

ROBA



“ The down-to-earth approach of Aucxis convinced us to collaborate. Today we are searching together for the best solutions and we achieve great results with our RFID applications.

Gert Machon,
Production Manager
Roba Metals



Rolls of stainless steel, ready to be reprocessed into cut-to-size steel plates.



Testing the correct tag position during the POC.



ATLAS Track&Trace solution for the detection and localisation of pallets in warehouses

The customer

The Dutch company **Roba Metals** supplies steel, stainless steel, aluminium and other non-ferrous semi-finished products to customers all over the world. Together the various European sites employ more than 600 people.

The pilot project

Aucxis rolled out an RFID pilot project in the Roba Metals service center and sales office in Genk. On a 20.000m² surface, divided in 4 halls, coils (= rolls) of stainless steel are reprocessed into cut-to-size plates, after which they are packed on pallets. The pallets are delivered from stock or on order to the customer, who in turn processes the stainless steel plates into a final product, for example industrial kitchen equipment and shop fitting, machine parts and barrels.

Roba Metals Genk has on average 7.000 pallets in stock, of which more than 1.000 pallets are delivered on a weekly basis. 35 employees are involved in the production process and logistic flow.

The challenge

In order to localise the correct pallets for dispatch to a customer and to pick them up in the warehouses, Roba Metals worked with a traditional barcode scanner and an Excel file. As more and more storage space is built, and the pallet locations were not always registered, the search times rose sharply. This while the delivery times are becoming increasingly short: the customer often expects delivery one day after order.

Roba Metals was therefore looking for a real-time detection and localisation system which could be linked to its WMS.



Each pallet is equipped with 2 tags; this in function of the two different ways of loading (forklift and bridge crane).



Antennas on the bridge crane and gripper scan the load of plates.



Antennas, in the front and at the bottom of the forklifts, scan the floor tags and send the location of the forklifts.



For incorporating the floor tags, an accurate grinding is required.

The solution

Aucxis suggested implementing the ATLAS Forklift Track&Trace solution, providing an accurate and up-to-date overview of the internal logistic movements through automatic location and load control.

There has been chosen to work with UHF RFID technology, enabling bulk scanning. Furthermore – in contrast to barcodes – no line-of-sight is required to read out the tags.

Tagging pallets

Once the cut-to-size stainless steel plates are located on a pallet, they are provided with a paper or plastic protective film, which always contains a barcode label with the customer data and a unique number. Based on this number – which is read out by a PC with barcode scanner – we print two RFID tags which are programmed with their product ID. These 2 RFID tags are also attached to the protective film.

Every pallet requires 2 tags because the pallets can be lifted in several ways during loading: both with a forklift and with a bridge crane. It is estimated that Roba Metals Genk will equip +/- 100.000 pallets with tags this year.

Once the pallet has been tagged, it is dropped off by the forklift in a drop-off zone. Next, the bridge crane transports the pallet to its actual storage place. When picking the pallets for transport, the reverse movement takes place.

Detection equipment bridge cranes

At the top of each hall, a bridge crane moves from front to back at a rail. The corresponding gripper moves from left to right to be able to load the pallet. Each hall is divided into a grid, and each box in the grid represents a drop-off zone or passage.

The 5 bridge cranes were equipped with an antenna to scan the load and 2 range finders to determine the exact position in the hall based on X&Y coordinates.

Detection equipment forklifts

6 forklifts (of 2 different types) were equipped with an antenna in the front – to scan the load – and an antenna at the bottom – to scan the floor tags – in order to determine their position in the hall. Thanks to this equipment, the forklifts can read several pallets at the same time. As the forklifts drive over the grids with floor tags at a speed of 12km/h, the reading speed was very important during the tag selection.



ATLAS shows to the operator of the forklift at which location which pallet has been dropped off.

ATLAS

Forklift Track&Trace

With the ATLAS Forklift Track&Trace solution, the project is generic, which means that Roba Metals can equip as many as halls as desired in the future, this on different sites.



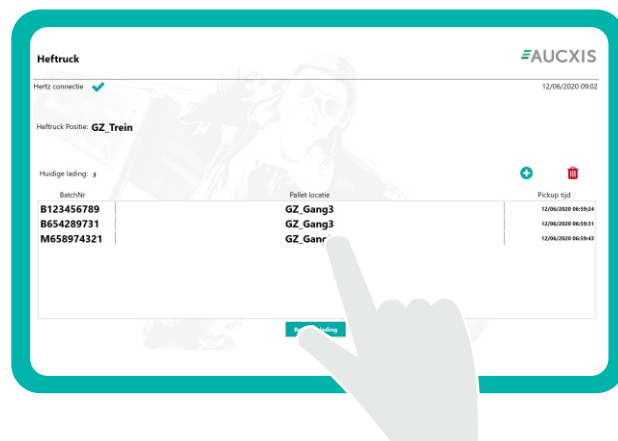
In the long term, Roba Metals is considering also implementing RFID scanning of the cargo before departure to the customer.

In this way, certain actions can be automated, for example change the status of the cargo in the WMS, print CMRs (transport documents), encourage the accounting department to draw up invoices etc.

The solution

Data processing

The operator of the bridge crane or forklift executes the same tasks as before, but also sees on a screen now at which drop-off location which pallet has been picked up. Next, he confirms this on his touch screen. After confirmation by the user, the data are automatically sent to Roba Metals' WMS.



The interesting thing about the concept is that the same hardware and technology (our middleware HERTZ) can be used for both identification and localisation.

The result

Thanks to the ATLAS Forklift Track&Trace solution, every step of every pallet is monitored throughout the logistic flow, from storage after production to loading on trucks for transport.

- Speed +50%: all information is called up from the WMS, so search actions are no longer required;
- Much less pressure and frustration among the operators, warehouse staff and transport planners to meet the loading deadline;
- Several FTEs can execute other tasks;
- When using the system correctly, the accuracy of the pickings considerably increases because human errors are excluded.

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