

# ACCELERATING MOBILE NETWORK ACCESS IN NORTHERN BRAZIL

SES Networks, Orbiter  
Engenharia & Consultoria

## Case Study

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### Industry

Mobile Network Operator

### Location

Latin America



SES ▲

# SES NETWORKS PROVIDES CARRIER-NEUTRAL MEO TERMINALS TO ACCELERATE MOBILE NETWORKS IN NORTHERN BRAZIL

The North Region is the largest region of Brazil, but also the least densely populated, making the prospect of connecting these communities seem financially riskier for many telecommunications providers. Adding to the challenges are the dense jungles, rocky and hilly terrain, and rainy climate in the area which can wash out roads and other infrastructure and create uniquely difficult conditions for deploying reliable mobile networks. The North Region contains 7.3% of Brazil's households, but only 3.7% of its broadband connections,<sup>1</sup> partly due to these tougher conditions.

To overcome these barriers to delivering quality backbone connectivity across the north of Brazil, SES Networks worked with trusted local partner—Orbiter Engenharia & Consultoria, to establish carrier-neutral terminals optimized to bring the high-throughput and low-latency data services of SES's O3b medium earth orbit (MEO) satellites to the region. One of Brazil's major mobile network operators (MNO) took advantage of the five original prebuilt terminals to rapidly deploy or upgrade 2G, 3G, and LTE services to communities once considered unreachable, and ramped up to 23 sites within two years.



## REQUIREMENTS

In order to deploy mobile broadband to northern Brazil, the MNO needed:

- A satellite solution providing low-latency and high throughput MEO connectivity at high-demand sites
- Shared, carrier-neutral satellite terminals to eliminate all upfront CapEx investment for the satellite network
- Service that started with 250 Mbps across five sites, but scalable to 2+ Gbps across 23 sites
- A local partner able to navigate north Brazil's challenging landscape for continued maintenance of the terminals
- A dedicated programme manager to keep the project on-track and in-line with the MNO's installation work



<sup>1</sup> S&P Global Market Intelligence, Brazil Broadband Market, July 2018

# APPROACH

SES Networks recognized that one of the challenges of delivering broadband to north Brazil is the lack of adequate backhaul infrastructure and the risk of deploying a solution requiring an upfront CapEx investment, so five prime locations were selected to establish MEO terminals. Due to the rugged geography and dense jungles, deploying fibre optic and microwave backbones had proven difficult and costly to build to reach the area, so the fibre-like throughput and latency of the O3b service was the solution. SES Networks selected Orbiter to install and maintain the sites, as the telecommunications engineering firm had previously managed multiple successful MEO terminal builds for SES Networks.

Multiple network operators can connect at each terminal as if it were a neutral point of presence (PoP) and upgrade or establish any last-mile solution for consumers and businesses in the region, such as Wi-Fi, terrestrial cables, or a cellular network. Local ISPs were amongst the first to take up the offer, using the MEO connectivity to enhance their broadband offerings.

The opportunity to provide 2G, 3G, and 4G/LTE services without needing to establish their own costly or time-consuming backhaul option eventually attracted one of Brazil's major MNOs to install new cell sites connected to the MEO terminals to reach these previously underserved customers.

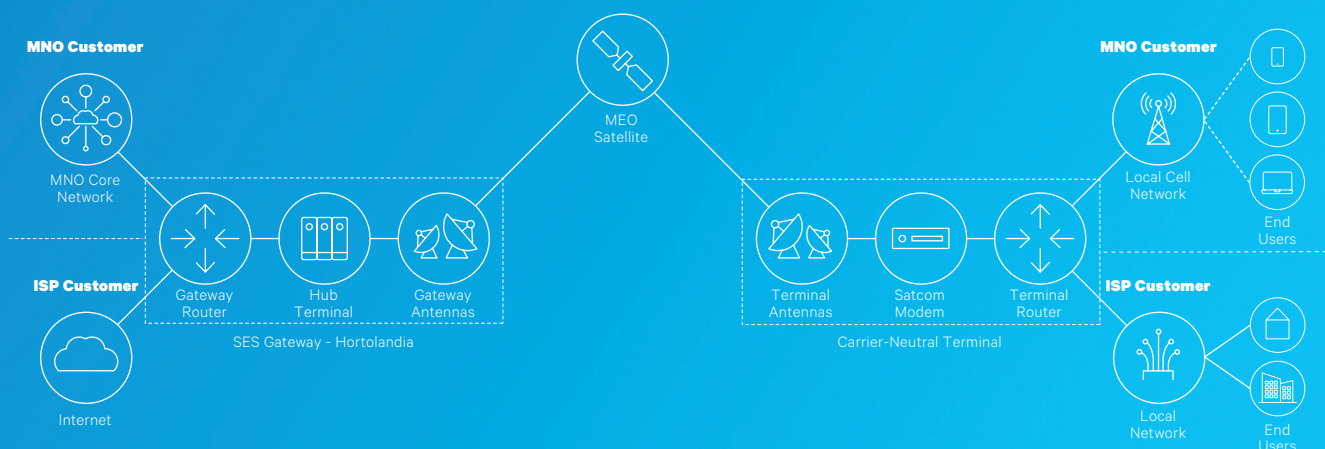
# SOLUTION

At the initial five MEO terminals, SES Networks delivered a total of 250 Mbps of throughput to the MNO's mobile networks. Both the technological solution and commercial arrangement proved successful, and one MNO eventually indicated 18 more locations where a similar carrier-neutral satellite terminal would enable them to reach new customers in a mutually profitable manner. The MNO deployed 2G, 3G, or 4G/LTE services at each site, matching the customer profile present at each location.

Leaving the satellite network to SES and Orbiter gives MNOs the ability to focus on their core competencies of building the cellular network and attracting new customers without assigning resources to the backhaul

network. Those customer acquisitions have gone well, with the MNO quickly becoming a leader in market share, outselling competitors in terms of SIM cards and prepaid cards at each location. In just two years since the initial five sites and 250 Mbps, the MNO has grown to 23 sites and over 2 Gbps total with SES Networks.

With the ability to avoid the CapEx investment in the satellite terminal, the fully managed service covered by a single, robust SLA, and maintenance provided by a local partner who knows best how to navigate the individual complexities of the region, the MNO has been able to transform the way consumers and businesses across northern Brazil communicate to the rest of the world and conduct business.



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