

Regulatory Preparedness for Satellite Services

Direct-to-users LEO connectivity services

March 2026





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Context

Satellite communications are undergoing a major transformation, driven by the rapid deployment of Low Earth Orbit (LEO) satellite constellations. These systems, enabled by advances in technology and more efficient cost structures, are redefining expectations around performance, scalability and service delivery. As a result, satellite operators are increasingly able to offer direct-to-users connectivity through multiple delivery models¹, in some cases without the need for partnerships with terrestrial operators.

With these new types of services in an early—but rapidly developing—stage of deployment, now is the right opportunity for regulators to proactively develop a robust and adaptive framework that reflects the evolving satellite business models, supports innovation and fair market access and promotes broader public benefits of satellite connectivity, while balancing current market dynamics with existing operators.

¹ Including direct-to-home satellite broadband, satellite Wi-Fi hotspots and direct-to-device satellite services to unmodified smartphones.



Regulatory landscape

Where satellite services are delivered through partnerships with terrestrial network operators, established regulatory frameworks could typically provide sufficient safeguards. In contrast, where LEO services are provided without such partnerships, existing policies are often less explicit or remain underdeveloped.

Initial GSMA findings indicate that regulatory frameworks governing direct-to-users satellite services remain at varying stages of development. In many jurisdictions, existing regulations do not adequately address the rapid expansion of these new types of offerings. In others, regulatory responses are beginning to take shape, with some countries introducing updates or currently in the process of reviewing and adapting their frameworks to reflect these technological and market developments.

Regulatory responses therefore remain fragmented and insufficient to support the effective and consistent deployment of these services. This situation raises important policy considerations for regulators as they reassess existing policies to accommodate new entrants offering these consumer-facing satellite communications services while ensuring that terrestrial network investments remain protected and viable.

This paper aims to support policymakers by proposing five core principles to guide the development of regulatory frameworks in cases where new LEO services are offered directly to end users without partnerships with terrestrial operators. This will facilitate fair market access, foster investment, build consumer trust, uphold sustainable competition and help protect core societal needs.

It is to be noted that the spectrum aspects are excluded from this paper².

Principle 1: Transparency and predictability

Ensure clear and transparent regulatory requirements to facilitate efficient market entry and build industry confidence

As new satellite operators seek to enter the market with direct-to-user communication services, clear and transparent regimes are essential to enable timely and effective market access and maintain trust in the digital ecosystem. Predictable regulatory processes lower barriers to entry, enhance accountability and allows both new entrants and existing providers to make informed investment decisions in a rapidly evolving, capital-intensive sector.

To promote regulatory certainty, it should be ensured that the terms and conditions are clearly defined, unambiguous and easily accessible to all stakeholders. Regulators should also ensure that stakeholders have a clear understanding of which licences and authorisation regimes apply to different service models.

Principle 2: Regulatory parity

Allow for equitable treatment of sectoral laws and regulations across all service providers

The principle of regulatory parity is a cornerstone of sound regulatory practice. To promote fair competition and support consistent market conditions, regulatory and legal frameworks should set comparable requirements for mobile and satellite service providers when they deliver similar types of services. Consistently applied rules deliver regulatory certainty, enabling service providers to plan long-term investments with confidence and adapt their services to evolving consumer demand. This ultimately benefits users through improved

value, quality and service reliability. Regulators should therefore not sacrifice long-term investment incentives across communications networks for short-term perceived benefits from satellite services.

Technical differences between types of networks may justify some differentiation in how regulations and laws are applied, but policies and rules designed around principled outcomes will enable frameworks that offer longevity, reducing the need for frequent updates in response to ever evolving developments.

² For spectrum considerations, refer to GSMA paper on Spectrum for D2D, October 2025.

Principle 3: Harmonisation

Align regional and international policies to reduce fragmentation and enhance regulatory efficiency

The deployment of LEO satellite communications introduces new regulatory considerations that must be addressed at national, regional and global levels given the inherently cross-border nature of these services and the growing risk of cross-jurisdictional interference and regulatory conflicts. In addition to establishing clear national frameworks, regulators and policymakers are encouraged to pursue greater regional harmonisation and to closely track international regulatory developments. Such an

approach can contribute to a more predictable and efficient regulatory environment across the region, thereby facilitating investment.

A proactive and coordinated approach supports alignment with regional best practices and shared experience. Applying this principle can also foster a common understanding of market access requirements and help streamline compliance obligations across jurisdictions.

Principle 4: Collaboration and consultation

Strengthen dialogue among governments, regulators and industry stakeholders for informed and inclusive policymaking

A sustained commitment to well-designed consultation processes will ensure that all relevant stakeholders can meaningfully engage in policy development. Such inclusive approach help shape coherent regulatory and legal frameworks that are responsive to market realities and conducive to the long-term success of both mobile and satellite operators. In this context, ad hoc approaches should be avoided in favour of coordinated, evidence-based policymaking.

Such collaboration enables more informed regulatory decision making, facilitates smoother market entry for new services and contributes to the development of policy frameworks that are practical, proportionate, and conducive to sustainable investment. Meaningful engagement with mobile network operators is particularly important, given their existing investments and role in delivering nationwide connectivity.

Principle 5: Balance innovation with regulation

Encourage technological progress while maintaining compliance, consumer protection and national security to build trust

When updating policy frameworks for LEO satellite communications, it is essential that new regulations also maintain necessary safeguards. Consumer trust, for example, will be a critical enabler of adoption in the satellite communications ecosystem, underscoring the importance of robust consumer protection arrangements. Regulatory approaches should therefore remain responsive to considerations such as national security and public safety, ensuring that appropriate local authorities retain sufficient oversight.

In this context, compliance with national laws and regulatory obligations is essential to ensure that satellite services are deployed responsibly and in line with domestic public-interest objectives. Effective enforcement requires clear regulatory accountability within each jurisdiction. Respect for local regulatory requirements—while supporting international coordination—will be key to maintaining trust, legal certainty and accountability. Achieving an appropriate balance will be crucial to the sustainable development of the satellite communications ecosystem.

Next steps

All countries would stand to gain from reviewing and updating their legal and regulatory regimes.

- By modernising their policy frameworks, governments can reduce unnecessary complexity and promote greater consistency in regulatory treatment.
- Such reviews should also be forward-looking, anticipating future developments, including large-scale satellite constellations, to ensure regulations remain relevant in a rapidly evolving satellite communications landscape.

- Regulators and policymakers are recommended to take steps to advance the objectives outlined in this paper by pursuing transparent and considered reforms that strengthen regulatory certainty and support future-ready legal and regulatory frameworks.

GSMA stands ready to engage with regulators to support these next steps through continued dialogue, analysis and collaboration.

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