

The company is using EPC Gen 2 tags to track the shipment, receipt, inspection and repair of 150,000 returnable plastic containers.

By Rhea Wessel

Nov. 11, 2008—[CHEP](#), a pallet and container pooling services company owned by Australia-based [Brambles](#), is running an RFID-based application that tracks returnable containers for the automotive industry at its facilities in countries across Europe, according to Floris Kleijn, CHEP's director of RFID as a service in Europe, the Middle East and Africa (EMEA).

The industrial-grade plastic containers, known as foldable large containers (FLCs), are used to transport large automotive parts from the supplier to the assembler of a vehicle. CHEP issues, collects and conditions the containers from its service centers.



Floris Kleijn

As CHEP launched the project, it decided to approach the idea of tracking containers by considering not only the benefits such an application could bring to the company, but also those that could be delivered to automotive suppliers, such as an enhanced ability to locate goods within the supply chain.

CHEP opted to implement and test the application itself before involving clients in developing and operating the RFID system. It wanted to first prove to the market that it could build a cross-border RFID application. Currently, CHEP shares information regarding the movement of containers into and out of its facilities with customers; in the future, it hopes to offer RFID-based tracking services for suppliers.

CHEP put the tracking application into operation in May 2008, and now has 150,000 tagged FLCs in circulation. The tags, produced by [RF Identics](#) and containing [Impinj](#) EPC Gen 2 chips, are attached to the container's underside, with two bar-coded labels applied to the external sides to enable operators to visually differentiate tagged containers from those not tagged. RFID interrogators manufactured by [Sirit](#) are being installed at nine facilities in Germany, Hungary, the United Kingdom, Turkey, Poland, Spain and France. Each facility has an average of two dock-door portal readers, with a total of 14 handhelds employed throughout the system.

CHEP's container-tracking process includes four read points: shipment, receiving, inspection and post-repair. First, tagged containers are identified as they are moved on a forklift through the RFID portal at the dock door en route to CHEP's customers—automotive parts suppliers. The forklift driver pulls up a work order from [SAP](#) software on the touch screen of his onboard computer, then selects the dock door through which he plans to drive. The order number identifies the name of the company to which the containers are being shipped, thereby associating the customer with those particular containers. When empty containers are returned to CHEP, the same process happens in reverse.

Upon return, the containers must be inspected to determine if repairs are necessary. An operator spreads the containers out on the floor, using a handheld interrogator with a touch screen to read their tags. If he sees damage, the operator notes it to the system by selecting the type of damage from menus on the screen.

Once a container has been repaired, the operator utilizes the handheld to read the tag and record the work done. Because the system knows which customer the container was shipped to, and since CHEP knows which automakers its clients supply, the company can determine the "trading channel" the container was circulating in and collect damage statistics by channel.

"After analyzing variance in damage statistics, we can talk to our customers about how to avoid damage," says Kleijn, who described the system at [RFID Journal LIVE! Europe](#), held last week in Prague. "This will help remove unnecessary cost from the supply chain."

The project's initial goal was to prove CHEP could gain value from using RFID on returnable assets so it could have a credible conversation about extending benefits to customers. The project, Kleijn says, has indeed confirmed the application offers better accountability for containers, including those that are damaged, and provides better brand recognition for CHEP—something that helps automakers return the proper containers to the company. What's more, the system allows CHEP to easily track inspection and repair data. Before the RFID application was implemented, containers—worth about €150 (\$188) apiece—were not uniquely identified.

The implementation of the RFID application was managed in house by CHEP, with help from systems integrator [Infosys](#), which wrote code for the software used in the application, based on [Microsoft's](#) BizTalk and SAP's Auto ID Infrastructure (AII) and Event Management (EM) software. The next challenge for the application, Kleijn says, involves expanding it to its customers' premises.

By doing so, CHEP could provide suppliers with real-time information regarding the location of their goods in the supply chain, thereby helping those companies reduce their inventory. Such data could also be valuable if a firm needed to switch from building one model of a vehicle to another on short notice.

"Right now we track the container ID when it leaves, and when it comes back to CHEP facilities," Kleijn says. "We know how long it is in the field. But if a customer associated the contents of the container with the container ID, it could use the software to know where specific parts are in the supply chain. With the system we have in place today, we can now approach the customer to work with us to build the association between the part number and the container ID."

CHEP was presented with an eLogistics Award from [AKJ Automotive](#), an association of automotive manufacturers. The award was for the largest cross-border RFID application for automotive containers in Europe. In its press release, AKJ noted, "CHEP's RFID initiative will provide significant benefits to the

automotive industry, delivering control, cost savings and improving the efficiency of the supply chain."

Kleijn states, "We are very pleased that the system is working well, and is already demonstrating the positive benefits that RFID can deliver across the automotive supply chain."