



## CRUISE mPOWERED + STARLINK



Enabling a new era of seamless guest experience

### INDUSTRY PERSPECTIVE

In today's intensely competitive cruise industry, customer experience is critical, and connectivity is a key aspect of any onboard experience. 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 improving cashless payments and enhancing ancillary revenue.

Cruise operators need to ensure their onboard networks can accommodate their customers' growing bandwidth requirements. Each passenger can consume multiple megabits per second (Mbps), and the bandwidth

demand is expected to increase even further as more tech-savvy millennials and Generation Z customers embrace cruising. Meanwhile, connectivity increasingly underpins crew management, training, e-health, communication, and entertainment requirements.

Better connectivity can optimise speed and route management, along with crew safety, logistics and maintenance. As with any shipboard equipment, communications systems are a business-critical purchase decision. Key considerations in selecting a communications system naturally include installation, maintenance, and support costs, as well as scalability and data security.



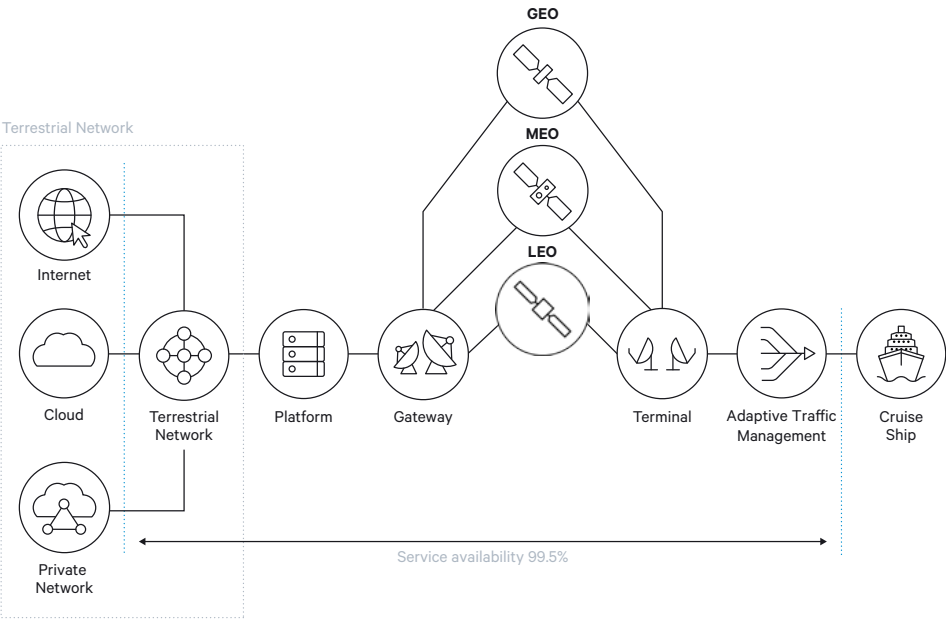
## SERVICE DESCRIPTION

Cruise mPOWERED + Starlink is the industry's first global, robust, and reliable end-to-end connectivity solution delivering connectivity of up to 3Gbps per ship. Sold and delivered by SES, Cruise mPOWERED + Starlink is a unique product that combines the strengths of MEO and LEO connectivity to deliver industry-best connectivity per ship and low-latency performance for a seamless, high-performance onboard internet experience worldwide, with no service data consumption limitations.

Passengers and crew can expect a connected experience that matches what they enjoy at home or in the office. For operators, it is a single solution that enables cloud and real-time services, with adaptive traffic management to tailor performance to changing needs through day and night. And because it's built on SES's O3b mPOWER system, Cruise mPOWERED + Starlink is flexible and expandable to support growing service demand, today and in the future.

- A future-proof solution built on operationally proven, terabit-scale MEO technology supplemented by the low-latency performance of the world's most extensive LEO communications fleet - ready to grow in lockstep with passenger and crew connectivity demands.
- The industry's first MEO and LEO service, seamless integrated and sold by SES.
- Superior flexibility, with demand driven capacity allocation and traffic routing that can be tailored to vessel requirements.
- Dedicated 'follow-the-ship' beams from 1.5Gbps with a Committed Information Rate (CIR) to multiple gigabits per second of guaranteed bandwidth per ship.
- Global network coverage via the industry's only multi-orbit, multi-band, resilient network, with unmatched capacity for key demand areas.
- Ability to maximise the value of advanced technologies—including the cloud, internet of things (IoT), adaptive traffic management and artificial intelligence – to optimise critical workloads and applications.

### Cruise mPOWERED + Starlink Diagram



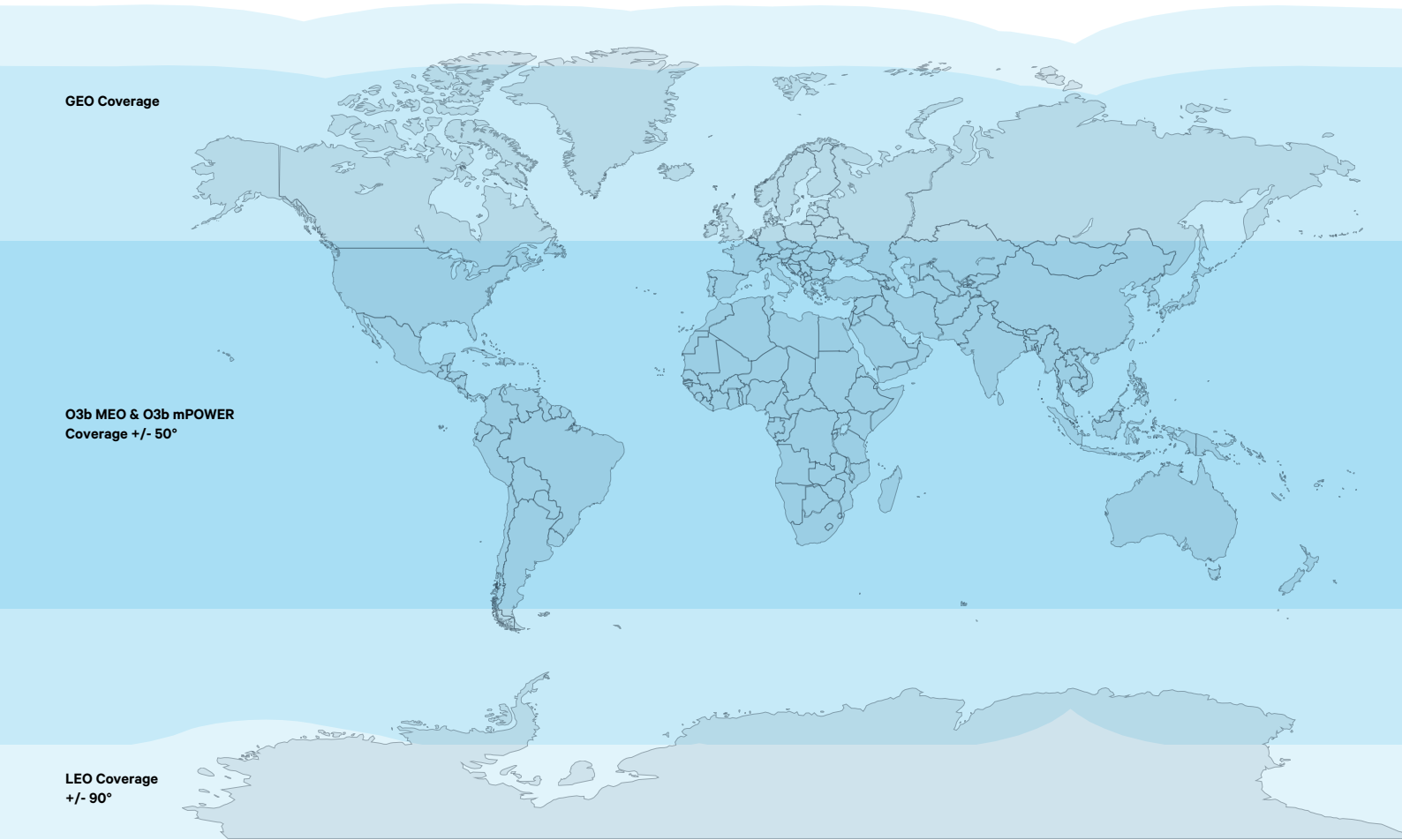


## TECHNICAL SPECIFICATIONS

Cruise mPOWERED + Starlink delivers two levels of service, enabling operators to choose the performance and networking features that meet their specific requirements.

	Pro Package	Premium Package
Antenna type	Maritime (3-axis stabilised) and Maritime Flat High Performance	Maritime (3-axis stabilised) and Maritime Flat High Performance
Bandwidth	1.5Gbps (1 x 0.5Gbps) SES 250 x 250Mbps and Starlink 800 x 200Mbps	3Gbps (2 x 1Gbps) SES 600 x 600Mbps and Starlink 1440 x 360Mbps
Data caps	No	No
Highest priority	Yes	Yes
Outside MEO coverage GEO-based back-up (+-50degrees)	Available	Available
Round-trip satellite latency (MEO)	150ms	150ms
Service availability (MEO/GEO)	99.5%	99.5%
Traffic termination	SES gateway or SES-defined point of presence (PoP) + Starlink IP termination	SES gateway or SES-defined point of presence (PoP) + Starlink IP termination
Adaptive traffic management	Yes	Yes
SES Cloud Direct	Yes	Yes
Voice	Yes	Yes

# GLOBAL COVERAGE MAP



## OFFER A NEW ERA OF SEAMLESS CONNECTIVITY

Why risk slowdowns or outages when it is possible to provide guests with the industry's smartest connectivity? SES Cruise mPOWERED + Starlink deliver the lowest combined latency on the market, as well as unlimited geographical reach. A world first, the integrated MEO and LEO satellite network has no caps on bandwidth or capacity, getting rid of limiting consumption-based data plans.

Its first global, robust, and reliable end-to-end connectivity solution with multigigabit scale to deliver a superior guest experience, optimise smart ship operations, and attract and retain the best crew. This multi-orbit combination sets an entirely new standard for enabling superior experiences - on every ship for every passenger, day, and night, everywhere.

Learn more about [Cruise mPOWERED + Starlink](#).



Learn more about our full portfolio of services and solutions at [ses.com](#).