

# What's Next for RFID in Retail?

Early adopters are already looking to the next big RFID-enabled commerce leap, which will further transform the retail industry.

Driven by the consumer's unrelenting demand for the always-on, always-open shopping experience, electronic product code (EPC) enabled radio frequency identification (RFID) at the item level has grown significantly, and is predicted to continue at a steady rate this year.

With strong support from leading retailers such as Target, Lord & Taylor and Macy's, as well as major brands including VF brands, PVH Corporation and Levi Strauss & Co., RFID has become a key driver of innovation in the apparel industry. GS1 US research findings indicate that benefit awareness for using item-level RFID for inventory accuracy has reached record highs among retailers and brands, with more than half of the industry implementing RFID programs this year.

The reality is that RFID's gains are getting harder to ignore. According to ChainLink Research, RFID has been experiencing a healthy growth rate due to the technology's maturing ecosystem and stability as well as its price reductions. For retailers, item-level tagging enables the tracking of every piece of merchandise, in every retail stock location, raising SKU-level inventory accuracy from an average of 63 percent to 95 percent, according to research from the RFID Lab at Auburn University. RFID also allows retailers to more effectively communicate with their manufacturers, facilitating faster reordering and improved demand planning and forecasting. For manufacturers, RFID tagging delivers an 80 percent improvement in shipping and picking accuracy and increases receiving time by 90 percent, according to the RFID Lab.

While the list of benefits continues for these established use cases, there are some retailers and brands that are more forward-thinking in their application of



RFID technology for omnichannel. At this point in RFID's maturation, there are early adopters who are already looking to the next big RFID-enabled commerce leap. Let's examine three key ways RFID will continue to further transform the retail industry.

## Expansions within apparel and beyond

When it comes to RFID tagging, apparel is king. The apparel industry represented about 80 percent of market volume for passive RFID tags in 2015, and will continue to see explosive growth, according to IDTechEx. Many RFID deployments originally centered on replenishable items — such as denim and intimates, but fashion items have also seen a significant uptick. In fact, brands and retailers who have shown their ability to increase sales of single-unit SKUs, aka the "last item," are quickly expanding their use of item-level tagging to fashion item categories. Retail trading partners can't deny the way RFID gives fashion items an extended life when

it's simultaneously exposed in-store and online for full price sale, instead of getting lost or marked down on a clearance rack.

As momentum grows within apparel, there is more opportunity to delve into other categories where fast inventory management is crucial to operational performance and can boost the bottom line. Retailers selling a variety of items in department stores are looking to RFID to manage non-apparel items such as cosmetics, electronics, furniture, luggage, handbags and sporting goods. These retailers have their sights set high — they want to tag 100 percent of their store inventory in the next few years. The advantages of tagging in these additional categories could prove to be even more substantial than what we've seen in apparel. Cosmetics, for example, is a high-shrink category that can quickly realize an ROI from RFID's enhanced tracking and visibility. Sporting goods, where inventory levels are driven by seasonality, are also conducive to RFID, reducing stock-outs and aging products. ▶



**Apparel:** If you don't have one real-time view of all of your inventory — including what's in transit, and even what's work in process on the factory floor — you cannot sell it confidently across channels. You'll either lose sales, or have to keep so much safety stock on hand that you can't be profitable or on trend. RFID can alleviate these issues. How has the technology evolved in the past year or so to do this even better?

**NAGPAL:** We see two significant areas where RFID technology is evolving for apparel firms.

First, integrated solutions are making real-time inventory management more cost effective and easier to implement, not just in the store, but in the supply chain. In stores, retailers are starting to automate cycle counting with hands-free systems and programmable robots along with additional sensors at inventory checkpoints (between the back room and sales floor, point-of-sale, point-of-exit) and customer touchpoints (kiosks, fitting rooms). In the supply chain, we're seeing a growing number of apparel firms deploying RFID tunnels in DCs as a high-volume, highly accurate means (99.9 percent in many cases) to automatically verify inbound receipts, outbound shipments and for bulk encoding, as well as RFID tables for pick/pack and rework applications.

Secondly, as more retailers and brands adopt RFID, enterprise sensor software is enabling more consistent device monitoring, process compliance and data quality. When a retailer deploys RFID across hundreds or thousands of stores, actively managing distributed data collection is all the more important. Enterprise sensor software that runs in the cloud is also providing elastic computing capability as retailers collect increasingly larger volumes of sensor data.

**Apparel:** What would you say continue to linger as the biggest misconceptions about RFID?

**NAGPAL:** The first misconception is that RFID is an "all or nothing" proposition — every item needs to be tagged and all stores need to be 100 percent instrumented with sensors. I've found that when talking to apparel firms there are certain product lines, stores, processes that are high-impact (read: high revenue, high profit, high risk) that benefit the most from RFID, and provide the fastest return on investment.

Another myth is that RFID projects compete with omnichannel, supply chain and customer experience programs. The reality is that adding an RFID component to a strategic IT initiative actually increases its effectiveness. For example, automating omnichannel fulfillment with an RFID-enabled process allows retailers not only to see what inventory is available for sale, but also optimize the picking process by location and automatically verify orders before they reach the customer. RFID can also provide the fine-grained

inventory movement data that optimizes merchandise allocation at the point of consumer demand, rather than at the point of order fulfillment.

A third myth we often see is that RFID is just for retail stores, or even more narrowly, just for the selling floor. In fact, as more apparel brands use RFID tags, inventory movement data will become even more useful for supply chain management, brand management, merchandising, design, sourcing and other corporate functions.

It's funny that RFID is sometimes perceived as a standalone technology, when it is actually an enabling technology. We use RFID as an umbrella term to refer to the whole range of sensor technologies, including in-store beacons, IoT devices, wearables, etc. In this sense, sensor data is really the "connective tissue" between multiple silos of information and can make existing systems and processes work better.

**Apparel:** What are some unique applications of RFID that you've seen among your clients, live or in beta testing, that you expect will become "business as usual" in the coming months and years?

**NAGPAL:** We won't comment on what new initiatives our customers are piloting, but we can speak to some of the overall themes of these new programs. One of the major themes is automation — many of our apparel customers have been using RFID for some time and are now looking to build best practices and new learnings into their store processes and day-to-day operations. As a result, there's more of an emphasis on "how do we do this better, faster, more consistently" and "how do we empower sales associates to better serve the end customer." These are all tied to corporate metrics: improved omnichannel fulfillment rates, increased size of basket, more effective promotions, more profitable demand planning and sourcing. But the real payoff is integrating this automation into the store culture, creating interactive apps that enable store associates and shoppers to become more informed and more connected.

A second theme is to monetize the sensor data that they're already collecting — not just more accurate information in their systems of record, but new data points in devices such as smartphones, beacons, kiosks and interactive dressing rooms that are quickly becoming part of the retail shopping experience. Retailers have the opportunity to understand touchpoints across the shopping journey, from browsing to consideration to purchase, and then use collected data to better respond to and anticipate customer tastes and market trends — and to stand out in the face of ever increasing competition.

*Vendor Viewpoint is a regular Apparel advertorial feature.*

## Integration with consumer experience

It seems futuristic, but some retailers and brands are also turning to RFID to enhance the customer experience with an Internet of Things (IoT) lens. Interactive fitting rooms are being piloted in select stores all over the United States. Ralph Lauren, for example, now offers a touch-screen mirror from Oak Labs in its flagship Manhattan store. Oak Labs has spoken publicly about the idea behind the mirrors — to ensure people are satisfied enough to make a purchase instead of abandoning their selections. The mirrors leverage RFID to sync with the store's existing inventory and point of sale systems, offering an engaging consumer experience.

Imagine how this could transform the fitting room process and make the trip to the store worth the extra time. An RFID antenna in the mirror picks up not only on the number of items you bring in, but what they are, and immediately displays them side-by-side on the mirror's touch display. The consumer is empowered and can act independently to get what they want — similar to the online shopping experience.

Rebecca Minkoff is also utilizing RFID in innovative ways to enhance the consumer experience. By enabling its fitting rooms with RFID, the company reports it has been able to make better decisions about merchandising, and make better recommendations to all of its partners. Uri Minkoff, CEO at Rebecca Minkoff, shared in a recent media interview that being able to put the right product in front of the customer while she is in the fitting room has enabled Minkoff to exceed its initial apparel sales in-store by more than three times the original expectation.

## Exploring broader uses of technology

Those who see the benefits of RFID tagging are more likely to have a willingness to look at the broader portfolio of technology. Retailers are exploring RFID systems that incorporate door portals, point-of-sale solutions and overhead systems that illuminate an entire store. One Levi's store in San Francisco is an example of what can be accomplished if RFID is leveraged as part of broader technology-enabled environment. According to recent industry reports, the Levi's store has RFID tags on every single item on

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the shopping floor and Intel devices feed data through cloud-based analytics engines. This allows for the tracking of inventory, purchase data, item popularity and even shopper movement in this type of groundbreaking store. Store managers can even track a customer's dwell time on a product, and the time between the product leaving the shelf and the actual purchase.

Another major leap in the RFID journey is for retailers and suppliers to enhance their collaboration in the area of data sharing. RFID enables unprecedented serialization and encoding of product information — so why isn't this being leveraged to its fullest extent to gain optimal visibility? Think about how beneficial it would be for suppliers to let retailers know when and where products were manufactured and when they shipped. Or, imagine what retailers and suppliers could accomplish together if retailers relayed when products were received at distribution centers, shipped to stores, put on sales floors and sold. Historically, leveraging this level of detailed information throughout the supply chain has not been done. Industry advocates say this could be truly transformational for all involved.

It should be reiterated that ultimately, RFID adoption still has a long way to go before the retail industry realizes all of its myriad benefits. However, with exciting technological advancements, RFID's trajectory could be put on the fast track as results continue to be proven. By collaborating on RFID, manufacturers and retailers are essentially able to blur the lines between physical and digital worlds, and this will only grow as consumers become more digitally reliant. Now is the time to take advantage of RFID's versatile capabilities in the omnichannel world. ■

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