

Customer Use Case

CONNECTED MAINTENANCE

How a manufacturing plant will reduce Preventive Maintenance activities by 50% while improving reliability on costly steam traps.





THE PROBLEM: COSTLY STEAM TRAP FAILURES

With a strong asset management and maintenance program in place after rolling out Maximo to all 9 sites, the Customer was looking for ways to reduce costs while improving their maintenance program and asset reliability. The Customer saw a problem, specifically around their steam traps.

Despite routine annual PMs being performed, the steam traps were failing at a rate of 25% per year, or 1 out of every 4. Steam trap failures are usually difficult to identify, meaning failures can result in up to 12 months of unnecessary energy loss before the asset is inspected and the failure is addressed.

CUSTOMER PROFILE

Company: A large cheese manufacturer

Customer Project Lead: Senior Director of Maintenance Operations, responsible for company-wide asset reliability with over 30 years manufacturing experience

Total Number of Sites: 9

Maximo Use: Version 7.6.0.8 rolled out across all 9 sites as of June 2017

Critical Asset Involved: Steam Traps

Solution Overview: Connected Maintenance for Maximo

In order to detect failures, the Customer needed a way to “listen” to their steam traps to detect when a failure will or has occurred, and automate the work response to immediately dispatch maintenance. Aquitas’ Connected Maintenance solution for Maximo was the perfect fit.

Connected Maintenance leverages an integration between the leading Industrial IoT technology of ThingWorx integrated with IBM’s Maximo, enabling the automated creation of Work Orders in Maximo after an anomaly is detected in ThingWorx. The solution also utilizes the Industrial Connectivity of Kepware.

How does it work?

Advanced Condition Monitoring

Whether it’s connecting to an existing PLC through EtherNet or using Kepware to collect sensor data, connecting to and “listening” to your assets is the first step.

Anomaly Validation System

Set condition parameters using multiple variables to identify when an anomaly is not only unique, but problematic.

Automated Maintenance Workflow Response

Once an alert is validated, a work request is immediately generated in Maximo where Workflow kicks in to alert and dispatch maintenance

PILOT DETAILS

The Customer decided to move forward with a Connected Maintenance Pilot to prove out the ThingWorx platform and integration with Maximo.

The Pilot included the following:

- Installation of ThingWorx on the Company's servers
- Seamless integration between ThingWorx and Maximo for automated Work Order creation
- Sensors installed to "test" steam traps and connected via Kepware
- Condition Monitoring parameters set in ThingWorx.

Condition Monitoring Parameters: If outlet temperature drops below 140°C more than 4 times within 2 hours, a work order is created in Maximo.

TIMING

With the Customer committed to getting the pilot started quickly, **the time from "Go" to "Work Order Capable" was less than 4 weeks.**

A 3-day on-site meeting with key players was scheduled, and by Day 2 of the meeting, all devices were accessed and communicating, test scripts were being sent and triggering Maximo Work Orders, and development began on "non-technical" reports and screens.

After the initial installation, the Customer went on to get 3 other plants connected, completing about 1 plant per week.

IMPACT OF SOLUTION

In a typical manufacturing plant that uses steam in its operation, an average failed steam trap could cost \$4,500 in wasted energy costs. So consider, for example, if you have 100 steam traps and 25% fail annually, that means you are looking at about \$112k/year in failure costs just from your steam traps. Or, \$112k in potential cost savings!

While the Customer is still early in the process, what the results of our pilot tell them is that the impact of having their assets talk to them could be enormous!

The Customer has approximately 70,000 equipment locations, and spends over 250,000 labor hours inspecting these locations.

By listening to their assets, the Customer expects to reduce their preventive maintenance activities by 50%!

That would translate to savings of 125,000 hours of labor. That labor availability can be used to accomplish other maintenance activities, or can help address the "aging workforce" issue all maintenance organizations are facing by giving you the ability to get more done with less resources.



CONTACT US TO LEARN MORE!

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