

University of Arkansas Kicks Off Apparel and Footwear RFID Study

The project, which is being conducted by the university, consumer goods associations and a major retailer, will explore how tagging individual goods with RFID can improve retail processes.

By Claire Swedberg

May 23, 2007—The University of Arkansas' RFID Research Center is teaming with an apparel retailer and two consumer goods associations on an RFID study designed to better understand the benefits of item-level tagging and how it might solve problems retailers struggle with, such as inventory management. The study will incorporate research, lab testing and an RFID pilot.

"We have had conversations with several retailers and industry groups over the past year or so. I think the technology has advanced to the point where it is ready to be examined in depth," says Bill Hardgrave, director of the RFID Research Center, which is part of the Information Technology Research Center (ITRC) at the Sam M. Walton College of Business. "The industry is ready to take a hard look at this technology, based in part on the success that RFID has found in such areas as consumer packaged goods supply chain [processes] and asset management."

Initially, University of Arkansas researchers will examine how retailers might utilize item-level RFID tags, and in which processes RFID might have the greatest impact. The researchers also intend to study the technology in a University of Arkansas lab that re-creates a retail store setting.

One retail process that will likely be examined is inventory management and the ability to determine what a retailer has in stock, as well as where items are at any given time. This, Hardgrave says, is a major issue. "Taking inventory efficiently and accurately is very important," he explains, "and is currently very laborious and inaccurate with bar codes." Bar-code scanners require a clear line-of-sight to scan each bar code, so it is common for employees to miss items during inventory counts. RFID has the potential to provide automated inventory counts in real time—for example, he says, when using smart (RFID-enabled) shelves. RFID also enables the quick location of a specific product in a store.

Additionally, the study will investigate whether RFID can provide benefits for consumers, such as a system in which customers can skip checkout lines and instead pay for their items using RFID. That way, says Hardgrave, customers could make their purchases and walk out of a store in a fraction of the time required to purchase items at a typical store today.

The pilot will test item-level tagging of apparel and footwear. That is a market sector where RFID seems to show promise because the products are RF-friendly and of high value, as compared with other consumer goods. Item-level RFID tags might also help retailers more efficiently manage the many sizes and styles in which apparel and footwear are made. More efficient inventory processes, and fewer misplaced goods on store floors, can result in apparel and footwear—which are often seasonal and subject to fashion trends—being available for sale when they need to be.

The pilot is also expected to test RFID's use in dressing rooms, storage areas and checkout lines. In such settings, customers could lay tagged items on a counter equipped with an RFID reader, or walk through an RFID portal with the products in hand, and have the items automatically charged to a credit card.

RELATED_ARTICLES "Ultimately," Hardgrave notes, "we want to show those areas where RFID is a solution to common problems of apparel and footwear retailers. We want to see if RFID works." The research center is collaborating with the Council of Supply Chain Management Professionals (CSCMP), a supply chain management association, and the Voluntary Interindustry Commerce Solutions Association (VICS), a retail and consumer-goods industry organization. Both groups are providing funding for the project. The retail store participating in the study has not yet been named. The testing should be finished by the end of 2007, with results of the study made available to both associations.

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