

Mobile Backhaul mPOWERED

Extend your network with low-latency, 5G-ready satellite backhaul

40%

of the population in low- and middle- income countries will remain excluded from mobile internet, according to GSMA

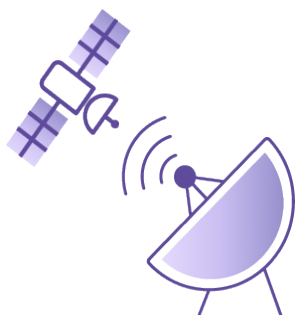


Industry Perspective

Most mobile towers are connected to the mobile core via traditional copper, fiber throughout, or microwave links. Yet, for remote and underserved areas, distance to the nearest point of presence (PoP) brings challenges that make these technologies impractical.

The GSMA estimates that closing the mobile internet usage gap could generate an estimated \$3.5 trillion in additional GDP by 2030, with about 90% of the benefit accruing to low- and middle-income countries – providing a key motivation for governments and mobile network operators (MNOs)

to take action. Additionally, in developed countries, RAN modernization to LTE and 5G places additional pressure on existing cellular backhaul infrastructure, putting it under great strain to meet new throughput demands. Closing these gaps requires a new generation of cellular backhaul services; in the next decade, NorthernSky Research (NSR) expects the market for aggregated data transfer will reach 22 terabits per second, but GEO-based satellite services can only serve a fraction of this demand. More robust, low-latency and high-throughput services will be crucial to supplying this fast-growing market.



Service Description

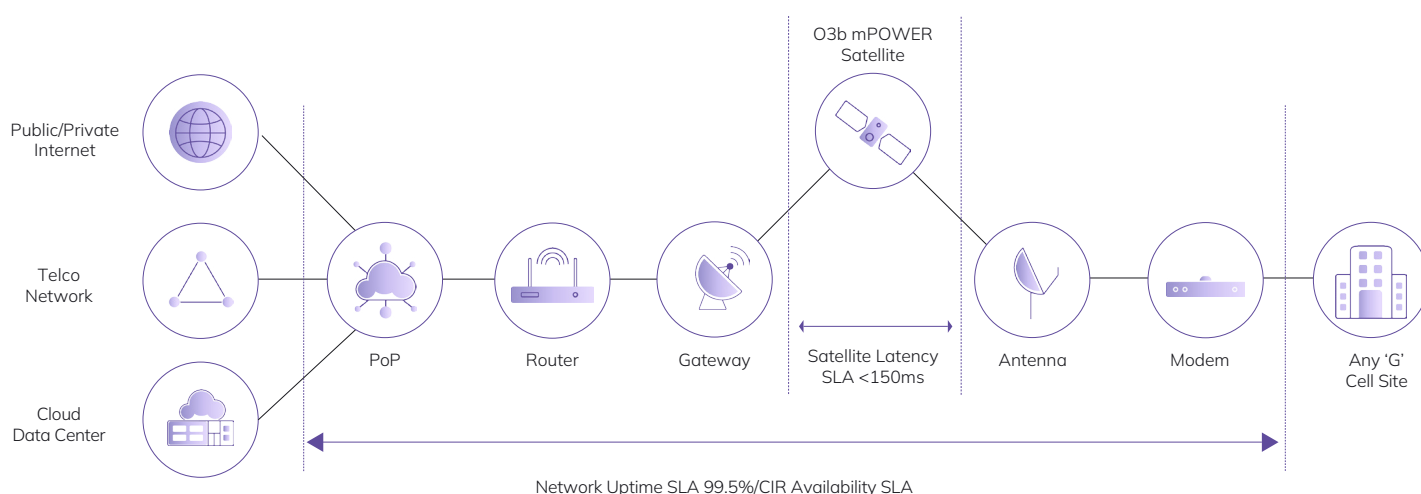
The Mobile Backhaul mPOWERED service enabled by O3b mPOWER delivers unmatched satellite-network performance that enables any MNO, telco or towerco to extend their core network coverage and performance, anywhere they operate. From unrivaled 1.5 Gbps of uncontended throughput per ground terminal and the industry's highest return links – up to 500 Mbps – to consistent latency as low as 150 ms, Mobile Backhaul mPOWERED can help you cost-effectively reach new markets or upgrade underserved towers.

With flexible contention ratios, modifiable link symmetries and uncontended, dedicated capacity, Mobile Backhaul mPOWERED delivers unrivaled performance. Without unexpected service degradations or bottlenecks, our service

guarantees a jitter-free 4G or 5G mobile backhaul network performance – with the scalability to support early launch phases in new markets or high-data volume towers that demand Gbps.

Mobile Backhaul mPOWERED's high throughput and consistent low latency secures excellent performance for any voice, video, streaming, gaming, or cloud application. Whether you want to extend your network with a single mobile tower site or an edge aggregation point, take traffic to in-country gateways or directly to the cloud, increase capacity at a single celltower or upgrade it to 5G, Mobile Backhaul mPOWERED is the only satellite-based cellular backhaul service that can support the highest performance today and for the foreseeable future.

Extending your core network with Mobile Backhaul mPOWERED





Technical Specifications

Mobile Backhaul mPOWERED offers flexible bandwidth rates, from 30 Mbps up to 1,500 Mbps on forward and return for single towers or where multiple towers are served by a single O3b mPOWER link.

Constellation	O3b mPOWER		
Coverage (countries/regions)	Global coverage		
Gateway locations	SES or customer gateways for in-country traffic handoff		
Capacity packages (Mbps)	Service Data Rate (SDR) per site:		
		Min.	Max.
	FWD (Downlink)	25 Mbps	1,000 Mbps
	RTN (Uplink)	5 Mbps	500 Mbps
FWD:RTN ratios	From 1:1 to 5:1		
Network uptime SLA	Pro		
CIR availability SLA	≥ 99.5%		
Satellite latency SLA	≥ 95%		
Customer portal includes	≤ 150 ms		
Link agility	Service availability, network uptime, throughput, latency, jitter, and packet loss		
Flex handoff	Choose symmetric or asymmetric links, with available higher service data rate requests for a limited time, up to twice per year		
Volume (on roadmap)	Standard - Connect to the default SES On-net PoP		
Available terminal bundles	Ability to define whether any limit applies to the total consumed volume (TBytes).		
	2 x 1.3m 20W		
	2 x 2.4m 40W		

Each service tier comes with a variety of additional value-added features.

Performance monitoring:

Customers can monitor network uptime (%), service data rate (Mbps), latency (ms), jitter (ms) and frame loss ratio (%) for a window of up to 90 days.

Encryption: Over-the-air encryption for highly secured links.

QoS Aware:

Dedicated bandwidth with four classes of service, allowing customers to differentiate multiple traffic types like control plan traffic, real-time traffic and non-real-time traffic.

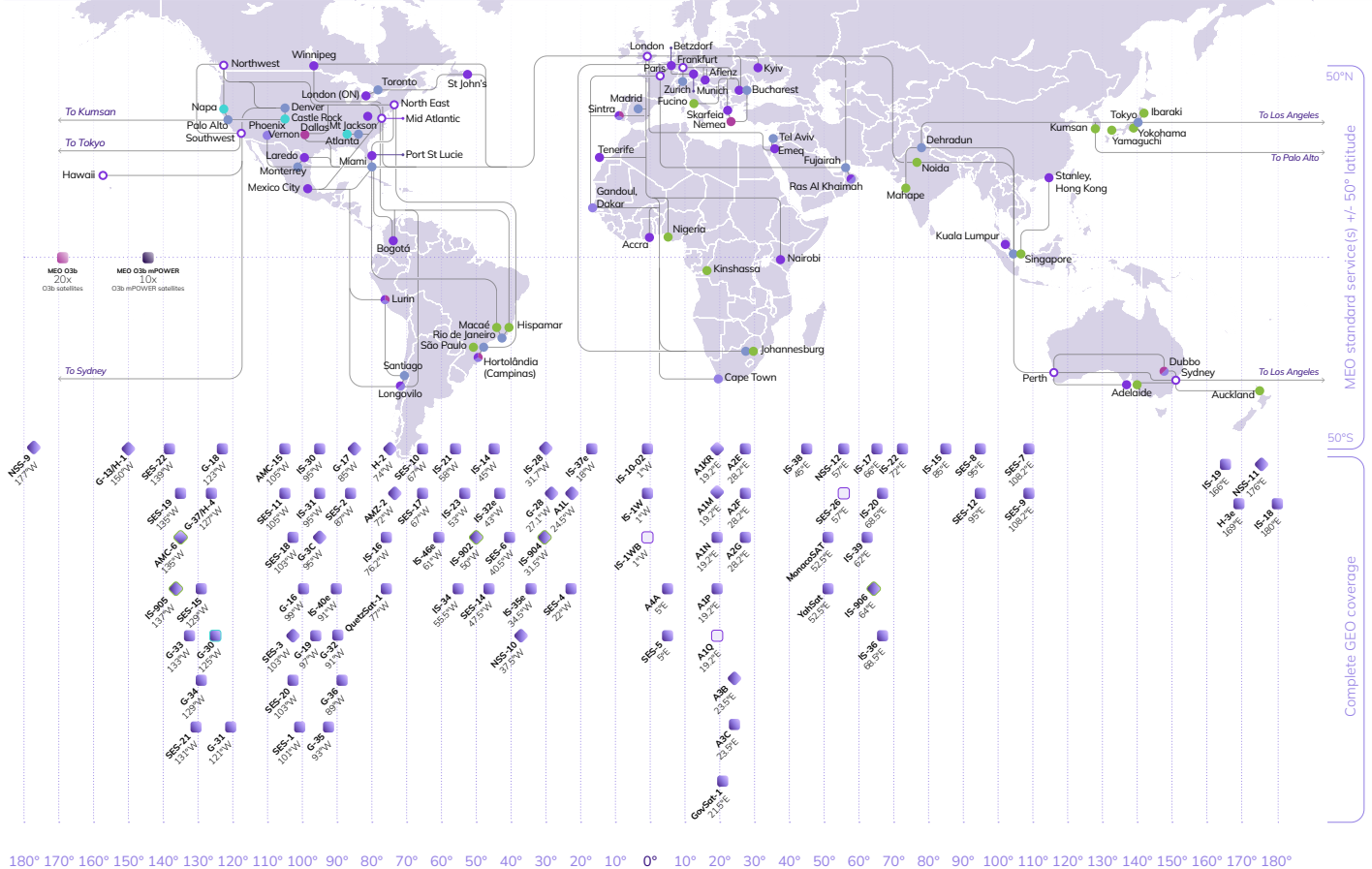
Satellite Fleet & Ground Network

Satellite Fleet

- GEO In Orbit
- GEO In Orbit, SK and IX Series
- GEO In Orbit, Inclined
- GEO In Orbit, IOD
- GEO Future Satellite
- MEO O3b
- GEO Not in Use
- MEO O3b mPOWER

Ground Network

- GEO Gateway
- MEO Gateway
- O3b mPOWER Gateway
- GEO/MEO Gateway
- GEO/O3b mPOWER Gateway
- MEO/O3b mPOWER Gateway
- GEO/MEO/O3b mPOWER Gateway
- Cluster Group
- Intelsat Teleport
- Intelsat Third Party Teleport
- PoP Point of Presence



Redefine your network boundaries with Mobile Backhaul mPOWERED



Learn more about our purpose-built satellite and connectivity solutions at ses.com

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With unrivaled, multi-gigabit scale, low-latency performance, and unmatched flexibility, Mobile Backhaul mPOWERED is the ideal solution for growing your business in underserved

regions, reaching millions of new subscribers who increasingly demand richer experiences, or even providing resiliency services to critical sites across your network.

