

# RETURNABLE CONTAINER TRACKING BOOSTS EFFICIENCY FOR AUTOMOTIVE CHASSIS PLANT



## SITUATION

Reusable containers are an important part of the manufacturing supply chain and can help companies better manage the flow of goods to and from suppliers and customers. However, the inability to track these returnable transport items (RTIs) can lead to shortages, shipping delays, production line shutdowns, and unnecessary purchases or rentals of additional RTIs. Companies often overcompensate for this lack of visibility with safety stocks of containers that have to be stored and maintained at considerable expense.

Mobis North America (MNA), a division of Hyundai Mobis, is a Tier 1 automotive suspension module manufacturer with production facilities in Toledo, Ohio, and Detroit, Michigan. The company assembles the rolling chassis for the Jeep Wrangler built at Chrysler TSAP.

Mobis provides purpose-built custom returnable containers to its suppliers, which enable them to ship sub-assemblies and parts needed for building chassis. Mobis owns these containers and pays to have them built. If a supplier ran out of containers, there was a risk of interrupting production at the Wrangler assembly plant. So, if a supplier requested more containers, Mobis had to ship them.

However, Mobis had no way to track how many containers had been shipped to a supplier or how many they should have on hand. The company wanted to better utilize its container fleet, be more proactive when it came to ensuring suppliers had enough containers, and reduce unnecessary costs associated with ordering more containers.

Mobis had previously evaluated RFID technology for tracking the metal containers, but tag prices at the time were high and the performance of lower-cost RFID tags on metal was unreliable. Since then, tag prices have dropped significantly and a number of UHF RFID tags have been developed that can perform well on metal. Mobis decided to give the technology another look.

## SOLUTION

The company approached Brighton, Michigan-based system integrator Lowry Solutions about using RFID to track the containers. Lowry provides container management systems that enable the efficient tracking and control of reusable containers by associating a unique RFID tag with each asset. The solution maintains an accurate inventory status for every container and allows companies to see which assets are available for use, which are



## CUSTOMER PROFILE

Mobis North America, LLC  
Detroit, Michigan

**Industry:**  
Automotive

**Solution:**  
Software from 7iD Technologies  
UHF RFID tags and reader portals

**Benefits:**  
Real-time visibility



at partner facilities, and which are in transit. With this type of visibility, Mobis would be able to better optimize the use of its container fleet.

Lowry conducted a system requirements review with Mobis in order to better understand the scope of their tracking solution. Lowry identified Mobis' business requirements as well as data requirements for the solution to work with SAP. The integrator also identified the need for a feedback system for fork truck drivers in the Mobis facility. Drivers would need a way to display the number of containers on the fork lift and keep a cumulative total. The system would also need to be able to detect whether the containers were being received or shipped.

Once the business requirements had been mapped out, Lowry performed a full site survey in order to ensure that the tags were properly mounted on the containers and that the RFID portals were correctly designed and installed.

For the software, Lowry deployed a solution from Austrian firm 7iD Technologies. 7iD specializes in RFID infrastructure management and control and provides specific applications for automotive and container management solutions.

The 7iD software provided the necessary interface to integrate the container management system with Mobis' SAP Container Management Module. In addition, Lowry developed custom software for the container management application that integrated with the feedback system used by the forklift drivers.

Lowry tagged the metal containers with pre-encoded UHF RFID tags and installed RFID reader portals on six dock doors at the Mobis facility.



## **RESULTS**

As the containers move in and out of the facility, Mobis can track the ID number of each container shipped. The RFID portals provide data that differentiates whether a container is going on or coming off the truck. In other words, the system can tell whether the container was shipped or received. This helps the company know the date that every container was shipped, as well as which truck it left on.

The solution has increased productivity, shipping velocity, and drive-on/drive-off times. It has been so successful that Mobis plans to expand the system to other plants. Working with Lowry, they also hope to use the system to create automated shipping transactions and advanced shipping notices (ASNs) based on the RFID data.

Leveraging RFID to improve the visibility of its returnable container fleet has helped Mobis optimize its assets, ensure a reliable flow of parts from its suppliers, reduce costs by making it easier to match container requirements with production, and avoid purchasing new containers unless absolutely necessary.



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