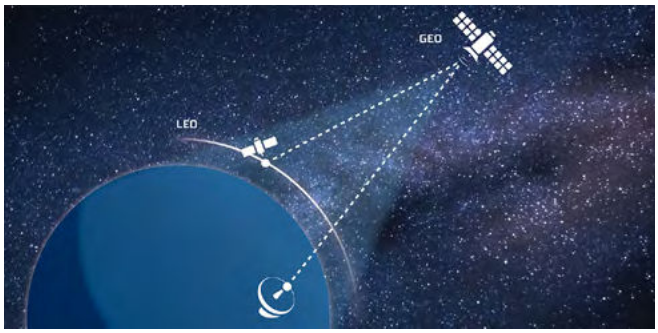
SB-SAT Protocol Stack
Enhanced Connectivity for Your LEO Satellites

Gatehouse Satcom

Relay data from LEO to GEO satellites for cost-efficient and real-time connectivity

By using a proven protocol stack, significant savings can be realised in terms of both time and money. Furthermore, it reduces risk in the development process of an SB-SAT modem.



The SB-SAT Protocol Stack is a protocol stack for use on Low-Earth Orbit Satellites (LEO), and in combination with Inmarsat's I4 and I6 networks of GEO-stationary satellites it enables global and continuous connectivity to LEO satellites. IP connectivity from LEO spacecrafts provide low-cost access to real-time TTC and payload data with bandwidth up to 492 kbit/sec. Coverage is close to global at LEO orbits which provides satellite operators access to real-time satellite data from anywhere.

The Gatehouse SB-SAT Protocol Stack for Low-Earth Orbit (LEO) Satellites is a low risk alternative to a key component in development of an SB-SAT modem. SB-SAT technology provides you with enhanced connectivity for LEO satellites and thereby optimises the use of LEO satellites and the applications that runs with the satellite. i.e. you can rely on a proven and mature satellite system for the relay of generated data. Furthermore you are utilizing already allocated spectrum.

The Gatehouse SB-SAT Protocol Stack is an adaption of the market-proven BGAN Protocol Stack which has been deployed in more than 120,000 end-user terminals for land, maritime and aeronautical uses.

SB-SAT is based on the aeronautical terminal classes and provides additional features for use in low-earth orbit:

- IP connectivity up to 492 kbit/s
- Antenna pointing
- Beam handover and satellite switching
- Predictive handover at spot-beam boundaries
- Accurate return link burst timing based on orbit extrapolation
- Predictive Doppler compensation

SB-SAT Protocol Stack is complemented with a test suite for efficient development and qualification.

Get in touch

Get in touch with us to learn how embedded satellite communications software can enable your roadmap. You can contact us at satcom@gatehouse.com.