

Moving Toward the Talking Tag

When combined with a voice-directed work system, an RFID implementation can yield an immediate ROI.

June 18, 2007—You can't pick up a supply chain journal today without reading about the monumental productivity advances promised by RFID. By allowing complete and accurate lifecycle-tracking of a product, analysts claim RFID will speed shipments, reduce errors and lower costs, more than justifying the expense of such systems.

The long list of potential benefits has attracted the attention of the entire supply chain industry. Driven by mandates from such retail giants as Wal-Mart and Target, vendors wishing to do business with mass merchandisers must become RFID-compliant. What's more, the U.S. Department of Defense now requires all suppliers to affix RFID tags to inbound shipments. An industry consortium of more than 600 manufacturers, retailers and solution providers is developing standards and promoting tools and services to drive worldwide adoption of the technology.

But far from clarifying the issues surrounding RFID, all this headline-grabbing attention has only served to muddy the waters—especially when it comes to the integration of RFID and voice-directed work systems. Talk to distribution center (DC) managers, and they'll say that while there is a sense of urgency to get going on RFID, there is also some concern that RFID will eventually replace the voice systems they've already implemented.

In reality, voice and RFID are complementary technologies that enhance the benefits each offers. Here's why: RFID tags can provide extensive information about products, such as product code, size, manufacturing date and expiration date. They can also be placed on locations (such as shelves and pallets) and containers (such as totes and trays), to help identify where an object is. But information alone does not make a business process more efficient. RFID systems don't tell DC team members *what* to do with their products or *how* to perform a task.

This is where voice-directed work comes in. In essence, voice creates a two-way dialogue between the DC team and the information management system. Instead of relying on paper lists or handheld device display screens to relay information for others to interpret and act upon, team members use a far more natural form of communication—two-way conversation—to perform daily assignments. This capability makes team members more productive, more accurate and safer as they move from task to task, whether operating with a stationary RFID reader or a body-worn device.

On its own, RFID cannot tell team members what to do with products; similarly, voice, by itself, cannot extract detailed information about those products. But when companies combine the two technologies—creating the equivalent of a "talking tag"—they not only acquire the ability to direct product receiving, selection, replenishment and other operations; they also obtain automatic product identification and verification each step of the way.

Together, the potential productivity gains are staggering, because most distribution errors are the result of

items being placed in the wrong location. With the combined capability of voice and RFID, a team member can be notified immediately if a given product contains the wrong items, or if it has expired or been recalled. This virtually eliminates the possibility of shipping incorrect or obsolete products.

The Many Uses for Talking Tags

Many scenarios arise in which voice can bring out the full potential of RFID.

- **Back-of-store, out-of-stock items:** An out-of-stock product received at a store passes through an RFID reader. A team member, alerted by voice when the product is received, is directed to expedite it onto the retail shelf. The team member may also use a wearable RFID reader to locate and verify the proper product.
- **Discontinued, recalled or expired items:** RFID systems can be designed to access a wealth of information regarding each tagged product, including whether it has been discontinued, recalled or expired. Thus, a team member trying to select an item that should not be sold, can be immediately notified by voice that the product is obsolete, and given instructions on what to do with it.
- **Returned merchandise:** Returned merchandise requires a lot of "touch time." By combining voice and RFID, the return process can become more automated. Item-specific information contained in, or linked to, the RFID tag can help determine its fitness for resale to specific customers or markets. Such information can then be used to direct team members as to where they should put returned items back on the shelf—even if the put-away site is different than the original selection location.
- **Promotional items:** In the case of retail promotions, companies want to make sure their products are on the retail floor, not in the DC or the back of the store. Here again, the arrival of promotional items is detected using RFID, and team members are alerted by voice and directed to expedite them through the DC or stockroom onto the retail shelf.

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While DC managers and supply chain directors wait for the cost of RFID to come down—which may take some time—plenty of opportunity exists to move forward with plans to implement voice-directed work applications. Voice can be deployed relatively easily, and the payback on investment is typically realized within 12 months. The immediate accuracy gains—as much as 99.99 percent or higher—more than justify the investment. And as the ROI picture for RFID becomes clearer, these systems can be added for increased benefit without negating any of the original voice investment.

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