Télemos is dedicated to the continuous and wireless structural monitoring of telecommunication towers and pylons. Telemos makes it possible to evaluate the behavior of the structure subjected to permanent loads and, above all, to variable loads, such as those deriving from the action of the wind.

TÉLEMOS

Structural Monitoring of Telecommunication Towers and Pylons

Télemos is a stand alone and **immediately operational** multifunction monitoring system. Télemos allows the implementation of a **highly distributed monitoring,** in a very simple and economical way.

Four core values for structural monitoring are under constant control::

- **deformation**
- **temperature**
- **inclination**
- **seismic activity / vibrations**

Télemos can be easily and quickly installed on most materials: concrete, metal (steel, aluminum), composite materials, ect.
A turnkey solution from sensor to software.

STRAIN
Accuracy of +/- 1 microstrain

TILT
Accuracy of 0,02° on three axes.

TEMPERATURE
Resolution of +/- 0.03°C (-30/+75°C range).

VIBRAZION
Vibration characterization oversampling function (trigger).

TÉLEMOS

Construction material: composite material and vulcanized cover

Environmental protection: IP68

Strain resolution: +/- 1 microstrain

Combined trim sensor: (accelerometer, gyroscope, magnetometer) inclination reading on three axes (accuracy of 0.02 °), vibration reading and trigger function for oversampling (full description on request)

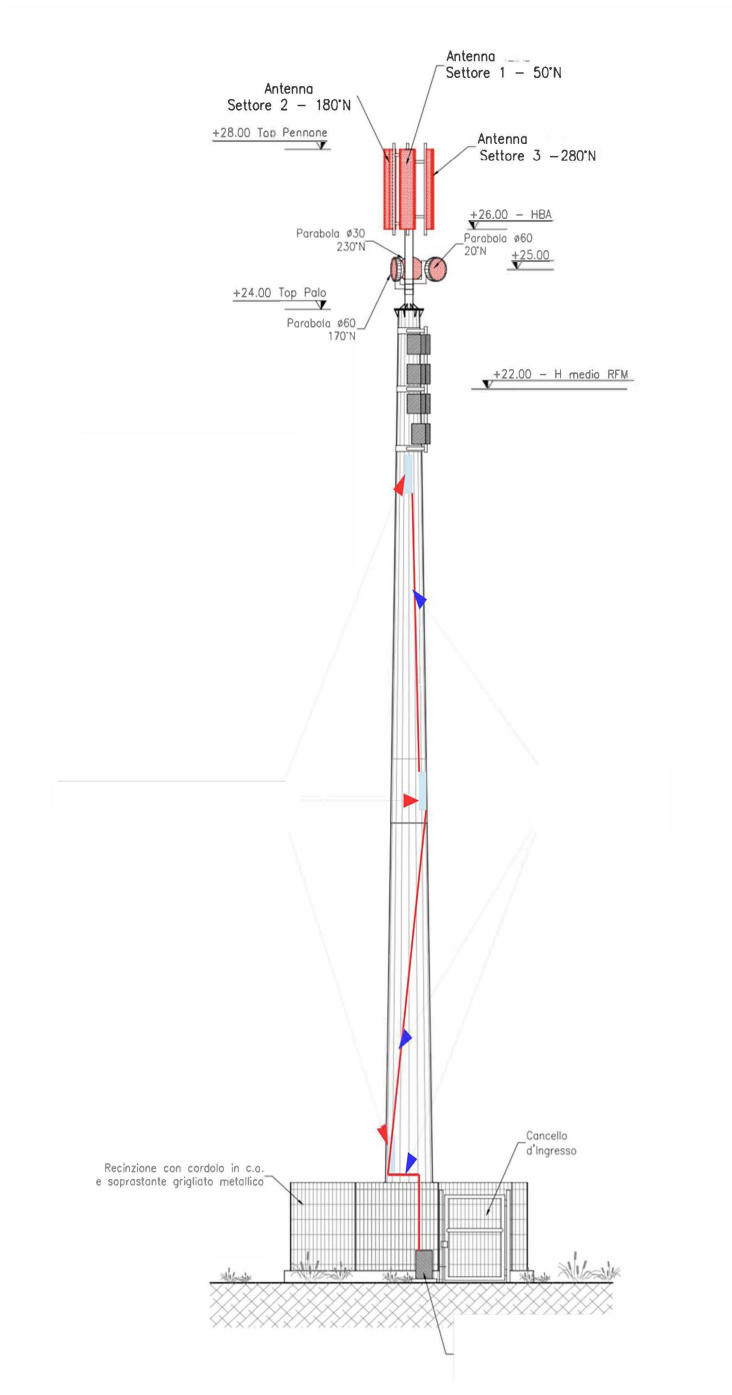
Temperature: resolution of + / - 0,03°C

Connectivity: radio LoRa 868 Mhz / 915 Mhz, RS-485

Radio range: up to 7 km

Power supply: lithium-polymer battery, 3,6 V

Battery lifespan:: 18 years (reading every 15 min and 8,5 Ah) o or more



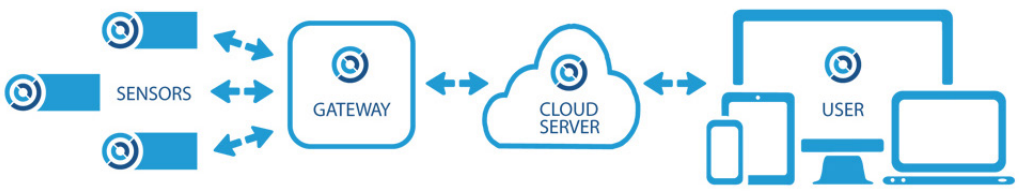
SYSTEM ARCHITECTURE

SMART SKIN SENSOR

The heart of the system is the Smart Skin Sensor, a next generation strain sensor made of composite materials and embedded carbon nanotubes and fibers. A thin laminate perfectly resistant to external agents. The onboard microelectronics further comprises a tilt / seismographic sensor, a temperature sensor and a transmission unit assembled in a single PCB.

GATEWAY E CLOUD SERVICE

The Gateway offers bi-directional communication with the sensors and forwards the data to a cloud server, where a powerful user interface (GUI), accessible via web, makes the processed data available in real time. The GUI also permits remote interventions on the system and alert settings.



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