

Swiss Post Delivers RFID to Its Parcel Centers, Transportation Hubs

The company is adding EPC Gen 2 tags to containers that shuttle mail and packages in and around nearly 50 facilities in Switzerland.

By Rhea Wessel

Aug. 20, 2008—Swiss Post is rolling out the company's third RFID application—this time a system to track 45,000 rolling container cages used to transport mail and packages at buildings throughout the Alpine country. Implementation of the application, believed to be the largest in Switzerland, began in October 2007 and will be completed by this October.

A public company that provides postal services to Switzerland, Swiss Post transports more than 1 million parcels per year. Wheeled container cages play an important role in transporting the parcels. Before Swiss Post decided to tag its rolling container cages, it had no reliable way to conduct an inventory of them. The company counted them manually every two years, a labor-intensive process that required an estimated 200 workdays involving two people at each location.

It was unable to account for missing containers, and Swiss Post could not create any statistics to help it use the containers more efficiently. Swiss Post estimates it spent 1 million Swiss francs (\$912,000) per year on transporting the containers between sites to make them available as needed. It also believes that loaning out its containers to its business customers costs 50,000 Swiss francs (\$46,000) per year.

Now, the company plans to put an end to manual inventory of the cages and save money with the RFID system that it is implementing with the help of Swisscom, a telecommunications and IT products and services company. Swiss Post is installing 750 RFID interrogators at its three parcel centers and at 44 transportation hubs. Each parcel center uses a highly automated parcel-sorting machine. After the sorting process, parcels destined for specific regions are transported to another center for re-sorting or to a hub for delivery either directly or via the proper post offices.

The interrogators, made by Intermec, are being deployed at all of the facilities' entry and exit points. The devices resemble the portal electronic article surveillance (EAS) readers installed at the doors of many department stores, but instead of having two upright posts, one on each side of the door, Swiss Post's portals have only one. Radar technology allows the RFID reader to detect if the tagged roll cage is being moved in or out of the building. The radar and the reader hardware are managed by middleware from Seeburger. Because RFID is combined with radar and the system can detect whether the cages are being moved in or out of a door, only one post is needed. So far, Swiss Post has outfitted the three parcel centers and 17 other buildings, with a total of 400 to 450 readers currently in operation, says Thierry Gafner, the Bern-based head of sorting systems and technology for PostLogistics, a division of Swiss Post that provides logistics services.

Each cage is fitted with an EPC Gen 2 tag made by Confidex. Encased in a plastic housing, the tag is attached to the upper edge of the cage. A total of 38,000 cages have already been tagged so far. Swiss Post chose the

EPC Gen 2 because it sees it as a market standard and because of the tags' low cost, an average of 2.40 Swiss francs (about \$2) apiece. In addition, it expects its customers—including those companies for which it performs logistic services—to begin using EPC Gen 2 tags more frequently, so experience with the technology will help prepare Swiss Post to meet its customers' requests, says Gafner.

When a Swiss Post worker rolls a tagged cage past an RFID portal, the tag's unique ID is identified and the computer system updates a database on the whereabouts of the cage. The database can then be used to create reports about the number of cages available at a particular site.

Swiss Post is investing 4 million Swiss francs (\$3.6 million) in the project, which covers software, hardware and consulting fees. It expects to save 1.5 million Swiss francs (\$1.4 million) a year because it won't have to manually count the cages and will be able to manage the cages more effectively. By knowing how many cages are on hand and where they are physically located, it can make sure it has the right number of cages at each site in order to handle the expected volumes. The information will also help the company better manage the cages, transport them less between sites to meet demand and avoid delays due to unavailable cages.

"It's our first big project with RFID and with EPC Gen 2. Since we also manage warehouses for our customers, we expect to see more EPC Gen 2 tags used in the supply chain. We know that some customers have started RFID projects, and we want to be ready," says Gafner.

Since 1999, Swiss Post has been using RFID for yard management at its three parcel centers located in Daillens, Härkingen and Frauenfeld. It uses 1,300 metal containers to move parcels that have been sorted to the different transportation hubs. The containers, specially built for Swiss Post and sized about 7 by 2 by 2 meters, carry active 2.4 GHz tags. At the time Swiss Post implemented the application, the tags were the only tags available on the market to fit the specifications of the project, including a reading distance of 2.5 meters. The tags are read when trucks move the tagged containers into or out of a yard. The tags were supplied by a company now out of business, but Swiss Post is able to buy replacement and additional tags from another company.

An employee monitoring the yard accesses a computer to find out which types of tagged containers were just transported into the yard. The employee can then instruct the driver to unload the containers at a dock door or onto a parking lot, thus speeding the unloading process for incoming vehicles.

"Sometimes we get a lot of deliveries at the same time," Gafner says. "We have to arrange them very quickly so as not to create a traffic jam at the yard gate and block the autobahn that is a main artery from the north to the south of the country."

After the good experience with its yard-management application, Swiss Post implemented an RFID tracking system in 2001 for 12,000 special trays on which small packages are transported. It uses 75 readers for the trays that circulate in a closed loop inside the three parcel centers.

RELATED_ARTICLES Workers place packages on the trays when the items are too small to be placed on the automated belts without falling off. The belt moves the trays toward the sorting machine, and at the halfway point, the trays' passive 135 kHz tags are identified, the bar codes on the packages in the trays are read and the trays are weighed. The computer system uses the weight of the contents of the tray to calculate the fees customers are charged, and if a package requires a tray because it is too small to be sorted automatically, Swiss Post charges a fee for the extra manual work required to place the package in the tray. The combination bar-code/RFID readers used are supplied by [AEG ID](#).

After the rollout of the roll cage application, Swiss Post plans to focus on other RFID projects. It is considering using RFID to identify high-value parcels and to more easily and accurately collect tracking

information on those parcels. In addition, it may use with RFID to manage all its reusable assets within the next five years.

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