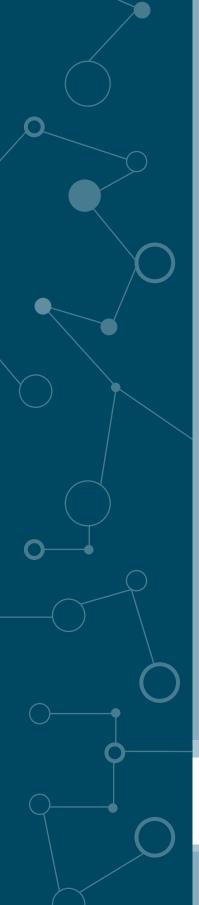


**Charting the Path That Links Technology and Business Goals** 



# Reaching New Frontiers with RFID

In just over a decade, RFID has turned doubters into believers. But back in the mid 2000's, many apparel retailers questioned promises of better supply chain visibility and in-store performance down the road. With stockholders breathing heavily down their necks to grow dividends, they were also skeptical about RFID's ROI. At the time, the technology revolved largely around identification of DC pallet shipments. But over the past decade the technology has evolved into a vital piece of the omnichannel tech stack, one whose benefits can no longer be over looked.

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Estimated value of the RFID market.

Source: MarketResearchReports. Biz

A white paper published in 2007 by the College of Information, Sciences and Technology at Pennsylvania State University titled, "RFID Implementation in Retail Industry: Current Status, Issues, and Challenges" indicated that just 8% of companies queried felt RFID could help improve customer service, and a mere 4% believed it could improve sales. And, while briefly mentioned, item-level tracking was viewed as a wave of the future.

That wave is here. Retailers no longer doubt RFID's benefits. Increasing numbers are using RFID at the store level, mainly for better inventory visibility and item-level tracking. Both functions can directly improve shopper satisfaction and in-store sales.

According to MarketResearchReports.Biz, the total RFID market is worth \$10.1 billion today, up from \$9.5 billion in 2014 and \$8.8 billion in 2013. This includes tags, readers and software/services for RFID cards, labels, fobs and all other form factors for both passive and active RFID. This is a far cry from 2004, when Frost & Sullivan pegged the RFID market at just \$400 million. By 2020, the RFID segment's value is expected to climb to \$13.2 billion.

To date, 5% of apparel retailers have adopted RFID. While that may sound miniscule, the companies involved are major brands that are known for setting precedents in both fashion and business. And they are not dabbling. These chains, including powerhouses like Zara, Macy's, Polo Ralph Lauren, Target and Levi's, are embracing RFID at the item level and in various areas throughout the store. Applications include everything from verifying the origins of luxury goods and exotic furs to reducing shrink and allowing shoppers to order additional sizes and colors while in the fitting room.

In a Wall Street Journal (WSJ) article "Zara Builds its Business Around RFID," Bill Hardgrave, dean of Harbert College of Business at Auburn University and a consultant on RFID, said that his retail clients have increased



Retailers unable to provide a single view of their in-stock position.

Source: EKN Research,
"Omnichannel Strategy Survey"

sales as much as 30% after installing RFID tracking devices — a direct contrast to 2004's beliefs. Inventory accuracy levels have gone from the 60% to 80% range to 95% or more.

Item-level tracking suits the nuances of the apparel industry. Unlike in grocery, most items are not on automatic reorder and markdowns and overstocks frequently eat into retailers' bottom lines. These issues are compounded by the segment's SKU intensity, with a myriad of sizes, colors, styles and seasonality creating a cavalcade of information to monitor. Unlike dog food or cereal, most products are not produced domestically, making the supply chain longer and more complex. Adding to the challenge is retailers' growing involvement in omnichannel retailing. The ordering and movement of products from multiple venues has made item-level tracking a necessity.

Omnichannel is no longer new. But over the past year or two, several market conditions have come into play that are making the omnichannel landscape increasingly competitive:

- After playing second fiddle for years, in 2014 apparel surpassed electronics as the leading online e-commerce category.
- 2. Mobile commerce continues to grow.
- Growth of free shipping and free returns including the ability to print pre-paid shipping labels has made online shopping more convenient.
- 4. Retailers are in a race against Amazon. In addition to having a wildly efficient distribution network, the online behemoth has significantly increased its apparel assortment. According to analysts, Amazon could surpass Macy's as the top clothing retailer by the end of this year.

**Enable Complete Supply Chain Visibility** 

Over or under stocking stores can have major consequences, including big markdowns, cents on dollar





"Having a clear view of inventory puts the power into the retailer's hands to manage stock to reduce markdowns, which has a significant impact on the bottom line."

FRANCISCO MELO, VICE PRESIDENT AND GENERAL MANAGER, GLOBAL RFID, AVERY DENNISON RBIS

Avery Dennison Retail Branding and Information Solutions (RBIS) is a global leader in Radio Frequency Identification (RFID)-enabled solutions with more than 800 patents and applications worldwide, and global manufacturing capabilities that have produced more than 6 billion RFID tags and labels. Visit rfid. averydennison.com.



# Know What You Have, Where You Have It

O: What are some of the most significant ways in which RFID has evolved over the past decade? What kind of affect has this had on adoption rates? FRANCISCO MELO: The technology has evolved in multiple ways, specifically through the development of smaller tags while also improving overall performance. This has aided adoption by enabling typical non RFID tickets to be transformed into integrated RFID products seamlessly. The evolution of the tags, coupled with a more robust reading process, is simplifying store execution across the retail world

## **Q:** How does RFID allow retailers to accurately monitor costs and stay on budget?

**MELO:** The visibility that RFID provides allows retailers to know what they have and where they have it, in an accurate, reliable and fast way. This provides a range of efficiencies for retailers, including: increased sales as a result of reduced out of stocks; improved margins based on lower level markdowns; and reduced losses due to improved visibility.

#### O: What are the benefits of being able to measure inventory down to very low stock levels?

**MELO:** Inventory productivity is certainly one of the main factors that impacts improved capital efficiency. In today's omnichannel retail environment, inventory availability is critical to meet consumer demand. It is more relevant than ever to make sure inventory is available irrespective of the consumer's location. Consumers are now using multiple channels to shop and will often research online before going to a physical store, which heightens the need for accurate stock visibility down to low-stock levels. Often low stock is not available online due to lack of inventory accuracy in physical stores and therefore a large percentage of the total item availability is unavailable to purchase. Furthermore, having a clear view of inventory puts the power into the retailer's hands to manage stock to reduce markdowns, which has a significant impact on the bottom line.

# O: Apparel was one of the first retail segments where RFID was utilized. What other retail categories do you see beginning to use the technology and why?

**MELO:** Beyond apparel there are clear adjacencies with jewelry, accessories, homewares and pharmaceuticals. We also see a significant adoption trend within fresh food and cosmetics. RFID for fresh food improves visibility and accuracy, which enables improved shelf management and reduces waste. Research has shown that RFID can reduce waste in fresh foods by up to 20%. For cosmetics, RFID is being used in a similar way to apparel, focusing on inventory productivity optimization.



Retailers
list "inventory
availability" as the
most important
area in business
and customer
intelligence.

Source: EKN Research, "Immersive Retail Experience Survey" sales to rack jobbers, and subsequent financial losses at the end of the season. In some cases, a retailer is left with hard-to-sell odd sizes or colors, which becomes a capital expense. Compounding the issue is that constant markdowns have trained shoppers to wait for sales.

Historically, retailers conduct stock evaluations twice annually. But accuracy of stock records declines 2% to 3% weekly, said the apparel publication *just-style* in, "Sustainability, the Next Use Case for RFID." After a month or two, merchandising decisions are made based on ineffective data. Hence, retailers may order more product than necessary to ensure merchandise is available.

A University of Arkansas item-level study of RFID found that scanning 10,000 items took 53 hours using bar codes, but just two hours with RFID. At Macy's, this means inventories can be conducted monthly rather than once or twice annually, said the *WSJ* in a piece titled, "How Tiny Wireless Tech Makes Workers More Productive."

In addition to speeding up the inventory process, RFID can bring accuracy from 63% to 95%. American Apparel, for one, has been able to reduce in-store inventory by 20%. Macy's has cut it by one third. Macy's changes to its inventory management have helped it reduce total inventory by \$1 billion, meaning fewer discounts.

# Streamline the Omnichannel Shopping Experience

In omnichannel retailing, complete inventory visibility is even more imperative. In today's fast-paced digital world, consumer purchasing cycles continue to become shorter. In the past, mail order shoppers would place an order and wait weeks to receive merchandise. If an item was out of stock, they would be informed via a postcard delivered to their home and, if they chose not to cancel, wait even longer for delivery. Often, the item would then be discontinued.





"Multichannel, omnichannel, unified commerce. No matter the buzzword, the challenge is the same: selling products when, where and how customers want to buy."

LARRY ARNSTEIN, VICE PRESIDENT, BUSINESS DEVELOPMENT, IMPINJ

Impinj is a leading provider of RAIN RFID solutions. The Impinj Platform connects retail items to enterprise software systems to deliver accurate, real-time information about any items' unique identity, location and authenticity. Impinj enables Item Intelligence™ so that retail businesses can make smart decisions with greater visibility. www.impinj.com

.::. IMDINI™

# Build the Enterprise of the Future with Real-Time Inventory

# O: What is RFID's role in inventory accuracy and why does this matter to retailers selling across multiple channels?

**LARRY ARNSTEIN:** Multichannel, omnichannel, unified commerce. No matter the buzzword, the challenge is the same: selling products when, where and how customers want to buy. The crux of the challenge is this: retailers can't sell what they can't see. The good news is that RAIN RFID technology solves this challenge by providing accurate, real-time data about every item in any store or distribution center. Implementing real-time inventory visibility with RAIN is driving results for retailers who use accurate inventory data to reduce overstocking, limit discounting, sell down to the last item and avoid disappointing customers with cancelled orders. And a pretty nice side benefit — no more manual inventory counting.

#### **Q:** How can RFID be used with customer interactions in stores and what are the benefits?

**ARNSTEIN:** It is simple and seamless for customers to interact with products through RAIN RFID technology. Simply walk up to a RAIN-enabled screen, mirror, kiosk or self-checkout system with item connected by a RAIN RFID tag and the interaction begins, automatically. Nothing to touch, scan, no apps to open. We're seeing retailers explore all kinds of interactive techniques — beautiful presentations of product information, related promotions and immediate ordering. A key benefit for retailers is that they get a window into the shopping journey that they've never had before — data that can drive the kinds of analytics and relevant promotions that e-commerce takes for granted.

# Q: What is the current state of RFID technology in retail? How are forward-thinking retailers able to best leverage this vital technology?

**ARNSTEIN:** Today, we're seeing retailers tackle long-standing challenges that can be solved by having accurate data about their inventory. A good example is Macy's, well-known for their early adoption of RAIN RFID. They've stated publicly that 15% to 20% of all the SKUs in a given store are represented by only one item in that store. They're using RAIN to identify those items, and offer them to customers on-line with confidence. Another retailer we work with uses RAIN to track all items sold and replenished to and provide automatic up-to-date restocking reports throughout the day. Of course, these retailers know that when the store is stocked properly, sales increase. They just needed a good tool to maintain their stocking levels.

#### **Q:** What is next for RFID? Where do you see the technology headed in the next two to three years?

**ARNSTEIN:** Today, RAIN RFID has many uses and benefits for retailers, including inventory accuracy, omnichannel fulfillment, enhanced customer experience, loss prevention and analytics. Tomorrow, we see customers interacting with products using RAIN in all sorts of ways, and especially out of the store. We see RAIN as an integral part of the 24/7 connected consumer who is doing more and more shopping outside of the store. Retailers who understand this are thinking about ways that they can continue to connect with customers and use RAIN to automate those interactions in any location.





U.S. adults that have experienced unavailability of an in-store product over the past 12 months. When this happens, 1 in 3 blames the retailer.

Source: YouGov, "The Global Out-of-Stock Crisis"

In the 21st century, the Internet has trained consumers not to wait. With complete inventory visibility, they know immediately if an item is in stock. Often, they want it the next day. If they cannot find it on one website, they will look on others. This faster access to information and shoppers' need for immediate gratification has changed how retailers operate.

With complete inventory visibility, items can quickly be located and shipped. If the size 4 white dress is unavailable in the warehouse, it will be shipped from whatever store has it in stock. In addition to satisfying the shopper, this reduces inventory levels in poorly performing stores or markets where particular items are not very popular.

RFID also helps with orders placed online for instore pickup. Target.com, for one, says 15% of online orders are processed this way. For shoppers who start their journey at a brick-and-mortar location, associates can refer consumers to the retailer's website when a garment is out of stock at a particular location—and ensure the customer that it is indeed available.

Without RFID, an e-commerce site may simply say a product is "in stock." It does not indicate how many items are in stock or when the stock level was measured. In addition to real-time visibility, RFID measures stock levels down to two, one or even zero items. In the past, low-stock levels would be negated, with the website reading "out of stock" — even when one or two products remained. This capability further optimizes sales performance and customer satisfaction. At Macy's roughly 15% to 20% of inventory is accounted for by the last unit in the store. This level of inventory accuracy enabled by RFID not only allowed the retailer to grow sales, it allowed it to introduce same day delivery. Out-of-stock reduction from RFID implementation can uplift sales 5% to 15%, according to "How to Get the Most out of RFID," a report from Auburn University RFID Lab and GS1 US.





"As omni-channel has become table stakes for retailers, RFID is the proven technology that enables the accurate inventory visibility necessary to support complex omni-channel fulfillment options like buy online pick-up in-store."

TONY D'ONOFRIO,
VICE PRESIDENT, MARKETING,
GLOBAL ACCOUNTS &
SOURCE TAGGING,
TYCO RETAIL SOLUTIONS

Tyco Retail Solutions is a leading provider of integrated retail performance and security solutions, deployed today at more than 80 percent of the world's top 200 retailers. Customers range from single-store boutiques to global retail enterprises. Operating in more than 70 countries worldwide, Tyco Retail Solutions provides retailers with real-time visibility to their inventory and assets to improve operations, optimize profitability, and create memorable shopper experiences.

The Tyco Retail Solutions portfolio for retailers is sold direct through Tyco businesses and authorized business partners around the world. For more information, please visit TycoRetail-Solutions.com or follow us on Linkedln, Twitter, and our YouTube channel.



# Building the Business Case for RFID

# **O:** Please explain to what degree RFID is moving beyond SKU management and into other areas of retail. Why is it the right time for this?

**TONY D'ONOFRIO:** RFID is a technology enabler for various new second generation use cases beyond SKU inventory management. Today, retailers using RFID can gain deeper store insights to improve shrink management, display execution and customer service. By leveraging RFID in areas like the fitting room, retailers gain actionable insights into what items were tried on and purchased, and better understanding into items continually tried on but never purchased. Having this product insight allows sales associates to better assist customers with item suggestions and additional sizes/colors. With RFID at the storefront, retailers gain item-level visibility into loss events in real-time, understanding for the first time exactly what was stolen. As omni-channel has become table stakes for retailers, RFID is the proven technology that enables accurate inventory visibility necessary to support complex omni-channel fulfillment options like buy online pick-up in-store (BOPIS).

## **Q:** Why is RFID considered a foundational technology for successful omnichannel retailing?

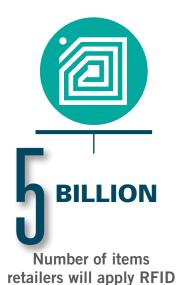
**D'ONOFRIO:** Omni-channel retailing operations such as BOPIS and ship from store depend on fulfilling online orders using store inventory. Without the item-level inventory accuracy RFID provides, retailers cannot confidently promise these items to customers based upon where they think they are. Keeping excessive safety stock on hand or rushing shipments from alternate locations are expensive mitigation strategies. Without RFID, merchandise returned to stores cannot be located and made readily available again for sale. Likewise, significant amounts of fashion inventory exist in singular color/size units which cannot be made available for sale online, unless retailers are highly confident in their systems' inventory accuracy, and the ability to locate it within the store. These highly salable units will eventually be marked down and sold at reduced margins because they are virtually invisible to e-commerce.

#### **Q:** What is RFID's role in loss prevention?

**D'ONOFRIO:** As the integration of item-level RFID data creates a real-time understanding of what, when, and where an item is located, it also helps to identify how specific items go missing. RFID technology can give complete visibility into loss events instantly, at the SKU level and in full context. RFID brings a new level of detail to loss prevention technology never available before. With this detail retailers can mine data to identify trends, and change loss prevention processes, merchandising standards, and planograms to prevent future incidents. Regarding the fitting room use case, RFID can give retailers visibility into questionable amounts of incoming merchandise, which may signal a potential shoplifting event.

#### **Q:** How can RFID empower employees to be more knowledgeable? To what extent can this increase sales?

**D'ONOFRIO:** Retailers utilizing RFID technology empower employees with item-level visibility into numerous aspects of the store and across the enterprise. RFID enables endless aisle, allowing sales associates equipped with mobile devices to select and order merchandise to meet omni-channel customer needs regardless of item location. This access greatly improves sales opportunities, particularly in fitting rooms. Having real-time fitting room insight from RFID allows sales associates to engage with customers about clothing selections to deliver personal service, suggesting similar styles, coordinating outfits, or complementary accessories. This attention can transform fitting rooms into a stronger conversion zone and bridge the gap between brick-and-mortar retailers and e-commerce sales.



Source: Auburn University RFID Lab and GS1 US, "How to Get the Most out of RFID"

tags to this year.

#### **Deploy Item-Level Tagging**

Some shoppers have very limited attention spans — if they do not find want they want within a short period of time, or if the salesperson cannot do so — they walk away and the sale is lost. With item-level tagging, associates can quickly locate the desired garment — even if it was misplaced, abandoned at the checkout counter, or left in the fitting room.

During 2015 and 2016, apparel retailers became particularly aggressive about item-level tagging. Retailers will apply RFID tags to more than 5 billion items this year, increasing to about 7 billion in 2017, according to the Auburn University RFID Lab and GS1 US report.

A handful are well on their way:

- Macy's is among the more aggressive. Four years ago, it started using RFID in a big way. Today, its suppliers place small RFID tags in products. Cost per tag is generally under 25 cents. About 30% of products now use tags, mainly in basics like men's apparel, shoes, jeans and some fashion merchandise.
- Spain-based Zara began implementing RFID in 2014. At the end of 2015, it was using the technology in 1,542 locations across 64 countries, with rollouts complete in 48 countries. By the end of 2016, the technology will be in place at 2,000 Zara stores.

When a product is sold, chip data is instantly transmitted to the stock room to send out an identical product, according to WSJ's "Zara Builds its Business Around RFID." In the past, shelves were replenished several times daily using written sales reports.

If a shopper needs help finding an item, an associate can point a mobile unit's camera at the barcode of a similar item. Using information generated by the chips, he/she can see if it is available in that location, a nearby store or online.

• In May 2016, Target said it would implement RFID in 1,795 locations. It is working with key vendors and plans



Retailers rank "inventory management" as the top in-store technology investment priority for 2016.

Source: EKN Research, "Immersive Retail Experience Survey"

to have all stores outfitted by the end of the year. According to the retailer, RFID will play a role in key categories like women's, baby's and children's apparel as well as home décor.

A new application of RFID that retailers are excited about allows shoppers to see additional items and order more sizes, colors or styles to try on while still in the fitting room. This saves time. For shoppers who are

the fitting room. This saves time. For shoppers who are impatient or in a hurry, it could also capture potentially lost sales.

The technology can also help track consumer patterns, such as which and how many garments shoppers bring into the fitting room. It can also identify problems. A particular pair of pants, for example, may look great on a hanger or mannequin. But when a human tries them on, the look is never right. This could prompt the retailer to recall the garment, discount it or go back to the drawing board.

• Beginning in November 2015, several Polo Ralph Lauren stores began using mirrors whose RFID recognizes the items a customer has brought in, displaying the products on a screen. The mirror shows other available sizes and colors along with recommended garments based on what the shopper is trying on.

A "call an associate" button connects to a salesperson's tablet on the salesfloor to summon an employee to the fitting room. Special lighting settings and language options enhance the brand experience. The mirrors also provide information such as conversion rate per item, time spent in fitting room and conversion rate per fitting room visit. The retailer reports that engagement has been an impressive 90%.

Internally, associates use the mirrors to facilitate locating items and checking stock numbers. The mirrors pull up not only what the items are, but where they are lo-



Source: Wall Street Journal, "Zara Builds its Business Around RFID"

Number of Zara stores

expected to have RFID

technology in place by the end of the year. cated in the store and warehouse and how many of each is available.

- Several months ago, Zara added "smart" dressing rooms to its new SoHo, NY store. Inside the fitting room, a touch screen displays all the information about the garments (all tagged with RFID) the shopper is trying on. As in Polo Ralph Lauren's stores, it provides information on other sizes and colors.
- Macy's tested a fitting room concept in which shoppers use mobile devices to scan the tags of clothes they want to try on, indicating the size and color they want. A chute system delivers products to the dressing room, another chute lets the consumer remove items he/she does not wish to buy.

Use RFID to Combat Crime

# Item-level tagging can be used for store security purposes and to authenticate luxury goods, factory of origin and other criteria. Sewn into labels, RFID tags

are smaller and more efficient than the EAS tags many companies now use to combat shrink. While EAS tags signal that something left the store that should not have, RFID tags indicate exactly what left the store. RFID can be implemented into existing security systems.

RFID tags can also assure retailers that they are not selling, say, a \$1,400 China Town knock off bag with an Yves Saint Laurent label. In cases where fur, rare wood or other unusual construction materials are involved, they can guarantee that sourcing was done responsibly and legally.

U.K.-based luxury handbag manufacturer Mulberry is planning to use RFID for both of these applications. Its bags are made from such exotic animals as eel, leopard and python. Even if an item is no longer in production, scanning the tag will verify the brand and identify the factory where the bag was made, said just-style in "Sustainability, the Next Use Case for RFID."

7 OUT OF 10

Retailers unable to track and manage product availability across channels.

Source: EKN Research, "Order Management Survey"

Country of origin verification could eventually facilitate customs procedures for retailers that frequently switch factories or use a combination of manufacturers in both tariff and tariff-free nations.

#### Supercede QR Codes with RFID

A few years ago, QR codes were all the rage — at least in the minds of the companies that used them. But most consumers did not want to be bothered downloading an app, scanning, and then waiting for information about a sneaker's history. They were even implemented in the wine industry, where connoseurs frequently seek additional information. But they failed. If people wanted to know more, it was much easier to go online.

RFID can transmit information from a single item or a display without any effort on the part of the shopper, thereby automating his/her interaction. The retailer can specify the range and study analytics gained from the movement of an item, making it far more than a QR code replacement. Hence, if a shopper walks by a high end shoe display, information can automatically come up on a screen regarding type of leather, country of origin, sizes and colors.

Be Prepared for Business Process Change
To function effectively, many new business practices need the input and cooperation of multiple departments — along with the C-suite. As is frequently stated in many businesses, the silo approach does not work. This is particularly true with RFID, which touches every aspect of the business. Almost every job function, from buyers, merchandisers and IT personnel down to the sales associate who helps a customer find an item is involved with RFID products and initiatives.

This means processes — along with jobs and responsibilities — can change. And change is not always comfortable. But if the whole organization is involved,



from the top on down, and people are encouraged to embrace new ideas, the process is much less painful and far more fruitful.

Change also means appropriate allocations of time, money and labor. Until people become accustomed to their new roles and can perform them efficiently, it might be necessary to put additional personnel on the sales floor to make sure shoppers are serviced effectively. Retailers cannot expect staff to understand a new strategy or technology on the first day — it takes investment, an investment that pays off.

#### Conclusion

According to Hoover's First Research, the U.S, clothing store industry encompasses about 100,000 stores with combined annual revenue of roughly \$190 billion. The 50 largest companies account for about 70% of industry revenue. With omnichannel, Amazon and other factors making the industry increasingly competitive, retailers are struggling to find more ways to differentiate — and products and pricing are not always enough.

The range of retail-friendly RFID applications should continue to expand, offering, among other things, additional shopper perks and conveniences. Already, some retailers are talking about incorporating RFID into con-

sumer-directed payment systems. But whatever the application, and whether the benefit is cost savings or a better customer experience, RFID can sharpen a retailer's competitive edge.

#### **#TWEETABLE**

RFID is imperative for apparel retailers that want to reduce costly markdowns and have the right instock position in today's competitive omnichannel universe.





# Requirements

Every major business initiative requires a detailed assessment that examines the project's impact on internal processes, technologies, personnel, strategic alignment and costs. One goal of the assessment is to identify granular and high-level requirements that are essential elements in the project's game plan. Managing and addressing these requirements is critical to success.

#### Requirements for

#### **Next-Gen RFID**

#### **Strategy**

- Monitor inventory levels frequently and accurately to minimize costly markdowns and out of stocks.
- Develop a system that affords complete inventory visibility across DCs and stores to make sure items are always available for timely delivery to online and in-store customers, regardless of the location they are shipping from.
- Monitor inventory at the item level so that associates can easily locate products

   even if they have been misplaced. This can recoup potentially lost sales in situations where an item was believed to be sold out.

#### **Technology**

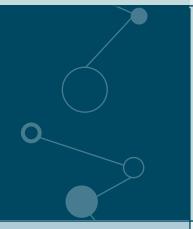
- Transition from bar code scanners to RFID to make product inventory faster, more accurate and frequent.
- Replace infrequently used QR codes with RFID to create immediate and effortless customer engagement points.
- Deploy RFID in fitting rooms to improve the customer experience and gain valuable data regarding shopper behavior.
- Replace EAS tags with RFID to reduce shrink. While EAS tags indicate that something left the store, RFID tags communicate exactly what left the store.

#### **Personnel**

- Set aside enough time to provide employees with ample training so that they
  understand and can confidently and effectively use new technologies.
- RFID touches almost all areas of business. Make sure everyone is on the same page, including the C-suite, buyers, merchandisers and store personnel.
- Hire visual merchandisers who are experienced in the use of RFID as part of instore promotions and displays to maximize sales and consumer engagement.



**Charting the Path That Links Technology and Business Goals** 



#### Roadmap KPIs Infographic **Next-Gen RFID**

- Enable Complete Supply Chain Visibility
- Streamline the Omnichannel Shopping Experience
- Deploy Item-Level Tagging
- Install RFID Fitting Room Technology
- Use RFID to Combat Crime
- Supercede QR Codes with RFID
- Be Prepared for Business Process Change



Retailers rank "inventory management" as the top in-store technology investment priority for 2016.

Source: EKN Research, "Immersive Retail Experience Survey"



Number of Zara stores expected to have RFID technology in place by the end of the year.

Source: Wall Street Journal, "Zara Builds its Business Around RFID"

Retailers that unable

to track and manage

product availability

across channels.

Source: EKN Research, "Order

Management Survey"



U.S. adults that have experienced unavailability of an in-store product over the past 12 months. When this happens, 1 in 3 blames the retailer.

Out-of-Stock Crisis"



Estimated value of the RFID market.

Source: MarketResearchReports.



Source: YouGov, "The Global



Number of items retailers will apply RFID tags to this year.

Source: Auburn University RFID Lab and GS1 US, "How to Get the Most out of RFID"

Retailers list "inventory availability" as the most important area in business and customer intelligence.

Source: EKN Research, "Immersive Retail Experience Survey"



Retailers unable to provide a single view of their in-stock position.

Source: EKN Research, "Omnichannel Strategy Survey"

