

Silvanet Mesh Gateway



Distributed LoRaWAN® Gateway for Large-Scale Outdoor Networks



The Silvanet Mesh Gateway expands the Silvanet Network for large-scale deployments using a patent-pending multi-hop LoRaWAN mesh network, far beyond the range of standard single-hop gateways.

It connects via LoRa, supporting both Silvanet Wildfire Sensors and third-party devices. In forest environments, the solar-powered Mesh Gateways can cover a radius of 2-10 km depending on the local topology and positioning.

The Mesh Gateway operates solely on LoRa radio to communicate with other Mesh Gateways or a Border Gateway, with no need for direct 4G/LTE or wired connections. The built-in solar panels and satellite connectivity (Europe and North America) ensure off-grid operations even in very remote locations.

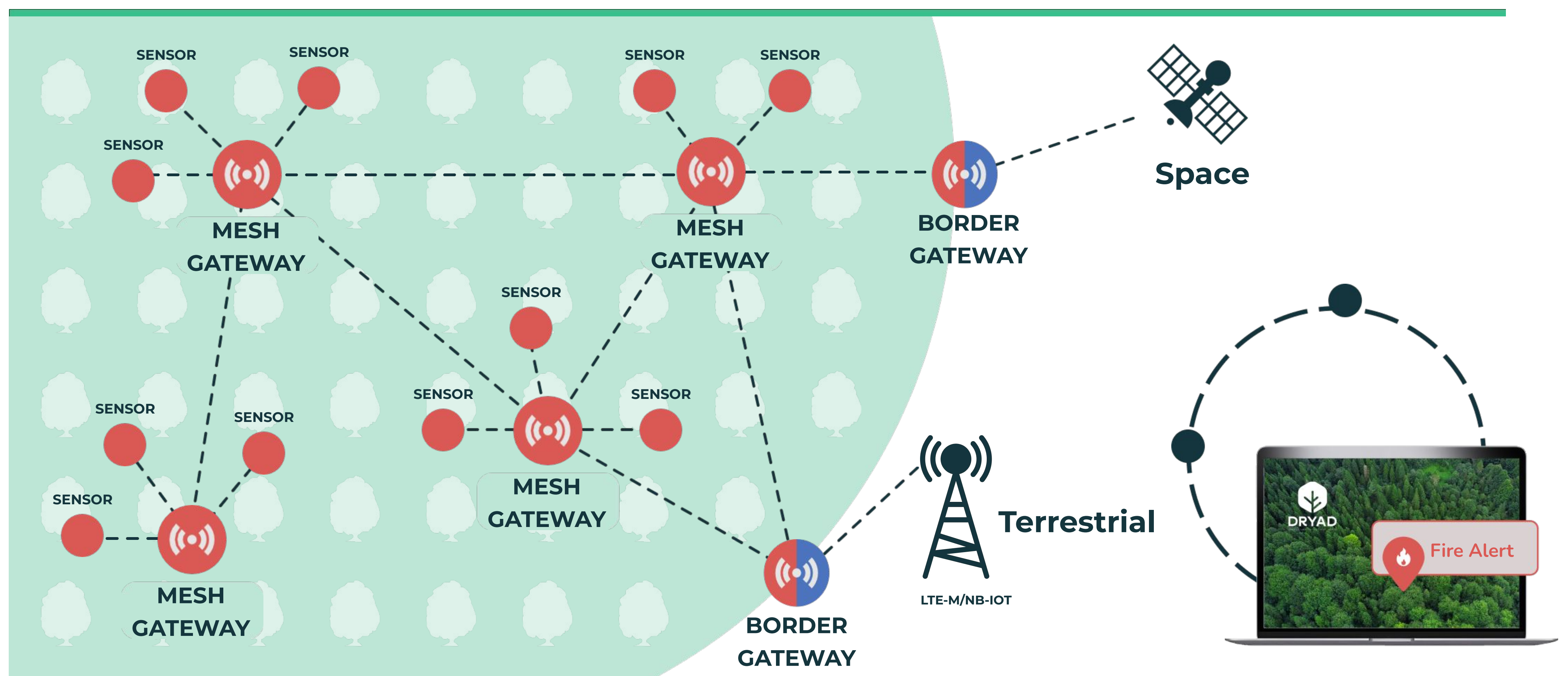
DIFFERENTIATORS

- Extends LoRaWAN networks to large areas
- Solar-powered
- Supercapacitors instead of batteries
- Supports any LoRaWAN-compliant sensors

FEATURES

- Built-in satellite connectivity (Europe and North America only)
- Self-healing, automatic failover mesh network
- Firmware Updates Over-the-Air (FUOTA)

SILVANET MESH NETWORK ARCHITECTURE



Silvanet Mesh Gateway



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Mechanical Specifications

Size	82 x 34 x 10 cm
Weight	6.8 kg
Solar Panel	50 x 25 cm
Operational Temperature	-40°C to +85°C
Operational Humidity	0% to 100% Condensing
Ingress Protection	IP67
Material	Plastic (Weather, UV-proof)

Regulatory Compliance

USA (FCC)	Europe (CE RED)
Canada (IC)	CB Scheme
Thailand (NBTC)	Indonesia (SDPPI)

International type approvals available upon request

General Characteristics

Maintenance	Maintenance-free (10-15 years)
Mesh Gateway to Border Gateway (Ratio)	Typically 20 Mesh Gateways per 1 Border Gateway
Mesh Gateway to Sensor (Ratio)	Typically 100 sensors per Gateway
Max distance between Mesh Gateways	2 - 10 km, depending on topology and placement
Power source	Solar-powered
Energy Storage	Supercapacitors, battery-free
Installation	Tree- or pole-mounted
Provisioning	NFC for local debugging and configuration

Connectivity

S-band
EchoStar Mobile LoRa® satellite network

LoRa Radio Parameters

ISM Bands	NA902-928, AU915
ISM Bands	EU868, AS923
Tx Power	<27dBm (local regulations)
Receive Channels	5
Transmit Channels	1
Antenna connection	Custom, built-in

Dimensions

