KM
KISTLER-MORSE
Measure of Success

Plastics Material Management Vastly Improved with Intranet-based Material Tracking System

Kistler Morse helps fast-growing, industry leader of vinyl windows and doors reduce costly material tracking costs with an automated, intranet-based material tracking system.

Problem:

There are many 'growing pains' associated with expansion and as an industry leader, this manufacturer works diligently to improve its efficiency in material tracking. When a new manufacturing plant was added across the street, load cell-based weighing systems were installed on the four (4) bulk receiving silos. The digital weight readouts were a vast improvement over the time and resources spent taping the bins and volumetrically calculating the inventory. However, the information was merely data point. For the information to be productive, it had to be useful to a variety of people throughout the plant and remotely to the material suppliers. The information was even required by Maintenance who were responsible for verifying system calibration and that the system was up to performance standards.

It was estimated up to 40 hours each month were spent gathering, formatting, disseminating and acting on the raw material storage data. If there were a way this could be done automatically and individually configured to each user, these 40 hours or more of time could be converted to 40 hours of actual value-added productivity. But how could this be accomplished inexpensively, quickly and with extreme simplicity given the different uses of the data?

Maintenance needed to have the silos readouts verified regularly which meant going to the silos and doing checks at the sensors and the controls. If they could have remote access and control of the instrumentation and historical data spreadsheets, they could save a couple hours; 2-3 times that if the data was gathered, organized and configured for them automatically resulting in about 1 day a month that could be better utilized elsewhere in the plant.

Purchasing was spending about 20 hours a month doing fact gathering. To determine optimum reorder points, weight data needed to be documented daily; sometimes more often and sometimes over the weekends. Material demand varied and the supply line originated 2000 miles away. At any time there were multiple rail cars coming from different sources with varying delivery schedules that they were coordinating with the supplier. Rail cars were typically side-railed for about 30 days at $100/ day ($3000 per month). Purchasing also scheduled the local transport trucking company that offloaded the rail cars that acted as a buffer. How could this be streamlined?

Finance was faced with company expansion and lean manufacturing that put extreme demands on inventory; the goal being not to have any! Furthermore, the problems associated with costing material usage and rework runs required much data, time and resource. If the plant were to build additional production facilities elsewhere in the country, all the complexities grow exponentially. For Finance to get information individually configured took time in planning and in producing. How could this be accomplished and remain flexible for future change?

The IS group must work with many internal customers that have individualized information needs; the information needed can be 'moving targets' and change with time. Either the Information System's group needed to write and provide individualized material information or find a way to automate it.

Application:

The plants three large-capacity receiving silos are used to store PVC pellets from once source, and colored pellets from another (both 2000 miles away). The fourth silo stores regrind from the process itself. The various skirted silos hold between 150,000-lb. and 250,000-lb. and are instrumented with four (4) 100,000-lb. capacity Kistler Morse Load Stand load cells. For each pair of silos, there is one multi-vessel controller (the Model Weigh 2) which displays the stored inventory values in each silo. The ORB 2.0 Transformer provides the link between the Indicator data and the plant information needs.

Solution:

The initial inventory visibility problem was discussed with Purchasing and Finance. Since the Kistler Morse solution included the installation of the new ORB 2.0 Transformer, an encrypted server system, the IS department was also involved. The proposal was to interconnect both weight controllers' serial ports to the ORB instrument via an RS422 serial interconnection. Using the ORB's Ethernet interface port, the system would be connected directly to the plant's intranet. Once the Information Services group (IS) assigned ORB an address, it was brought up using the standard browser and each assigned user began their own data configuration from the built in spreadsheet. No special training, software or options were required.

Maintenance gained complete access to the weight instruments along with historical tracking for each scale's outputs. They can make any necessary checks or evaluations anywhere from the plant network.

Purchasing gained complete material tracking and rate of usage. They have now given the transport company visibility which can now assume more responsibility in scheduling their deliveries based on the trends. 2000 miles away, the plastics suppliers are also evaluating the information to make their process and shipping decisions.

Finance, now that they've got the information they want, have more ideas about production improvements based on how they configure the information. With new plants being considered, they feels better prepared than ever to meet the challenge.

IS enjoys the simplicity, compatibility and usefulness ORB provided. It required very little involvement on their part, and they liked it that way!

Benefits:

ORB's investment returned its ROI in a matter of weeks, not months or years. It required no additional programming nor did it interfere with the existing weighing system. In the future, added features will allow Maintenance's scales to self-assess and notify them with any performance or tolerance issues which they can access and change. They can add other inputs to the system such as temperature, pressure, level, etc. to have universal visibility and control of the plantwide sensing systems. They can do this without IS' programming. Remote supplier decisions can be made by people directly who actually provide the material and delivery services. These systems are backed by KM's exclusive service advantages and even KM's remote tracking and support network.