



<https://www.convergencialatina.com/News-Detail/358507-12-24-Two-models-for-DirecttoDevice-bid-to-reign-in-EarthtoSpace-convergence?Lang=EN>

Monday, July 08, 2024

Analisis | | Globales | Satellites

Two models for Direct-to-Device bid to reign in Earth-to-Space convergence

On one hand, there are systems operating over bands allocated to Mobile Satellite Services, such as those used by Viasat (L-band) and Omnispace (S-band). On the other hand, satellite operators transmit in spectrum allocated to terrestrial operators, a variation that requires significant regulatory changes and careful management to avoid interference.



Satellite-to-Phone or Direct-to-Device services are currently leading the

announcements this year as the first examples of a future Earth-Space convergence.

Indeed, as proposed during **Satellite Map Day 2024**, innovations in the coming years will be closely tied to Non-Terrestrial Networks (NTN), complementing 5G mobile networks, hybrid LEO-MEO-GEO satellite fleets, and High Altitude Platform Stations (HAPS).

D2D itself raises a primary regulatory question regarding two discussed models.

Under the first approach, D2D systems operate in bands allocated to Mobile Satellite Services (MSS) and do not require regulatory changes: for example, the L-band (1.6 GHz), used by Viasat (formerly Inmarsat), and the S-band (2 GHz), utilized by Omnispace. Both bands have been allocated to MSS by the ITU since 1992 (and standardized by 3GPP for non-terrestrial 5G networks). This allows satellite operators to collaborate with mobile operators, using separate spectrum for their services to avoid interference. A commercial example includes Globalstar partnering with Apple to enable messaging to iPhones in their latest versions.

The second model of D2D involves satellite operators transmitting in spectrum allocated to terrestrial mobile operators. As Molly Gavin, VP of International Regulation and Spectrum Policy at Omnispace and representative of the **Mobile Satellite Services Association (MSSA)**, stated, "this model requires significant regulatory changes globally to allow for different spectrum uses beyond current allocations and necessitates careful management to avoid interference with existing spectrum uses".

This is why Agenda Item 1.13 was approved during WRC-23, mandating further detailed study of this second approach for WRC-27. This includes technical considerations and regulatory frameworks.

Meanwhile, for satellite operators to provide D2D in terrestrial spectrum, they must ensure no interference occurs, as per Article 4.4 of the ITU Radio Regulations, which mandates immediate cessation of operations upon any interference occurrence.

Convergence. Joe Bernabucci, Director of Strategy at Hughes, highlighted during **Satellite Map Day 2024** that the convergence of terrestrial and non-terrestrial networks will enhance service quality, cost efficiency, offerings, and coverage areas, especially for those lacking connectivity.

In pursuit of this convergence, Michel Dothey, co-founder and CCO of neXat, noted that the integration between non-terrestrial and terrestrial networks will hinge on interfaces. In this regard, his company has developed a platform based on an open API that enables the coexistence of new and legacy solutions, typically GEO. However, to put this into practice, three challenges must be overcome, according to Dothey: convincing satellite and traditional operators that they can now participate in this new paradigm and become part of NTN; ensuring affordable costs, bridging the gaps that still exist between old and new operators; and achieving regulatory harmonization across countries.

Source: Convergencialatina | [Original Article](#)