AUCXIS
RFID SOLUTIONS

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EURO POOL SYSTEM

> Thanks to Aucxis' RFID system, we always know the stock and area location of the various folding crates, even though they are not sorted by type.

Thierry Verschooten
Logistics Warehouse Coordinator

Given the fact that the new folding crates are not sorted by size on the pallets, the counting and inventory of the various types was a difficult task for EPS.

The new RFID-based process starts at the inbound by equipping each pallet with an RFID label.

RFID-based counting, identification and localisation of RTIs for fruit and vegetable auctions

The customer

Euro Pool System (EPS) is market leader in **reusable standard packagings in the European fresh chain**. The company is operating in 27 countries and every year more than 1 billion crates for fresh and packaged food are in rotation.

EPS is always on the look-out for innovative solutions to **optimise the efficiency of its supply chain and to make its reverse logistics sustainable**. Together with supermarket chain Delhaize, the company won the prestigious Supply Chain Award for 'Project of the Year' in 2018. Aucxis was responsible for the automatic registration and RFID systems for this project as well.

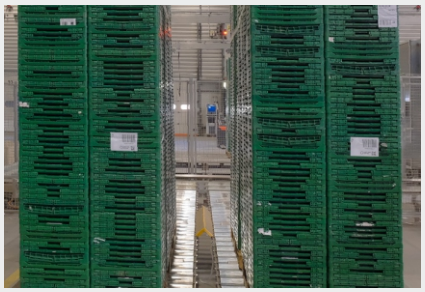
The challenge

EPS offers pooling services for all RTIs (Returnable Transport Items) for the **fruit and vegetable auctions in Belgium and other countries in the EU**. Just like the shops, the auctions bring their foldable crates back to the depots for cleaning, after which they are reissued in the chain.

For several years, EPS has been working on switching from non-folding crates to thin folding crates. Doing so, they reduce their ecological footprint and simplify their logistic processes. **Given the fact that the new folding crates are not sorted by size on the pallets, the counting and inventory of the various types was a difficult task for EPS.**

To solve this problem, EPS issued a tender for the **automatic identification and counting of the pallets** that are processed in the Sint-Katelijne-Waver and Roeselare depots. Apart from the **hardware** required for these two Belgian sites, the project also includes the development of a **standard software platform** that EPS wants to roll out in several European depots in the next few years.

Given their positive experience with RFID technology and our successful cooperation in the past, EPS granted this project to Aucxis.



The determination of the most suitable RFID label was crucial for the project to succeed.

For a correct inventory, the label must be perfectly readable at a distance of 25 m in the storage halls (stacking up to 20 pallets deep). The right adhesive strength is important as well: on the one hand, the RFID label must be able to withstand storage and transport operations, but on the other hand, it may not stick too hard either, so that it does not block the destacking machine at the washing station.

With the Scan Buddies – Aucxis' handy mobile RFID scanners – the pallets in the storage halls are localised and inventorised.

In the washing station, the RFID label is scanned, allowing EPS to know how many and which types of crates are ready for delivery.

The solution

Total package with hardware, middleware and standard software for all depots

The architecture and implementation of the Aucxis software- and hardware where possible- were chosen in such a way that they are **optimally deployable and reusable in the European depots.**

Hardware

- UHF RFID labels on the pallets with the ideal adhesive strength and suitable for a reading distance up to 25 m.
- Fixed RFID detection points in the washing stations: RFID reader + antennas to scan the pallet label + barcode scanner to read the crates.
- Mobile RFID scanners for the inventory in the depots.

Aucxis middleware HERTZ for the communication with different hardware parts, like RFID readers, barcode systems, PLC equipment etc.

Standard software for both depots that is easily deployable in other European establishments.

Central database that keeps track of all stock transactions of unwashed stock across all establishments.

Logistic flow

Inbound

The dirty crates arrive from the auctions at the depot, where an automatic scanning tunnel with vision recognition reads how many and which type of crates the pallets contain (Tanzer). Next, an **RFID label containing all the necessary information about the crates is automatically applied** to the pallets. EPS needs **500.000 pieces** of these RFID pallet labels **each year**.

Storage of the dirty crates in the halls, with inventory and area localisation

The pallets with dirty crates are transported to the storage halls, where **two mobile RFID scanners** - Scan Buddies - drive around to keep an accurate record of the stock. The Scan Buddies are driven by **mobile UHF technology** and have to visit a minimum number of predefined detection points per driving route before the inventory is printed.

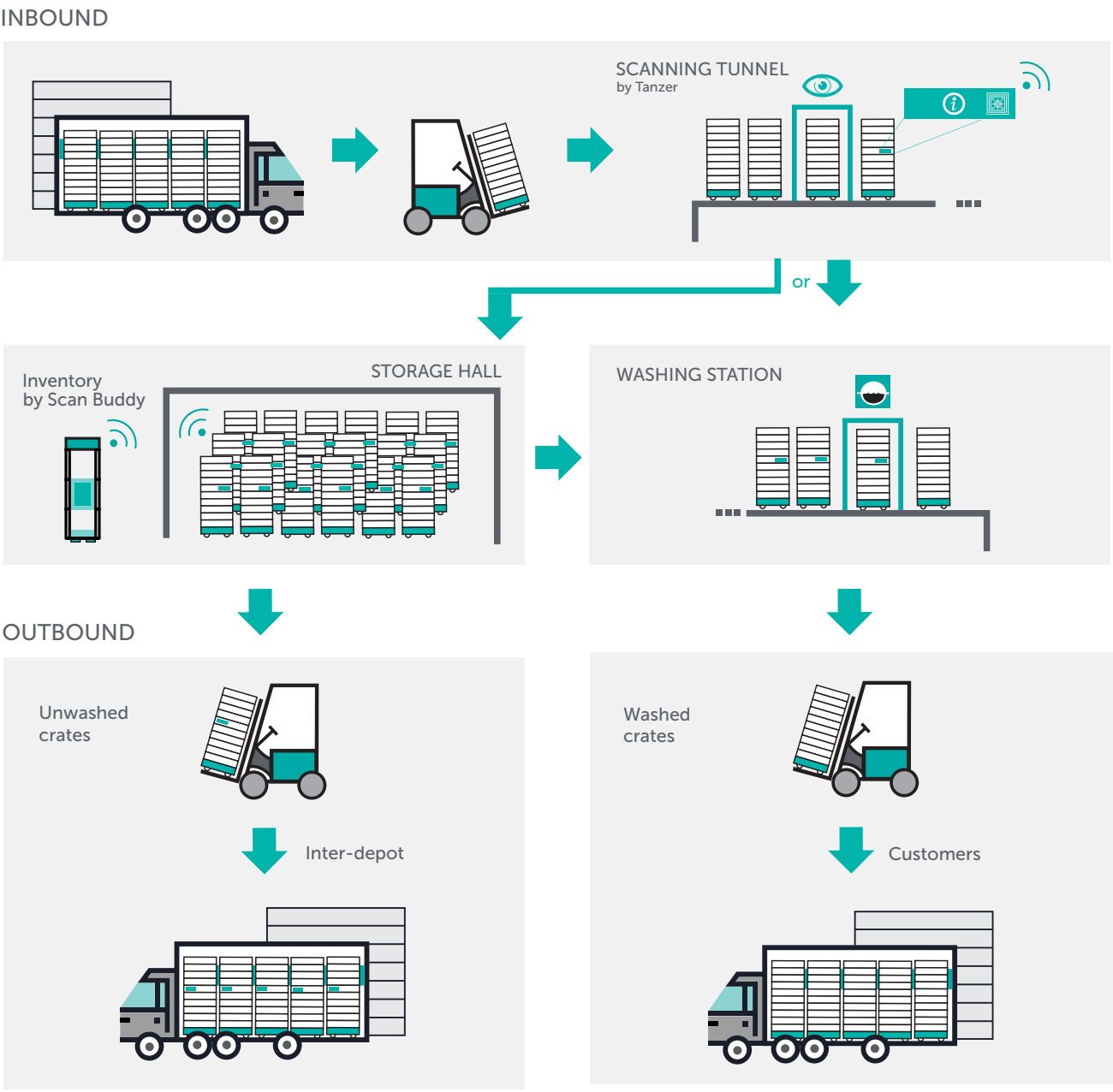
Washing station + outbound

At the moment when an auction places a call-off order, the number of required pallets of dirty crates are driven to the washing station. After washing (by Tanzer), the RFID label of the pallet is scanned again by the RFID reader with antennas, allowing EPS to know **how many and which types of crates are ready for delivery**. This stock is also automatically reduced and communicated to the ERP system.

Logistic and electronic mouvements

In addition to the distribution of washed crates to the auctions, the **logistical and electronic movements** of both dirty and washed crates **between the European depots** are recorded as well.

Schedule of the logistic flow



RFID enables to monitor the flow of the pallets from inbound to outbound to the auctions or to other depots.

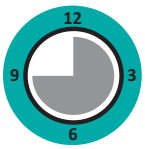
The result

Sustainable reverse logistics thanks to the reduced number of transports

Per transport, a lot more dirty folding crates arrive than before: each pallet now carries substantially more folding crates than the old, non-folding crates. **Although the pallets in the storage halls each contain folding crates with different sizes, the stock is correctly identified and measured thanks to the Scan Buddies.**

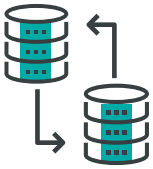
Error-free inventory and localisation

Thanks to the various scanning moments throughout the logistic flow, EPS knows at all times how many dirty crates are in stock and where they are located, **without any manual intervention by the logistics staff**. Also the number of washed crates and their turnaround time are always known.



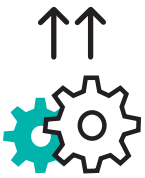
Time-savings

when picking up the pallets in the storage hall to bring them to the washing station or truck: thanks to **RFID area localisation**, the pickers find the desired crates faster.



Smooth exchange between the European EPS depots

1 central database with the info of all pallets, regardless of their location, and an inventory count per location.



Increased efficiency

thanks to the automated process control and reduced processing costs.