Sony Europe Implements Video-RFID Tracking System

In an effort to help the company reduce shrinkage, increase efficiency and resolve shipping disputes with its retailer customers, the electronics manufacturer is installing the system at its largest European distribution warehouse.

By Rhea Wessel

Dec. 19, 2006—Sony Europe has begun installing a tracking system that links RFID-tagged items with closed-circuit video, in an effort to help the company reduce shrinkage, increase the efficiency of its shipping processes and resolve shipping disputes with its retailer customers in Germany.

The company is installing the system at its largest European distribution warehouse in Tilburg, the Netherlands, and expects the system to be operational by March. Sony Europe believes it will get a positive return on investment (ROI) within one year of the launch.

"We can dramatically increase ROI through process improvements, and by combining video recognition with RFID," says Wolfgang Schönfeld, the senior manager currently responsible for logistics engineering within Sony Europe. "RFID, coupled with video, helps to follow up the complete chain of a specific shipment and speed up operations."

Sony has long been a player in developing RFID-based technology for its own customers, particularly in its effort to develop near-field communications (NFC) technology (see Sony, Philips to Test RFID Platform and NXP, Sony Partner to Make Chip for NFC Apps). So far, however, its RFID use in the United States has primarily been to fulfill mandates for Wal-Mart. The new video RFID application will be Sony Europe's first large-scale internal RFID implementation.

Sony Europe had been considering RFID applications for internal use since 2004, when it began testing EPC Gen 1 technology. The company launched an internal test of tagged televisions to get experience with the hardware and software involved in RFID applications, then held an RFID workshop for all departments involved in the end-to-end supply chain in April 2005, to brainstorm ways in which RFID could be implemented. "We had about 27 ideas, but then we decided to wait until Gen 2 technology came out," says Schönfeld.

One idea that crystallized after the conference was for a video-surveillance-and-RFID system, which is now being implemented with the help of Mieloo & Alexander, a systems integrator based in Hoofddorp, the Netherlands.

When employees pick orders from warehouse shelves for specific retailer customers, these orders—individual boxes containing DVD players or cameras, for instance—are currently marked with a delivery label displaying a delivery address, a unique parcel number and a bar code. When the new system is up and running in March, however, workers will perform the same task but use a paper label containing an RFID inlay. The

system will use EPC Class 1 Gen 2 tags from Raflatac, interrogators from Symbol Technologies and RFID interrogator networking devices from Reva Systems.

The application will first be utilized for goods sold to retailers in Germany, and only the cardboard packaging of consumer electronics will be tagged. Sony Europe expects to require 2.5 million tags per year, and to install a total of 14 readers for the project.

During the second step of order fulfillment, the already-tagged boxes of electronics will be brought to a designated sorting area to be separated out by customer order. Workers will stack the boxes (about 100 to 130) on an RFID-tagged pallet, then use a forklift to move the pallet through a portal interrogator. At this juncture, the system will read all tags, transmitting tag numbers to the warehouse management system, which keeps a record of all the boxes stacked on each pallet.

"The new system will already save time at this point by eliminating manual scanning. This speeds up the process," says Schönfeld.

In the next step, as customer pallets are wrapped in plastic film, the video component comes into play. Wrapping stations are equipped with an RFID interrogator and a closed-circuit camera provided by Griffid, a manufacturer of digital surveillance systems. With the cameras watching, the interrogator will read the RFID tags on the pallet and boxes. The wrapped pallets will then move to a loading station. As they pass through the dock door, a portal interrogator will read the tags one final time.

Sony Europe will create a short video showing each pallet being wrapped and placed on a truck. The RFID reads will be burned into the movie to prove the identification of the pallet, Schönfeld explains. The computer system will save the video, and if a customer raises a question, claims handlers can search a database for a specific tagged box or tagged pallet number, pulling up the related video. Sony Europe will then be able to send the customer the video file, either electronically or—if the file size is too large—on a CD.

"To have data is not special. Data is not really legal proof. Video is better proof to customers, forwarders or third-party service providers that goods were packed and shipped," Schönfeld says, adding, "It's a Big Brother system for our boxes."

RELATED_ARTICLES Schönfeld stressed that the system will not invade the privacy of consumers in any way. The RFID label will be placed on the item's box, not on the item itself, and will be attached with a type of glue one can easily remove without damaging the packaging. The label will include text explaining to the purchaser that the box is labeled with an RFID tag, and that the tag carries only a random identification number, with no product details.

According to Schönfeld, the system is expected to provide a quick ROI, given Sony Europe's large numbers of daily shipments and the high value of its products.