In a world increasingly inter-connected, cloud-based and data-driven, LeoSat Enterprises is launching a constellation of up to 108 low-earth orbit (LEO) communications satellites providing the first commercially available, enterprise grade, extremely high-speed and secure data service worldwide.

Using optical inter-satellite links and operating in polar orbits at an altitude 5 x closer to earth than MEO and 25 x closer than GEO, LeoSat has many advantages when it comes to throughput, latency and true global coverage. As such, LeoSat offers a unique data network solution with the highest performance offered by any existing or planned system, including fiber.

Combining the Speed of Fiber with the Ubiquity of Satellite

The LeoSat system is being developed in conjunction with Thales Alenia Space, a company with unmatched expertise in designing and manufacturing low earth orbit constellations. The high-throughput satellites (HTS) will form a mesh network interconnected through laser links, creating an optical backbone in space which is about 1.5 times faster than terrestrial fiber backbones, thus creating a paradigm shift in the use of satellites for data connectivity – rather than a gap filler or last resort where no terrestrial alternative is available. LeoSat will offer a highly secure and ubiquitous service that can rival and often beat fiber in terms of latency.

Secure, High-Throughput, Resilient Network for Governments

Governments are increasingly looking to the commercial satellite sector and in particular next-generation satellite constellations to provide the innovative and resilient communications infrastructure they need. The Military and Government sector relies on a number of key attributes when it comes to communications networks. Critical operations require bandwidth intensive applications, near real time command and control and advanced sensor capabilities. The proximity LEO satellites have to the earth translates into lower latencies and better data rates. Security and resilience are also key attributes and with a “touchless architecture” - taking traffic in its native form and carrying it from any point on earth to any point on earth without touching the earth’s surface in between and therefore completely isolated from any terrestrial infrastructure – this is an enormous advantage to the Military. And for Embassy communications, rooftop-to-rooftop without any terrestrial touchpoint in between, means an ultra-secure, resilient communications network.

Key Features

Instant Infrastructure from Anywhere to Everywhere

- Rapid Deployment
- Ultra-secure
- Low Latency
- High Capacity
- Efficiency
- Real-time Connectivity
The LeoSat satellite constellation uniquely provides customers with symmetric, very high-speed, low latency and highly secure communications between locations anywhere on earth, completely independent of existing terrestrial networks.

This system, which consists of up to 108 satellites orbiting at approximately 1,400 kms, is being developed together with Thales Alenia Space, the leading satellite manufacturer with unmatched expertise in developing and manufacturing constellations. Each satellite in the LeoSat constellation utilizes optical inter-satellite links (ISLs) to connect to the satellites around it, creating fiber-like symmetric connectivity with speeds of up to 1.6 Gbps and even 5.2 Gbps where needed. Customers use their LeoSat terminal to connect to the nearest satellite from where the data is routed onwards by On Board Processors (OBPs) through LeoSat’s space-based optical backbone until the data reaches the destination satellite which connects with the customer’s destination terminal. Contrary to bent-pipe HTS solutions, gateways are not a pre-requisite for LeoSat to operate its network. For customers, this unique use of technology allows for premise-to-premise connections with no terrestrial touch-point in-between and sets a new bar for high-speed networks.

### Satellites

Each satellite in the constellation supports:
- 10 Ka-band steerable antennas, each providing up to 1.6 Gbps of symmetrical data connectivity
- Two steerable high-performance antennas, each providing up to 5.2 Gbps of symmetrical data connectivity
- 4 optical inter-satellite links

### Availability

- 2019 Launch of two Early Birds offering GigaByte Store and Forward Services
- 2021 Start of launch of the constellation offering real-time, point-to-point connectivity with coverage growing from the Poles to the Equator on completion
- 2022 Full Worldwide Service Available