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PROCESS INSTRUMENTATION

Be there without being there

– SITRANS store IQ

Chemical Storage Tank Inventory Monitoring

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For nearly a century, three generations of the Nonweiler family have catered to the unique needs of customers seeking custom-formulated coatings and paints for challenging industrial, commercial and residential applications. The Oshkosh, Wisconsin-based A.P. Nonweiler Company, Inc. operates one of the most advanced production plants in the paint industry, with 167,000 square feet dedicated to fulfilling virtually every coating and laminating request imaginable – from water- and solvent-based coatings for wood, Hardie® Board and vinyl siding to polyaspartic floor coatings and coatings for ceramic.

Successfully manufacturing such a broad range of products requires sufficient infrastructure to store solvents and solutions in large volumes – and, just as critically, the ability to know how much is being stored at any given time. After years of relying on an inflexible tracking process, A.P. Nonweiler recently introduced cloud-based remote monitoring technology into their facility to increase inventory transparency, save valuable man-hours and minimize the risk of costly shutdowns.

“I was able to go on vacation with the peace of mind that came from knowing my chemical tank storage levels in the plant at all times.”

*Doug De Witt, Plant Manager,
A.P. Nonweiler*



Daily inventory monitoring

A.P. Nonweiler stores their raw materials in several high-capacity tank farms spread across the plant. To stay ahead of dwindling inventory and ensure timely replenishment, the company exclusively employed a local level monitoring system for 24 individual chemical storage tanks. This system consisted of 24 level transmitters (including several SITRANS LR250 transmitters from Siemens) installed on the tanks and connected to a Honeywell data recorder via a local Ethernet network. Tank level measurement data was read directly from the recorder or from the operations PC.

As consumption quantities tend to fluctuate, the plant manager was required to check tank fill levels locally at the plant on a daily basis. The monitoring system provided no option for remote access, which made it impossible to view critical information while he was away from the office or to receive automated notifications when tank levels were low.

A cloud-based IoT solution

Realizing it was time to upgrade their level monitoring technology, A.P. Nonweiler turned to Lesman Instrument Company, an authorized Siemens channel partner. Lesman recommended the Siemens SITRANS store IQ web-based cloud application, an intelligent level monitoring solution that would effectively address the plant's tank monitoring challenges in several ways. The store IQ app:

- connects to any manufacturer's instrumentation, uploads multiple measurements to the Siemens MindSphere cloud platform, and allows users to monitor their process data from any location in real time;
- is accessible via a secure web browser and optimized for both desktop and mobile devices; and
- provides user-friendly overviews, KPI dashboarding and alarms via voice, email or SMS notifications.

The Siemens Engineered Instrument Solutions (EIS) team in Harleysville, Pennsylvania, provided a simple and cost-effective Internet of Things (IoT) hardware solution to A.P. Nonweiler. The device integrates with the company's existing data recorder using a single connection and standardized industry protocols – no need to modify or replace what was already installed. Once connected, it reads level data for the 24 tanks from the recorder and sends the data securely to the store IQ app.

The EIS team pre-configured, tested and shipped the IoT enclosure directly to the Wisconsin facility. Installation, onboarding and training were completed seamlessly in less than three hours via a virtual meeting between A.P. Nonweiler and a Siemens technician.



Transparency, flexibility and satisfied customers

Immediately, the company gained real-time access to all process data from the tanks – allowing them to monitor tank status and receive alarm notifications regardless of current location. But that was only the beginning. According to Doug De Witt, Plant Manager at A.P. Nonweiler, "The store IQ app does more than just tell us the levels in our tanks. It empowers us to make better-informed decisions."

De Witt used the app to create threshold alarms for each tank and assigned notifications to key personnel, including Purchasing Manager Beth Miller. As a result, Miller can now determine more quickly when to order raw materials based on current plant production demands, even when visiting a vendor site or working from a remote location.

A.P. Nonweiler's sales department is also reaping the benefits of improved inventory transparency. When on the road, the Head of Sales consults the app at customer sites to determine how much solvent he can sell at one time. He also checks store IQ when offered good deals by suppliers to estimate when the company will be able to take delivery.

Since installation, the app and associated hardware have been operating 24 hours a day, 7 days a week, with no unexpected issues or failures. The IoT-based level monitoring solution has helped the company improve operational efficiency, reduce unplanned production downtime and ensure they meet or beat all delivery deadlines – which in turn has increased customer satisfaction. And, with new employees slated to come on board in the near future, this growing company sees significant potential to expand both the user base and the ways the app is leveraged throughout the organization. For example, they envision that the new Environmental Manager will be able to use store IQ to simplify the process of reporting data to governmental authorities. Given the solution's versatile and customizable design, the possibilities are virtually limitless.

According to Miller, "We're very happy using SITRANS store IQ. The added comfort that we get from being able to monitor our tanks when we're not here has alone made it a worthwhile investment." And De Witt is quick to expand on this much-appreciated advantage: "The information we need is always at hand and easily accessible. In fact, I was able to go on vacation with the peace of mind that came from knowing my chemical tank storage levels in the plant at all times."

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