GeoWAN™

Long-range monitoring

Where a geotechnical or structural monitoring solution is required to cover a large area, such as a mine or a city, we would usually recommend our GeoWAN™ communication platform.

GeoWAN™ uses a lower frequency radio band than FlatMesh™. It is based on the industry-standard LoRaWAN protocol and is capable of long-range transmission with sensors able to communicate with a gateway at a distance as great as 15 km.

Monitoring systems using GeoWAN™ have the power to transmit through physical obstructions, enabling, for example, integration of sensors in boreholes or on buildings above a tunnel with movement sensors measuring deformation inside the tunnel.

From the gateway the options for getting the data to the outside world are restricted only by the available infrastructure. The simplest option in most cases is to use the gateway's integrated cellular (2G/3G/4G) modem; alternatively, the gateway's Ethernet connection may be used to enable connectivity via WiFi, ADSL or cable connections.

Applications

- Tunnels and pipelines
- Dams, mines and quarries
- Covered or obstructed assets and open areas or congested urban environments
- Buried or subsurface structures e.g. basements
- Highly dispersed asset monitoring

Features

- Full range of wireless geotechnical/ structural sensors
- Up to 4 km range in urban environments
- Maximum range of 15 km in optimal conditions
- Up to 15 years battery life on nodes
- Flexible gateway options
- Seamless roaming across gateways for ultimate system redundancy

GeoWAN™ Specifications

Parameter	Value
Communication Type	**Star Topology**
Frequency Band	**863 MHz – 928 MHz ISM Band**
Maximum Transmit Power	**20dBm (actual transmit power depends on geography)**
Range	**Up to 15 km depending on the environment and antenna used**
Maximum Reporting Frequency	**30 seconds (Depending on network capacity)**

To find out more about GeoWAN™, please visit

https://www.senceive.com/flatmesh-geowan-platforms/geowan