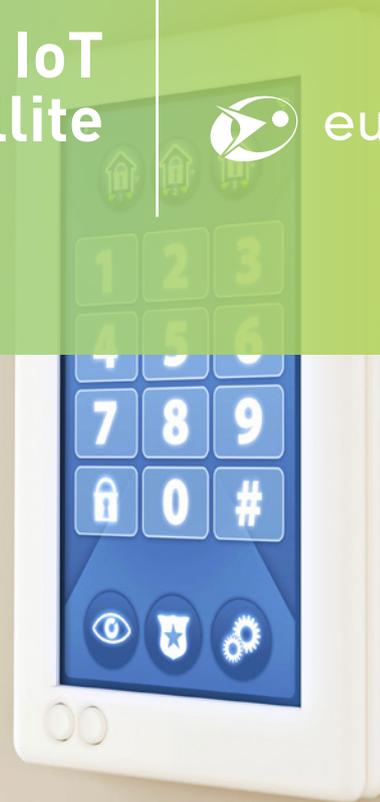# SmartLNB M2M & IoT via satellite

eutelsat

Eutelsat's SmartLNB, an innovative cost-effective connectivity solution for low-throughput applications, enables Machine-to-Machine (M2M) and other connected services via satellite.

KEY FEATURES

→ Valuable satellite link for M2M and IoT backhauling (up to 160 Kbps/terminal).

→ Low cost and low power equipment.

→ Based on open standards (IP, UDP, TCP, DHCP, ...) for straightforward integration and operation.

→ Highly efficient transmission protocol optimised for low data rate consumption.

→ Global coverage on Eutelsat's fleet with use of multiple frequency bands (Ku, Ka).

→ Complementary to LPWA networks (Sigfox, LoRa, ...).

As the market for Internet of Things (IoT) and intelligent connected objects takes off, applications which collect or exchange very small volumes of data with remote devices are increasingly part of our daily lives. Their uses range from traditional industrial M2M applications, such as metering and remote monitoring for power plants and oil & gas pipelines, to new IoT applications for the environment and Smart Cities, such as monitoring public lighting and air pollution alerts. Whether the data is gathered locally with wired or wireless technologies, via local base-stations or store-and-forward mechanisms, information from several remote sites is often backhauled to a single network service centre for centralisation.

Eutelsat has developed a unique new satellite technology tailored for this type of low data rate consumption. The SmartLNB solution provides highly efficient connectivity to low throughput applications via satellite. In addition to satellite's traditional advantages of ubiquitous, secure and resilient communications, Eutelsat now offers the cost-effectiveness required by players in these sectors, both in terms of equipment costs and optimisation of the satellite capacity. The solution uses a dedicated bandwidth with guaranteed QoS, on a network fully dedicated to the service and not subject to congestion or jamming.

For consumer-oriented IoT applications, the SmartLNB solution can be combined with satellite TV broadcast reception. This enables broadcasters and platform operators to expand their offers with in-home and interactive applications on a single user infrastructure, including audience measurement, home automation, security and e-health.

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How it works

The SmartLNB solution is based on the Eutelsat Broadcast Interactive System (EBIS), an IP network composed of a hub, satellite segment, and numerous remote interactive satellite terminals.

A typical remote installation requires a standard satellite dish and a SmartLNB terminal, which provides a bi-directional IP link over satellite optimised for bursts and message-type traffic on the return link.

The SmartLNB solution uses standard protocols (IP, UDP, TCP, DHCP, …) for straightforward integration with the user's equipment and applications.

Communication between the hub and interactive terminals is controlled at the physical and link layer by the F-SIM protocol, based on an asynchronous access scheme whereby all terminals in the network spread the traffic on the same channel bandwidth, resulting in very high spectrum efficiency.

The SmartLNB solution provides a wide range of terminals with cost-effective satellite bandwidth on Eutelsat's worldwide satellite footprints. These low-cost satellite terminals have a minimal power consumption, even in transmission mode. Their installation, pointing and activation are simplified by a series of user-friendly support tools.

Eutelsat's SmartLNB connectivity solution for M2M applications and IoT backhauling is already available in Europe, MENA and the Americas, and under deployment in other regions.

Connectivity for:
- M2M
- IoT backhauling
- Home automation and security
- Smart Grid
- Smart Agriculture
- SCADA
- Remote diagnostics and telemetry
- Firmware and software updates
- Environmental monitoring
- Wireless Sensor Networks
- Data gathering
- e-Health

SmartLNB

IP

LAN connectivity