

EION BYTES

EION INNOVATIVE WIRELESS SOLUTIONS

Monitoring Oil and Gas Equipment in Hazardous Environments with Innovative Wireless Mesh Sensing - Remote Data Available in Real-Time



The Innovative Objective

Rugged, wireless mesh nodes at the wellhead can instantly access flowmeter data, pressure sensors, pump efficiency and more. This business-critical field information can securely be sent, in real-time, to the command center for action without the costly need to send technicians to remote areas to evaluate each well. Take the data one step further with performance, workflow and maintenance analytics to continually analyze, improve and optimize the business in safety and production.

The Challenge

Most Oil & Gas Companies are looking for a non-invasive way to monitor equipment in their terminals, such as large tanks, pumps and other outdoor equipment. Requirements usually monitor tank conditions, pump status and additional equipment, all with little disruption to existing process control to maintain safety and avoid process downtime. Additionally, the data is required to be sent to its Real-Time Data Normalization, Analytics, and Notification database.

The outdoor monitoring areas are presenting additional challenges. All sensors and associated monitoring equipment needed to be non-invasive, be easily installed and utilize wireless communications. Other environmental challenges included outdoor areas with large metal obstructions throughout—communications to and from sensors needed to be highly reliable. To meet safety requirements, all monitoring devices had to be rated for outdoor and hazardous environments.



Wireless Mesh Node

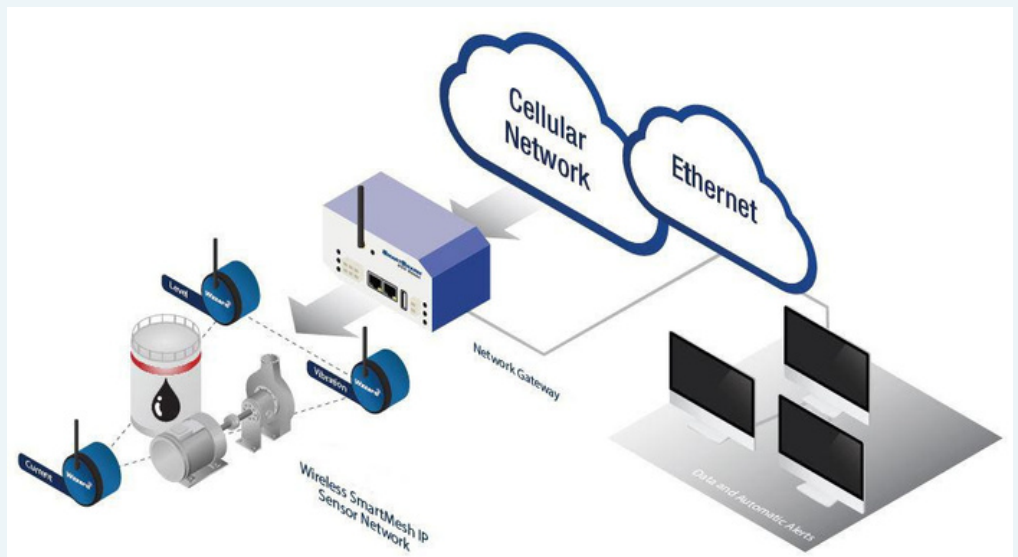
Wireless Mesh nodes support industry-standard external sensors such as A/D I/O and thermocouples with an internal sensor and integrated antenna options.



Wireless Mesh Gateway

Wireless Mesh Gateways integrate data from diverse systems, remote devices and sensors into dashboards, analytics, and predictive maintenance programs.

The Wireless Mesh provides a stable, reliable connection even in challenging RF conditions. The Industrial Nodes are rated Class 1/Division 2 for hazardous locations, rated IP67 for outdoor use.



Different types of Wireless sensors are required: clamp-on current sensors, thermocouples and vibration sensors for monitoring the condition of pumps, motors and gearboxes. Additional Sensors are Pressure, Flow and Tank level sensors. All sensors will be connected wirelessly.

The Wireless Mesh product family is an innovative monitoring solution that combines reliability with a rugged, industrial-rated enclosure. Additionally, the entire solution is easy to install, utilizing non-invasive sensors.

Another perk is the wireless node battery operation option; devices don't require electricians and expensive wiring to operate. But if the sensors themselves require power, there are also solar options available. Along with a versatile Gateway, these advantages provided a complete IoT solution that met all of the customer's requirements.



Benefits

- Ultra-low-power 802.15.4e Wireless Mesh Node IP technology
 - Communicates with the network gateway via highly scalable and reliable wireless mesh networks
 - Connect to industry standard analog or digital sensors
 - Mobile App lets you read or configure the nodes using Android tablets and smartphones
 - Rugged, IP67 rated, fibre reinforced polyester PBT enclosure
 - MQTT and JSON IoT protocol to application platform
- UL Class1/Division 2 (hazardous locations)

Visit our website