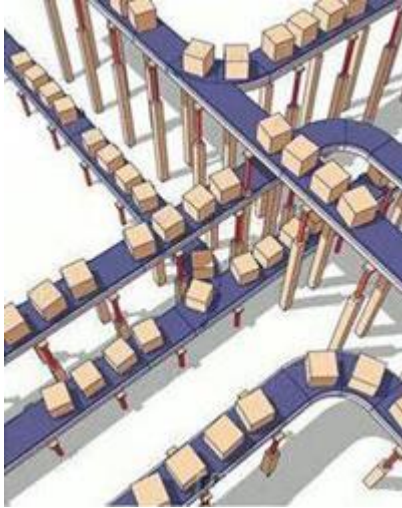


# ACCELERATING PRODUCTION PROCESSES USING RFID



Our customer is a Munster based components manufacturer which produces precision parts for the automotive industry.

When AIS were asked to help it to increase traceability in the line, we took a very close look at their existing processes. The first stage in the process is the production of a mould into which the molten aluminium is poured to produce the initial casting. The mould is created by pouring liquid plaster into a crate that contains a rubber outline of the finished turbine. This step needs to be closely monitored for quality control purposes and reduction of scrap. Our customer makes lots of different turbines for different carmakers and so each mould has different properties and shapes.

This makes it essential to identify and track each crate as it travels along the conveyor – each plaster “recipe” is also different and needs to be prepared in advance and in perfect sequence.

Our customer had an existing Active **RFID system** that was installed a number of years ago. This was becoming dated, and passive technology would be more appropriate than their older active system. When we first looked at the project we saw that the crates that held the moulds were being used in a fairly harsh environment: they are metal, quite heavy and take a bit of abuse. They are washed and brushed clean after each cycle, filled with a plaster mix and can be used multiple times in a shift – all of this heavy treatment could affect the precise RFID system.

Our customer wanted a much higher good read rate on the conveyor line. AIS installed a very compact, high frequency, passive trial system and in the test phase achieved a 100% good read rate.

*“We chose the Datalogic (EMS) LRP series of High Frequency Passive tags because they have a proven track record of performing well in a metallic environment, are IP68 sealed and almost indestructible”* says Wayne Fenlon Sales Manager at AIS. To achieve the best possible reading range and rate, we also used a specific offset that would provide clearance between the metal surface and the RFID tag.

Following the successful trial, AIS engineers worked closely with the customer’s own engineers to integrate the new technology into the existing PLC control system with minimal change to the PLC program.

AIS Ltd developed a method of feeding multiple readers back to a single RS232 input on the controlling PLC. This is where the VB2 controller that AIS developed, again showed it’s flexibility by acting as a multiplexer and taking the RS232 feeds from the antennae and feeding to the PLC.

*“The results were outstanding. The project was a success due to AIS and Datalogic’s experience in deploying RFID into an Industrial Environment, the ability of the AIS technical department and their*

*familiarity with PLC protocols and the open-minded attitude from our customer to consider a complete change of technology” said Noel McKearney, General Manager of AIS.*

*“We were very happy with the new system. It raised our good read rate on the line and this improved quality control and productivity while also reducing waste. The AIS engineers worked very well with our team to ensure everything was installed properly with very little disruption to our manufacturing process” says the Project Team.*