

TIM Response to the Public Consultation on the Draft RSPG Opinion on the EU-Level Policy Approach to Satellite Direct-to-Device Connectivity and Related Single Market Issues

TIM welcomes the opportunity to provide its views on the Draft RSPG Opinion on the EU-level policy approach to satellite Direct-to-Device connectivity and related Single Market issues.

Our response primarily focuses on D2D-IMT services, which are direct-to-device services operating in bands designated for terrestrial IMT-based services that have been harmonized within the EU for electronic communications services (ECS).

Introduction/Main observations

In recent years, interest in various satellite D2D solutions has grown, yet business opportunities remain unclear, particularly in Europe, where terrestrial network coverage is strong compared to other regions.

Actually, many are the advantages of the terrestrial network services compared to D2D, including the most important performance indicators, such as latency, bandwidth, throughput, and network capacity.

As an example, mobile UBB services as well as data-intensive consumer and enterprise applications like real-time inferencing for AI, cloud gaming, autonomous drones or remote telesurgery would be extremely challenging if provided by non-terrestrial networks and systems.

Furthermore, satellite D2D should only be meant to supplement terrestrial mobile coverage in areas where the terrestrial coverage is still missing to provide a basic service in remote areas or as a backup solution during temporary network outages, such as those caused by natural disasters.

Moreover, spectrum is a scarce resource, and its overall efficiency needs to be guaranteed, especially when it comes to satellite D2D-IMT for the need to encompass both remote areas coverage (where satellite can play a role), and quality of service and high-capacity requirements especially in non-remote areas. The latter, as already stated above, can only be accommodated through terrestrial mobile networks that need to be protected from satellite deployments.

We appreciate that the RSPG Opinion provides a pragmatic status update on this subject, identifying key issues related to spectrum, mobile ECS networks protection, cross-border interference issues, D2D service authorization, and security.

TIM supports the Opinion of the RSPG that D2D-IMT should be introduced at national level as an integral part of the terrestrial ECS licence only, to be amended or varied in order to enable D2D-IMT services, if deemed relevant from a national perspective.

Based on this approach an agreement between the Satellite Network Operator (SNO) and the Mobile Network Operator (MNO), holding the spectrum rights of use, is an essential prerequisite and requirement.

Finally, TIM is of the opinion that any assumption that existing MSS bands would not be sufficient to sustain MSS services on a long-term basis should carefully be demonstrated and that any allocation of additional frequency bands for MSS should be subject to an assessment of the level of actual usage of the MSS bands.

Protection of Terrestrial Mobile Networks

Terrestrial mobile networks currently provide very high-quality and high-speed mobile services to the vast majority of European citizens and businesses. Enabling D2D in IMT bands should not undermine the quality level of the mobile services already provided and their development by the mobile terrestrial networks.

A key regulatory objective for mobile operators is ensuring adequate protection of terrestrial mobile networks at both national and cross-border levels while still enabling technological advancements in terrestrial services. The conditions necessary for this are being studied in preparation for WRC-27, but in order to allow D2D services under harmonized technical conditions in the EU, the EU's harmonized framework would require updates.

TIM supports the RSPG recommendation that a mandate should be issued to the CEPT to develop harmonized technical conditions for D2D-IMT and to amend the harmonization decision on ECS frequency bands accordingly. It is important that any conditions applied within the EU prior to WRC-27 (e.g., for trials or bilateral agreements) should be based on conservative assumptions and, eventually, reviewed after the Conference.

Consideration of European-Specific Needs

During the EU harmonization process, it is important to evaluate specific European factors, such as the presence of geographically small countries, numerous national borders, multiple terrestrial mobile operators, and wide terrestrial network coverage. These factors strongly limit the areas with no coverage and increase the risk of harmful interference from the satellite network to the existing terrestrial networks.

For example, low-frequency bands are critical for providing terrestrial mobile services in rural areas, where signals are received at lower levels (e.g., near rural cell edges). If D2D-IMT services are implemented in a neighboring country or on adjacent channels without adequate protection criteria, terrestrial mobile coverage could deteriorate in these areas, vanishing the intended supplementary role of D2D-IMT services.

The RSPG Opinion recommends establishing common requirements in national authorization frameworks and a unified enforcement process to ensure compliance and manage instances of non-compliance. TIM support these recommendations, as they are essential tools for protecting terrestrial networks and fostering a unified EU Single Market approach.

Agreement with MNOs as a Prerequisite

The RSPG draft opinion presents three potential approaches for introducing D2D-IMT at the national level:

1. As an integral part of the terrestrial ECS license.
2. As a license for D2D provision requiring cooperation with the terrestrial ECS license holder.
3. As a license for D2D provision in geographical areas and available frequency bands not used by a terrestrial ECS license holder (i.e., not requiring cooperation with a terrestrial ECS license holder).

The opinion suggests that the latter two options would be more complex to implement due to current authorization structures and the coverage of ECS networks.

TIM agrees with this assessment and looks forward to the RSPG confirming this clear recommendation on the matter.

However, satellite D2D services in IMT bands should only be permitted if requested and agreed upon by the MNO holding the license. A common EU policy in this regard would enable MNOs to pursue D2D opportunities under consistent conditions across the EU, reinforcing the Single Market approach.

TIM Considerations on Regulatory Framework

TIM highlights that direct connectivity from satellites to unmodified mobile handsets may be useful for coverage expansion and resilience but remains a nascent technology with evolving regulatory frameworks. D2D deployment must ensure coexistence and avoid interference with terrestrial electronic communication networks.

TIM also advises caution in pre-empting WRC-27 outcomes, advocating for conservative regulatory assumptions until global agreements are finalized.

Level Playing Field, Emergency Services, and Security aspects

TIM underlines that satellite and mobile services should be subject to equivalent regulatory frameworks, ensuring a competitive market on a level playing field. Additionally, D2D-IMT emergency services should be accessible to any user, irrespective of their mobile provider. With respect to the security issues, TIM is of the view that, when managing lawful intercept and national security issues on a sovereign national basis approach, Member States should take a very cautious and reasoned approach.

Additional Considerations

While our response primarily addresses D2D in IMT bands, we also wish to provide input on D2D services in other bands. We believe that satellite providers should comply with existing EU and national legislation on electronic communication services in those bands.

As a general comment, TIM is of the opinion that any assumption that existing MSS bands would not be sufficient to sustain MSS services on a long-term basis should carefully be demonstrated and that any allocation of additional frequency bands for MSS should be subject to an assessment of the level of actual usage of the MSS bands.

D2D Services in MSS Bands

The use of MSS bands do not require additional regulatory actions. MSS approach could enable EU-wide service for modified mobile terminals.

In particular, with reference to the possible additional MSS allocation that will be evaluated at WRC-27, which could overlap with existing ECS spectrum bands, TIM is of the opinion that the increasing spectrum needs for terrestrial mobile services should be taken into consideration and that Europe should carefully assess the potential negative impact deriving from a possible additional allocation to MSS which could result in a ECS spectrum resources reduction or limitations to ECS services. Finally, considering that an efficient use of spectrum should be safeguarded, the level of occupancy of these bands should be assessed and taken into consideration prior to any decision on them, to evaluate, in accordance with ITU-R Resolution 254 (WRC-23):

- 1) relevant spectrum requirements and technical, operational, and regulatory matters,
- 2) sharing and compatibility conditions to ensure the protection of existing services allocated on a primary basis, and also in adjacent frequency bands, without adversely affecting those services,
- 3) measures to ensure the protection of existing services and their continued operation and future development without imposing additional regulatory or technical constraints on those services, while ensuring their protection from harmful interference.

Solutions in New MSS or Other Bands

Any solutions implemented in potential new MSS bands or other spectrum bands (e.g., SRD bands) must not cause interference with existing services in the band or adjacent bands, nor should they restrict future service developments.
