

Implementing UHF RFID in Today's Food Service and Logistics Industry

Food supplier Reynolds
increases sustainability
by enabling UHF RFID
technology



“Once you have a unique RFID label on each tray, it opens up a wide world of future opportunities to improve the service we give to our customers.”

Richard Calder - IT Director, Reynolds Catering Supplies

The Challenge

Founded in 1945, William Reynolds started a fruit and vegetable business which now also offers meats, cheeses, dairy and salads. The company sells to some of the most well known names in the catering and food service industries, delivering over 3,000 orders each day. Their mission is to deliver quality of service and care to their customers.

Traditionally many food products and ingredients have been delivered in disposable cardboard cartons that are used once and thrown away. This is not an environmentally favorable solution,

and in recent years the costs of cartons and disposal of the waste has increased. Many retailers and producers are now requesting deliveries in plastic returnable trays or crates to lower environmental impact and reduce costs. The major barrier of implementation is that Reynolds is often unable to get the trays returned efficiently, or to prove ownership of trays that get diverted into other organizations.

In 2016, Reynolds was using 60,000 disposable cardboard cartons each week to deliver products to its many customers at around 4,000 different sites.

Many of its customers were facing increased waste disposal costs and were looking for a more sustainable approach based on changing from cardboard to returnable plastic crates. The plastic crates being used cost ten times more than cardboard boxes and the challenge was to track the crates to ensure that they were promptly returned for reuse.

Reynolds needed an UHF RFID solution that would be sufficiently weatherproof to withstand their tray wash process and sufficiently durable to withstand the physical handling and customer operations.





“ The use of plastic returnable crates is fully aligned with our sustainability goals at Pizza Express. The UHF RFID tracking system that Reynolds has deployed allows us to ensure the crates are being correctly used in as many restaurants as possible. ”

Guy Croot - Head of Distribution,
Reynolds Catering Supplies

The Solution

Reynolds decided to evaluate how UHF RFID could solve this problem. As a result, Avery Dennison integrated an automatic tracking system including UHF RFID labels and an overhead UHF RFID reader placed at exit and entry points, providing a solution.

The main goal was to increase inventory accuracy. This was achieved by providing each tray with an UHF RFID tag as an identifier, which is then read by Reynolds when it leaves for a delivery, and is then read again when it is returned empty. If the trays are not returned within the agreed time period, follow up action can be taken to ensure the customer is billed for the cost of a new tray.

Additionally, Reynolds took a precautionary measure placing two UHF RFID labels on each tray to prevent issues if one became damaged during the handling and washing process. The additional label provided back up in the case of extreme damage, so Reynolds needed each pair of tray labels to be identical and, encoded with a unique identifying number specific to that tray, which was then written to the UHF RFID chip within each label.

The process was mutually agreed with all parties to ensure that 95% of trays are returned within the acceptable time period, leading to a dramatic cut in overall tray losses.

The Benefits

Combining tags and readers, UHF RFID provided Reynolds with exceptional benefits across its supply chain, offering a new opportunity to leverage a sustainable solution, reduce waste and environmental impact and enhance their capability to deliver quality food efficiently.

The main benefits of integrating Avery Dennison's recommended AD-237R6 for supply chain management, item and package tracking include:

- Provides accurate product and tray availability, allowing Reynolds to confidently provide a solution to meet the needs and wants of the catering and food industry
- Reduced labor hours spent assembling cardboard cartons
- Reduced waste and environmental impact
- Reduced tray losses and increased tray level utilization efficiency
- Ability to move away from using 60,000 disposable cardboard cartons each week
- Enabling plastic crates increases sustainability in the supply chain
- Increased traceability: inventory accuracy improved, providing quick identification to associate product within the tray and visibility to expiry date.

“ I was able to create some simple programs to link together the Avery Dennison tray identification labels to the customer deliveries and empty tray returns. We can now view the percentage of returns from each customer on a daily basis, and the system gives us alerts if agreed return rates are not achieved.”

Alex Furner - Head of Business Improvement Teams

