

Custom Cabinetmaker Deploying RFID to Track Production

Northway Industries is employing EPC Gen 2 tags to improve managers' visibility and better identify delays, prioritize manufacturing and provide information to customers.

By Claire Swedberg

Jan. 2, 2008—Custom wood product manufacturer [Northway Industries](#), based in Middleburg, Pa., is using an RFID system to track the progress of its cabinets and other products as they are being manufactured. The system, designed with assistance from [Atlas RFID Solutions](#), helps Northway track the location of an order's paperwork, enabling the company to view which stage the order has reached at any given time.

With this information, says Donald O'Hora, Northway's president and CEO, the cabinetmaker can better identify delays, prioritize manufacturing and provide information to customers. According to O'Hora, this will provide "a real-time, seamless update of work center progress without manual data collection."

Northway's clients throughout the United States order custom-designed wood products, including cabinets and closets, as well as panels for use in such pieces. At the company's factory, the products go through 11 stages, including the initial order, building of the piece, shipping and billing.

To manage the process, Northway maintains folders for each order that travel through the office and manufacturing facility to various stations for each stage of the project. There are commonly 100 folders active in circulation at any given time, each with paperwork specific to that order, and additional papers related to the product's progress. Managers seeking an update on a particular order's status have had to walk through the stations manually looking for files.

In the summer of 2007, the company turned to Atlas RFID Solutions, looking for technology that would automate the system. Northway then developed its own workstation units designed to contain an RFID interrogator and antenna. According to Mark Brown, Atlas' director of solutions services, his company installed each unit's [Omron](#) RFID reader and antenna, as well as a motion detector built and integrated by [Venture Research Inc.](#), based in Plano, Texas. Atlas also provided software, Brown says.

When taking a new order, a Northway employee inputs data about that order, scans a new [RF Identics](#) EPC Gen 2 tag and affixes it to a folder—or, in the case of a smaller order, to a paper document. The process links the tag's unique Electronic Product Code (EPC) number with data about the order. From that point onward, the tagged folder or document is placed at a workstation unit (a wooden cabinet with a white board on which paperwork can be placed to be more readily viewable by production employees).

Thus far, two RFID-enabled workstations units are in operation, though the company plans to have 11 workstation readers in use in January, each representing one stage of production. When an employee at one workstation finishes the assigned tasks for a particular work-in-progress, that person moves the folder to the next RFID-enabled workstation, where a motion sensor detects the worker's presence and triggers the RFID

reader to wake up. Materials involved in the building process are then moved to the next workstation as well.

The reader captures ID numbers from up to 50 folders placed within 2 to 3 feet of its location. Managers can refresh the system from their PCs, alerting the interrogators to capture and send RFID tag IDs at any given time. In either case, those ID numbers are transmitted to a back-end system via a cabled connection with Atlas RFID Solutions software, which translates that data for use in Northway's manufacturing execution system (MES). The system is designed to send an alert to the managers' PCs if a folder spends too many days at a specific station, or if it is removed from one station without being returned to another within a predetermined acceptable amount of time.

RELATED_ARTICLES According to Brown, the RFID-enabled workstations should help streamline operations for Northway. Eventually, he says, the company intends to direct the RFID-acquired data to its Web site, where customers can go online, input their order ID numbers and view for themselves the location of the specific order.

"We will also work to implement advanced information gathering, such as personnel through-put analysis," says O'Hora, who describes the system as the result of teamwork between Northway and Atlas RFID Solutions. "Atlas listened to our needs and concerns, and they were willing to think innovatively."

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