

Supply Chain News: To Find ROI for RFID in Distribution, You have to go well Beyond Just Eliminating Scanning

More DC and Plant Warehouse Labor Involved in Errors and Poor Data than Most Companies Realize; the End of Cycle Counts?

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To find the ROI for RFID in the distribution center and related materials handling and inventory management functions, you have to go deep into processes.

That's a key part of the message from **Toby Rush**, president of Rush Tracking Systems, during a recent Videocast on the Supply Chain Television Channel. Rush has analyzed the value of RFID in more than two dozen distribution centers and plant warehouses, and gained some interesting insights from those efforts and subsequent deployments.

While RFID can enable companies to get rid the need to do bar code scanning, the elimination of that time needed to perform those manual bar code scans is usually just a small portion of the savings from moving to RFID, Rush says.

Instead, the opportunity is in all the errors that can creep into a system that is dependent on bar code scanning – and eliminating those errors really winds up being the source for the ROI, he says. While the vision of highly accurate warehouse systems base on traditional bar code scanning and real-time wireless communications is sometimes reached, in many cases the reality falls well short of expectations, Rush says. That is true even at companies that have made solid investments in such traditional tracking systems in their DCs – many distribution centers, even at large companies, have relatively low levels of data capture and communications automation, providing even more opportunity for improvement.

“Operators forget to scan the bar code, or they scan the wrong one. People are moving fast, and try to do

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the job well, but they make mistakes, and those little errors compound,” Rush said. “That results in inventory inaccuracies, time spent searching for product, expediting costs and more. It's a small percent of the total, but these few mistakes in percentage terms wind up causing most of the trouble.”

Rush says, for example, that the reason many Warehouse Management Systems have to add so many error handling and exception processes is because of all of the errors that are made on the DC floor.

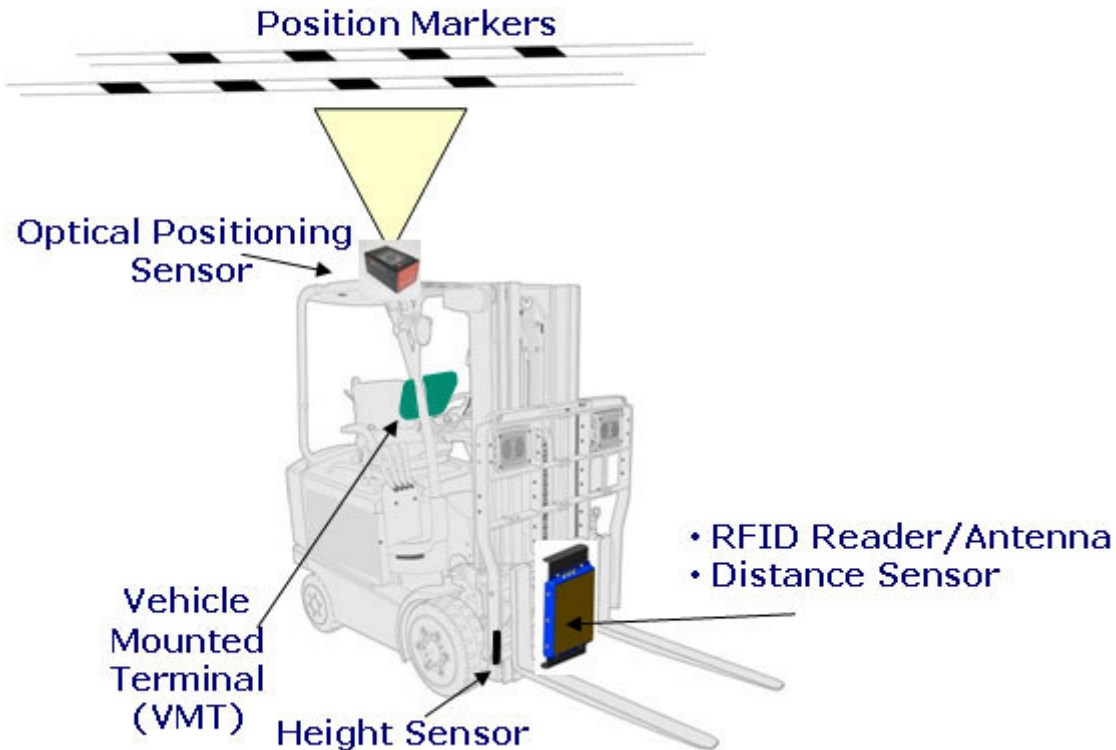
Eliminating these errors is where RFID can play a key role, Rush says.

“When you can eliminate the need to scan the pallet or the location you are putting it in – where load and location are automated – you can eliminate those errors and get to really efficient warehouses,” he says.

The opportunity to use RFID is exceptionally favorable for companies that have limited use of bar coding currently, but is there is often a strong business case for RFID in the DC even if some level of bar code tracking is already in place, Rush

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Multiple Technologies Used on Rush Tracking Fork Truck RFID System



says.

Companies are often surprised, Rush says, at how many elements of a job have been added on to workers over time, negatively impacting productivity. For example, he frequently sees DC operators writing down numbers or other information even in traditionally automated systems, delivering a hit to productivity and serving as a source of errors.

At one pharmaceutical industry company, Rush says that by automating raw materials and work in process inventory in a plant warehouse with RFID, the elimination of errors and lost time was equivalent to gained productivity of 15 operators. That provided a rapid payback and a 37% internal rate of return (IRR). These kind of numbers are common, Rush said, but only if you really spend the time to see

how processes can be improved with RFID automation.

"The one question we always get is 'Have you tried everything else? - Lean, Kaizen, etc.'" Rush said. "The answer is usually yes, all those things have been tried. The DC needs a new set of tools."

Fork Truck-Based Systems

An RFID tracking system in the DC for now usually is best focused on pallet and other unit load tracking, such as rolls of paper. Carton-level tracking is coming, but is probably still some time away from really working well.

The Rush Tracking Systems' solution is interesting, and uses a wide variety of technologies on a forklift, in-

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cluding a unique positioning system that actually does not use RFID tags on the locations, but rather a optical system that references location codes on the ceiling, delivering precise XYZ location coordinates. That data is then mapped to actual storage locations in racking or on the floor. (See graphic on page 2.)

In addition to eliminating the need for tags on storage locations, the system knows if a unit load is moved even just a few feet, such as in a staging area, places where bar code-based systems can sometimes lose track of inventory.

End of Cycle Counts?

Just as bar code-based systems and WMS eliminated the need for annual physical inventories in

many DCs in favor of cycle counting, RFID has the potential to eliminate cycle counting itself, given the automation and accuracy of every pallet move.

Rush says that several companies they work with are trending that way in the reserve storage areas, often only cycle counting if there has been some type of manual operator adjustment.

"The challenge is not the warehouse guys, it's the accounting guys," Rush said. "As companies get more comfortable with the level of accuracy, the level of cycle counting will generally decline."