HOW TO BETTER SEE AND USE YOUR DATA

Learn from a dairy processor that gained insight into operations by using advanced process automation and centralizing and gathering real-time data, which helps managers make better decisions for profitability and efficiency.

In an industry where margins often are razor thin, it’s critical that food manufacturers have access to real-time plant-floor data so they can make adjustments quickly to the production environment. This was not happening at one cheese and dairy ingredients manufacturer, where manual reporting practices were hindering management’s visibility into operations and their ability to make changes necessary to maintain profitability. Manual production data recording was both time-consuming and error prone, and data often was days old by the time it reached management.

When the manufacturer rolled out a new generation of flavor-enhancer products in five of its facilities, management saw an opportunity to improve manufacturing data analysis and reporting across the enterprise. Managers wanted the ability to simultaneously gather data from plant historians and SQL servers across its facilities, and use this data to create reports and real-time dashboards through a centralized Web interface.

Gather the Data
To achieve this goal, the food processor first needed a platform that would support a multi-plant, real-time interface to a central point for analyzing manufacturing information. The manufacturer worked with Malisko Engineering, a control, process and information Solution Partner and member company in the Rockwell Automation PartnerNetwork™, to implement a virtualized PlantPAx™ process automation system from Rockwell Automation. This system provided the framework necessary to produce and gather plant-floor data from each facility.

As part of the control system upgrade to the PlantPAx system, Malisko implemented FactoryTalk® View Site Edition human-machine interface (HMI) software from
Rockwell Automation. The team designed user-friendly screen layouts and functionality to offer consistency across all facilities.

Sophisticated alarms and events now save the food processor time in troubleshooting. Operators can use associated tags to include process data with event information and alarm messages. This means operators automatically receive relevant information that describes what the system’s environment looked like when the alarm was triggered. The software also interfaces with Rockwell Automation alarm was triggered. The software also interfaces with Rockwell Automation environment.

The system upgrade enables the process system and HMI to run from a centralized server that can be accessed via remote desktop connection in the food processor’s other facilities. No longer tied to specific hardware, virtual HMIs can extend the company’s software life cycle.

In addition, virtualization frees up server space and IT maintenance time needed with the previous approach. The virtualized process system allows the food processor to take hardware offline for maintenance or future upgrades, while the system remains operating. IT can migrate the application between servers to improve uptime or speed disaster recovery — without interrupting production.

With the virtualized PlantPax process automation system in place, the company then implemented a manufacturing intelligence strategy to better gather and analyze the production data. Leveraging FactoryTalk VantagePoint EMI software, the company now can access federated data from all its plants in one screen for centralized viewing and analysis.

In addition, historical process data from a variety of sources on each facility’s plant floor can be retrieved for dashboards and reports in real-time. FactoryTalk Historian software archives the data. Because data always remains at its original source, whether in the controller, the historian or a SQL server, operators, maintenance staff, plant managers and business executives can share information more easily and quickly while maintaining only one version.

Gaining Greater Visibility
Using the FactoryTalk VantagePoint software, Malisko organized each plant into areas using commonly referenced industry and business terms, rather than cryptic equipment serial numbers. They also assigned user groups so plant managers and maintenance personnel could access data specific to their individual facilities and roles.

Production reports were set up within the application that allow management to view hourly, daily, monthly or annual data online. Managers also can view trends by month, allowing them to analyze specific events, such as the effect of a cold spell on dryer efficiency.

“The ability to see, in real time, which side of the profitability line a plant is operating has been a game changer,” says Steve Malyszko, Malisko Engineering president. “Virtualizing the system gave the customer the added bonus of reducing risk and improving future flexibility. They now have crucial production data available to managers and corporate personnel to monitor, without the need for manually generated reports.”

Malisko Engineering of St. Louis is a Rockwell Automation Solution Partner for Information, Control & Process. Its multidisciplined team of engineers, designers, programmers, and automation and validation specialists help clients safely increase production speed, reduce cost and maintain product quality.

Malisko Engineering
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