GE Edge Solution Provides Monitoring of Interior Piping Wall to Reduce Risks

For many in the Oil & Gas industry, reducing unplanned downtime is an important step in improving both productivity and profitability. Ensuring that piping is structurally sound is key to keeping Oil & Gas facilities up and running.

Challenge

Routine monitoring of piping for corrosion costs Oil & Gas facilities billions of dollars each year. Each facility can have thousands of miles of piping which must be periodically checked. But these pipes are often in difficult-to-reach locations. A large percentage of piping inspection is done manually. These traditional physical inspection methods are dangerous and time-consuming and can expose workers to extreme temperatures, toxic and combustible gases, or radiation.

Action

Through its Edge technology, GE's Automation & Controls is helping Baker Hughes, a GE Company (BHGE) deploy Predictive Corrosion Management, an Industrial Internet solution that digitizes the inspection process and provides the current and projected interior wall loss data of these difficult-to-reach pipes.

BHGE is using Automation & Controls Mini Field Agent* technology to connect their Rightrax* PM corrosion monitoring system to the Predix* cloud for visualization and corrosion tracking. The Rightrax system features ultrasonic sensors mounted directly to the pipes to monitor the interior wall thickness of the pipe for corrosion and erosion.

These sensors are wirelessly connected to a central processing unit with a gateway server. The Mini Field Agent transmits the sensor data via cellular connectivity from the gateway to the Predix cloud.

From the Predix cloud, integrity managers, corrosion engineers, operations engineers, and others can view the interior piping wall thickness data at the asset or fleet network level via a dashboard. Or, customers can subscribe to a service where GE manages their piping information. Armed with data that would otherwise be unavailable, customers can assess the integrity of assets and make informed decisions with the help of analytics about remaining life, viewing current and projected corrosion rates, measuring interior piping wall thickness and temperature, and predicting future corrosion-related risks.

Result

By deploying Predictive Corrosion Management, BHGE customers can access much more current and reliable data about the health of their operations. This data can help improve uptime, extend the lifetime of critical assets, reduce corrosion-related risk, improve worker safety, reduce inspection costs, and enable customers to proactively manage maintenance and operations.

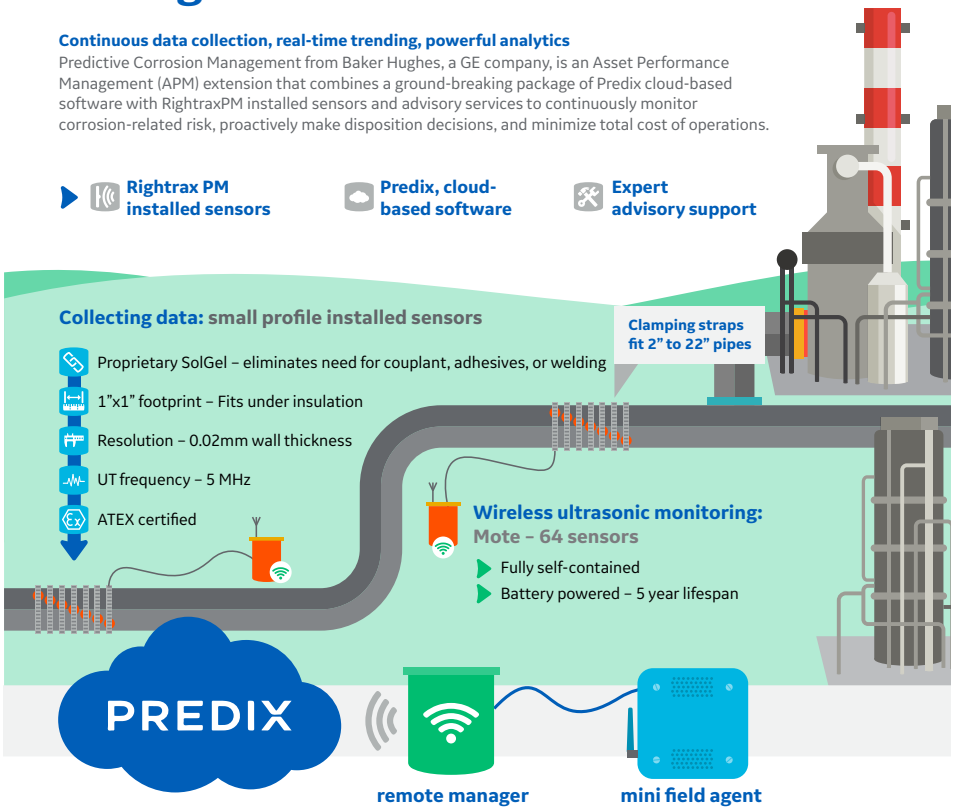
But the benefits of the solution extend beyond piping monitoring. Inspection data can be integrated with other process information to run scenarios and visualizations to help optimize an entire operation by determining how changes in various plant processes may impact piping corrosion.

Predictive Corrosion Management

Continuous data collection, real-time trending, powerful analytics

Predictive Corrosion Management from Baker Hughes, a GE company, is an Asset Performance Management (APM) extension that combines a ground-breaking package of Predix cloud-based software with RightraxPM installed sensors and advisory services to continuously monitor corrosion-related risk, proactively make disposition decisions, and minimize total cost of operations.

- **Rightrax PM installed sensors**
- **Predix, cloud-based software**
- **Expert advisory support**



Forecast remaining asset life

View current and projected corrosion rate

Measure wall thickness and temperature

Predict future corrosion-related risks

Our killer app that drives insights:
Asset Performance Management

- Continous inspection
- Integrity assurance
- Maintenance optimization

Improve uptime and extend asset life with Predictive Corrosion Management

- Improve uptime and extend the life of critical assets
- Protect asset integrity and reduce corrosion-related risk
- Maintain personnel safety
- Reduce inspection-related costs
- Proactively manage maintenance and operations
- Enhance reliability of data for informed decisions

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