

Dow Corning Adds RFID to Production

By attaching tags to containers used in the production of lubricants, adhesives and other products, the company hopes to gain more visibility for its work-in-process.

By Beth Bacheldor

March 5, 2007—Dow Corning, a joint venture between Corning Inc. and The Dow Chemical Co., is testing RFID in its Auburn, Mich., manufacturing plant to monitor various processes the company uses in creating several of its products. Dow Corning manufactures a variety of silicon-based products, including adhesives, sealants, rubber and lubricants.

Dow Corning began planning the pilot in November. The project employs passive UHF EPC Gen 2 RFID tags and interrogators from Motorola's Enterprise Mobility Business division (formerly Symbol Technologies). This includes the DC600 Portal System, a combination of RFID interrogators, antennas and cabling designed for installation at dock doors or doorways; XR440 fixed RFID readers; and MC9090 handheld interrogators. RFID infrastructure provider Reva Systems is providing its Tag Acquisition Processor (TAP), an RFID appliance designed to configure, control and manage the readers, collect the RFID data and present the data to manufacturing execution systems (MES), enterprise resource planning (ERP) software or other third-party applications. Ashley Stephenson, Reva's cofounder and chairman, says, "TAP is designed to specifically address the kinds of requirements Dow has."

Systems integrator and certified Reva channel partner Lowry Computer Products is the primary integrator for Dow Corning's RFID pilot. Lowry is helping the manufacturer evaluate its processes and ascertain how RFID could be used to monitor them. It is also determining where RFID tags and readers should be deployed, and installing the equipment.

In the first phase of Dow Corning's RFID implementation, now under way, the TAP appliance aggregates RFID data collected during a variety of manufacturing processes. That data is then stored in a Microsoft SQL Server database. According to Marc Osgoodby, Reva's director of sales, "Long term, Dow Corning will integrate the RFID data with its SAP ERP applications."

Integrating RFID with its ERP applications, says Stephenson, will provide Dow Corning additional benefits. For example, RFID data collected on the factory floor and shared with an ERP application could trigger an e-mail alert to a customer that an order has been fulfilled. "Even at a lower level of integration, such as integration with an MES application, RFID data can trigger a request for more materials," he adds. "And at the lowest level, RFID could trigger a red light that indicates an employee is trying to push a pallet of goods into the wrong truck. It is the benefits at all of these levels that add up to the total [return on investment] in RFID."

RELATED_ARTICLES Although Dow Corning is calling the RFID implementation a pilot, Osgoodby points out that the deployment is far from a lab test. "This is actually the use of RFID in production, for a work-in-process application," he says. By attaching RFID tags to containers holding various products being manufactured, for instance, Dow Corning can monitor the length of time specific products remain at given

points during production. This could include monitoring how long a temperature-sensitive product has been left in a temperature-specific process.

"Imagine a factory that is making things from materials that have to be in controlled temperatures," says Stephenson. "Without RFID, you are relying on the operator to track how long a material has been out of that controlled temperature environment." However, RFID can track such a scenario by reading tags at various points throughout a product's manufacturing, and documenting when a product enters and leaves a process. "RFID," he adds, "brings more visibility to work-in-process."

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