

RFID Solution in Reverse Logistics



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RFID-based solutions have proven to help businesses reduce costs, fine-tune inventory management, fortify theft detection, and achieve new velocity with real-time visibility into business processes across the supply chain. The improvement seen in productivity and operational efficiency dwarfs the gains seen during the Internet era. But given the complexity of implementing this technology, companies that don't move quickly will wind up at a severe competitive disadvantage.

The following case study illustrates how the implementation of a RFID solution in Reverse Logistics Division at the retailer helped increase inventory visibility while streamlining operations.

Business Problem

Job Out is the process used for the removal of out of season or other discontinued merchandise from stores through lot based sales to recover residual value. Generally products of similar class are grouped into lots for return by store. Currently, all Job Out products are tracked and sold by the pallet level or larger in the reverse supply chain. Product is palletized at each store and labeled by Lot#, Store# and Pallet#. Once it arrives at the DC it becomes available for sale and is posted by Store#, class of contents (women's shoes, luggage, men's casual, etc.) and pallet count. Certain store and class combinations have more residual value and sell more quickly. Since product is returned after selling season whole lots tend to remain in DC until just prior to the selling season the following year. This storage period may be 2 – 6 months.

The current tracking and management system for the on-hand inventory is completely manual and was time consuming. It required several resources to locate and track the inventory and movement.

RFID Business Goals

The retailer is renowned in the retail industry for its adoption of technologies that track sales, manage inventory and other such critical functions. Also, over the last decade, the company has worked to integrate all these systems across the enterprise to leverage global economies of scale.

Yet, the retailer believed that it needed to go further to ensure higher visibility in to other parts of the company and further streamline its reverse logistics operations. While it boasts some of the most innovative technologies in the retail industry, the company looked to Scintel for help implementing and managing its ambitious IT and emerging technology initiatives.

Scintel in collaboration with Stratix Corporation and Symbol Technologies Inc. (Motorola Inc.) helped the retailer optimize operational performance at the DC

RFID Goals:

- 1) On-hand inventory location tracking
- 2) Shipping order accuracy
- 3) Employee accountability (includes time/date)
- 4) Possible space management at the DC and workflow improvements
- 5) Scalable to all DCs

RFID Solution

High-level description of the solution:

2 fixed RFID Portals for in/outbound pallets
3-6 handheld RFID terminals
RFID tags (Pre-encoded EPC)
RFID Printer
Windows Server
Handheld application software – Job Out Inventory Management
SQL database

The solution comprised of installing passive RFID tags at each discreet points to identify pallet bin locations. The tags were suspended above the product placed on the floor or on placards. The placards are the free standing signs with heavy base. The sequence of events comprised of the following:

- Tagging a pallet
- Reading the tag as it moved through the RFID portal
- Reading the pallet tag with the RFID reader then reading the RFID bin tag to associate the pallet to the bin. This process would provide an accurate location at the point of the drop.
- Regular inventory would need to be conducted for every activity within a bin (like Put, Move, or Pick). The activity will require the associate to pull the trigger on the handheld pointing to the pallet in the bin and then point the handheld at the RFID bin tag to associate all the pallets to that bin). Additional recurring quarterly inventory will be conducted in the same fashion. The expectation is that the operating inventory is accurate enough to significantly limit time associates are spending searching for pallets during picking process.

Scintel's RFID Solution implemented in 45 days

Benefit Realized

The ability to know where every item is in the DC could saved retailers millions of dollars per year. Here's a list of benefits achieved by the Retailer when RFID technology is deployed throughout its DCs.

- **Reduce Labor Costs** - Eliminated the need to have people scan bar codes on pallets and cases on items in the store reducing labor costs.
- **Boost to the bottom line** - by using smart shelves to monitor on-shelf availability.
- **Reduce Shrinkage** - Knowing where products are at all times makes it harder for employees to steal goods from warehouses. Scanning products automatically reduces administrative error and fraud.
- **Accurate tracking** - of the pallets and cases that move through its distribution centers each year produces significant savings.
- **Improved visibility** - of what products are in its own distribution centers lets the Retailer reduce its inventory and the annual cost of carrying that inventory.

Conclusion:

Competitors and suppliers who are just beginning to look at this technology have a huge task in front of them if they want to be fast followers behind the leaders. RFID is not a simple plug-and-play technology. A supplier can't simply slap a smart label—one with an RFID tag embedded in it. Retailers are going to have to figure out sensible solutions for hundreds of products. And suppliers may have to follow different compliance requirements for different retailers. Solutions might include using a specific type of tag, placing the tag in a precise location on the case and arranging the cases in a special configuration on a pallet.

It is equally important to understand the Change Management aspects of implementing a RFID solution. We believe the changes wrought by RFID systems will affect virtually everyone in the company—from the forklift operator to the head of logistics—but perhaps none more than those in the IT department. The whole point of using RFID is to enable companies to gather real-time data automatically. The challenge will be to figure out ways to filter, use and share that data.

Many questions remain about how RFID technology will be deployed, such as what information will be shared between the Retailer and its many suppliers, and how companies will track goods with both bar codes and RFID tags during the transition period. But the Retailers are moving to deploy it at the pallet and case level, even before all the answers are known, because the technology has the capability to improve efficiency, cut costs and boost sales.