

Fertilizer Manufacturer Implements Plant-Wide Systems Integration Solution

A manufacturer of water-soluble fertilizer needed to integrate its plant floor controls with its manufacturing execution system (MES) and enterprise resource planning (ERP) system to improve production monitoring and optimize plant utilization.

Main Objective

The client required systems integration to develop a method of lot traceability and better manage its plant utilization. In addition, the client strove to automate data entry, enabling quality assurance and reliable reporting.

Customer Results

Following the completion of the systems integration project, the client was able to provide forward and backward genealogy of materials, metrics regarding plant utilization and potential capacity, automatic material consumption transactions, and the automatic historization of change management and object propagation. Additionally, the client reduced the cost of acquiring downtime data and eliminated the inaccuracies and inefficiencies of manual and redundant data entry. Real-time production monitoring and access to production data allowed for Web-based reporting and the ability to measure the plant's overall success through key performance indicators (KPIs).

Application Description

- MAVERICK Technologies utilized the Wonderware® System Platform and Wonderware production and performance management tools to accomplish the client's requirements.
- The System Platform comprised the Wonderware Industrial Application Server (IAS), the IndustrialSQL Server (now called the Wonderware Historian) and the InTouch® human machine interface (HMI).
- To address the need for line and equipment utilization, the Wonderware DT Analyst™ software was installed to measure overall equipment effectiveness (OEE).
- To provide for lot traceability and material consumption, MAVERICK utilized the Wonderware Production Events Module (PEM) and Wonderware Enterprise Integration (WWEI) with the Microsoft® BizTalk® server. Benefits include:
 - ISA-95-compliant B2MML transactions for production schedule, material and production performance
 - Order to bill of material (BOM) downloaded automatically to the production layer
 - Staged lot ID material stored for consumption validation
 - Production performance data automatically sent to ERP for inventory management
 - Quality control (QC) release status automatically sent to ERP
- For quality control and release, the laboratory information management system (LIMS) was integrated into WWEI.
- To enable automated data entry, Wonderware InTouch touchscreen panels were used to replace a number of manual data entry quality forms.
- To provide management and customers with performance reports, real-time data transmission was made possible using the Wonderware SuiteVoyager® and ActiveFactory™ software solutions.
 - Web-based reporting
 - Real-time access to KPIs
 - Real-time production monitoring and access to production data



Overall Equipment Effectiveness (OEE)



Work Orders Downloaded to Production Line

Material Consumed Transactions from Production Events

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