

Kim Mota

*Advisor, Superintendence of Granting
and Telecomm Resources*

***Adapting regulatory structures
for LEO constellations:
Brazilian perspective***

Use of Satellite in Brazil



Connectivity: *Deliver broadband access to remote and underserved areas beyond the reach of terrestrial networks*



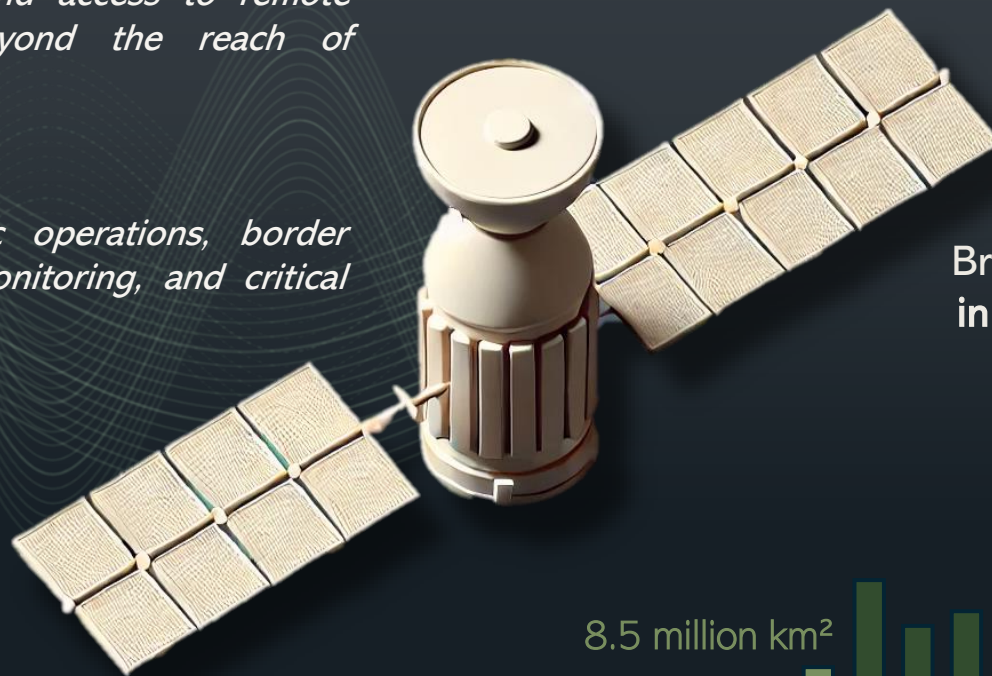
Monitoring: *Support strategic operations, border surveillance, environmental monitoring, and critical communications*



Emerging Tech: *Enable applications such as precision agriculture, IoT in remote areas, and real-time data analytics across the national territory*



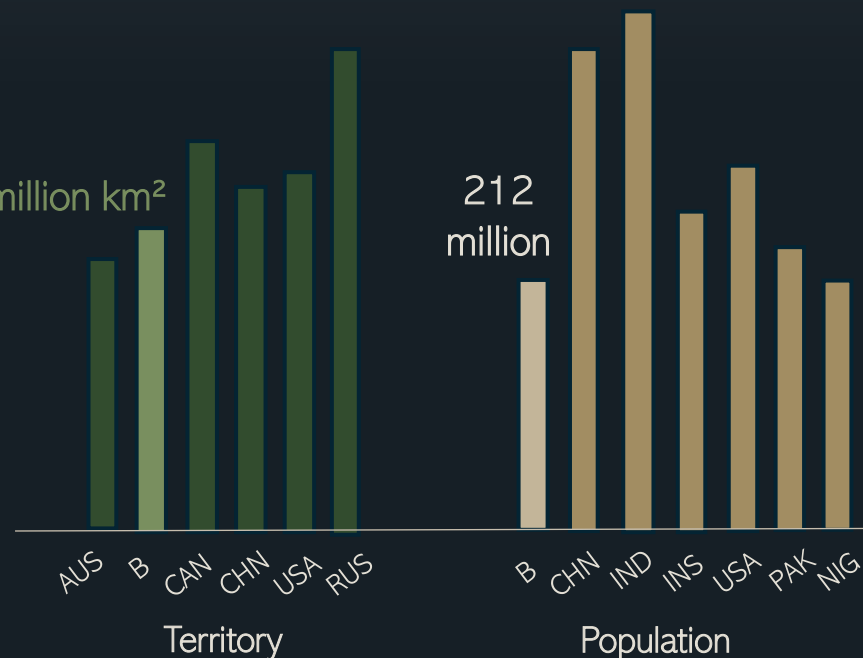
Global Communication: *Facilitate cross-border data sharing, navigation, and international communication*



Brazil is the 5th largest country in the world by area, and ranks 7th in population globally

8.5 million km²

212 million



Brazilian Satellite Market



48

GSO authorized satellites

27 satellite operators

17

NGSO authorized systems (LEO + MEO)

16 satellite operators

500k satellite broadband access
+ 300k NGSO broadband access

4M satellite pay TV access



Regulatory Update: In 2021, Brazil's National Telecommunications Agency revised its regulatory framework governing satellite usage.

Why update the rules? Satellite systems are rapidly changing, especially with the rise of low Earth orbit (LEO) constellations. Updating rules keeps Brazil in line with international best practices and ITU recommendations, and open opportunity to market expansion.

New Rules:

- Simplified procedures for obtaining Landing Rights;
- The regulatory fee for Satellite Landing Rights **does not depend on the frequency bands involved, the number of satellites, number of earth stations or the authorization period** (approximately USD 20,000);
- The rules for the renewal of authorizations have become clearer, now explicitly allowing the possibility of multiple renewals;
- Definition of national-level coordination priority (the priority includes satellite and earth stations), to ensure legal certainty to incumbent systems.





Open Skies policy: The Brazilian market is open for both Brazilian and Foreign satellites.



Landing Rights: Anatel grants Landing Rights for the use of satellites in Brazil, **permitting the operation of satellites and related earth stations within the authorized frequency bands.**

The Satellite Landing Right is granted for a period of up to 15 years and can be renewed.



Authorization process: Anatel conducts an evaluation of the required documentation, assessing legal, regulatory, and technical aspects:

- The frequency bands must be properly allocated and designated for satellite services in Brazil;
- **Any required coordination agreements must be submitted;**
- Foreign companies must appoint a legal representative.



Authorizations follow a first-come, first-served approach.

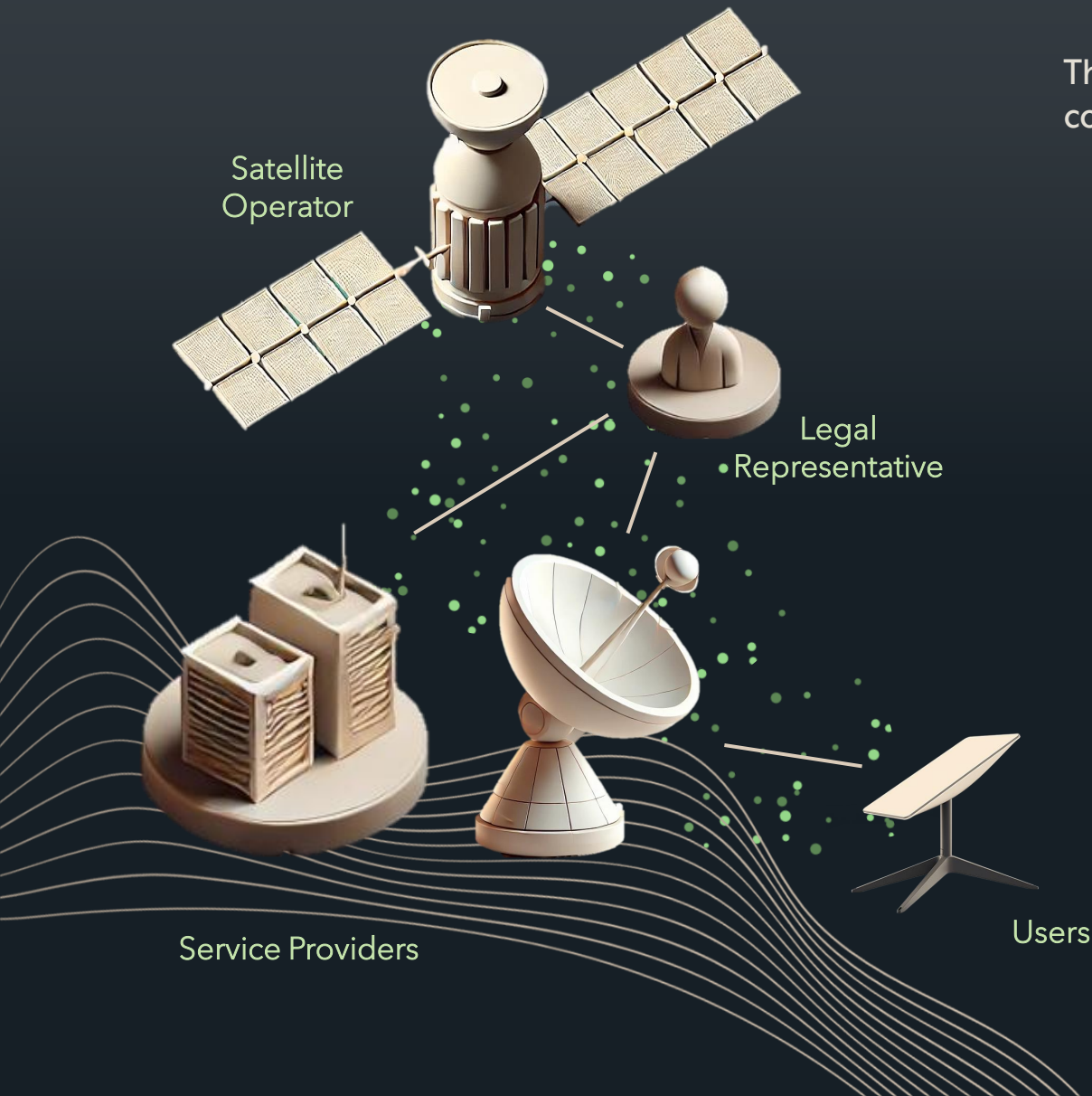
Existing authorized systems have national coordination priority over new systems. A newcomer must obtain agreements with all systems operating in the same frequency band that hold coordination priority.

What happens if the agreements are not obtained?

In such cases, authorization may still be granted under a non-interference / non-protection basis.



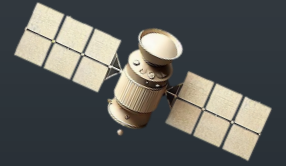
Brazilian Model for Satellite Services



The Brazilian framework for provision of satellite services comprises four key entities:

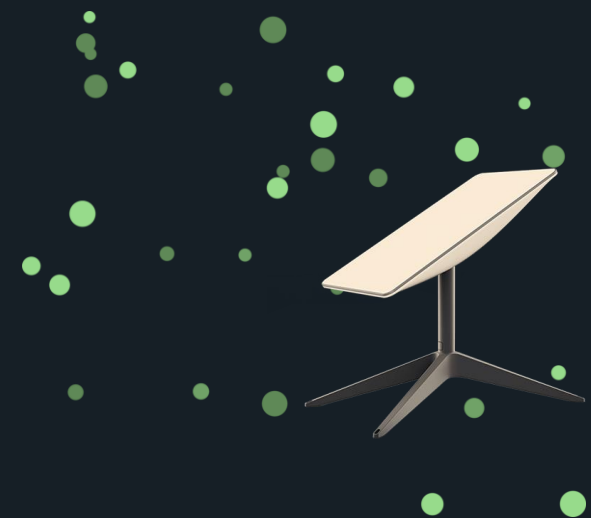
- *Satellite Operator: A company authorized to provide satellite capacity over the Brazilian territory. According to Brazilian regulations, satellites can be either Brazilian (filings from Brazil) or foreign (filings from other countries).*
- *Legal Representative: In the case of foreign satellites, the satellite operator must designate a legal representative in Brazil, which must be a Brazilian company. Satellite capacity must be marketed only through the designated legal representative.*
- *Service Provider: An entity authorized by Anatel to provide telecommunications services, which must contract satellite capacity from a Brazilian satellite operator or from the legal representative of a foreign satellite operator.*
- *End User: An entity or individual who contracts a telecommunications service from a service provider.*

In addition to the granting of Landing Rights, the stations of the satellite system must be licensed before operations can begin. Licensing corresponds to an authorization that allows the stations associated with the authorized system to start operations.



Service providers that lease satellite capacity from operators are responsible for licensing earth stations (gateways and user terminals).

Typically, the service provider is not required to initiate new coordination procedures for earth station licensing, but must comply with the operational conditions established by Anatel, as well as those defined in coordination agreements concluded by the Satellite Operator holding the Landing Rights.





Licensing process: The licensing process for earth stations is carried out through Anatel's digital system, in a fast and simplified manner.

There are two types of licensing: individual station licensing and blanket licensing.

Blanket licensing allows a large number of stations to be licensed collectively, provided their technical characteristics are similar. This procedure simplifies and expedites the licensing process for stations.

Blanket licensing does not require specifying the installation locations of stations. This enables the deployment and operation of several certified earth stations within the frequency bands permitted for the satellite operator.



Types of stations eligible for blanket licensing include:

- I – User terminal;
- II – VSAT Earth Station with an antenna smaller than 2.4 meters;
- III – Mobile station not listed above.

Currently, Earth Stations in Motion (ESIMs) require individual licenses. Anatel is working to enable blanket licensing for ESIMs.

Gateway stations are subject to an individual licensing process.

This licensing process requires the submission of detailed information regarding the precise locations of the stations and the specific frequency bands utilized for their operation.



ITU Space Connect

Adapting regulatory structures for LEO constellations



Thank you!

Kim Mota
kim@anatel.gov.br