

Global Connectivity and Digital Inclusion

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Connectivity

- **Social inclusion:** access to education, health, services
- **Economic growth:** drives innovation and business
- **Global presence:** connects to international networks



Anatel is committed to fostering public policies that promote universal and inclusive connectivity, ensuring that people and communities across Brazil have access to the opportunities of the digital society.





Brazilian Telecom Market

Fixed Broadband

52.8 MM

Mobile Networks

267.3 MM

Fixed phone

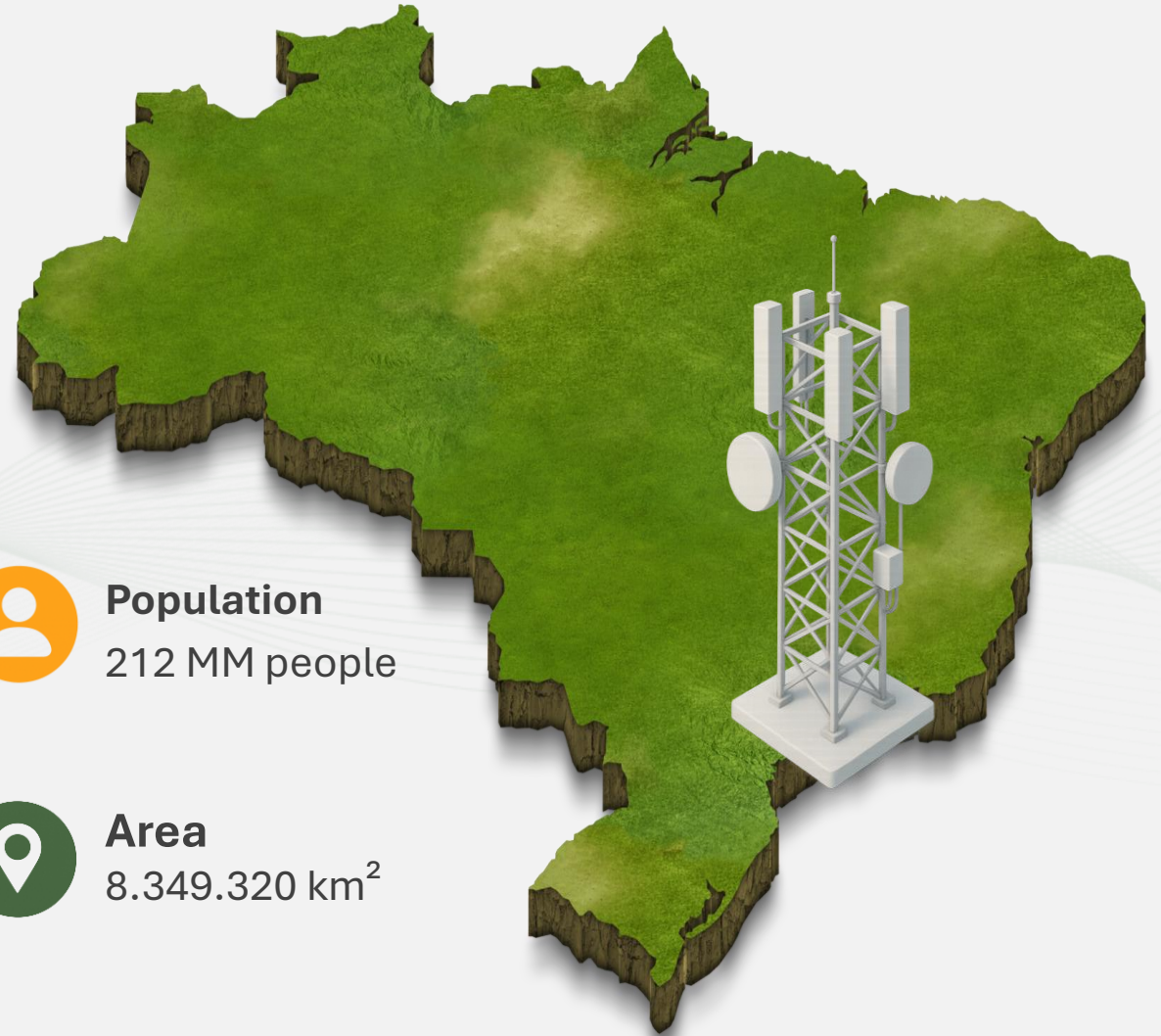
20.9 MM



Population
212 MM people



Area
8.349.320 km²





600k satellite broadband access

3M satellite pay TV access

15 **NGSO authorized system - FSS/MSS (LEO)**

StarLink, OneWeb, Kuiper (Amazon), Telesat
LightSpeed, Orbcomm, Globalstar, Iridium,
Kepler, Swarm, EchoStar, Omnispace, e-Space,
Kinéis

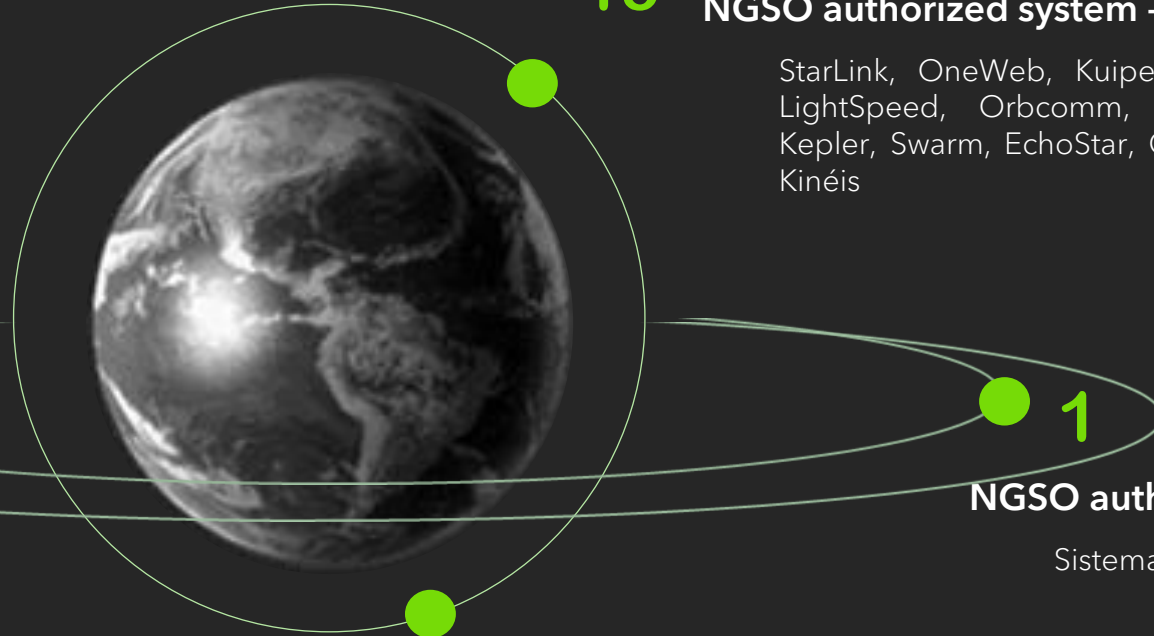
45
GSO authorized satellites (GEO)

27 satellite operators - all global players

1
NGSO authorized system (MEO)

Sistema O3b (SES)

17
**NGSO Brazilian scientific or amateur
satellites - including cubesats (LEO)**





Mobile Connectivity

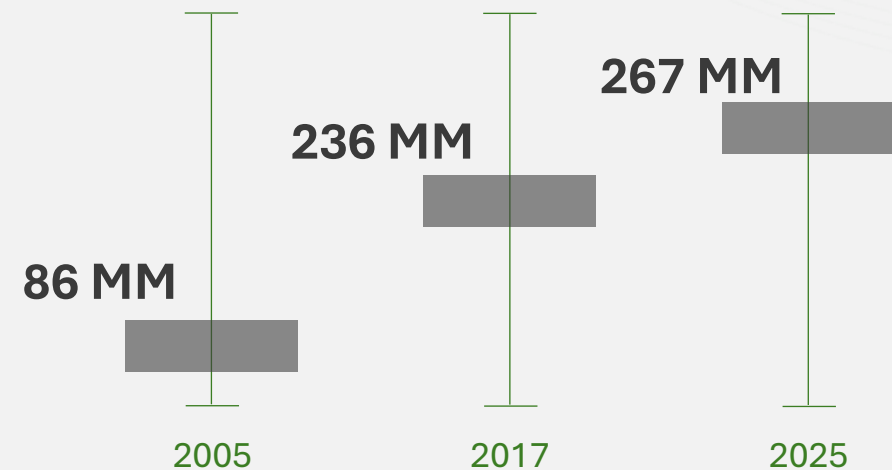
Anatel has made more spectrum available for mobile systems and has been working to expand connectivity.

Mobile access as a driver of social inclusion and economic development

The increase in the number of accesses is also the result of measures aimed at expanding coverage and fostering competition.

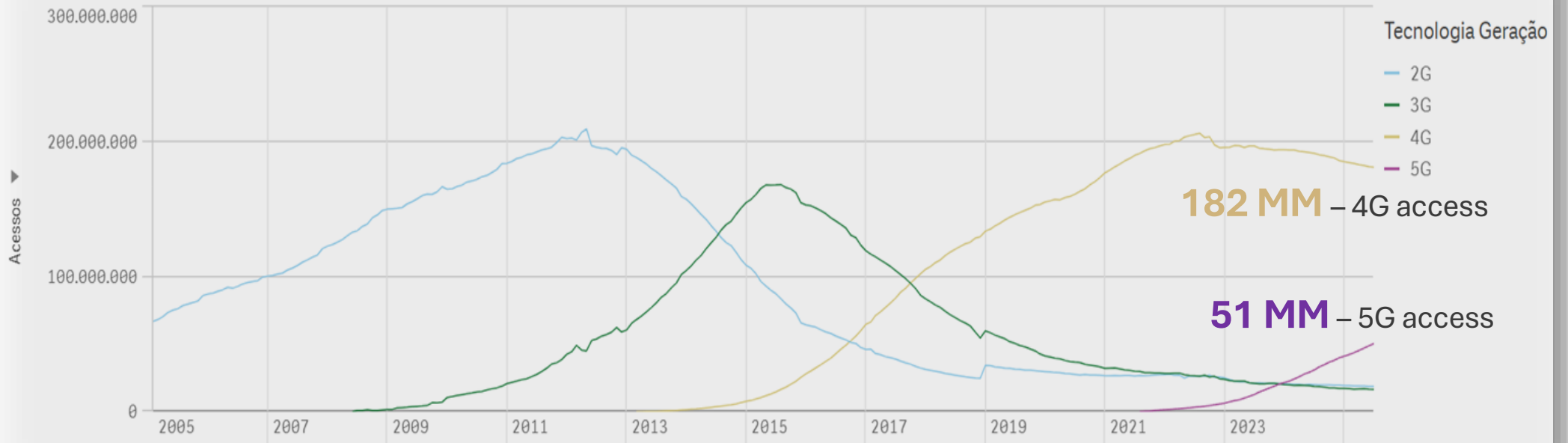


Number of Access



Mobile Connectivity

Evolução dos acessos de Telefonia Móvel por Tecnologia

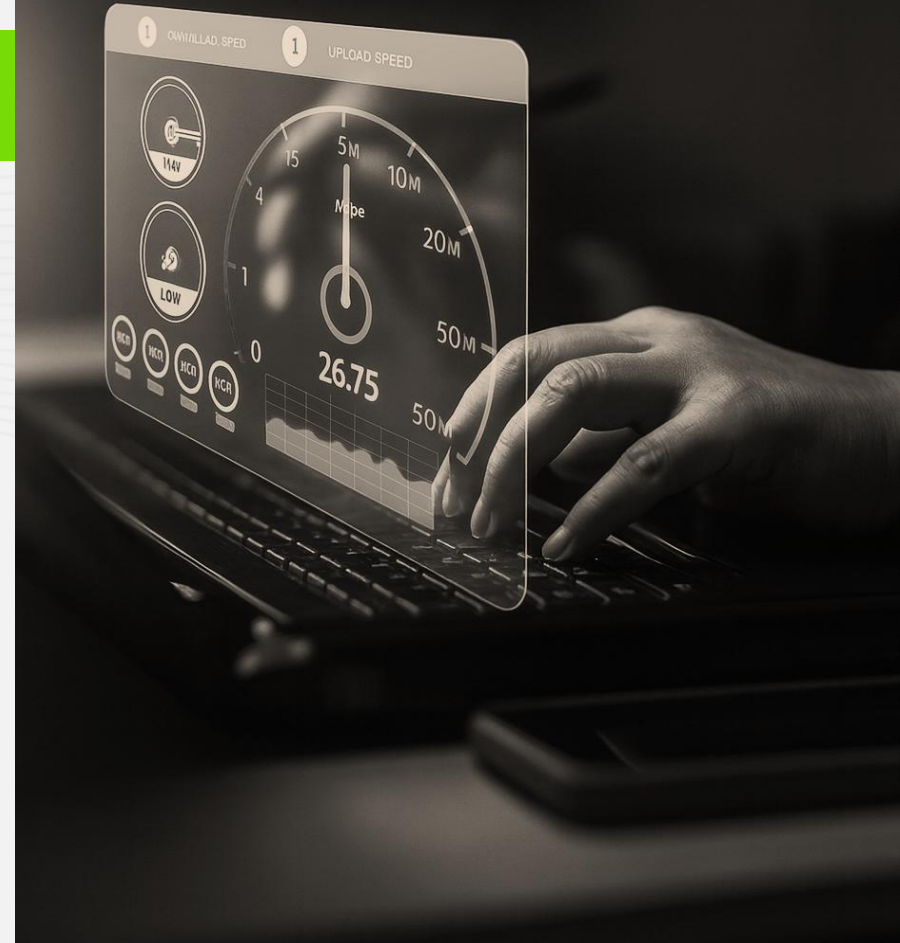
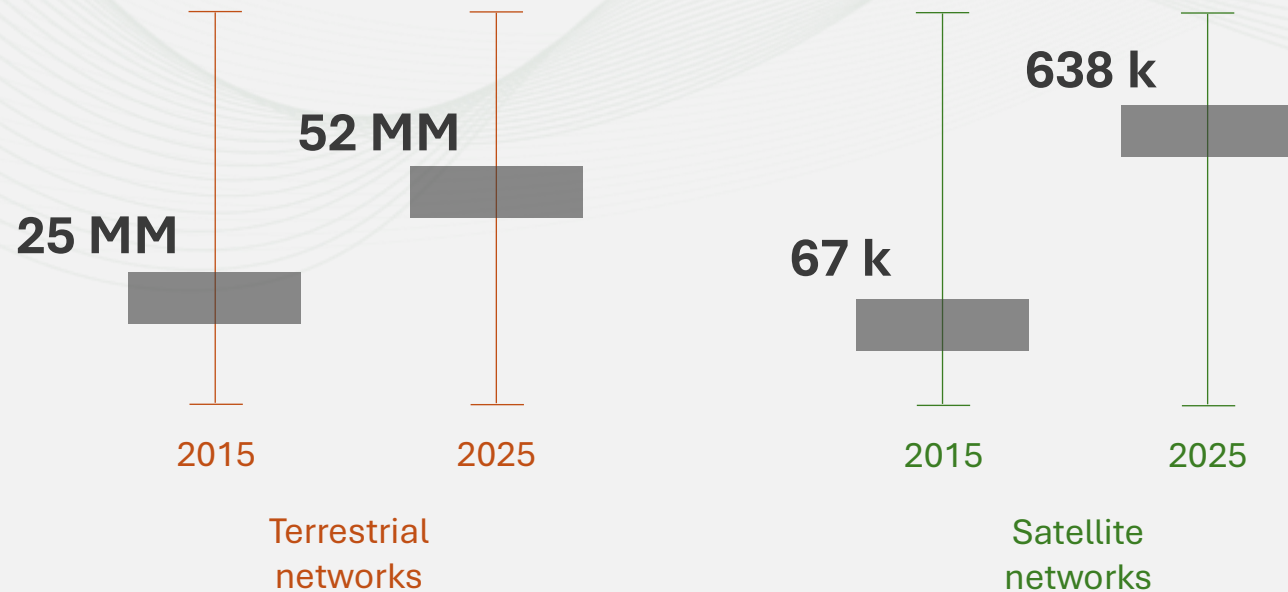




Fixed Connectivity

Expansion of terrestrial and satellite networks

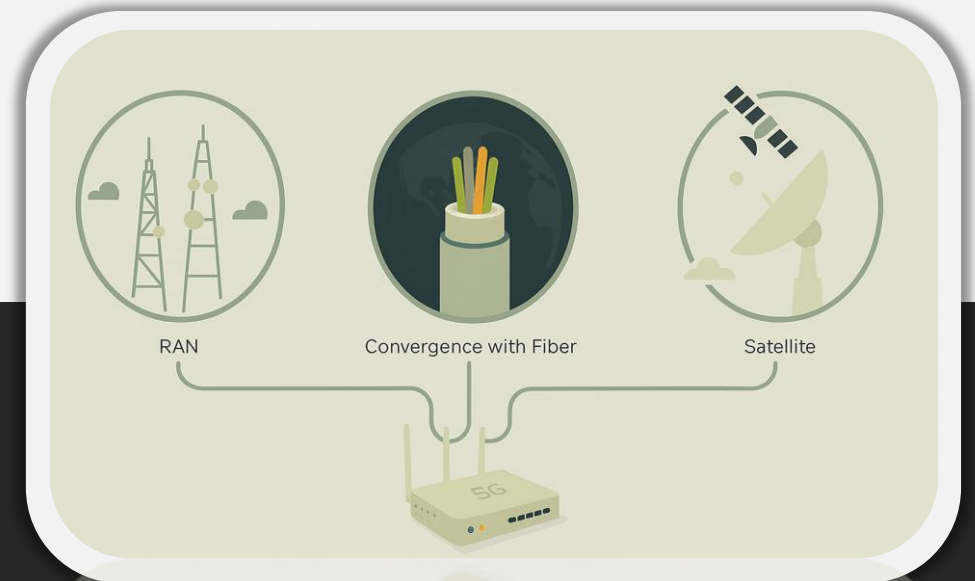
Number of Access



Fixed Connectivity

Terrestrial and satellite networks being used to provide nationwide coverage.

- Regional fixed broadband providers
- Open satellite market
- Anatel's rules to foster competition



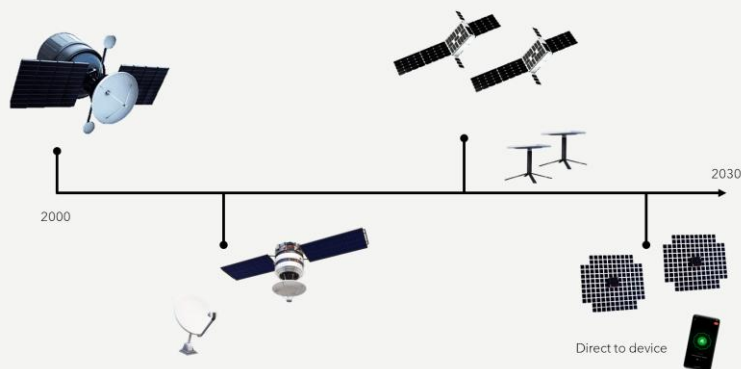
- 35 MM users connected by regional providers;
- 18 MM users connected by national providers





Satellite

Spectrum Planning and Future Trends



IMT bands

- Agenda Item 1.13: Brazil is actively following the discussions
- IMT frequencies (700 MHz to 2,5 GHz): Satellite as supplementary component

MSS bands

- Agenda Items 1.12 and 1.14: Additional spectrum for MSS
- MSS frequencies (L and S Bands): Market opportunities for D2D and IoT solutions

Satellite

D2D – Regulatory Sandbox

The Agency approved a Regulatory Sandbox Project, to facilitate testing and operation of satellite systems that can communicate directly with smartphones in the frequency bands designated for terrestrial IMT systems.

- Authorizations for satellite exploration in IMT bands for up to 2 years;
- Authorizations granted upon request by an MNO already authorized by Anatel;
- No interference basis;



Thank you!

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