RFID: The Backbone of the Internet of Things Retail
An Examination of the Implications for Retail
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Industry adoption of RFID is on the verge of a momentous tipping point, driven largely by the world of apparel retail. In fact, the features and benefits of RFID technology are tailor-made for the pricing and SKU complexity of the apparel retail model, delivering real business value as an inventory management tool.

Retailers who have implemented RFID solutions have derived unprecedented clarity into their stock situation on an item-by-item basis with RFID. This capability has resulted in demonstrated reductions in inventory levels between 5 and 20 percent, the ability to reduce out-of-stocks by half, increased sales from 2 and 14 percent and more, and eliminated the need for costly third-party audits.

A recent survey report of product manufacturers and retailers by supply chain standards organization GS1 US has found that RFID technology adoption is growing and is the preferred technology for the retail supply chain.1 On average, the research indicates, 40 percent of new items made by manufacturers in that group now have EPC ultra high-frequency (UHF) RFID tags attached to them. Of the retailers surveyed, 78 percent indicated that at least some of the merchandise they receive is RFID-tagged. The result is a current level of 6.9 billion total RFID tags used in 2014, and a projection of 25 billion RFID tags used by 2020 in retail apparel and shoes.

RFID Connecting Apparel to the IOT Supply Chain

With such glowing reviews for inventory management in retail, it’s easy to overlook the broader benefits that RFID can deliver as an essential building block for the interconnected world of the Internet of Things (IoT). The IoT and the data it generates offer huge potential to deliver business value through more efficient and transparent supply chains and logistics, asset utilization, employee productivity improvements, and enhanced customer experiences.

According to a joint report from DHL and Cisco3, it’s estimated that there will be 50 billion devices connected to the Internet by 2020, compared to around 15 billion today. While 50 billion is certainly a large number, consider how many trillions of manmade items are in existence. Not every “thing” warrants treatment as a “smart” connected device; there are billions of “dumb” objects that likely will never have an embedded power supply and active transmitter because it is unnecessary, impractical or not economical. And yet, the technology exists to track all those everyday items throughout the supply chain.

The Age of Enlightenment: Omni-channel

ultimately resulting in

HAPPIER CUSTOMERS
omnichannel excellence
and HIGHER SALES

...allowing retailers to have

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<th>BETTER SELECTION</th>
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A world in which 99 percent of everything is invisible to the Internet is as incomplete as a pre-Columbus world map. Passive RFID technology makes it possible to accurately complete the map of our physical world by illuminating missing data from all the “dumb” objects, such as books, clothing, furniture or food.

In retail, data provided by the multitude of newly visible objects will forever change the spectrum of big data applications and introduce use cases never before imagined. Retailers are already experiencing the beginnings of this trend, as RFID enables ‘omni-channel’ linking of e-commerce to the physical store, assists in brand authentication and enhances the in-store customer experience. But we have just barely begun to scratch the surface.

99% Accuracy

Item level RFID can drastically improve INVENTORY ACCURACY to as high as 98%

Which enables 70% Reduction in out-of-stocks using CLARITY™ Item-level RFID Solutions

Most retailers today conduct a manual stock count twice a year, achieving an average inventory accuracy of 70 percent. Item-level RFID makes it possible to activate, connect and track all those things that are currently invisible. By accessing real-time data on all those “dumb” things, retailers can achieve 99 percent inventory accuracy and realize a true Internet of all Things.

Cost-Effective and Affordable

At present, it costs as little as $0.08 per item to track each inventory item with RFID, and these numbers keep going down with economies of scale. With the capability to automate business processes, reduce lost sales due to out-of-stocks, increase personnel efficiency and improve customer satisfaction, item-level RFID significantly reduces costs and increases profits.

For example, after implementing the Clarity™ item-level RFID solution, American Apparel saw an increase in sales ranging from three percent to more than ten percent, thanks to a more accurate picture of inventory that allowed the retailer to quickly identify and remedy out-of-stocks.

A Real-World Browser Cookie

RFID allows retailers to go way beyond inventory management and smart dressing rooms, to the point of following customers much the same way a ‘browser cookie’ follows them online. Consider how Google and Amazon have revolutionized the online world through targeted ad delivery and personalization—and then consider the vast possibilities of the same personalization in the physical world.
Today’s retail model is not about statistical averages and large sample sizes; it’s about personalization and customization to tailor to each customer’s needs. With RFID as the backbone of the Internet of Things (IoT), retailers can look beyond groups to individuals’ shopping behavior. This enables visibility into more than just what sold, but also into what didn’t sell, to enable better informed marketing decisions such as pricing of an item that is constantly handled but seldom purchased.

Connecting the Internet of Things Retail

RFID has already begun to revolutionize the retail industry. With the advent of the Internet of Things combined with RFID technology, visibility into item-level data now extends to everyday objects that are not computers or “smart” devices. Each connected inventory item is visible and its whereabouts are known, regardless of whether it is in shipment, in the warehouse or on the sales floor.

What will the future IoT-enabled world look like to retailers and their customers? Without RFID to connect those everyday items, 99 percent of those things will be invisible. Item-level RFID technology enables the Internet of Things Retail.

About SML

As the leading full-service RFID solution provider, SML is a trusted partner to the world’s largest retailers and top fashion brands, delivering proven results and rapid ROI for our customers. SML offers a broad spectrum of certified RFID-enabled labels, tags, stickers and inlays from the largest global network of source-tagging service bureaus. SML Intelligent Inventory Solution’s Clarity™ enterprise-class platform has best-in-class features and functionality for RFID deployment in-store and throughout the retail supply chain.

SML has successfully delivered RFID to many of the world’s most successful retailers. With a presence in over 30 countries, unparalleled deployment expertise and highly trained support personnel, SML is the leading technology provider for the new era in retailing, Retail 3.0. Visit the SML website at www.sml-rfid.com.