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RFID WILL IT CHANGE YOUR SUPPLY CHAIN?

RFID - Will it change your supply chain?

RFID is the use of a “tag” with a semiconductor to store information. These “tags” can be placed on items, cases or pallets. The “tag” information can be accessed and sometimes updated throughout the supply chain. Since the late 1990’s RFID has been believed to be the “next big thing” by some people within the logistics and supply chain industries, bringing the benefit of increased visibility of stock and enable accurate tracking of merchandise. But will RFID change your supply chain. The article below was originally written in 2005 and has been updated this year to show the progress of RFID

What’s Involved?

A “tag” is a semi-conductor chip with memory processing capability and a transmitter connected to an antenna. There are two main types of “tag":

- Active tags (transponders) contain a battery that transmits data at regular intervals. These “tags” can be read at 100m and in 2005 cost between £5 and £15. An active tag reader cost approximately £300 to £400 in 2005.
- Passive tags need to be energised by a reader for data to be transmitted. The tags are cheaper at approximately 50p but the readers cost £3,000 to £6,000 in 2005.

N.B. the above prices are based on information from the articles referenced below, but the costs have reduced and tag prices can be considerably cheaper for volume purchases.
Early adoption was hampered by the lack of international standards. Auto ID initially developed an EPC Class 1 standard but most early trials used proprietary systems. EPC Global (run by EAN International and UCC) is now responsible for developing EPC standards.

Currently the standards include:
- GS1 EPCl Tag Data Standard 1.6 - ratified 9th September 2011
- GS1 EPCglobal Tag Data Translation (TDT) 1.6 – ratified 12th October 2011

The information is read from or written to the tag using a reader. These can be fixed within the warehouse e.g. at loading bays or mobile hand-held or truck-mounted devices. The reader needs to be suitable for the tag type used.

Software is required to store the information retrieved from the “tag”, and make it useable for the business.

Who have used RFID in the Supply Chain?

- Scottish Courage started using Phillips low frequency Hitag RFID tags in 1998. Symbol handhelds are used to track containers and record information on the contents. They have reported a 50% decrease in container loss saving £4 million per year, cut unofficial sourcing of beer and improved cycle times.

- Exel, on behalf of House of Fraser, ran a trial to tag own-brand clothing from China. Passive tags were read for automatic receiving, inventory counting & store receiving. Exel also ran a pilot for Selfridges using active RFID tags to track 120 temperature controlled containers. The tags are read at vehicle loading and Exel software automatically updated.

- Walmart imposed a deadline of January 2005 for the top 100 suppliers to provide RFID tags on cases and pallets using the EPC standard, the rest by 2006. Due to implementation issues and supplier compliance issues by late 2005 Walmart had reduced the target to the next 300 suppliers by the end of 2007. Walmart have thought continued to use RFID tags in store.

- M&S used Texas Instruments RFID tags in a trial, partly funded by the DTI, to track men's suits from manufacture to store. This involved one DC and selected stores. · M&S have used Texas Instruments high frequency tags to track 4 million trays and containers, replacing barcodes. Multiple tags can be read and written to at the same time so can be 83% faster than RF scanning.

- In 2007 Grattans announced one of the UK's most extensive RFID data capture system. With implementation at warehouses and Bradford and Peterborough and 16 regional depots.

- After an RFID trial Metro Group announced a roll out of the technology. From Nov 2004 "approximately" 100 suppliers were to tag pallets and cases based on the EPC standard. In April 2008 Metro announced they would continue their implementation of 510 UHF RFID reader and Reva's TAP 331 appliance for tracking of incoming goods, this would take the total of stores with the functionality to 300 and make it the largest RFID roll-out in Europe

Why?

- Ability to track cases and pallets throughout the supply chain
- Can capture data faster than RF scanning
- Ability to write data to the tag as well as read information
- Readers do not require "line of sight"

What to Consider?

- The cost of tags is reducing but currently the cost means this is still considered only suitable for high value item tracking or for vehicle/pallet/case tracking. The benefit needs to outweigh the cost of the tags, warehouse scanning in, data storage hardware and software costs.

- A tag is much more resilient than a barcode label and can be updated in the supply chain; therefore RFID can bring great benefits for products with a long-life or items that need to be tracked by serial number.

- Do not only consider RFID for the items coming through your supply chain but also for the valuable assets you use within the supply chain e.g. cages and kegs

- Ensure that you gain a benefit in your own operation not just "slap and ship" for a clients benefit.

- In 2010 International standard were agreed, via EPCglobal, but many trials are still within "closed" supply chains. If you need to implement for a single customer try and ensure they are using international standards so you may be able to give benefits to other customers.

- International Standards cover the technical infrastructure for the tags as well as the data written to the tag.

- Tracking at item level can result in a large volume of collected data. Are your current systems capable of storing the data and making it easily available when needed?

- It is only worth investing in collecting additional data if you have a real need for this data in your business, and the data will bring a benefit greater than the effort to collect it

- Consumer concerns on privacy mean that any project should include an end-customer education program

Who are we?

Logistics Partners assists retailers, wholesalers, manufacturers and logistics providers to maximise the return on investment in supply chain systems and Logistics technology.

We have a track record of ensuring that supply chain systems are implemented and operated in the most efficient and cost effective manner.

Logistics Partners have real “hands-on” experience of implementing and operating various market leading supply chain systems including Warehouse Management Systems (WMS), Transport Management Systems (TMS), Forecasting & Purchasing, Sales Order Processing (SOP) and ePos.

Logistics Partners can also guide you through the increasing choices of logistics technology including RF, Voice, barcode scanning, telematics, Cloud solutions, SAAS solutions to make sure you get a solution that improves your current operation and gives a real Return on Investment (ROI).

For more information about how Logistics Partners can help you with Supply Chain Technology Selection please visit www.logisticpartners.co.uk/technologyselection

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