



RFID for Retail

FALKEN Secure Networks recommends that before choosing an RFD application to evaluate, a retailer should first identify problem areas. When retailers have too much backroom inventory, are constantly experiencing Out of Stocks (OoS), need to manage their store inventory or backdoor receiving operations more efficiently, this makes them ideal candidates for RFID. Once the problem area has been defined, then it's just a matter of designing and building the optimum solution architecture comprising of hardware, software and consumable pieces to manage the system.

RFID Applications in Retail

Retailers usually implement RFID in the back store to perform automated receiving; in the mid-store to better track movements from the backroom to the front room; and in store to identify inventory location on the store floor and take physical inventory much more quickly. A growing number of retailers are beginning to see RFID as a tool not only for improved product visibility, but also for preventing product theft—or, at least, for reducing the negative impacts of product shrinkage. And the advantage of reading an RFID tag at an exit portal is that if an item is stolen, the user will be able to ascertain exactly what was taken. With the significant RFID technology advances made in the last several years, store operators are now achieving the performance levels with RFID that they have been seeking. Next steps will include further automation by tagging product at major distribution centres or manufacturers prior to shipping it to the retailer and also having the RFID tags integrated with the product labels at source. FALKEN Secure Networks would typically support the use of tags such as Avery Dennison's Gen 2 inlay - the AD-820 - specifically for apparel tagging applications.



Avery-Dennison Inlay AD-820
2.84 in x 1.18 in

Smart&Secure: Merchandise Tag

Unlike other RFID tags designed for retail applications, the **Smart&Secure Merchandise Tag** allows consumers to reduce the RFID read distance simply by unfolding the top layer of the tag, which decouples the tag's antenna from its RFID chip and thereby ensures consumer privacy.

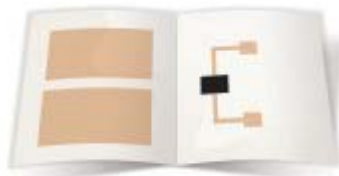
If the product is returned, the tag's read distance can easily be restored by folding the tag closed again, making it fully usable in an inventory management system or reverse supply chain.

Smart&Secure Merchandise Tag



TAG FRONT

Read Distance:
15-20 feet



UNFOLDED TAG

Read Distance:
Approx. 4 inches



Read Distance:
15-20 feet

RFID Benefits

For most large retailers, a fundamental issue is ensuring that store shelves are not short of a product while it is actually sitting in the back room. For a large retailer like Wal-Mart, which stocks case quantities on shelves, a case-level RFID implementation combined with existing bar code technology can help ensure that items are replenished from the back room before they run out. Item-level tagging will clearly be more effective, though case-level tagging will capture a large part of the benefits.

RFID – The perfect fit for the Apparel and Footwear Industry

Item-level tagging in the store is expensive in relative terms for lower value items. Yet the cost is often justified for higher-value items such as DVDs, Jewelry and apparel. Such merchandise is often moved by customers, resulting in an “out of stock” shelf even though the product is in store in a different location. Apparel retailer Gap reported that an RFID trial improved in-store inventory accuracy from 85 percent to nearly 100 percent. A test by grocer Tesco showed that on-shelf availability at stores improved by 50 percent with RFID

Item-level tagging in the store may also make it easier to track and prevent pilferage for high-value products. In addition, it can improve the speed and accuracy of the labor-intensive checkout process for both shoppers and checkout clerks. Further, RFID systems are effective at changing price for all or some units of an SKU.

Most retail implementations include RFID readers integrated at the checkout counter, so that as a tagged item is purchased, it is removed from the store's inventory database and in some implementations its RFID tag deactivated by an automatic kill command.

Many implementations share an approximate 85 percent decrease in the amount of time staff members spent performing inventory counts, as compared to counting inventory by manually scanning a bar-code label attached to each item. Handheld RFID Readers were employed to perform the inventory in the store's back room, while tagged items on the sales floor were counted using a combination of the RFID Smart Shelves and handheld devices (for such items as clothes hung on racks and not placed on

shelves). The stores also typically saw a 75 percent decrease from 80 seconds down to 20—in the amount of time spent checking stock for a specific type and size of jeans.

The benefit that the RFID tags offered in the price-markdown process was that by merely being able to locate items more quickly than before, stores are able to locate, identify and mark down its price tags more expediently.

Current retail RFID adopters are experiencing reductions in backroom inventory, increasing retail floor space that their taking over from the backroom and reducing OoS which translates directly into increased revenue. Footwear applications are showing 100% read rates of product in boxes even moving down a conveyor belt.

A Smart RFID Mirror

Paxar has shown its *smart mirror* at a show in Miami, Florida. The mirror, typically to be used in retail clothing stores, gives customers information about a tagged item of clothing. Industry Standard's target market is the young hip consumer. When you walk into a dressing room, the mirror



Social retailing uses technology to enable shoppers to confer with friends before making buying decisions regarding clothing and other items

reflects your image, but you also see images of the apparel item and celebrities wearing it on an interactive display. A webcam also projects an image of the consumer wearing the item on the website for everyone to see. This creates an interaction between the consumers inside the store and their social network outside the store. The technology behind this system is an RFID interrogator antenna in the dressing room and Electronic Product Code RFID tags on the apparel item.

RFID storefront and backstore benefits:

- RFID automated receiving
- Near-instant checkout process at the cash register
- Diminished waiting lines
- Enhanced customer experience
- Consumer buzz around socialized shopping



Industry Standard's clothing boutique



The system includes fixed-position readers (located under the sales counter and in the dressing room).

Industry Standard does not remove the tags at the point of purchase because it plans to use them as part of an anti-theft program, in which RFID interrogators installed alongside the store exit will collect the tag IDs of all items a patron carries out of the store. The system includes a program that compares the IDs read at the door with the database of purchased items. If any IDs don't match, employees will see an alert on their point-of-sale system. They can then ask the patron to return to the store to make sure they have purchased everything they're carrying—or, if the customer runs, they'll instantly know which products were stolen.

Still, the store expects to be able to catch some thieves before they even leave the store. Because the read zone of the point-of-sale interrogator extends out toward the customer standing in front of the counter, it will read any tags attached to goods a customer has stuffed into his or her jacket or bag. The system will tally up the hidden items, along with the goods placed on the counter, and the store clerk will see that the number of items on the counter does not match the number of goods displayed on the point-of-sale device.

The retailer is currently working to design a customer loyalty program that will utilize RFID. But rather than employing an open-enrollment model, the store will invite only its most frequent shoppers to join the program. These select customers will receive plastic membership cards carrying EPC Gen 2 UHF tags. Readers mounted around the store entrance will capture the ID encoded to each card's tag so that employees can access the member's name and buying history as soon as that person enters the shop. They'll then be able to greet the customer by name, perhaps point out a new product from a designer the customer likes and inform him or her of any special members-only discounts.



FALKEN Secure Networks(FSN)—Your partner for RFID automation

If you choose to pursue RFID implementation in your organization, here is the FALKEN Secure Networks commitment to you:

- FSN will provide solution architects to work with you to define system requirements for your particular installation. Multiple locations can be networked together for a central and real-time view and centralized management.
- FSN will do a RFID site survey to validate radio frequencies, tag types, system design and performance
- FSN will provide all necessary hardware and software to make the system work for you
- FSN will integrate the system with your existing enterprise management software
- FSN will provide documentation for the system, including operating procedures
- FSN will train your people
- FSN will provide warranty and continued system support

For RFID-enabled Document Tracking and Management, FALKEN Secure Networks (FSN) and partners bring together the right technologies to give you control over your files and make your office run more efficiently. Our automated and secure processes save time and labor, and prevent problems before they occur. With FSN ,you get the latest, non-proprietary secure RFID technology with the most powerful and flexible RFID file tracking software available.

Contact Us

FALKEN Secure Networks is a specialized System Integrator, RFID Solution Architect, and Value-Added Reseller with focused expertise in the RFID site survey, cost-effective design, and turn-key project implementation.

Contact FSN at sales@falkensecurenetworks.com



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Authorized Value-Added Reseller



Omni-ID™

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