

## Case study



# The co-op improves visibility of supply chain and reduces costs with Skillweb RFID solution

## Background

The Co-operative Group is the largest customer-owned business co-op in the UK. In 2006, the company decided to investigate RFID's ability to improve the visibility of the small shipments it sends in individual boxes to about 500 convenience stores in the north of England. These small shipments - as opposed to the large cartons full of products it ships in large metal cages - are usually high value items like cigarettes and alcohol and often get lost, either misplaced or stolen, as they move through the supply chain.

## Meeting the challenge

Initially United Co-operatives (now amalgamated with the Co-op Group) attempted to deter theft by sending the goods in sealed, unmarked plastic tote boxes. However, such totes became easily recognisable by potential thieves.

To remedy this problem, United Co-operatives asked supply chain solution provider Skillweb to provide an RFID-based system that could track each individual tote (measuring approx three feet by two feet by two feet) as it went from warehouse (distribution centre) to retail outlet (and back).

## The Skillweb solution

Skillweb fixed an ultrahigh-frequency (UHF) EPC Gen RFID tag, made by UPM Raflatac, to each plastic tote at the distribution centres in Staffordshire and Bradford. It then encoded each tag with a unique ID number. From an initial pilot, the RFID system is now fully deployed at the Co-op's Staffordshire distribution centre, and is currently being installed at the Bradford facility.

- **Faster unloading**

When an order is received at a distribution centre, the staff locate the items, pack them in totes, input the order number into Co-op's back-end database on a PC and drive them through an RFID portal made by RFID reader manufacturer Sirit, as the totes are loaded onto a truck. Each distribution centre also has an in-bound reader portal used to interrogate the tags attached to the empty totes that are received.

"The totes can be unloaded from the trucks and pass through an RFID portal at a rate of up to 80 stacked totes at a time," said Chris Wright, Skillweb's Managing Director.

- **Automatic stock management reconciliation**

The outbound interrogators forward the tag ID numbers of filled totes through a cable connection to co-op's LAN, to Skillweb's web based software system, along with the date, time and location in which they are being loaded and their destination. That data is associated with the stock-keeping unit (SKU) numbers of the products packed within the totes and stored on Skillweb's managed servers.

- **Easy to view data**

The co-op's managers view the data through Skillweb's web services. In-bound readers then capture the RFID numbers as the empty totes arrive at the distribution centre, signalling to the system that the totes have been returned.

Currently the stores do not have RFID interrogators. A written receipt of the specific totes is recorded and manually entered into the Skillweb system once the shipment has been received. Empty totes are then shipped back to the distribution centre and scanned by the RFID portal readers, confirming the containers have been returned.

## **The benefits**

- **Accurate records**

The RFID system provides the Co-operative Group with automatic records as to whether the containers have been returned. If a store doesn't return its empty totes, it is charged for them.

- **Visibility of the supply chain**

Although stores occasionally reported not receiving specific items or totes in the past, or that they had already shipped them back to the distribution centre (when in fact they had not), the RFID makes it simpler for the Co-op to confirm that a specific tote and the items within had been despatched or received.

"The key to the system is the visibility of the distribution of the totes and their return back to the warehouse," said Wright. The ROI he notes, comes from not utilising one-use cardboard boxes, as well as the reducing the theft of containers' contents.

- **Return on investment**

The system cost £62,000 and is projected to save the organisation £123,000 over the course of three years. The savings include £14,000 in one year by not using cardboard, £5,000 in reduction of theft and £22,000 in reduced manpower.

"Creating an RFID solution is an art form, said Wright. "There are multiple factors and features to consider – from the product that needs to be tracked to the data flow and resulting management intelligence. RFID can solve all supply chain problems."

## **Business Benefits**

- Automatic updates from RFID readers with stock management inventory (SKUs) enable totes to be tracked
- Accurate records provide details of deliveries and returns, reducing theft and loss of items
- Up to the minute, precise data capture saves manpower on tracking misplaced or stolen consignments
- Overall savings from visibility of supply chain ensure return on investment

For more information about Skillweb, please email [sales.enquiry@skillweb.co.uk](mailto:sales.enquiry@skillweb.co.uk) or visit [www.skillweb.co.uk](http://www.skillweb.co.uk).