WE ARE SES

We are the world’s leading satellite-enabled solutions provider.

Our network reaches 99% of the world’s population. We connect and enable broadcast, telecom, corporate and government customers, powering the development of connectivity across the world.

Our global network is built on a foundation of more than 50 satellites in Geostationary Earth Orbit (GEO), 12 satellites in Medium Earth Orbit (MEO), and an expansive ground infrastructure.

We offer a full suite of powerful end-to-end solutions that optimally deliver to market demands.

SES has two business units, SES Video – focused on the needs of our media and broadcast customers, and SES Networks – focused on the needs of our connectivity customers.

Our mission is to connect, enable, and enrich.
WE FUEL HIGH-QUALITY VIDEO EXPERIENCES AROUND THE WORLD

• Our satellite networks reach 325 million homes, totaling over 1 billion people
• With more than 40 DTH platforms, over 700 broadcasters trust us to deliver a wide range of media content to their customers’ homes – including standard definition, High Definition (HD), and now Ultra HD (UHD)
• We distribute over 7,500 TV channels, and are by far the largest HD and UHD platform
• We provide a range of solutions for both linear and non-linear content as well as delivery on multiple screens
• We offer global end-to-end media solutions, including playout of content and distribution for video-on-demand, streaming via internet, and satellite broadcasting

WE SUPPLY SCALABLE BANDWIDTH FOR CONNECTIVITY WORLDWIDE

• Satellite technology enables us to deliver connectivity to aircraft, ships and fixed telecom sites around the world
• Our flexible network is fast to deploy, making it ideal for highly differentiated applications in industries such as aeronautical, maritime and cellular networks, as well as government and institutional operations
• We serve all four major inflight connectivity providers – Global Eagle Entertainment (GEE), Gogo, Panasonic Avionics and Thales
• Our network bridges the digital divide by delivering connectivity to those people and industries across the globe that are the hardest to connect
• Together with our wholly-owned subsidiary SES Government Solutions, which focuses completely on the US government market, we serve 62 governmental and institutional entities globally

OUR BUSINESS DRIVES TECHNOLOGICAL INNOVATION ON THE GROUND AND IN SPACE

• On the ground, we work closely with our customers and partners to develop tailored solutions that enable the connectivity they need
• In space, we provide a fleet availability rate of 99.99936%
• We continually support ground-breaking new technologies, such as reusable launchers, satellite refuelling and in-orbit satellite payload exchange, fueling innovation in the space industry
In addition to satellite infrastructure, we provide a differentiated global offer with a complete range of value-added services delivered through dedicated service companies.
LAUNCH MANIFEST
2017 - 2021:

We have invested in a number of new satellites to be launched in the years to come to increase opportunities for both customers and end-users. In the fast-growing economies of Asia, Africa and Latin America, the new satellites will enable new service possibilities. In established markets, they will deliver to increasingly bandwidth-hungry services. The new satellites complement our expanding global fleet of more than 65 satellites and our network of teleport.

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** Procured by LuxGovSat

The SES executive management team combines decades of experience in a wide variety of disciplines.

We have 2,000 employees of more than 65 nationalities in over 20 locations worldwide.

From left to right:
- Ferdinand Kayser – Chief Executive Officer, SES Video
- Padraig McCarthy – Chief Financial Officer
- Christophe De Hauwer – Chief Strategy & Development Officer
- Karim Michel Sabbagh – President & CEO
- Evie Roos – Chief Human Resources Officer
- Martin Halliwell – Chief Technology Officer
- Steve Collar – Chief Executive Officer, SES Networks
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Satellites are launched into space in a matter of hours, however they live on for years in orbit. Follow stages 1 to 16 to learn about their orbit, the technology, and the people who make it all possible.
As the world's leading video platform, we enable broadcasters to deliver over 7500 TV channels to 325 million TV homes and nearly one billion people worldwide. With 30 years of experience, we provide high-quality broadcasting and OTT services, including direct-to-home (DTH), Cable, IPTV, and digital terrestrial TV (DTT) distribution, as well as Video on Demand (VOD) services for OTT platforms. Beyond providing capacity, our value-added services include management, play-out and encryption services, as well as tailored engineering services.
VIDEO SOLUTIONS

MX1 provides fully managed playout and turnaround services, such as channel origination and management, content processing, and delivery to TV service providers across the globe. Additionally MX1 offers a complete suite of next generation video services to deliver video to VOD and OTT platforms through its media service platform MX1 360. This suite of capabilities cover the complete video value chain, from the content producer to the viewer, who is watching on any screen, at any time.

HD+

Founded in 2009, HD+ provides broadcasters in Germany with a platform to deliver their HD content to paying audiences via satellite. HD+ is a B2C company, interacting directly with customers to bring HD quality content into their homes. Users of HD+ have access to more than 50 channels in HD quality, including 23 of the largest commercial broadcasters in Germany. Today HD+ has over two million paying subscribers, and in February 2017 launched HD+ ExtraScreen, which uses Sat>IP technology to enable viewers to enjoy HD quality video delivered via satellite on their tablets or smartphones.

4K ULTRA HD

We are the first satellite operator to broadcast a commercial Ultra High Definition (UHD) channel, and the satellite operator broadcasting the largest share of High Definition (HD) channels. Today we broadcast 34 Ultra HD channels and continue to drive forward the development HDR (High Dynamic Range), as part of Ultra HD phase 2.

Sat>IP

Sat>IP is an innovative technology that converts satellite signals into Internet Protocol (IP) standard, enabling viewers to watch high-quality satellite TV programmes on multiple IP-enabled devices throughout their household. This enables HD quality video delivered via satellite for multi-screen and multi-room viewing.
For telcos, Mobile Network Operators (MNOs), internet service providers, and cloud service providers, we deliver reliable, high-performance network infrastructure and services. This includes capacity on demand, and cost-effective mobile backhaul solutions anywhere on the planet.

With satellites in multiple orbits transmitting in multiple bands, our global data network and communications solutions for maritime provide broadband connectivity to vessels of every size in any body of water or port in the world.

With oil and gas, mining, hydro, wind and solar energy companies and their ecosystems rely on SES Networks’ multi-orbit, multi-band GEO and MEO satellite fleets to provide secure, high-performance network connections – no matter how remote or widespread.

We provide reliable and critical connectivity for defence, civil, and humanitarian operations that is rapidly deployable, often in the most challenging situations and remote places imaginable.
**O3b mPOWER**

The passion of the SES Networks team has always been to connect more people with more opportunities. We’ve proven that we can transform lives around the world, as well as the satellite industry itself. As part of SES, we have both the experience and the resources to continue delivering on this vision, and with O3b mPOWER we’re taking it to the next level.

With O3b mPOWER, SES Networks is laying out its blueprint to transform the communications industry and unlock pent-up demand for high-growth data services. The original O3b MEO constellation was always envisioned as the first step in a bold and strategic evolution in global data services, and now O3b mPOWER facilitates the rapid shift to a cloud-based world – anywhere in the world.

To meet the demand, O3b mPOWER scales the proven O3b model to deliver a ubiquitous, low-latency “virtual fibre” network to 30,000+ endpoints while seamlessly integrating with all other network infrastructure – from GEO satellites to fibre to microwave and new innovations from service and content providers aimed at connecting more people than ever.

O3b mPOWER challenges the conventional wisdom of what satellite services can do. As a high-powered, highly distributed network, O3b mPOWER has the ability to provide millions more people, businesses, content, cell towers and data centres with high-performance cloud-scale connectivity. As a result, it expands the role of satellite in an increasingly seamless global networking environment, and it opens a world of digital opportunity for people and organisations of all sizes regardless of their location or application requirements.

In short, O3b mPOWER is the highest-capacity, farthest-reaching, and most flexible satellite-based communications system ever. And it has the potential to empower more people with the opportunities that come with high-performance connectivity than ever before.

### CUSTOMERS & MARKETS

Data services are the growth engine for the industry as customers across markets look to low-latency networks and to facilitate the massive shift from local storage to cloud-based, network-centric operations. O3b mPOWER is designed to meet the global demand for an “on-demand” experience in the digital economy.

### PARTNER ECOSYSTEM

O3b mPOWER represents an open invitation and a major business opportunity for the entire industry to innovate and grow. From leading technology providers to value-add service partners, SES Networks envisions an ecosystem of suppliers that will collaborate and leverage the capabilities of O3b mPOWER to create the most compelling, cost-effect, end-to-end experience for customers.

### O3B mPOWER TECHNOLOGY

A system unlike any other, O3b mPOWER includes step change technology advancements, including a new constellation of advanced MEO satellites, ground infrastructure innovation and convergence, and new software intelligence. The result is cloud-scale connectivity for low latency, application-aware services virtually anywhere in the world.
**Networks in numbers**

- **Serves Fixed Data customers in**
  - >130 countries
- **Serves**
  - >300 enterprise customers
  - ≈80% of enterprise revenue from Tier-1 applications/managed services
- **Industry-leading latency for any satellite-based broadband system**
  - <150 ms

**Reaches**
- >1M enterprise-grade data terminals
- Connecting the unconnected
- Provides more than 10 Gbps to remote islands around the globe

**Can enable up to**
- 150 Mbps of LTE backhaul per tower
- Providing over 1 Gbps per cruise ship

**Provides connection to**
- About 2,500 connected planes today
- Provides coverage of global maritime and aeronautical traffic 99%
- Scalable connectivity ranging from 100 Mbps to 1 Gbps per cruise ship

**Serves**
- >1,000,000 passengers of Royal Caribbean Cruises per year

**Participant in**
- >5 PPP's
  - GovSat
    - 50% SES
    - 50% Luxembourg Government
  - European 5G PPP
  - Electra
  - emergency.lu
  - SATMED

**Infographic based on 2016 end-of-year figures**

**Ground Infrastructure and Managed Services Projects in 2016**
- New global customers under contract in 2016
- >10

- 5
- 24 Europe
- 13 US
- 12 Africa
- 4 Middle East
- 4 Other
- 3 Asia
- 2 UN

- 28 countries served

- 62 government entities

- 5 hosted payloads since 2011
- 5

- 10 SATMED

- 68 GovSat transponders

- >100 PPPs

- >40 emergency.lu

*SES Government Solutions
**Public Private Partnership
OUR COMMITMENT

Connectivity can fuel life changing applications such as e-emergency, e-health, e-learning, e-elections, and e-banking, and the reach of satellite gives us the power to bring these services to people anywhere in the world.

emergency.lu

When a natural disaster strikes, one of the top concerns is establishing a reliable means of communication. First responders, government services and humanitarian organisations rely on their link to the world to coordinate effective relief efforts. This is why we collaborate with the Luxembourg Government and other organisations in Luxembourg to provide emergency.lu, a satellite based communications platform to deliver connectivity during disaster response.

• emergency.lu serves as the lead agency for the Emergency Telecommunications Cluster of the World Food Programme

• Offered by Luxembourg as a free public good to the global humanitarian community

• Has been deployed over 40 times in countries including Haiti, Nepal, Vanuatu, the Philippines, Sierra Leone, Dominica, and Saint Martin

E-HEALTH: SATMED

Improving access to health care around the world is crucial to development, which is why SATMED is enabling access to, and simplifying, e-health. The Luxembourg Government and SES collaborated to make SATMED a reality, and the platform is delivered with the support of medical NGOs and technology partners around the world.

• SATMED reaches isolated areas with poor connectivity to improve public health in emerging and developing countries

• It has been deployed in Sierra Leone, Benin, Philippines, Bangladesh, Niger

E-LEARNING

Our e-learning initiatives provide Internet connectivity to e-learning facilities in isolated areas to bridge the digital and information gap.

E-ELECTIONS

We worked with local partners in Burkina Faso to enable the secure digital transmission of the electoral results from 368 locations across the country for the Burkinabe Presidential Election in 2015.

E-BANKING

Our satellite connectivity is providing fast and reliable e-banking services in remote and isolated areas in Africa, making improved financial services available.

IMPRESSUM

All brand and product names may be registered trade marks and are hereby acknowledged. It is our policy to produce the document with a minimum impact on the environment. To this end the paper used is 100% chlorine free woodpulp from sustainable forests, using thinnings and waste from the timber industry and is totally recyclable and biodegradable. Our printers are fully accredited to the ISO 14001 environmental management system. They utilise vegetable based inks and operate a direct computer to plate repro system, eliminating the need for film with its chemicals such as developer and acid fixers. This report is printed on Heaven 42, an environmentally responsible 100% recycled paper made from 100% post-consumer waste and bleached chlorine free (PCF).

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