



news brief

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Media contact: Grace Capwell
AutomationSolutionsPR@Emerson.com

Emerson's Plantweb™ Insight applications deliver fast ROI and provide a low-barrier entry point to the Industrial Internet of Things

The application portfolio offers easy-to-deploy, asset- and problem-focused insight to drive operational excellence

When it comes to achieving operational excellence, information is power, but only if it's the right information in the right hands. Thanks to the Industrial Internet of Things (IoT), modern-day plants can generate more information than ever before but often lack the analytics and expertise needed to transform that information into truly actionable data – data that plant personnel can use to dramatically improve the safety, reliability and efficiency of assets, people and processes.

Emerson's Plantweb Insight applications, which leverage Emerson's Pervasive Sensing™ strategies, help users instantly make sense of plant data to drive overall enterprise profitability. It's a single, lightweight, easy-to-install web-based platform that automatically and strategically interprets plant data through a scalable suite of applications.

Pervasive Sensing uses the power of advanced sensing technologies to provide continuous, dependable, real-time data that powers Plantweb Insight applications to support customers' operational excellence programs in key performance areas such as reliability, safety, production, and energy and emissions management.

Plantweb Insight features a user-friendly, intuitive interface capable of running on any device with access to a web browser (desktop computers, laptops, tablets and mobile phones). Pre-built analytics require minimal configuration, and its flexible software is operating system-independent, easily installing and integrating with existing infrastructures.

Using Plantweb Insight, users can improve asset reliability and energy usage by identifying abnormal situations and inefficiencies, recognizing optimum maintenance times, and tracking asset health to identify and prevent failures before they occur. They also can avoid potential safety incidents and ensure regulatory compliance, reducing fines and environmental impact through the real-time identification of leaks and other hazards.

The power of Plantweb Insight resides in its collection of easy-to-deploy applications, each containing the embedded domain expertise and analytics that enable existing resources to immediately identify and resolve asset issues that historically were addressed by periodic, manual rounds or unexpected failures. These applications are designed to help users realize the most from Pervasive Sensing strategies at their sites.

More than a dozen total applications are scheduled for release, with each dedicated to a single, specific asset class. The first three applications are available now and future applications will be released at a rate of two per quarter.

Plantweb Insight is currently available with applications for steam trap monitoring, pump monitoring and pressure gauge monitoring. Future applications include:

- Air-Cooled Heat Exchanger Insight
- Asset/Location Insight
- Corrosion Insight
- Electrical Equipment Insight
- Heat Exchanger Insight
- Hydrocarbon Leak Insight
- Mass Flow Insight
- Power Module Insight
- Pressure Relief Device Insight
- Safety Shower Insight
- Wireless Network Insight

Steam Trap Insight

Steam Trap Insight instantly identifies steam trap failures using wireless acoustic transmitters to remotely monitor steam traps, even in hard-to-reach locations. Up-to-the minute visibility of all steam traps allows manual rounds to be eliminated and dramatically reduces energy waste.

Steam trap leaks can account for 5 to 10 percent of total energy costs for a plant. In steam systems that have not been maintained for three to five years, as many as 15 to 30 percent of installed steam traps may have failed without maintenance personnel being aware. Plants employing Steam Trap Insight are estimated to achieve an annual savings of a half-million dollars and a return on investment in just seven months. One such plant, Denka Chemicals Singapore, realized a 7 percent reduction in steam demand after identifying 24 steam traps as having failed and an additional two to three failures per month as well as flank leaks and bypass valve passing. They are now monitoring nearly 150 steam traps.

Pump Insight

Pump Insight provides predictive health monitoring aimed at identifying and diagnosing the underlying problems that lead to pump deterioration and failure. Through monitoring and analysis of temperature, vibration, efficiency, pressure and deviation data, wireless, real-time insight into cavitation and pump health is generated and visually provided to plant personnel. This early detection of potential pump failures enables corrective measures to be enacted before plant performance is adversely impacted or safety and environmental issues occur, potentially saving time, money and lives. Analysis of a 250,000 barrel-per-day refinery shows plants using Pump Insight can achieve more than a half-million dollars in annual savings, with an estimated return on investment in 11 months.

Pressure Gauge Insight

Working in tandem with Emerson's Rosemount® Wireless Pressure Gauge, this application visually delivers safer and more reliable readings, enabling remote collection of field data as frequently as once per minute. Accurate, wireless readings keep operators updated on changing field conditions remotely – reducing manual operator rounds and improving safety by keeping personnel out of hazardous areas and safeguarding against catastrophic events.

The gauge itself – the industry’s first *WirelessHART*® pressure gauge – utilizes field-proven piezoresistive sensor technology to deliver reliable pressure readings. It provides up to 150 times overpressure protection compared to traditional gauges and two layers of process isolation for a safer field environment. The gauge, which has a 10-year life, also reduces maintenance costs and time by eliminating common weak points found in mechanical gauges through the removal of components that inhibit the device from displaying pressure.

About Plantweb

Emerson’s Plantweb™ digital ecosystem is a next-generation Industrial IoT portfolio that extends the power of automation beyond process control to the entire enterprise to enable Top Quartile performance. The ecosystem supports Emerson’s Operational Certainty program, which is designed to help companies improve earnings as much as 15 percent. It meets four critical needs to do this: real-time operating data across the business, secure transport of that data where it is needed, robust and scalable software applications to convert that data into actionable insights, and the domain expertise to make decisions and drive outcomes. Flexible, integrated and scalable, the Plantweb digital ecosystem features robust, real-time visibility from Pervasive Sensing™ technologies, protected by Secure First Mile™ connectivity. Applications including Plantweb Insight, Plantweb Advisor and the AMS ARES™ Platform provide embedded domain expertise across the enterprise. Emerson Connected Services offer secure cloud-based access to experts and analytics for real-time asset monitoring and performance optimization with no-to-low capital investment.