KISTLER-MORSE
Measure of Success

Application Note

Dry Ingredient Mix Plant Upgrades Inventory Accounting and Tracking Capabilities

Kistler-Morse helps fast expanding company convert from manual inventory accounting system to intranet based, real time inventory system.

Problem:

A leading branded specialty retailer's method of reordering was based on mass balance of incoming shipments versus production; how much bulk flour was ordered versus how many 50 pound bags of dry mix was produced. This method worked well for them in the past, as the Mix Department Manager was responsible for all facets of the production inventory. Their experience over the years allowed them to anticipate peak demands and slowdowns.

Due to a growth explosion, their raw material demand began to outstrip past historical trending. Larger volume purchases required Purchasing and Logistics personnel to become more directly involved in the procurement of raw materials. Where their previous production schedule had been 5 days a week, 8 hours a day, it had grown to 7 days a week, 24 hours a day, in an extremely short period of time. At the same time, the company's accounting procedures became more stringent.

Initial contact was made with the Customer through the Maintenance and Operations departments for a level system. Occasional overfills of silos were causing plugging of the bag filters and conveying lines and creating loss of product. Maintenance was also being called to repair the delivery system when in fact material had run out and there was nothing to convey. A similar KM level system was being installed at a sister plant and this plant was inquiring on its use to solve their problems.

Secondary contacts with the Customer were made through conversations with a System Integrator. The System Integrator was doing the construction at the sister plant, which included the level system. This company put KM in touch with the Logistics Department that was involved with coordinating special projects to improve raw material flow.

ROI was then developed based on plant production interruptions and maintenance downtime due to overfill. Run outs were occurring typically once a week where the plant line was idle one to three hours until more material was trucked in. Limited operation could continue using bags, but at a higher cost. Handling bags was more labor intensive, not as fast and raw material costs were higher. Bagged flour is more expensive than bulk flour and has additional costs of storage and bag disposal.

Due to a manual system of accounting for inventory, the system was prone to errors which required time to rectify discrepancies.

The Operations and Special Coordinator was responsible for the purchase of all material on a timely basis for production requirements. It was her responsibility that they did not run out of material. She also wanted the best price from her vendors and did not want to carry excess inventory in order to maintain a lean manufacturing system.

The VP of Purchasing, needed proper accountability - to tie buying to receiving to production, with accurate data.

The VP of Manufacturing and Distribution, needed accurate inventory for production useage and product validation.

Application:

Inventory monitoring required continuous weighing for 17 existing inventory silos with pipe leg supports. Existing loads were 100,000 pounds minimum per silo with greater than 5,000 psi per leg. The receiving area (non-washdown), cleaning is limited to sweeping and vacuuming in the general area.

Materials are flour, sugar and dextrose from a variety of suppliers for each material. The company purchases more than 2,000,000 lbs. of flour per week which is delivered via bulk truck daily from various mills. It is necessary to use multiple mills in the area due to the various grades and types of material needed to meet their demanding requirements.

Solution:

KM completed an initial needs assessment. Their findings were that the plant needed reliable inventory information for:

- Production availability
- Reorder purposes
- More timely reporting
- Daily business and month-end financials
- Data to be used for material ordering and directing the filling and emptying of the silos

KM installed 2 Microcells per leg on each silo for expectations of +/- 3% weight indication. The indicator installed consisted of a multi-vessel system (MVS).

The Microcells and MVS provided current information but would still require manual logging of the data and this data was only available at the local indicator. KM provided an ORB 2.0 Tranformer. This system gives the plant access to current inventory for all silos on a real time basis via the plant's intranet. It also provides alarming and data logging for all silos every 60 seconds. This information is available via Excel or SQL data inquiries to anyone given access privileges by the plant on their intranet.

Benefits:

Historical and trending data is available electronically, allowing them to track when new material is received as well as to which vessel it is delivered. This provides immediate inventory updates.

When placing an order, purchasing and logistics are able to predict, due to more accurate historical trending, when storage space will be available which helps smooth the purchasing and logistics process.

A smooth, orderly flow of truck deliveries is accomplished solving shipping/receiving disruptions and congestion.

With more accurate and real-time inventory, overfills are eliminated. This results in better resource allocation in maintenance and repairs as well as reduced product spoilage.

With electronically accurate information, monthly reporting to the financial community is more reliable.

WORLD HEADQUARTERS
150 Venture Blvd.
Spartanburg, SC 29306 USA
1.800.426.9010
tel: 864.574.2763
fax: 864.574.8063
kistlermorse.com