



AUTOMOTIVE INDUSTRY

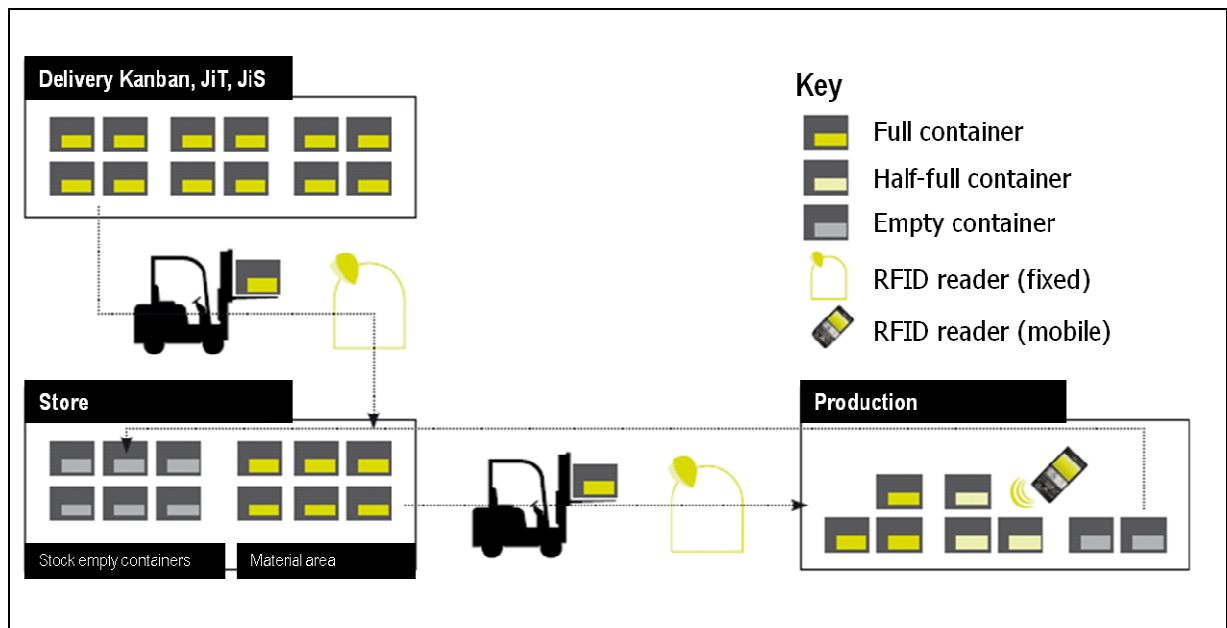
Container Management

Case Study



RFID CONTAINER MANAGEMENT

RFID-based Container Management is currently one of the most discussed RFID applications throughout the world. Many companies from different industries, such as the automotive and logistics industries, amongst others, have already recognized the immense potential of an RFID container management solution.



CASE BACKGROUND

In times of very small storage facilities and Just-in-time and Just-in-sequence concepts more and more companies have identified container management as one of the most critical and cost intensive elements of annual balances. An intelligent container management solution proves to be a significant criterion in conception and in cost efficiency for different industries.

More and more companies have started to realize there are significant benefits from modern, future-oriented container management solutions. Besides the typical applications such as quantity management or tracking and tracing solutions, RFID-based container management can also increase the efficiency of approved mechanisms of production control such as JIT, JIS or Kanban.

THE BENEFITS

By using the 7iD container management solution based on RFID the customer could realize the following benefits:

- Clear reduction of administrative post processing by real time visibility
- Significant improvement of the delivery accuracy through automated comparison of delivered goods and production line
- Elimination of delays in production due to misplaced containers
- Significant increase in efficiency of production control
- Easy to expand due to scalable architecture
- Clear reduction of containers by optimized planning

THE SOLUTION

- Best suited transponder and transponder positions were evaluated during a proof of concept phase to assure the required reading rate
- Installation of RFID-gates and / or cascades to guarantee the highest possible reading rate
- Avoidance of false positive reads via special software-algorithms. No additional hardware is required.
- Integration with existing ERP System for Data Exchange
- A scalable standard architecture was implemented in order to easily expand the solution

THE CHALLENGE

- Solution must be compliant with international standards and regulations to RFID;
- Only the charge carriers being unloaded should be captured – 100 per cent avoidance of false-positive reads;
- Detection rate must be at least 99.99 per cent even in metallic environments;
- Bulk-reading at a distance of several meters;
- Real-time information and statistics of location, quantity and turnover ratio;
- Transmission of business events to enterprise systems.

THE PROJECT

Each container was equipped with transponders attached on two corners of the carrier. This increased the reading performance and data quality.

By passing the RFID-gate and -cascade, the transponders are read and the ID compared with the appropriate production plan. If the wrong carriers are unloaded, the fork lift driver is immediately notified with visual and acoustic alarms.

For configuration, monitoring and data transmission the customer used the 7iD Identification Network products (Data Center and Device Agent) which are fully compliant to international RFID standards.

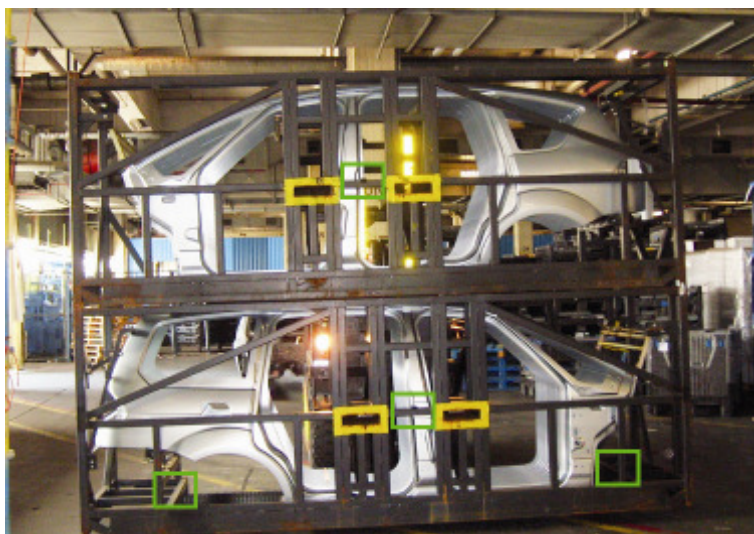
In order to guarantee a high reaction rate, the comparison between carrier ID and production plan is carried out by the RFID edgeware products. There is a continuous exchange between the RFID edgeware and the ERP system. All acquired data is transmitted by using EPCglobal certified interfaces to existing ERP system at the customer site.

In order to eliminate false positive reads a special 7iD software algorithm was used. This algorithm supports the system by avoiding false positive reads (static and dynamic) from incorrect carriers.

The direction of travel for the carriers can also be detected without additional hardware components. This is necessary to allocate the container, inserts and data for further processing.

The on-site installation consists of both RFID-gate and -cascade constructions to suit the environmental needs. To guarantee high read rates, these two different set ups require specific configuration and adjustment. The specific set up and the transponder positioning allows the customer to achieve the required read rate and to reduce the existing manual work during unloading.

The container management solution supported the customer on reducing both the unloading time as well as the reaction time to mistakes significantly and automated the unloading process in an optimal way.



KEY FEATURES

- Real-time availability of container location, status and quantity
- Significant reduction of overcapacity and disappearance
- Additional optimization of JiT / JiS or Kanban processes
- Paperless processing



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