FLOWSERVE LoRaWAN MONITORING SYSTEM

An end-to-end wireless equipment monitoring solution for thousands of assets

The Flowserve long-range (LoRa) system offers a reliable, cost-effective and secure way to monitor and optimize a fleet of assets over sprawling facilities. This complete solution gives you everything you need to collect equipment performance data and generate insights to improve your plant's efficiency, productivity and profitability.

LoRaWAN system benefits

Reduce unplanned downtime and make smarter decisions

Identify and respond to equipment issues before they lead to downtime. With equipment performance trend analyses, you can make more informed decisions about plant-wide reliability improvements.

Save time

Technicians only need to inspect assets that are in alarm state, reducing time spent analyzing healthy equipment.

Improve safety

Sensors can be installed on equipment throughout your plant, even in explosion-rated areas. Remotely monitoring this equipment limits the time technicians will need to spend in hazardous areas.

Long-range, reliable and secure transmission

Long-range and reliable transmission makes it possible to cover an entire plant with just a few gateways. With complete encryption, your data is secure throughout the entire process.

Designed for remote monitoring

Two-way communication allows operators to remotely change the settings of the sensors (e.g., adjust the transmission rate) to get all the data needed to diagnose performance issues.
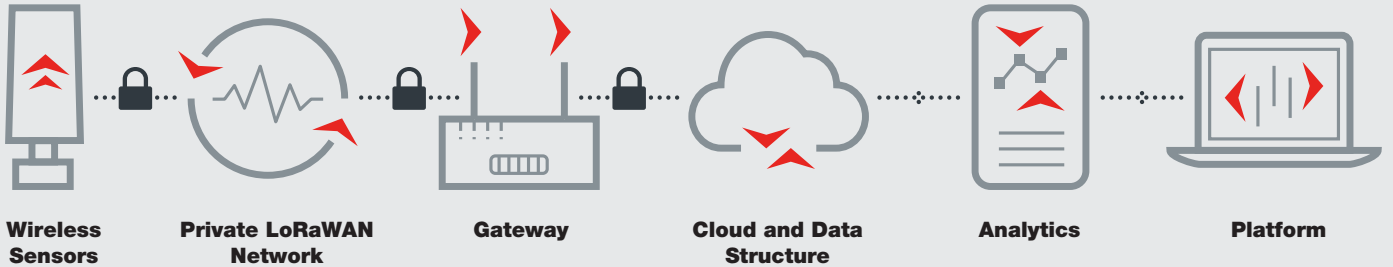
The complete LoRaWAN system

| Wireless Sensors | Private LoRaWAN Network | Gateway | Cloud and Data Structure | Analytics | Platform |

Wireless sensors

Wireless Node ER sensors collect vibration (three axes, including compressed FFT spectrum), temperature and pressure data. These battery-powered sensors easily can be installed on equipment throughout your plant, including explosion-rated areas (Class I Div 1 / ATEX Zone 0).

Private LoRaWAN network

A long-range >1.6 km (1 mile), reliable and secure, bi-directional communication for thousands of assets protects sensitive equipment data. This network is ideally suited for IoT remote monitoring and is specifically optimized for industrial environments.

Gateway

Data collected from Node ER sensors is transmitted to the cloud via a private network service provider, with a secure and encrypted end-to-end transmission. One gateway can receive data from hundreds of nodes.

Cloud and data structure

Cybersecurity is ensured with an IoT architecture based on a private LoRa network service provider, inclusive of licenses and software for a cloud platform, historian database and web-based visualization tool called the Insight Portal.

Analytics

Any issues get flagged immediately, and an alert will be sent to both you and a reliability engineer at the Flowserve Monitoring Center for further review and follow-up. By leveraging LoRaWAN's bi-directional communication, it is possible to interact with the sensors and change transmission rates or request more detailed information.

Platform

The Flowserve Insight Portal consolidates equipment performance data in an easy-to-interpret user interface. With simple and clear dashboard visuals, you immediately can identify which assets are experiencing problems. And because you can access the Insight Portal via the cloud, you can monitor your equipment from anywhere.

Flowserve Node ER

Battery-powered, wireless long-range sensors transmit vibration, pressure and temperature data every 15 minutes (adjustable transmission rate) to Flowserve's secure cloud-based Insight Portal, giving you a detailed description of your equipment's behavior. Having this data enables you to see how equipment performs over time and address anomalies quickly. The Node ER is certified for Class I Div 1 / ATEX Zone 0 areas.