



# Industry Week's RFID Strategy

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## RFID Return on Investment Revisited

*The "Magic Word" that creates a win-win.*

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We keep hearing that it's impossible to estimate a return on investment (ROI) with RFID. My previous columns have focused on this challenge. Now, I will reveal how to use RFID compliance to kick-start a material handling system upgrade that will not only pay for itself, but also pay for the RFID compliance costs.

### Hidden Advantages Of Aging Material Handling Systems

Assume you're an operations manager or industrial engineer at a distribution center (DC) running a material handling system that is approaching its 10th anniversary. You are asked by upper management to implement an RFID compliance program. Would you rather:

- Propose an RFID compliance program that is all about increased cost?
- Or
- Propose a system-wide upgrade that pays for itself in improved efficiency while incorporating RFID compliance?

The answer may not be immediately obvious. In the case of a basic "slap-and-ship" RFID implementation, the equipment and tag costs will most likely be less than the cost of material handling improvements. The RFID system will, however, remain just a cost to operations -- and this cost will rise as the volume of products affected by RFID compliance rises. There is another way to approach the problem.

We have found that older material handling systems (and some not-so-old!) have surprisingly common problems. These problems are due to a combination of age-related wear on the equipment, changes in the product mix or business rules that violate the original design assumptions of the system, as well as limitations of the control-systems technology available when the equipment was installed. Common problems include:

1. Poor performance of sawtooth merges (particularly four-to-one and higher merge ratios).
2. Pick engine inefficiency due to waving, slotting, or conveyor transportation issues.
3. Pack area congestion and bottlenecks (just walk into a facility and look for the towering piles of boxes that visually identify the bottleneck).
4. Shipping sorter inefficiencies, mis-diverts and high percentages of recirculation.

I've seen success in fixing these problems by using a multi-disciplinary approach that involves three elements:

- Careful measurement of system performance metrics and associated labor practices.
- Modernization of the control system and selected retrofit of some mechanical portions of the Material Handling Equipment (MHE).
- Implementation of improved labor processes.

It is important to note that these elements work best when used with a total-systems perspective: You can't just optimize the four-to-one merge, for example. The benefits derived from performing an MHE assessment and retrofit include increased operational capacity, higher system availability, reduced inventory shrinkage due to mis-sorts and extended system life.

Now, there is nothing new or special about these considerations. These issues can be addressed outside any discussion of RFID. However, we all work in an industry where necessary capital improvements have often been postponed due to other economic factors. The difference *now* is that RFID is often the *magic word* that catches the attention of the gatekeepers of corporate capital and allows a project to be considered for funding.

### **Working RFID Into System Upgrades**

How do you combine RFID compliance and system upgrades? By working the RFID tagging activity into the improved workflow and control-system upgrades necessary to create improved throughput and productivity in your legacy MHE system.

Consider that there are three basic areas where RFID tagging can take place if it has not already been done in the manufacturing cycle. These areas are picking, packing, and shipping. One or more of these areas will make the most sense for your particular business, but the common "slap-and-ship" implementation restricts you to a labor-intensive special operation somewhere physically near the ordinary packing area. If you approach the RFID implementation as one component of a systems improvement project, it is usually fairly simple to work the required RFID equipment into your MHE layout as most efficiently suits your business.

### **Conclusion: A Happy Ending**

Experience proves that typical MHE improvement projects show a positive ROI of between one and three years. Adding the RFID component on top of an MHE improvement project allows the improved efficiency of the MHE and increased labor productivity to pay for the cost of the RFID compliance. Both the operations manager and the CFO (and, ultimately, the customer) win in this scenario.

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