Enhancing Pipeline Integrity With Digi IX30

Digi's ruggedized solutions support scalable, reliable connectivity in harsh environments

The Challenge

Pipeline infrastructure plays a critical role in the transportation of oil, gas and water across vast distances. Ensuring the integrity of these pipelines is vital to prevent costly downtime, safety hazards and environmental damage.

The Solution

Digi IX30 is a complete cellular router solution with integrated remote management that supports IoT-based monitoring and predictive maintenance across the pipeline infrastructure — even in the most demanding environments.

Data Transmission

IoT sensors can measure subtle changes in pressure or flow rate that may indicate a breach in the pipeline. Digi IX30 transmits data to and from sensors with high-stakes rigor:

- ⊘ Advanced LTE connectivity allows it to transmit massive amounts of data
- ⊘ VPN tunneling supports secure data transmission
- ⊘ Instant fault detection and self-healing grid capabilities help keep networks reliable

Network Management

Digi IX30 is engineered for easy integration with existing pipeline sensors and monitoring and control systems. This complete solution with integrated remote monitoring and management helps ensure pipeline infrastructure reliability.

- ⊘ Flexible use of Modbus and MQTT protocols
- ⊘ Seamless integration with SCADA systems, cloud-based platforms or on-premise servers
- ⊘ Remote control and firmware updates enabled by **Digi Remote Manager®**

Outdoor Installation

Ordinary routers cannot withstand harsh, remote pipeline environments including deserts, offshore locations and extreme climate zones. Digi IX30 is designed for these challenges:

- ⊘ Temperature operating range from −34 °C to 74 °C (−29 °F to 165 °F)
- ⊘ Rugged IP30-rated design ensures resistance to dust and water ingress
- ⊘ Low-power feature is easily configured for remote and off-grid applications
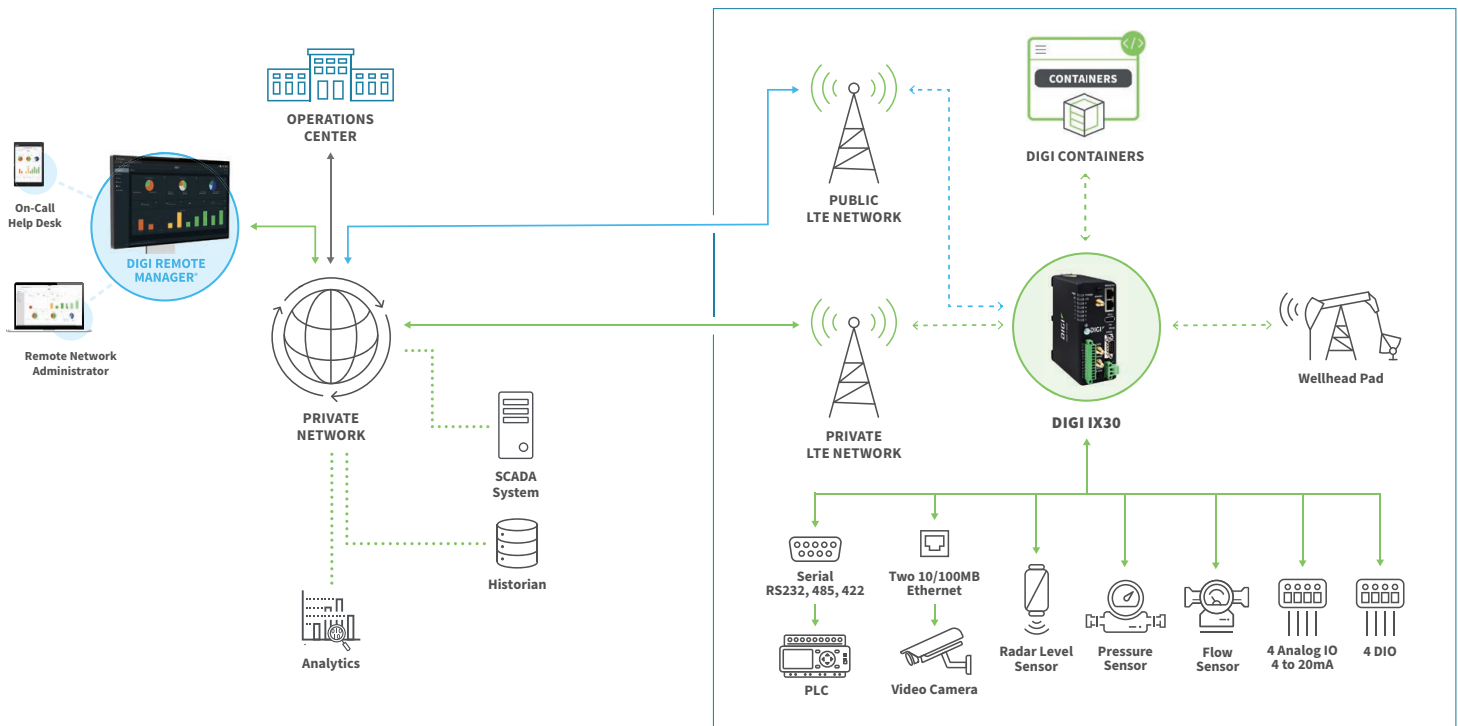
The Difference
World-class Network Deployment

- ⊘ **Seamless international compatibility**: Global LTE and HSPA+ support and certification on major carrier networks

- ⊘ **Complete pipeline networking**: 4G LTE connectivity enables transmission of sensor data on pressure, flow, temperature and gas composition

- ⊘ **Built to handle hazardous conditions**: C1D2 and ATEX rated; NEMA TS2 temperature rated

- ⊘ **Enhanced network protection**: License-free enterprise software with VPN, firewall, logging and authentication

- ⊘ **Designed for longevity**: Digi IX30 is offered under one Digi 360 SKU with remote management, support and warranty, and with integrated **Digi TrustFence®** security.

Reduce Risk. Improve Efficiency.

- ⊘ Receive real-time updates and alerts about pipeline conditions

- ⊘ Implement predictive maintenance using data for failure prevention

- ⊘ Improve analytics with high-speed, high-volume data transmission

- ⊘ Install pipeline infrastructure monitoring in virtually any location

The Outcome
Data-driven Oil and Gas Pipelines

Industrial cellular routers are transforming the way oil and gas pipelines are monitored and maintained. By enabling real-time monitoring through smart sensors, the Digi IX30 industrial solution provides unparalleled insights into pipeline integrity, including leak detection, pressure management and predictive maintenance. With its rugged design and advanced LTE connectivity, Digi IX30 ensures reliable performance even in harsh environments, allowing operators to prevent failures, minimize downtime and extend the lifespan of critical pipeline assets.

Digi IX30 is an intelligent 4G LTE industrial cellular solution designed for critical infrastructure and industrial applications. This rugged, full-featured solution is part of a portfolio of purpose-built connectivity solutions that are tough enough to serve the demanding requirements of upstream and downstream oil and gas applications.

Learn more at www.digi.com.

Download the Digi IX30 datasheet ⊙

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