

PRESS INFORMATION

Issue Date: 30 September 2005

Ref: CHE05/

WHAT CAN RFID DO IN MY WAREHOUSE?

Alex Mills of Chess Logistics Technology Explains More About RFID In The Warehouse

It is clear that the much-vaunted RFID has finally arrived. But despite the promise of benefits in the warehouse and wider supply chain, there are still plenty of doubts over how, when and where it can best be used. Both manufacturers and third party logistics providers are curious about the impact it could have on accuracy and productivity within their operations. More specifically they want to know whether investing in it will provide a return for their business or merely benefit others within the supply chain.

The emergence of this new enabling technology for the supply chain presents a number of challenges to WMS vendors and users. Over the past twenty years we have seen information technology explode across the supply chain function. Initial computerisation of basic 'warehouse stock control' has been followed by barcode identification, EDI, 'real time' instruction and confirmation and most recently voice-directed task management. RFID offers the potential to replace some of these earlier technologies and add value to the others by providing additional sophistication to supply chain information.

Let us be clear at the start that most good WMS will be 'compatible' with RFID in much the same way as with bar-coding or RF. Vendors who seek to describe it as something unique only they can provide are misleading the market. One of the functions of any good WMS is its ability to read, and process information, and nothing about RFID changes this fundamentally.

Traditional identification technologies managed the flow of goods through the supply chain by reading and processing associated data at specific checkpoints from production to delivery, matching it with information conveyed separately by batch file, EDI or web-enabled transaction. RFID builds on this, and offers the prospect of holding more information with goods in transit, so less needs to be maintained and processed in back office systems. Despite this, there is nothing really new in the RFID concept, and in many ways it just extends existing processes. The implication of the technology for WMS users is how best to incorporate it within the functions or value added processes performed by the WMS to deliver benefit either for themselves or their customers.

Prospective users will still need to prepare a business case for implementation just as they would for any other new technology. The potential gains may be significant but once the hard and soft costs of new equipment, infrastructure and processes are taken into account the justification may be harder to make and it may even be better to stick with existing technologies. There is life in the barcode yet.

The cost of RFID compared with barcodes makes it harder to justify at the moment. Barcodes can be printed by modestly priced printers at very low cost. RFID tags, on the other hand, have a relatively high unit cost whether bought-in or printed on-site using specialist equipment. Where an RFID application focuses on tracking and identifying high value items this may be viable, but the maximum benefit in the warehouse will probably only be achieved when tags can be applied to single items with relatively low value. Nevertheless, a view not uncommonly expressed, even among RFID advocates is that a tag on every tin of beans is "a distant dream".

One of the reasons cited for needing RFID is that customers are demanding it, and competitors are offering it. But are they really? It all depends on the environment and application. There are applications where benefits are clearly identified and these make compelling cases, but elsewhere the market may be talking itself up. If customers really have a clear need and benefit then it is probably worth the investment now. On the other hand, if they are simply thinking about it the best approach might be to defer implementation to match their timescales. Offering something simply because a competitor has it is not a good reason to do it.

The questions a WMS user needs to ask is "are there tangible benefits to using RFID over and above what we're doing now?" If there are, and the benefits are direct (i.e. directly benefit their own operation) then the investment is worthy of serious evaluation and consideration. If the benefits are indirect, (i.e. they may benefit a customer or other supply chain partner) then the question is more difficult, and involves a greater degree of commercial judgement. If the WMS user is expected to share or even bear the whole cost of providing benefits without directly receiving any then this is a much harder call and one which any business operator would ponder over.

As a front line WMS supplier we always advise our customers to look closely at return on investment to see if the costs can be justified, but to remain alert to their customers' needs and changing requirements. There may be no immediate need for the technology now but if a customer's requirement changes will it be possible to implement solutions within suitable timescales? Yes, in our view. Modern WMS solutions provided by experienced suppliers should have no problem accommodating RFID when the time is right for any specific application.

From a WMS point of view it is important to see where RFID fits in. There are two basic scenarios where RFID is being proposed. First, as an information enabler in the end-to-end supply chain and second, as part of a "closed loop" application internal to a company or group of business partners. In each case warehousing and distribution will form a key part of the overall process.

The key benefits of RFID are well publicised: no degradation of information, no line of sight needed to read information and the ability to capture simultaneous data from multiple items. But RFID itself is simply what it says - radio frequency identification. There is nothing new in terms of the information stored, and this is why most WMS should be able to handle it. But there are differences in the

information source (the RFID tag) and in the interface between it and the WMS. In earlier technologies the information source (pallet or case label, barcode, etc.) was a passive device that needed a form of intervention to read, convert and process the data. But the RFID tag offers a range of new possibilities. For example, some RFID tags are able not only to store information but also to take on new data as an item moves through the supply chain. Additionally, tags can be read automatically without conventional intervention (e.g. people or line of sight scanning), more quickly and at greater distances than with existing equipment. This raises some issues around WMS, including how best to interface with RFID tags, how to receive and send information (rather merely reading), and how to process and store additional data.

RFID will undoubtedly provide benefit where data such as serial numbers, pack numbers or other low level detail needs to be captured, especially where this has previously been labour intensive or difficult using other technologies. For example, there may be major benefit if serial numbers are currently being typed in manually. Even if they are being captured slickly at present, RFID presents some benefits in supply chain verification because the information on the tag can be matched automatically to data from shipping manifests, order notes or other sources provided by upstream supply chain partners.

RFID has definite benefits in some 'closed-loop' applications, a common example being the tracking of reusable handling equipment. Such applications benefit from heavy duty reusable tags, which though expensive, can be used for asset tracking again and again with their cost spread over a number of iterations. The savings that result from better asset tracking and reduction of lost equipment easily outweigh the cost involved in implementing the technology.

The combination of remote sensing, automation and identification may also enable RFID to play a role in location based processes. There is potential for vehicle identification at a localised level, working with the WMS to alert the arrival of a particular vehicle, open a loading dock door, lift a barrier and so on. It may also support location based processes inside the warehouse. For example, tags fitted to a lift truck could in theory be used to verify that the truck is in the right location for load placement or picking.

One Chess customer has trialled RFID at a pallet and case level in its cold store warehouse. The WMS operated in conjunction with a special printer to produce self adhesive labels with embedded RFID capability that were attached to pallets and cases of food products including ready meals, and frozen products. The trials suggested that the technology is more effective for full pallets than cases. The customer believes that there has been too much hype around RFID but recognises that it will have uses in high value products or closed loop applications such as cage tracking. They have considered offering a service to customers where they print the tags and apply to product when it is received and before despatch to retailers. Value added services like this may well be attractive to smaller customers who do not want to invest in the technology on their own sites.

At the moment the equipment - tags, printers, readers, etc. - required to introduce RFID is too expensive at around £100,000 for each warehouse to make it justifiable unless there is a definite requirement. In the retail supply chain the pressure is likely to come first from the major retailers rather than producers or suppliers.

Chess Logistics Technology Limited has provided software for logistics and distribution applications for more than twenty years and is recognised as a specialist in its field. The company has an extensive client list of national and international companies.

For further press information please contact:

*Alex Mills, Marketing Director
Chess Logistics Technology Limited
Tel: 0161 888 2580
Web: www.chess.uk.com*

*Keith Wootton
Public Relations Consultant
Tel: 01327 830675
Web: www.keithwootton.co.uk/archche.htm*