SUCCESS STORY
DEUTSCHE POST

Deutsche Post

Using SensorSMART technology, IDENTEC SOLUTIONS was able to create an automatic identification system of removable truck containers, controlling and directing them to the correct loading or unloading ramps. Every shipment and containers are accurately tracked.

This solution eliminated traffic volume on the site, provided easy and fast access to truck location and purpose, enhancing client satisfaction by avoiding swap-bodies with the wrong destination to leave the freight center.

BENEFITS

- Increased usage rate of swap bodies
- Automated Access Control
- Automated Routing in FC
- Decrease in search times
- Fast processing of Priority Orders
- Reduction of delivery errors

RFID SOLUTION FOR DEUTSCHE POST AG

In 2002, Deutsche Post implemented IDENTEC SOLUTIONS´ RFID system in all 33 freight centers nationwide to mark and automatically identify its removable truck containers (swap-bodies).

The project, consisting of 66 installed read/write terminals and approximately 22,000 mounted tags (for identification of the containers), was initiated by the company “Große Elektrotechnik GmbH” in Gerlingen, Germany. The radio frequency identification (RFID) system enables fully automated entry and exit of containers on a freight center’s premises and allows for delivery-related direction of the containers to the correct loading ramps.

RADIO TRANSPONDERS MARK TRUCKS AND SWAP-BODIES.

The SensorSMART Platform forms the foundation of the automatic vehicle and swap-body identification at Deutsche Post. This is an active system (i.e. battery-assisted read/write), specially developed for applications in harsh industrial environments.

Each truck and each swap-body are identified with a tag. A tag’s memory consists of a 48-bit fixed code with an unalterable tag ID number and 56 bytes of variable read/write user data. Data memory is configured to perform over 100,000 write cycles and the data is accessible for more than 10 years.

IDENTIFY FIRST, THEN DRIVE IN AND LOAD UP.

Antennas are installed on traffic islands located at the entrance and exit gates of the freight centers, and the system communicates via radio waves at a frequency of 868 MHz. When a

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truck arrives at the entrance to the freight center, the system reads the tag's fixed-code via the antenna. Trucks and swap-bodies can be identified simultaneously thanks to a sophisticated anti-collision algorithm, which permits multi-identification capability. The facility's logistics system checks if the vehicle has permission to enter.

At the same time, the host computer records the arrival of the vehicle and swap-body. A receipt is then generated by the computer and issued to the driver from a point-of-sale printer located at the communication tower. As soon as the driver enters the premises, he knows where he should unload the swap-body or at which loading ramp he needs to collect the container assigned to him for his route.

Next, the gate automatically opens and the truck-trailer can enter. Through a combination of entrance/exit control and traffic control (facility logistics system), the number of trucks and swap-bodies, their exact identities, real-time locations and purpose are always known. This eliminates unmanageable traffic volumes on the site and assures a smooth transfer of the containers onto the trucks.

If someone needs to find the location of a particular truck or swap-body, a few mouse-clicks will reveal if the truck has already been through the freight center or if it is still on the premises.

Moreover, in cases of time constraints or similar, automatic identification of the vehicles and containers permits a rapid turn-around of Priority or Special Handling shipments.

Truck leaving the freight center.

FOLLOWING A VALIDITY CHECK, THE PACKAGE GOES ON ITS WAY.

As the truck leaves the freight center, a read/write terminal at the exit checks the identification numbers of the truck and the swap-body and compares them to the target data provided by the master control station. Upon validation, the gate opens automatically. If the swap-body or the route is not recognized, the gate remains closed, preventing swap-bodies with the wrong destination from leaving the freight center.

UNINTERRUPTED TRACKING AND TRACING.

Continuous tracking of all swap-bodies at Deutsche Post is assured with the SensorSMART System. With system control and the facility logistics system, every route is "married" to a particular swap-body, which in turn is uniquely assigned to that route. In this way, Deutsche Post can accurately track the path of every shipment and its respective containers.

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