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## Wal-Mart Radio Tags to Track Clothing

By MIGUEL BUSTILLO



Marc F. Henning for The Wall Street Journal

Apparel supervisor Sonia Barrett uses a handheld scanner to read EPC labels on men's denim jeans on July 19, while checking inventory at the Walmart Supercenter Store No. 1 in Rogers, Ark.

Wal-Mart Stores Inc. plans to roll out sophisticated electronic ID tags to track individual pairs of jeans and underwear, the first step in a system that advocates say better controls inventory but some critics say raises privacy concerns.

Starting next month, the retailer will place removable "smart tags" on individual garments that can be read by a hand-held scanner. Wal-Mart workers will be able to quickly learn, for instance, which size of Wrangler jeans is missing, with the aim of ensuring shelves are optimally stocked and inventory tightly watched. If successful, the radio-frequency ID tags will be rolled out on other products at Wal-Mart's more than 3,750 U.S. stores.

"This ability to wave the wand and have a sense of all the products that are on the floor or in the back room in seconds is something that we feel can really transform our business," said Raul Vazquez, the executive in charge of Wal-Mart stores in the western U.S.

Before now, retailers including Wal-Mart have primarily used RFID tags, which store unique numerical

identification codes that can be scanned from a distance, to track pallets of merchandise traveling through their supply chains.

Wal-Mart's broad adoption would be the largest in the world, and proponents predict it would lead other retailers to start using the electronic product codes, which remain costly. Wal-Mart has climbed to the top of the retailing world by continuously squeezing costs out of its operations and then passing on the savings to shoppers at the checkout counter. Its methods are widely adopted by its suppliers and in turn become standard practice at other retail chains.

But the company's latest attempt to use its influence—executives call it the start of a "next-generation Wal-Mart"—has privacy advocates raising questions.

While the tags can be removed from clothing and packages, they can't be turned off, and they are trackable. Some privacy advocates hypothesize that unscrupulous marketers or criminals will be able to drive by consumers' homes and scan their garbage to discover what they have recently bought.

They also worry that retailers will be able to scan customers who carry new types of personal ID cards as they walk through a store, without their knowledge. Several states, including Washington and New York, have begun issuing enhanced driver's licenses that contain radio-frequency tags with unique ID numbers, to make border crossings easier for frequent travelers. Some privacy advocates contend that retailers could theoretically scan people with such licenses as they make purchases, combine the info with their credit card data, and then know the person's identity the next time they stepped into the store.

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"There are two things you really don't want to tag, clothing and identity documents, and ironically that's where we are seeing adoption," said Katherine Albrecht, founder of a group called Consumers Against Supermarket Privacy Invasion and Numbering and author of a book called "Spychips" that argues against RFID technology. "The inventory guys may be in the dark about this, but there are a lot of corporate marketers who are interested in tracking people as they walk sales floors."

Smart-tag experts dismiss Big Brother concerns as breathless conjecture, but activists have pressured companies. Ms. Albrecht and others launched a boycott of Benetton Group SpA last decade after an RFID maker announced it was planning to supply the company with 15 million RFID chips.

Benetton later clarified that it was just evaluating the technology and never embedded a single sensor in

clothing.

Wal-Mart is demanding that suppliers add the tags to removable labels or packaging instead of embedding them in clothes, to minimize fears that they could be used to track people's movements. It also is posting signs informing customers about the tags.

"Concerns about privacy are valid, but in this instance, the benefits far outweigh any concerns," says Sanjay Sarma, a professor at the Massachusetts Institute of Technology. "The tags don't have any personal information. They are essentially barcodes with serial numbers attached. And you can easily remove them."

In Europe some retailers put the smart labels on hang tags, which are then removed at checkout. That still provides the inventory-control benefit of RFID, but it takes away other important potential uses that retailers and suppliers like, such as being able to track the item all the way back to the point of manufacture in case of a recall, or making sure it isn't counterfeit.

Wal-Mart won't say how much it expects to benefit from the endeavor. But a similar pilot program at American Apparel Inc. in 2007 found that stores with the technology saw sales rise 14.3% compared to stores without the technology, according to Avery Dennison Corp., a maker of RFID equipment.

And while the tags wouldn't replace bulkier shoplifting sensors, Wal-Mart expects they'll cut down on employee theft because it will be easier to see if something's gone missing from the back room.

Several other U.S. retailers, including J.C. Penney and Bloomingdale's, have begun experimenting with smart ID tags on clothing to better ensure shelves remain stocked with sizes and colors customers want, and numerous European retailers, notably Germany's [Metro AG](#), have already embraced the technology.

Robert Carpenter, chief executive of GS1 U.S., a nonprofit group that helped develop universal product-code standards four decades ago and is now doing the same for electronic product codes, said the sensors have dropped to as little as seven to 10 cents from 50 cents just a few years ago. He predicts that Wal-Mart's "tipping point" will drive prices lower.

"There are definitely costs. Some labels had to be modified," said Mark Gatehouse, director of replenishment for Wrangler jeans maker [VF Corp.](#), adding that while Wal-Mart is subsidizing the costs of the actual sensors, suppliers have had to invest in new equipment. "But we view this as an investment in where things are going. Everyone is watching closely because no one wants to be at a competitive disadvantage, and this could really lift sales."

Wal-Mart won't disclose what it's spending on the effort, but it confirms that it is subsidizing some of the costs for suppliers.

Proponents, meanwhile, have high hopes for expanded use in the future. Beyond more-efficient recalls and loss prevention, RFID tags could get rid of checkout lines.

"We are going to see contactless checkouts with mobile phones or kiosks, and we will see new ways to interact, such as being able to find out whether other sizes and colors are available while trying something on in a dressing room," said Bill Hardgrave, head of the RFID Research Center at the University of Arkansas, which is funded in part by Wal-Mart. "That is where the magic is going to happen. But that's all years away."

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