

Johnson & Johnson Finds Value in Multiple RFID Apps

The health-care product manufacturer provides insights into some of its RFID deployments, such as tracking orthopedic components and monitoring promotional products and displays.

By Mary Catherine O'Connor

April 23, 2008—Health-care products giant Johnson & Johnson is using RFID technology for a wide range of applications, according to Mike Rose, the company's VP of RFID EPC global value chain. Addressing attendees at last week's RFID Journal LIVE! 2008 conference in Las Vegas, Rose said Johnson & Johnson uses RFID to comply with retailer mandates that certain products be shipped with RFID tags attached at the case and pallet level. The company has also conducted tests, however, in which RFID tags are used to track promotional product displays at RFID-enabled retail locations, and is employing the technology to manage surgical implants.

The company is "a microcosm of the health-care industry," Rose told the audience. "We [are comprised of] biotechnology companies, we have consumer brands and we make surgical devices." Rose works for J&J's Health Care Systems division, which develops products and services—everything from managing customer relationships to deploying supply chain solutions—on behalf of the firm's Medicines, Nutritionals, Medical Devices and Diagnostics sectors.

Based on an RFID pilot it carried out with an unnamed retailer, Johnson & Johnson found that 79 percent of its promotional products were actually placed on the store's sales floors too early. The firm also found that stores complying with its promotional schedule saw increased incremental sales over those that did not. A number of product suppliers are deriving benefits from employing RFID to track promotional items and displays at retail stores (see P&G Finds RFID 'Sweet Spot', OATSystems Launches Solutions for Tracking In-Store Product Promotions and Maternity Apparel Maker to Deploy Smart Displays in Stores). "There is a quite a bit of opportunity here," Rose said.

In addition, Rose was involved in a recent RFID deployment by DePuy, a Johnson & Johnson company that produces implants and orthopedic devices. The firm wanted to find a way of making its supply chain more efficient—specifically the business process it uses to inventory what it calls Express Care kits. Such kits are collections of orthopedic knee or hip replacement parts containing up to 25 separate components.

"In the operating room, a surgeon won't know which size implant he needs until the surgery is in progress," Rose explained. For this reason, the kit provides the doctor a selection of implants of varying sizes. After the surgeon chooses the appropriate implant, the kit, minus the device used, is returned to DePuy. Employees previously had to scan the bar code of each component in a returned kit to determine which implant was missing, then replace the missing implant, verify that the kit was complete and prepare it to be shipped out again. DePuy receives more than 600 used kits daily, and must ship out the same number of complete kits each day as well.

DePuy worked with RFID systems integrator [ODIN Technologies](#) to develop a better process. ODIN tested a number of UHF EPC Gen 2 passive RFID tags and found that [UPM Raflatac's](#) DogBone tag (named after its antenna design) was the best-performing in terms of readability when placed on the packaging in which a particular implant is stored within the kit. Each implant is located in a sterile, vacuum-sealed plastic bag that is then placed into a larger package, and the self-adhesive tag is attached to that package. The titanium and cobalt chrome materials used in the joint replacements could create interferences to the radio frequency signals used to read passive RFID tags, but the DogBone tag is designed to work well in the presence of metal.

With the implants inside each kit now RFID-tagged, DePuy has reduced the time required to process each returned Express Care set to less than one minute—a process that formerly took 10 to 30 minutes to complete. Employees place the kits on a conveyor that brings them through an RFID reader tunnel. After each kit moves through the tunnel, software shows the worker which components are missing from that kit. A completed kit is then sent through the tunnel once more prior to shipment, to verify that it is complete.

Rose also described how [Cordis](#), a Johnson & Johnson company that manufactures coronary stents and similar medical devices, has engaged with RFID vendor [WaveMark](#) to develop an RFID system for tracking the stents. In this application, participating hospitals store the stents in special cabinets with RFID reader antennas built into the shelves. An RFID tag is attached to the packaging carrying each individual stent a hospital orders, and the cabinet takes periodic inventory of all tagged stents within the cabinet.

The hospital and Cordis can then monitor inventory levels, both to ensure that the hospital has the proper types and quantities of stents on hand to supply its needs at any particular time, and also to be sure stents are removed from stock when they reach their expiry date. The WaveMark system uses high-frequency (13.56 MHz) RFID tags compliant with the ISO 15693 standard, but Rose said Cordis intends to request that WaveMark migrate to the HF standard [EPCglobal](#) is currently working on, once that specification is ratified.

RELATED_ARTICLES The Cordis/WaveMark application has improved stent availability and inventory management, and can be employed to help Cordis manage payments for the stents at hospitals purchasing them on consignment. In the future, Rose said, the company hopes to begin expanding the application to hospitals in Europe and Asia.

The [Mercy Medical Center](#) in Des Moines, Iowa, has deployed an RFID-based system provided by WaveMark for tracking stents provided by [Edwards Lifesciences](#), an Irvine, Calif., manufacturer of heart valves and other health-care products (see [Mercy Medical Tracks Cardiovascular Consumables](#)).

Copyright ©2005 RFID Journal, Inc. All Rights Reserved