O3b mPOWER

Press Factsheet

June 2020

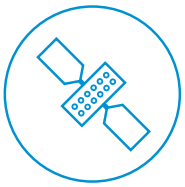
O3b mPOWER

As satellite plays a more prominent role in global communications, SES's next-generation O3b mPOWER communications system builds on the proven commercial success of its current O3b Medium Earth Orbit (MEO) constellation, with breakthrough capacity, flexibility and innovations in spacecraft, ground systems, and intelligent software-driven network management, control and automation. Unlike other non-geostationary orbit satellite systems (NGSOs), the upcoming O3b mPOWER system is fully-funded, built on commercially proven technology, and based on a market-proven business case, eliminating business and operational risk for customers.

Originally announced in 2017 and on target to launch in 2021, O3b mPOWER is backed by an ecosystem of technology partners and is designed for demanding applications with mobility, telecom, government and enterprise customers. Even before launch date, O3b mPOWER has achieved development and delivery milestones and has already announced major customer wins.

Key details include:

- **Full system:**
  O3b mPOWER comprises an initial constellation of seven high-throughput and low-latency MEO satellites, extensive ground infrastructure and intelligent software
- **Capacity:**
  Terabit-level system capacity based on dynamic ability to deliver thousands of uncontended managed services from hundreds of Mbps up to multiple Gbps per service
- **Flexibility:**
  Route customer traffic anywhere, optimise forward and return path bandwidth provisioning and control network resources to dynamically allocate capacity where needed
- **Performance:**
  Industry's most robust and comprehensive service-level agreement covering throughput, latency and availability
- **Coverage:**
  expansive reach between 50°N and 50°S – covering 96% of the global population



SUCCESS OF O3b

Originally launched in 2013 to deliver low-latency, fibre-like managed services, SES's O3b MEO is the world's first operational NGSO broadband constellation. With a fleet of **20 MEO satellites**, O3b supports:

Mobile backhaul with more than **15 million end users**

Four out of the top six oil and gas super majors

Four of the top five cruise lines

And enabling the cloud-scale era for **millions of people worldwide**.

SES

Technology Partners

SES views O3b mPOWER system as a broader opportunity for industry partners to become part of an innovation ecosystem tasked to develop cutting-edge technology able to bring new benefits and capabilities to customers. Current partners include:

- **Spacecraft**
  Boeing *(satellite manufacturer)*, SpaceX *(launcher)*
- **Ground Infrastructure**
  ALCAN, Isotropic Systems, Viasat *(customer edge terminals)*
- **Intelligent Software**
  Amdocs *(ONAP)*, Microsoft *(ONAP/Azure)*, Kythera Space Solutions *(ARC)*

Vertical Markets & Customers

O3b mPOWER is designed with the scale, flexibility and performance to enable the cloud-connected world on land, at sea and in the air for the following markets:

- **Mobility:** cruise, commercial shipping and aero
- **Telecom:** telco, mobile network operators and cloud providers
- **Government:** military, government agencies and non-governmental organisations
- **Enterprise:** oil & gas, mining and other businesses

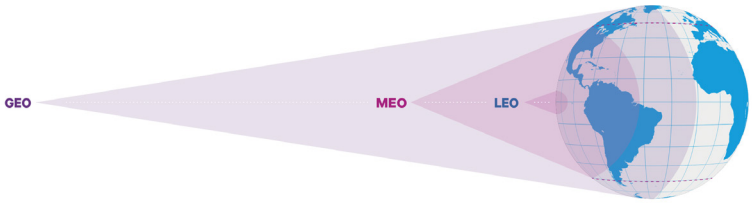
O3b mPOWER CUSTOMERS

PRINCESS CRUISES

orange™

THREE TYPES OF ORBITS

Geosynchronous Earth Orbit (GEO), Medium Earth Orbit (MEO) and Low Earth Orbit (LEO)



GEO

- 36,000km
- Medium latency (~700 msec)
- Very large Earth view
- Few fixed gateways
- Stationary antennas (3 satellites for global coverage)
- Proven, deployable technology

NGSO MEO

- ~ 8,000km
- Low latency (~150 msec)
- Large Earth view
- Several flexible gateways
- 1-hour slow tracking (6 satellites for coverage)
- Proven, deployable technology

NGSO LEO

- ~ 1,000km
- Very low latency (~50 msec)*
- Small Earth view
- Numerous local gateways
- 10-minute fast tracking (100's-1,000's needed for coverage)
- Technology still in development for satellite internet

** Gateway distance, ISL & ground network dependent*

Learn more about O3b mPOWER
o3bmpower.ses.com/newsroom