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Rewe Deploying Long-Range Real-Time Location RFID System

Topics/Verticals: Inventory/Warehouse Management, Asset Tracking, Retail

At its DC in Buttenheim, Germany, the retailer is deploying Mojix's STAR technology to help reduce the loss of pallets and other returnable transport items, as well as automate their management.

By Rhea Wessel

Sept. 8, 2009—Rewe Group, a European retail and food group that reported approximately €50 billion ($72 billion) in revenue in 2008, has completed a test in which it employed a radio frequency identification real-time location system (RTLS) to track returnable transport items (RTIs) at dock doors at its distribution center in Buttenheim, in southern Germany. The company now plans to focus on integrating the RFID application into its warehouse-management system so that it can begin a pilot program leading to its eventual expansion of the application.

Rewe, the third largest food retailer in Europe, and the second largest in Germany, operates 29 DCs and 10,305 stores in that country, as well as another 4,409 retail outlets in 14 other European nations. The company's German supply chain operations commission about 36 million pallets and roll containers annually. Rewe already tested RFID-tagged pallets at its distribution center in Norderstedt, in northern Germany (see Anticipating ROI, Rewe Expands Its RFID Deployment). The Norderstedt application involved RFID receiving portals, forklift interrogators and handheld readers for interrogating EPC Gen 2 passive ultrahigh-frequency (UHF) tags on pallets.

Sven Jürgens

In Buttenheim, Rewe has installed a system that can read tagged RTIs at 105 dock doors in a DC that handles dry foods and perishable items. Once integrated, the company plans to use the system to improve its management of RTIs. By individually identifying the items, instead of tracking them in bulk like the company does at present, Rewe can avoid the loss of RTIs and improve the process of accounting for the items, thus saving money.

Rewe considered conventional EPC Gen 2 RFID interrogators for the application, but ultimately decided on the Mojix STAR system, which has a real-time location feature allowing for the identification of passive EPC Gen 2 tags over a long distance (see Mojix Upgrades Product Line, Offers Demo in 3-D). The system can also determine the tags' location at different depths. For Sven Jürgens, who works in Rewe's standards and projects department, this feature was a critical point in choosing Mojix.

"Particularly in the shipping area," Jürgens says, "we needed to know which RTIs were loaded on trucks and which ones were still staged at the dock door." The Mojix system, he adds, was able to distinguish between the two after the system was fine-tuned.

Rewe is working to improve the visibility of its transport containers, Jürgens indicates. Bar codes are an

important part of the container-management process, he says, but Rewe sees RFID as part of the solution for managing RTIs efficiently, given the ease and speed of identification with the technology. In addition, he notes, RFID would afford Rewe "process security" regarding RTI tracking, since it would eliminate errors inherent to bar-code scanning.

The test of Mojix's hardware began in February 2009, and involved several thousand tagged RTIs of different types, including pallets, roll containers and frozen-food containers composed of metal and plastic. Some 16 dock doors were initially outfitted with the technology in the early stages of the test of RFID-enabled dock-door shipping processes.

The test was conducted with UPM Raflatac's DogBone tags inside polycarbonate casings that were bolted to the RTIs. Rewe is presently evaluating the tags and casings for their ability to withstand impact. Later, after Rewe has fully implemented and expanded the application, the company may ask its RTI suppliers to deliver the items tagged.

Once the application is fully integrated into Rewe's warehouse-management system, Rewe will be able to automatically compare the RTIs on a particular truck with those that should be on that vehicle. Upon entering the distribution center, a driver is directed to a specific dock door for loading. As the driver moves a tagged RTI from the staging area onto his truck, the RFID system will identify it and a visual signal—a red or green light—will let him know if he has moved the correct item onto the vehicle.

Since an individual store is responsible for the RTIs—and is liable for those not returned—Rewe could utilize the system to efficiently generate an overview illustrating which RTIs have been sent to which stores. Currently, employees at a store scan the bar-coded label on each RTI as it arrives or is sent back to the DC, thus booking it into and out of the asset-management system.

In the future, when the RTIs are returned to the distribution center, their RFID tags will be interrogated, enabling Rewe to know the full extent of its RTI inventory on site, and to confirm that items were indeed returned. Someday, if the system is expanded to individual stores, Jürgens says, a store could employ RFID to identify the RTIs. But at present, he notes, Rewe is focused on implementing the Buttenheim RFID pilot, which is expected to commence in October.