

Accelerating Access to Space

As technologists, entrepreneurs, investors and governments seek to exploit the expanding nature and range of commercial space activities, Access Partnership’s qualified advice minimises our clients commercial, technical and regulatory risks and help accelerate their time to market. This document details the international regulatory landscape as it relates to space activity, identifies emerging trends in how regulators are considering “new-space” ventures, and discusses regulatory risk in the context of a complete space mission to minimise time to market for “new-space” technologies and services.

Relevance and Scope of International and National Laws

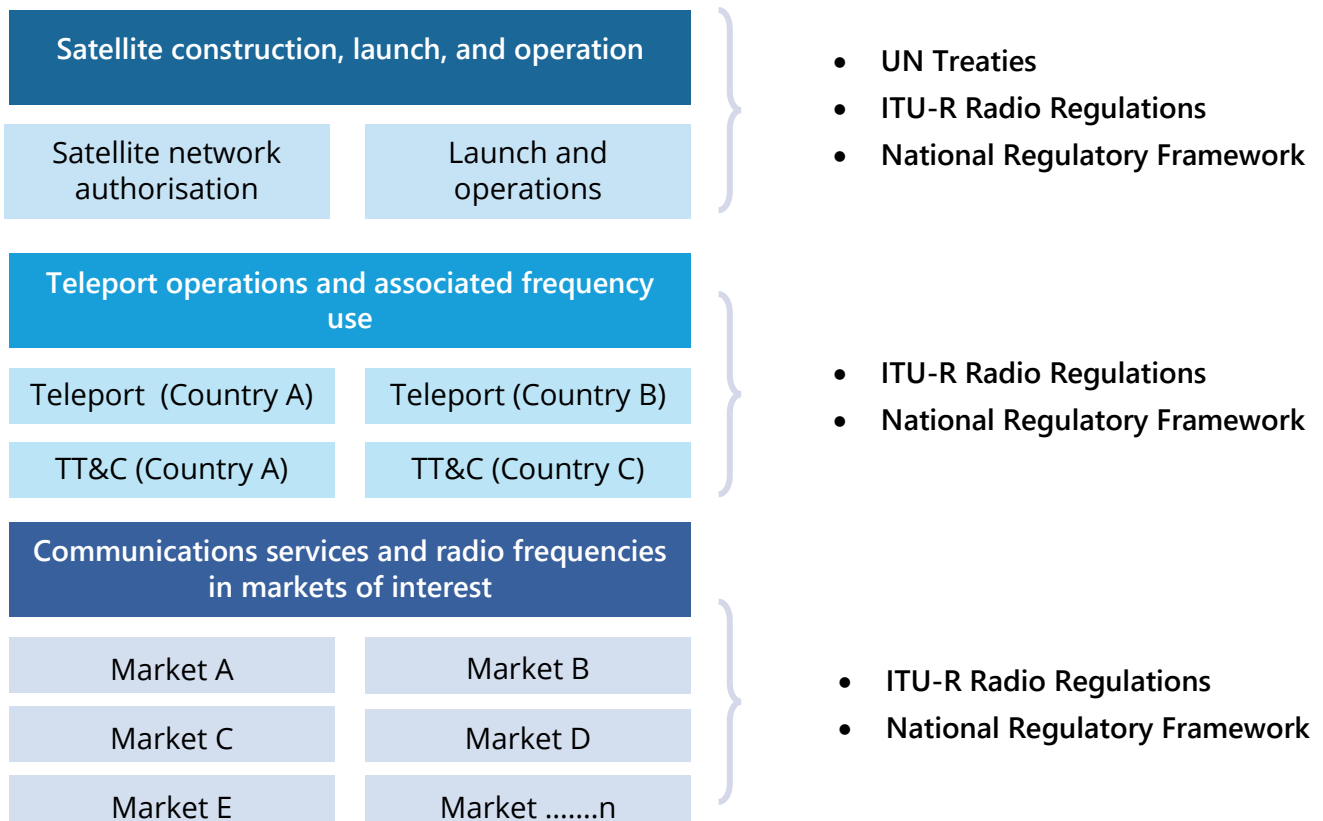


The UN Space Law Treaties and Principles govern the activities of states in the exploration and use of outer space, including registration, liability and return of objects launched into space.



The ITU Radio Regulations (ITU RR) and Rules of Procedure describe the procedures used by member states seeking access to orbital and spectrum resources.

How these obligations to the UN and ITU are met under national laws govern how companies can secure market access. Obligations can be broadly mapped according to the diagram below:



Under international law, administrations are responsible for their national space assets and services and therefore impose requirements on operators, typically mandating licences for:

- Launching or procuring the launch of space objects.
- Operating a space object and any activity conducted in space.

Separately, to secure access to orbital and spectrum resources (whether for control or providing services) a satellite network filing with the ITU is required.

This filing is required to ensure the network is protected under the ITU Radio Regulations. ITU-R Resolution 49 requires national administrations to make submissions to the ITU for the construction and launch of satellite networks in line with the ITU Constitution, Convention and Radio Regulations.

In return, licensees must seek approval from their host administration for any planned changes to their licensed activity to avoid possible interference with space activities of other administrations, jeopardising public health or safety of persons or property, and breach of international law.

Developing Regulatory Trends for ‘New Space’

New kinds of space operators are planning and launching complex constellations with hundreds of satellites. It’s therefore unsurprising that requirements to prevent contamination of outer space and adverse changes to the Earth’s environment, as well as to dispose of objects at the end of their lifespan, are attracting increased attention. Administrations are reviewing obligations they could place on licensees to indemnify themselves from third-party claims.

Separately, the ITU Radio Regulations use two mechanisms for prescribing radio frequencies for use by satellites:

- **Planned Bands:** allotments in Appendix 30/30A/30B allotting frequencies for use by each member state from a particular geostationary satellite orbit(s) for fixed and broadcasting-satellite services, with the intention of ensuring access to space for developing nation.
- **Unplanned Bands:** allocating frequencies in Article 5 of the Radio regulations to different satellite services on a first come, first served basis.

However, outside these mechanisms, you can still access orbital and spectrum resources through the application of Article 4.4 of the Radio Regulations. This Article essentially says that administrations can’t assign access to orbital resources and frequencies not included in Article 5 or the different Appendices referred to above — unless on the express condition that a station using an Article 4.4 assignment shall not cause or seek protection from harmful interference to/from stations assigned using the other procedures.

Since satellites often have a coverage area spanning multiple countries and would have to avoid interference with dozens of services, administrations have historically been reluctant to file satellite networks with the ITU under Article 4.4. With evidence that administrations are now considering applications of this type, the ITU Radiocommunication Bureau issued circular letter CCRR/60 in May 2018 outlining new draft rules of procedure for all administrations.

Under this draft, administrations are no longer able to unilaterally authorise assignments under Article 4.4 by simply declaring that their operator’s assignment will not cause any interference to existing operators. Instead, administrations will have to carry out compatibility studies to provide assurance that the new assignment won’t cause interference and determine any measures needed to prevent interference.

While this adds burden to Article 4.4 procedures, adding rules of operation gives operators a level of certainty on how to deal with claims of interference, potentially opening Article 4.4 assignments up to a much wider array of commercial services. This could bring with it vast economies of scale for satellite-system developers

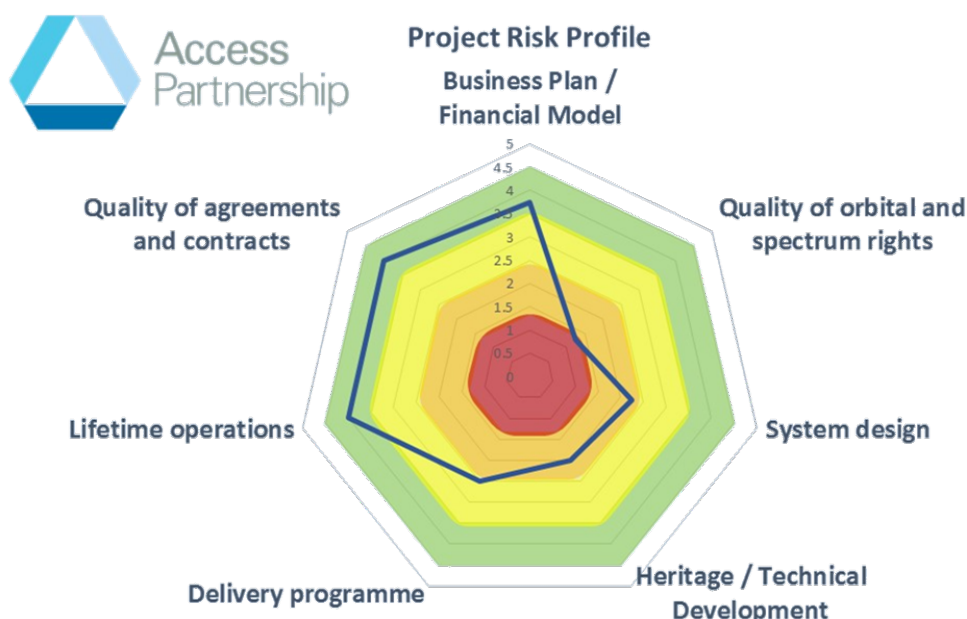
seeking to use terrestrial communication technologies, including cellular, LoRa and Wi-Fi, in the satellite domain. We are aware of systems being filed with the ITU for the use of non-satellite frequencies from non-geostationary satellite orbits and consider that this is likely to be an increasing trend.

Regulatory Requirements in ‘New Space’ Planning

Regulatory approvals secure access to space and market access for the sale of technology and services, but can’t be considered in isolation.

Commercial success and the ability to raise financing to support “new-space” projects in their pre-revenue phase will be contingent on the projects ability to demonstrate that all project risks have been considered and appropriate mitigation procedures established.

A detailed understanding of the overall project risk profile will significantly reduce time-to-market for “new-space” technologies and services, as well as helping de-risk lifetime operations by ensuring compliance with all international, regional and national regulatory requirements for commercial space ventures.



Access Partnership’s 25 years of continued support for space-faring ventures means we’re uniquely positioned to navigate our clients through international, regional and national regulatory processes — and have used this knowledge to develop several tools to assess your readiness.

Access Partnership is the world’s leading public policy firm that provides market access for technology. We monitor and analyse global trends for the risks and opportunities they create for technology businesses and identify strategies to mitigate those risks and drive the opportunities to our clients’ advantage. Our team uniquely mixes policy and technical experts to optimise outcomes for companies operating at the intersection of technology, data and connectivity.

9th Floor, Southside
105 Victoria Street
London SW1E 6QT

www.accesspartnership.com

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