services can provide valuable coverage across the EU and surrounding seas, supporting use cases such as asset tracking and maritime operations. These sectors can benefit from IoT applications, which demand connectivity, available anywhere.

In addition to the above, due to the resilience and robustness of satellite connectivity, satellite IoT can also act as a critical backup for terrestrial networks during network or power outages, not only in remote and rural areas but also in well-connected areas as well. It could be used to maintain critical services during disaster or outage times and provide vital data to disaster relief agencies, enabling better planning and response.

As a satellite operator, we are committed to addressing global coverage challenges and advancing a sustainable future for the IoT ecosystem. The CONNECTA IoT Network, a cutting-edge solution optimized for massive narrowband IoT connectivity based on LoRaWAN and 3GPP standards, offers unparalleled cost efficiency, high reliability, high capacity, low latency, comprehensive global coverage, and standardized industry-leading technology solutions. Additionally, the CONNECTA IoT Network will provide global connectivity capacity through a low-cost constellation for billions of devices. Its LEO architecture and innovative standardized offerings allow customers to use IoT solutions at a low cost anywhere in the world where the service is authorized.

## D2D-MES Services

We agree with RSPG's finding that there is a well-established spectrum management framework for D2D-MES services. Within this framework, we would like to draw RSPG's opinion to IoT-NTN framework. With its low bandwidth requirements, IoT-NTN allows for efficient spectrum utilization, providing cost-effective, affordable solutions that extend seamless connectivity to underserved areas. This capability enhances global coverage, connecting remote areas without the need for ground infrastructure, and supports critical applications such as disaster recovery and rural development. Moreover, it enables mobile network operators to extend their coverage, offer backup connectivity, and unlock new revenue streams.

Within this framework, we would like to draw RSPG's attention to the fact that in parallel to advancements in the space and satellite technologies and increased investments, there is an increased need for MSS spectrum from both new entrants and incumbent operators. Managing the existing MSS spectrum stands out as an essential opportunity for enabling transformative technologies and solutions such as IoT, IoT-NTN, and NR-NTN, which offer significant across potential individual communication and industries like agriculture, livestock management, fisheries, environmental monitoring, asset tracking, and more.

**NB-IoT technologies based on 3GPP Release 17 and beyond, operating in the MSS bands (e.g., 2 GHz MSS band), represent a suitable solution as they complement mobile networks through interoperability, seamless coverage and resilience.** Therefore, the 2 GHz MSS band and other bands identified within 3GPP for IoT-NTN are vital for enabling innovative satellite-based MSS solutions due to their harmonized global allocation and strong signal propagation capabilities. However, the current European Union regulatory framework limits this potential by restricting access to just two operators, with no provisions for new entrants until 2027. This exclusivity hinders competition, stifles innovation, and prevents new space companies from offering advanced services using this spectrum.

We invite RSPG to encourage the European Commission and Member States to explore spectrum-sharing methods to maximize the socio-economic benefits of scarce spectrum resources for D2D-MES services. Enabling multiple operators to share spectrum dynamically on a time basis or under static conditions, while ensuring efficiency in spectrum use, would help reduce spectrum hoarding, enhance connectivity, and lower barriers to entry for new service providers.

Higher development costs associated with realizing IoT solutions based on 3GPP standard in MS bands could be a barrier due to the lower cost expectations of IoT customers. Additionally, the spectrum available for IoT or low-data rate communication in MSS bands is very limited in Europe<sup>1</sup>. Therefore, we propose that a portion of spectrum in the 2 GHz MSS band be dedicated to IoT applications on a shared basis, as implemented in Australia and considered by RSPG in the document titled "*RSPG Opinion on assessment of different possible scenarios for the use of the frequency bands 1980-2010 MHz and 2170- 2200 MHz by the Mobile Satellite Services beyond 2027*".

These approaches will promote the efficient use of spectrum, encourage innovation, expand service offerings, and promote competition, ultimately benefiting all citizens. We encourage a progressive approach to spectrum management that unlocks the full potential of satellite-enabled IoT services, benefiting the **broader digital economy and supporting the EU's growth and innovation objectives**.

## **D2D-IoT-SRD Services**

We believe that SRD bands, particularly the 862–870 MHz band, are a vital resource for enabling cost-effective, low-power, and globally scalable IoT connectivity via satellite networks based on global standards. These bands, already widely used for terrestrial Low Power Wide

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<sup>1</sup> Currently only spectrum below 1 GHz identified in ERC Decision (99)06 is available for IoT MSS with a limited bandwidth.

Area Networks (LPWAN) specifically LoRaWAN, hold significant potential for seamless coverage for terrestrial networks through interoperability when extended to satellite services. In this context, we value CEPT's efforts to harmonize the 862-870 MHz band for satellite-to-SRD (or low-power device) communications and support the adoption of ECC Decision (25)02. This decision enables such usage within a framework accompanied by well-defined technical conditions to ensure coexistence with existing terrestrial applications and services, safeguarding the efficient use of spectrum in Europe.

**The extension of SRD bands to satellite services function as a form of NTN, effectively bridging gaps in terrestrial network coverage and creating new opportunities for both satellite and terrestrial LPWAN operators.** By integrating satellite connectivity, LPWAN operators can extend their network reach to rural, remote, and underserved areas, enabling seamless cross-border IoT operations. This extended coverage allows operators to support innovative use cases that were previously impractical due to connectivity limitations, such as large-scale agricultural monitoring, global asset tracking, maritime and environmental conservation projects.

Additionally, this approach is expected to enhance customer satisfaction by improving overall service availability and performance. Collaboration between terrestrial and satellite networks would further promote interoperability, boosting the efficiency and scalability of IoT applications while accelerating the adoption of global IoT standards.

Moreover, SRD-based satellite IoT provides cost-efficient and energy-efficient solutions for massive IoT deployments, thanks to the low bandwidth and power requirements. These attributes make the 862-870 MHz band particularly appealing for small-scale, low-power devices that underpin the rapidly expanding IoT ecosystem.

As a satellite operator employing D2D-IoT solutions in the SRD band, we are committed to delivering seamless coverage in rural, remote, and hard-to-reach areas. Additionally, we can collaborate with terrestrial LoRaWAN operators to offer complementary services or backup connectivity during disasters and network outages. These solutions are vital for industries such as smart metering, maritime operations, agriculture, transportation, and environmental monitoring.

Plan-S strongly supports the RSPG's recognition of the growing importance of D2D-IoT services operating in SRD bands and the need for distinct regulatory measures to promote their innovation and scalability.

In alignment with the RSPG's draft recommendations:

- We fully endorse the European Commission's inclusion of satellite D2D-IoT in its permanent SRD mandate to CEPT, particularly to establish harmonized technical conditions for satellite downlinks in the SRD bands.
- We support the proposal for CEPT to maintain a transparent and non-discriminatory registry of satellite operators using harmonized SRD bands. As Plan-S, committing to operate these services in compliance with the conditions set forth in draft ECC Decision (25)02, we believe that this registry showing operators alignment with agreed technical and operational criteria would enhance clarity for national authorities and advertise satellite networks operating in the EU adhering to CEPT-imposed technical conditions, thereby ensuring customers to use services from these operators and facilitating maintenance of a non-interference environment for existing applications and services.

- We encourage Member States to establish authorization frameworks that facilitate SRD-based satellite communications across the entire EU territory, unlocking the full potential and advantages of this technology.

By leveraging SRD bands for satellite-enabled IoT, Plan-S aims to drive innovation, foster interoperability, and address critical connectivity challenges while supporting the EU's vision for a more connected and sustainable digital economy.

## D2D-IoT-MSS Services

We strongly support the RSPG recommendations for Member States to consider national spectrum licensing regimes and registries to improve the identification of satellite operators in each frequency band and to address specific market and technical measures. Additionally, we endorse RSPG's consideration of follow-up actions based on WRC-27 outcomes, ensuring appropriate European harmonization where necessary to support the continued growth and innovation of satellite communications.

Plan-S emphasizes the strategic importance of preserving and expanding the use of MSS spectrum below 1 GHz for the continued development of satellite-based IoT connectivity. These frequency bands present unique advantages for IoT applications, in particular for D2D communications, due to their propagation characteristics, lower power consumption, and the maturity of the regulatory environment in the majority of Member States. These characteristics make it particularly well-suited for low-power IoT devices, which require consistent performance in remote and underserved areas.

We believe that MSS bands below 1 GHz play a role for building scalable IoT networks across the EU. **If these bands are governed in a competitive framework, new market entrants may access the EU market and offer cost-efficient solutions to benefit the citizens and industries of the EU.** In the current regulatory landscape, many EU Member States manage these bands through general authorization schemes, offering a stable and predictable foundation for service development. This regulatory regime rather than individual authorization allows more new space companies to enter the EU market and deploy services efficiently while supporting European innovation and industrial competitiveness.

We believe that any future policy should prioritize preserving the usability of these bands for satellite IoT, ensuring that spectrum remains available to support both current services and future demands. Additionally, we encourage a balanced approach to spectrum governance which protects the integrity of existing MSS allocations while also exploring opportunities to introduce satellite IoT services in additional bands. This is especially important as market needs evolve and the IoT market grows increasingly.

As there is already a harmonized spectrum management framework, we believe that regulatory harmonization in this portion of the band could serve as an opportunity to move the European Digital Single Market one more step. With the support of the RSPG, the European Commission can develop a European-level flexible authorization regime for IoT services in this range for expedited and coordinated market access. European-level flexible authorization would enable IoT operators to scale their operations quickly and enable the IoT industry of EU to develop Europe-wide IoT offerings.

Lastly, the international regulatory developments for considering allocating new spectrum for low-data rate MSS in Agenda Item 1.12 of WRC-27 should be supported by the EU as these discussions will provide opportunities for satellite IoT in the new MSS bands. We believe that

the quick implementation of the outcomes of WRC-27 regarding AI 1.12 in the EU framework would play an important role for further enhancing satellite IoT economy across the EU.

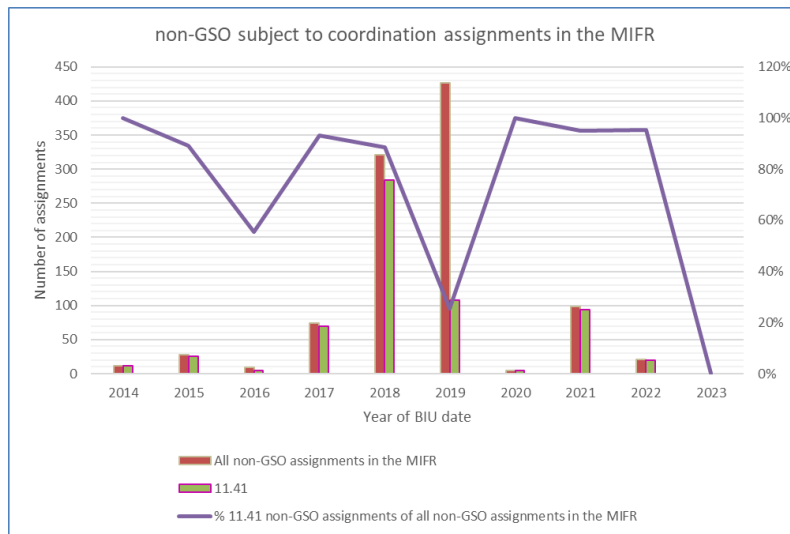
## Security and Market Access Considerations

We understand the importance of maintaining national oversight in matters related to lawful interception and national security issues, which are integral to national sovereignty, as each Member State has the right to impose specific conditions when issuing an authorization for service provision. However, we believe that further regulatory clarity is necessary with regard to IoT data and traffic. Satellite IoT services should not be under any regulatory burden heavier than the terrestrial IoT services. Therefore, we believe that EU policy makers should specify which obligations satellite IoT services need to comply with in cases where there is no personal communication between users or non-critical communication.

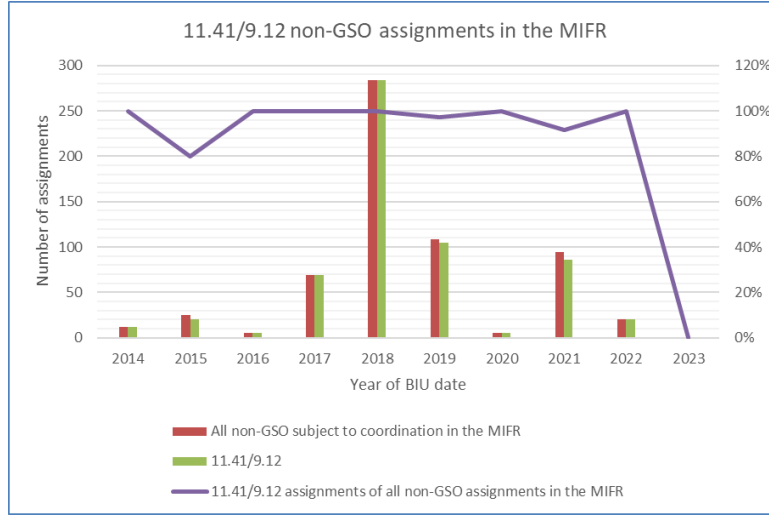
We believe that a standardized criteria across the EU for market access issues, we support the RSPG's initiatives since establishing harmonized requirements in a predictable approach would ensure integrity and secure operations. Such measures should also foster competition and avoid imposing additional burdens on new space companies seeking to enter the EU market.

We believe that the evolving satellite communications landscape calls for a reassessment of traditional regulatory frameworks, particularly the requirement for completing frequency coordination. In many cases, these requirements are not only practically unfeasible but also serve as indirect barriers to market entry. This creates a significant competitive imbalance, favoring incumbent satellite operators while placing undue constraints on new entrants.

According to ITU BR Director's Report presented at the WP4C meeting in October 2024 ([Doc. 197](#)) majority of NGSO satellite networks notified to ITU between 2014-2022 were filed under RR 11.41. This provision has allowed frequency assignments to be recorded and brought into use prior to completing all coordination cases. Furthermore, the ITU [reported](#) during WRS-24 that, in 2023, 99.94% of the spectrum assigned to satellite networks was free from harmful interference. This indicates an interference occurrence rate of only 0.06%, even in the absence of a fully completed ITU frequency coordination process.







Additionally, we support the enforcement measures outlined in the draft opinion since duly implementation of such would be essential to ensure regulatory stability, preserving efficient spectrum use, and promoting progress and competitiveness in satellite communications.

Finally, we also support some mechanisms to avoid spectrum hoarding or inefficient use of spectrum by continuously monitoring spectrum and releasing spectrum where inefficiencies are detected.

## Conclusion

We commend the RSPG's efforts to develop a comprehensive EU-level policy approach to D2D connectivity. The proposed recommendations would bring significant socioeconomic benefits to Europe, including enhanced rural connectivity, improved infrastructure and environmental monitoring, support for precision agriculture, and reliable emergency communication services.

We remain committed to full regulatory compliance, preventing interference, and ensuring the harmonious coexistence of satellite and terrestrial services. The adoption of the proposed frequency allocations and authorization frameworks would significantly advance Europe's digital connectivity goals while enabling innovative services like those offered by Plan-S.

We appreciate the opportunity to contribute to this consultation and look forward to collaborating with the RSPG and other stakeholders to support Europe's digital transformation and connectivity goals.