

Introduction

Hispasat thanks the RSPG for this opportunity to contribute to the Radio Spectrum Policy Group's (RSPG) consultation regarding the EU-level policy approach to satellite Direct-to-Device (D2D) connectivity and related Single Market issues. This work highlights the importance of the role of D2D services in expanding connectivity, closing digital gaps, and strengthening Europe's digital resilience.

As a member of the satellite industry, Hispasat is dedicated to providing essential connectivity solutions, both now and planned for the future, across broadband, broadcasting, IoT, and emerging Non-Terrestrial Network (NTN) services, including D2D satellite communications. Hispasat remains committed to working with EU policymakers and industry stakeholders to create a harmonized and globally competitive satellite D2D framework, aiming at supporting ubiquitous, resilient, and inclusive digital infrastructure throughout Europe.

D2D connectivity represents an opportunity to extend mobile coverage, remove connectivity gaps, and enhance Europe's digital resilience. By utilizing satellite networks, D2D services can deliver seamless, ubiquitous coverage to rural, remote, and underserved areas, and improve emergency and disaster-response communications where terrestrial networks may be unavailable.

Hispasat concurs with the principles portrayed in the RSPG Opinion concerning the EU-level policy approach to satellite D2D connectivity and related Single Market issues. We welcome the Opinion, as a well-balanced regulatory framework is crucial for ensuring equitable market access, spectrum certainty, and harmonious coexistence between satellite networks and other radiocommunication services. We agree with the definition of the scenarios identified by the RSPG in its Opinion under the D2D umbrella and share the view that the four subdivision of services, namely D2D-IMT, D2D-MES, D2D-IoT SRD and D2D-IoT MSS, accurately describes the developments in the current D2D ecosystem.

However, Hispasat would like to highlight some elements that could and should be of special importance for the European interests and to ensure that the operation of D2D is performed in the EU territories within a well-balanced regulatory framework that provides certainty, guarantee fair and non-discriminatory market access, and promote coexistence between satellite networks and other services. In particular, these elements are related to the D2D-MES services and the common requirements with respect to the application of No. 4.4 when operating D2D services.

D2D- MES services

Hispasat acknowledges the importance of continuing the use and development of D2D services operating with Mobile Earth Stations (MES) within the established framework provided by the Mobile Satellite Service (MSS) allocations. These services have been deployed for decades, offering global connectivity in remote and maritime regions, disaster response, and critical communication sectors. Hispasat appreciates and concurs with the RSPG's recognition that D2D-MES services benefit from an existing regulatory and technical ecosystem that supports seamless satellite communications.



Hispasat endorses the RSPG's assertion that there is a framework for D2D-MES, supported by the CEPT voluntary harmonization largely implemented in Member States. Nonetheless, Hispasat is of the view that there are opportunities for improvement. Enhancing licensing harmonization across EU Member States would further facilitate service deployment. Hispasat supports efforts to streamline national authorization processes and avoid unnecessary regulatory burdens on satellite operators. Maintaining a stable regulatory environment for D2D-MES services is crucial to ensuring their continued role in delivering connectivity to users across Europe and beyond.

Thanks to advances in technology, to the reduction of launch services costs and most importantly due to the arrival of 5G NTN, D2D is at a moment of disruption. Incumbent actors are positioning towards this future and newcomers are developing new systems. Europe should embark on this opportunity and ensure a sovereign solution in the field of D2D.

Hispasat is of the view that the ideal band to develop a European sovereign system is the S band, as it provides regulatory certainty, an interference-free environment and potential for global harmonization. Additionally, it has been considered by 3GPP as the reference band (along with L band) for 5G NTN in low frequency ranges (FR1). Access to this spectrum is a valuable and scarce resource in which Europe should ensure that it is used efficiently but also preserving its autonomy in such a strategic domain.

The use of this new, cutting-edge EU-based technologies will enable the development of a dual-use constellation covering military, civil and commercial needs:

- Targeting as a first priority the provision of sovereign and secure MSS D2D services. Today, the EU does not count on a sovereign EU-based, MSS satellite operator for the provision of this strategic services. This constellation will enable the provision of secure D2D services to military troops for EU Member States as well as other government users from EU agencies and Member States.
- Professional and mass-market services for D2D based on MSS voice and messaging are vertical that new operators are targeting and that could be also provided through the system, in Europe and globally.
- Automotive is the commercial driver of D2D, a sector in which Europe holds a clear leadership and that identifies ubiquitous connectivity thanks to satellite as a key feature.

Hispasat, through our participation in programmes such as IRIS2, is ready to address this demand.

While several alternatives could be explored in the context of the RSPG opinion RSPG 24-007, we are of the view that a minimum of 2 x 10 MHz bandwidth is required to meet a minimum level of service quality.

Common requirements with respect to the application of No. 4.4 when operating D2D services

Hispasat recognizes the potential of D2D services to enhance connectivity, especially in areas with limited or non-terrestrial coverage. By leveraging these services, satellite networks can complement other mobile coverages, ensuring continuous connectivity in rural, maritime, aeronautical, and other underserved regions.

However, using spectrum for satellite D2D that is not currently allocated for this purpose introduces significant regulatory, technical, and market challenges that must be carefully addressed. Unlike D2D services in MSS bands, which have a well-defined framework, using D2D in bands without a MSS allocation would lack of a formal regulatory basis under the current ITU Radio Regulations and currently operates under RR No. 4.4, as noted in the RSPG's Opinion.

Indeed, under the current international regulatory framework, frequency assignments under No. 4.4 do not require any examination by the Radiocommunication Bureau, and they are recorded for information only in the Master International Frequency Register (MIFR) without any interference or compatibility assessment with other frequency assignments entitled to protection. Frequency assignments recorded in the MIFR under No. 4.4 are therefore not entitled to protection from harmful interference from other frequency assignments operated in accordance with the Radio Regulations and must not cause harmful interference to these frequency assignments.

Additionally, as reported by the ITU Radio Regulations Board (RRB) to WRC-23, administrations are encouraged to refrain from using No. 4.4 for commercial applications and to reserve it for other type of applications, such as experimental use. No. 4.4 was intended as an exception to the requirement to comply with the Table of Frequency Allocations or other applicable provisions of the Radio Regulations to be invoked only in exceptional circumstances.

The RRB noted that an increasing number of satellite operators planning to use a frequency band under No. 4.4, deployed their system or network and began offering commercial services without seeking any decision from a WRC. For these satellite systems, in particular non-GSO systems, the interference situation was uncertain due to the large number of orbital planes and satellites. Demonstrating conformity with the Rule of Procedure on No. 4.4 becomes very challenging when thousands of satellites could be involved.

This is of special concern in situations where some large constellations may effectively preempt entire frequency bands and services not subject to coordination and where some entire systems plan to use non-conforming assignments with the Table of Frequency Allocations or other provisions of the ITU Radio Regulations to be operated in accordance with No. 4.4. Such behaviour would hinder long-term sustainability of the low Earth orbit environment and equitable access and rational use of the non-GSO orbit/spectrum resources, as a consequence of not having in place a specific regulatory framework defining the rules for the operation and sharing of this satellite service.

In addition, the issue of harmful interference between two satellite systems notified under No. 4.4 remains unclear. As more and more commercial services are proposed to be offered



using the same spectrum and orbital resources recorded under No. 4.4, the potential of causing harmful interference between systems and to other administrations is increased. In this respect, the RRB's opinion is that satellite networks and systems recorded under No. 4.4 are not entitled to protection from harmful interference amongst each other.

To fully achieve the potential of D2D services, it is essential to address the regulatory and technical challenges in advance. Establishing a clear regulatory framework under the ITU Radio Regulations, that will remove or reduce the potential of causing harmful interference between systems within and outside the EU territories, will provide the necessary certainty for operators and investors. By proactively addressing these issues, Europe can pave the way for innovative D2D solutions that enhance connectivity, digital resilience across the continent and do not adversely affect other services, such as Internet broadband access and much-needed support communications in the wake of disasters and emergencies.

Hispasat thanks the RSPG for this opportunity and remains committed to collaborating with EU policymakers, Member States, and industry stakeholders to establish a harmonized, innovation-driven, and globally competitive satellite D2D ecosystem across Europe.