

A European retailer has deployed an RFID-based inventory-management system from TAG Co. that links a tagged display shoe to its box in the back room, and can also detect if a style or color of shoe is missing from the display.

By Claire Swedberg

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Nov 05, 2018—Technology firm TAG Co. has released an RFID-based inventory-management system for shoe sales, known as ShoRoom, based on a system it developed for a U.K.-based European-wide retailer, at one of its luxury goods stores. The solution tracks all boxed pairs of shoes in the store's back room, as well as single display shoes, while linking each display shoe to its box in the back room—all through the use of RFID technology.

The retailer, which owns multiple types of stores, as well as luxury brand shops, has deployed the system at one luxury store to date. The company plans to expand the system's use to other stores, based on the results of the initial deployment, and has asked to remain unnamed.



As an electronic article surveillance (EAS)- and RFID-based product protection solutions company for retailers, TAG Co. provides technology to identify when goods leave a store, according to Jon Marchese, the firm's CEO. In some cases, he adds, it tracks the movement of inventory via UHF RFID.

The technology company already provides its EAS security system at most of the retailer's stores, and the solution has evolved to be RFID-enabled EAS, which offers a longer read range than traditional magnetic EAS technologies, enabling customers to pass through wider doorways. The system consists of UHF readers that form a portal at the door, as well as EPC UHF RFID hard tags attached to garments and other products, which are removed at the point of sale.

TAG Co.'s Jon Marchese

This year, the retailer began working with TAG Co. to develop a system that would enable the firm to employ RFID for the inventory management of shoes—one of its more challenging product lines. The company did not hold back when it came to sharing challenges, Marchese says. This is noteworthy, he adds, as RFID vendors often suggest solutions to problems retailers may or may not believe (or admit) they have.

This retailer, however, reported a problem at its luxury stores that is common with shoe sales. Only single display shoes for each style and color tend to be available for customers at the luxury stores; for that reason, a specific brand, style and color of shoe may frequently not be on display, and the stock in the back might thus never be sold.

This problem is compounded when the store's management software fails to take this omission into account. The software automatically identifies products that aren't selling after a specified amount of time, then marks down the price once or multiple times until the product sells. If an employee finds that a particular shoe is not on display, he or she can move it to the sales floor at a discounted rate.

The company's largest stores feature approximately 15,000 pairs of shoes, 500 of which are displayed in the front. As such, keeping track of that inventory and ensuring every product is represented on the displays is an astronomical task, the company reports.

In putting together an RFID-based system, Marchese says, TAG Co. and the retailer sought to explore the most effective and affordable options. Tagging every shoe would be unnecessarily expensive, he explains, since most never leave the box before being tried on and purchased. Therefore, TAG Co. developed a solution that is now a key part of ShoRoom. The system features an RFID tag on each display shoe, which is linked to the box in which that shoe was stored with its mate.

When a pair of shoes is received from the distribution center, the sales staff use a Keonn handheld reader to create an RFID tag. They scan the bar code on the box, then select a prompt ("Create Box Tag") in the TAG Co. software. The software prompts the printing of a tag, with a unique ID number linked to that pair of shoes' bar code, on a printer from Zebra Technologies. Staff members affix the adhesive Century tag to the box.

If one of the shoes in that box is slated to be placed on display, a worker can select "Create Display Label," then scan the box's

bar code. The software identifies the Electronic Product Code (EPC) number used for that box's label, and also prints another label for the shoe, linked to the same EPC number, but identifiable as being on display. The printer prints another label, which is attached to the shoe's sole. The display shoes are then placed on the sales floor, while the box and the display shoe's mate remain in the back room.

On a weekly basis, sales associates walk around the sales floor and through the back room with the handheld reader. They first indicate where they are reading tags, then begin capturing tag IDs. Once the process has been completed, the software compares the results against the expected inventory count, listing all items on the floor and in the back room, along with all shoe styles that are not on display but should be.

During the first week that the store completed the inventory count, it discovered that 10 percent of its shoes were not on display. Marchese says that discrepancy rate should be about zero now. One challenge for a solution like this, he notes, is that many vendors already apply their own RFID labels to shoe boxes for their own internal management systems. They can, for instance, use such tags to understand when their products ship, as well as to what retailer.

The retailer needs to use its own labels, however. Therefore, TAG Co. set up a filtering system so the software could disregard unfamiliar tag ID reads. The tag-placement process must also accommodate existing EPC UHF RFID tags on some products, since placing one tag on top of another can affect the new tag's read accuracy. "In the future," Marchese states, "the tagging of boxes could be done at the distribution center."

The shoes at the store now have TAG Co. EAS RFID hard tags for detection at the door, which are removed at the time of sale, as well as the inventory-management labels printed on site. The store has been utilizing the system for three weeks so far, and plans to determine, during the coming months, whether there is a corresponding sales lift for shoes due to having more accurate display shoe inventory counts.