



CRUISE mPOWERED

Enabling a new era of guest connectivity experiences

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40

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340

Mbps by 2030

INDUSTRY PERSPECTIVE

In the intensely competitive cruise industry, customer experience is critical. And connectivity is a key aspect of any onboard experience today.

Guests aboard cruise ships expect to stay connected with friends and family, no matter the itinerary. Enabling connectivity to meet their expectations not only helps you elevate the onboard experience, but also brings opportunities for ancillary revenue. However, as cruisers return to sea, cruise operators

need to ensure their onboard networks can accommodate their customers' growing bandwidth requirements. Each passenger can consume multiple Mbps, and the bandwidth demand is expected to increase even further as the cruise customer base grows to include more tech-savvy millennials and Generation Z customers. Euroconsult forecasts that the average bandwidth consumption per vessel will increase from 40Mbps in 2020 to 340Mbps by 2030.



O3b mPOWER provides unprecedented flexibility, scalability, and cloud-scale reach, so you can elevate the customer experience, improve crew satisfaction, and reduce operational risk and complexity.

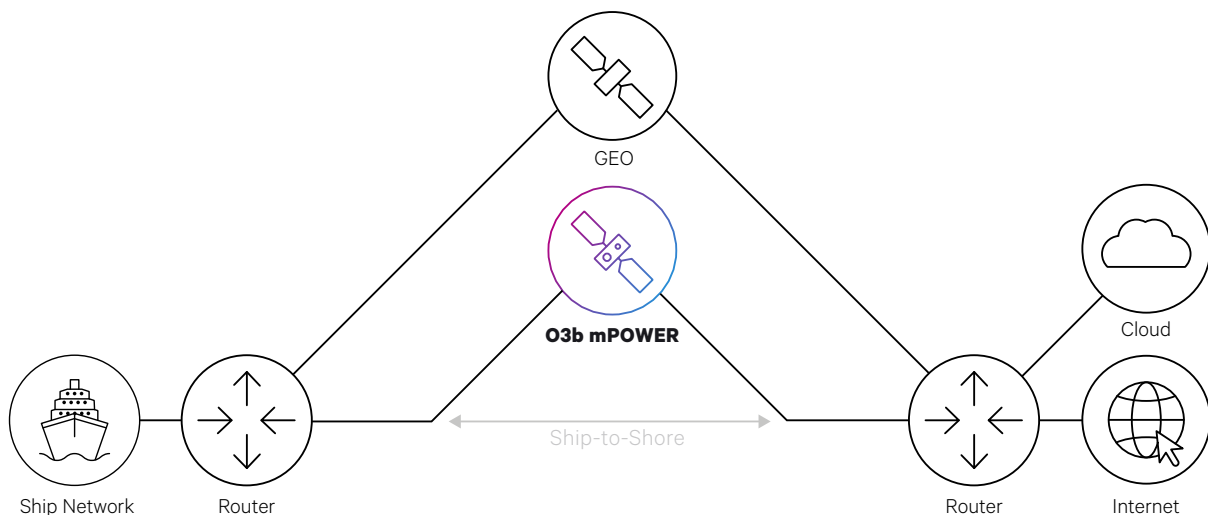
SERVICE DESCRIPTION

The Cruise mPOWERED service is enabled by O3b mPOWER—our next-generation medium Earth orbit (MEO) communications system. Cruise mPOWERED sets an entirely new standard for cruise ship connectivity worldwide, with industry-best bandwidth per ship and low-latency performance, fully managed end-to-end. In

combination with SES's GEO fleet, the Cruise mPOWERED service ensures seamless broadband globally. As the only commercially successful multi-orbit satellite operator in the cruise market, SES brings you the right combination of satellite and networking technologies for your business to sail smoothly.

KEY FEATURES

- Future-proof solution: Cruise mPOWERED is built on operationally proven, terabit-scale MEO technology, ready to grow in lock step with your passenger and crew connectivity demands
- Unrivalled combination of low-latency performance and gigabit-scale throughput, supporting thousands of passengers per ship
- Unprecedented flexibility, with demand-driven capacity allocation and traffic routing that can be tailored to individual vessel requirements
- Global network coverage via the industry's only multi-orbit fleet, with unmatched capacity for key demand areas, including the Caribbean, Mediterranean, and Asia-Pacific markets
- Dedicated 'follow-the-ship' beams from 100 Mbps Committed Information Rate (CIR) to multiple gigabits per second of guaranteed bandwidth per ship
- Ability to maximise the value of advanced technologies—including the cloud, Internet of Things (IoT), and artificial intelligence (AI)
- Ability to optimise critical cloud workloads and applications via dedicated, private connectivity to top-tier cloud service providers
- Adaptive traffic management, including SD-WAN for optimised traffic prioritisation, quality-of-service (QoS), and application performance





TECHNICAL SPECIFICATIONS

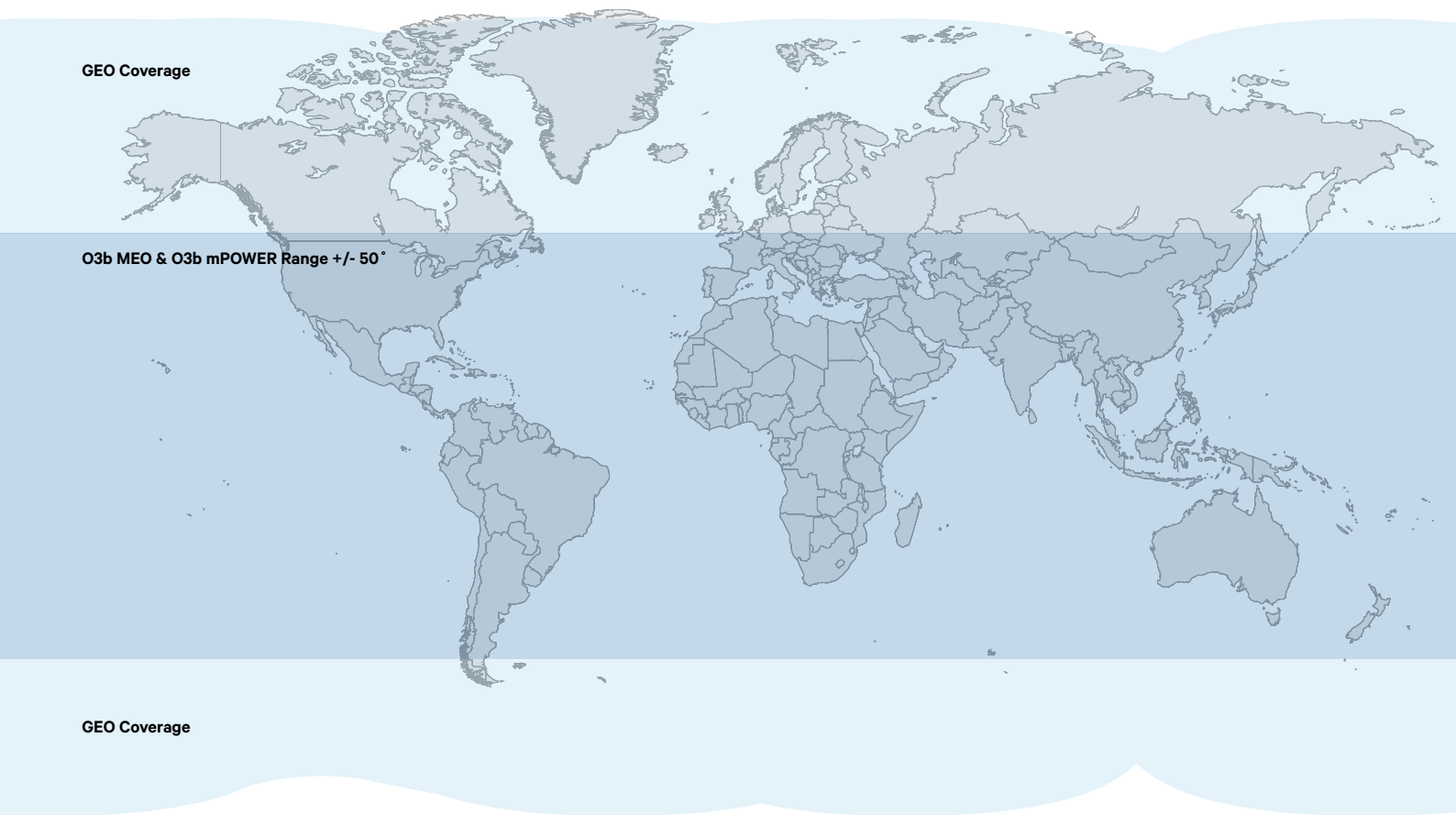
Cruise mPOWERED is available in three service packages—Prime, Pro, and Premium—allowing you to align service features and capabilities to your specific needs.

	PRIME	PRO	PREMIUM
Antenna type	Maritime (3-axis stabilised)	Maritime (3-axis stabilised)	Maritime (3-axis stabilised)
Antenna size	2.4m	2.4m	2.4m
Antenna	Orbit / Intellian 2.4m	Orbit / Intellian 2.4m	Orbit / Intellian 2.4m
Number of antennas for CONOPS	3	3	5
Link technology	DVB-S2X,eSCPC	DVB-S2X,eSCPC	DVB-S2X,eSCPC
MEO bandwidth (CIR)	Not available	300Mbps – 1.5Gbps	300Mbps – 1.5Gbps
MEO bandwidth (MIR)	Not available	CIR	CIR + 10%
GEO availability for primary service	Yes	Yes	Yes
GEO bandwidth (CIR)	100Mbps – 300Mbps	1-100Mbps	100Mbps – 250Mbps
GEO-based back-up (1-70Mbps)	Not available	Available	Available
Round-trip satellite latency (MEO)*	160ms	160ms	160ms
Service availability	98.0%	99.5%	99.5%
Traffic termination	SES gateway or SES-defined point of presence	SES gateway or SES-defined point of presence	SES gateway or SES-defined point of presence
Adaptive Traffic Management	No	Yes	Yes
SES Cloud Direct	No	Yes	Yes
Voice	Yes	Yes	Yes

* from customer modem to SES gateway

- Three tiers
- Options for GEO connectivity
- Value added service options
 - Voice
 - SES Cloud Direct
 - Adaptive traffic management

GLOBAL COVERAGE MAP



REIMAGINE YOUR BUSINESS WITH CRUISE MPOWERED

With the flexibility to provide seamless regional and global coverage at multi-gigabit scale, Cruise mPOWERED sets a new industry standard for enabling superior guest and crew experiences. It offers three levels of service that allow

you to tailor the right set of performance and networking features to your specific requirements. With Cruise mPOWERED, you're ready to reimagine what it means to delight passengers and crew at sea.

Learn how Cruise mPOWERED can help you deliver exceptional guest experiences onboard.



Learn more about our full portfolio of services and solutions at ses.com

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