



# TRANSPORT SERVICE

RFID Vehicle Outbound Logistics Management  
Case Study



## NV TRANSPORT SERVICE

---

NV Transport Service (TS) a subsidiary of Hödlmayr International AG and Autologic Holding plc is the releasing Agent for Ford Motor Company in Cologne (Germany) and Genk (Belgium). The company's most important tasks are the quality inspection at the end of the assembly line and the complete dispatch of new cars released by the plants.



## CASE BACKGROUND

---

In 2010 Transport Service dispatched 390.000 cars in Cologne and 240.000 cars in Genk. Besides planning routes and coordinating the various haulage providers, they are managing parking areas and their holding abilities in order to avoid capacity problems at peak times. They are responsible for meeting the delivery deadlines agreed and they have to guarantee that vehicles are shipped correctly.

Especially the dispatch of cars comprises a large number of time-consuming manual process steps. These range from truck registration and loading control, right through to the shipment release. Entries into different systems and integration gaps make these tasks an enormously challenging exercise.

Therefore, in summer 2010, TS decided to use the RFID based Outbound Vehicle Logistics solution from 7iD Technologies, which enables an end-to-end automation in vehicle distribution. Every process step is automated by using RFID technology; from taking delivery of the vehicle from the manufacturer, through to the vehicle leaving the site.

Moreover, 7ID even provides the possibility to compare the laden vehicle with the respective loading list while the truck is already on the move, which ensures that not a single incorrectly loaded vehicle leaves the site and that no car is delivered to the wrong location.

## THE BENEFITS

---

By automating the complete vehicle outbound process the customer could realize the following benefits:

- Waiting time reduced by 20 %
- Incorrect loading reduced by 100 %
- Streamlining of the shipping process by 15 %
- Increase in employee satisfaction
- High process transparency

## THE SOLUTION

---

- Expansion of the RFID based supply chain processes by installing a vehicle outbound logistics management.
- Installation of an RFID-Truck-Gate in order to identify loaded trucks.
- Avoidance of false positive reads via special software-algorithms, without the need of additional hardware.
- User-friendly administration and visualization of information



## THE CHALLENGE

---

- Solution must be compliant with OEM´s standards and regulations to RFID;
- Detection rate must be at least 99.9 per cent even in metallic environments;
- 100 per cent avoidance of false-positive reads caused by reflections of passing and parking cars and trucks;
- Bulk-reading of loaded vehicles up to speeds of at least 30 km/h;
- Real-time data transfer and information visualization;
- Automated delivery control and complete elimination of loading errors.

# THE PROJECT

---

At the end of the production line every new car is equipped with an RFID transponder which contains the unique identification number of the vehicle. This allows an automatic identification of the car and the comparison with the electronic loading list. As a result, a truck may leave the compound area only after the correct verification of the loaded cars, which guarantees that no car is wrongly dispatched.

To guarantee a continuous identification process RFID is applied in three working steps:

## Truck Entry Station

At the entry station the truck is identified via RFID transponder. By identifying the truck, the appropriate loading list is printed automatically and the barrier system is opened. The truck can enter the compound. This process stage warrants that only authorized trucks may enter the area.

## Vehicle Control Station

After loading the cars according to the printed loading list the truck passes the RFID truck gate where all loaded vehicles and the truck itself are electronically compared with the relevant loading data stored in the back end system. This takes place while the truck is on move – even with a speed up to 30 km/h.

The result of the control process is visualized on a display. If the loading is complete and correct the driver can drive straight forward to the exit. In case of incorrect loading a manual control by TS takes place.

The electronic loading list does not only contain cars but also items (such as special documents, navigation systems etc.) which are also considered during the data comparison.

## Compound EXIT

Only in case of correct and complete shipment, the driver gets the release information shown on the overhead display and may drive to the exit. The driver confirms the takeover and correctness of the loaded cars by signing electronically. The signature is transmitted to the back end system and the barrier is opened.

All information of the shipment process is available and forwarded in real time. This is absolutely essential to avoid delays and unnecessary waiting times.

To keep the application for all users as simple as possible and to gain broad acceptance, TS decided for a visual communication system. Both, the TS team and the truck drivers are informed about the actual status via displays and lights.

One of the biggest challenges for RFID systems in general is handling the metallic environment of the state-of-the-art applications. Parked and passing vehicles cause unwanted reflections and false-positive reads. The special developed algorithm of 7iD Technologies and the intelligent set up of antennas filter reflections and unwanted reads even in this challenging environment without using heavy additional hardware like shielding or absorption tools.



## KEY FEATURES

- Fully automated car release
- Complete elimination of false positive reads
- Scalable and reliable RFID architecture
- Data transmission in real-time avoid waiting times
- Expansion of existing RFID system



**7iD TECHNOLOGIES GMBH**

Keplerstraße 105, 8020 Graz, AUSTRIA

Phone: +43 316 716 720

Fax: +43 316 716 720 399

[rfid@7iD.com](mailto:rfid@7iD.com)

[www.7iD.com](http://www.7iD.com)