RFID IN RETAIL & APPAREL

PLANNING GUIDE

OMNICHANNEL FULFILLMENT
DC OPERATIONS
DISPLAY COMPLIANCE
SHIPPING & RECEIVING

BIG DATA & ANALYTICS
VENDOR COMPLIANCE
EXPIRATION TRACKING

ASSET PROTECTION
REPLENISHMENT
CYCLE COUNTING
CUSTOMER EXPERIENCE

INVENTORY MANAGEMENT
SOURCE TAGGING
COLD CHAIN TRACKING

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RFID ADOPTION IS GAINING MOMENTUM

Sense and respond technology enables retailers to be more nimble and more knowledgeable about customer needs. As retailers adapt to the ever-changing needs of today’s empowered consumer, RFID technology is playing a larger role in IT projects. Omni-channel and Customer-facing Initiatives are the primary drivers of RFID adoption.

PRIMARY DRIVERS FOR RFID IN RETAIL

WHAT’S IN THE PLANNING GUIDE?

This guide details the specific components of RFID deployments in Retail, along with planning considerations by business objective, corporate function and store format.

Including:

- RFID Use Cases for Omni-Channel Retail
- RFID in the Retail Supply Chain
- RFID Use Cases for Loss Prevention
- RFID System Components
- Selecting RFID Tags
- Chain-Wide Deployment Considerations
- RFID Use Across Retail Formats
- RFID Priorities by Business Function
- Building a Path to Rapid ROI

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According to a 2015 ChainLink Research Study, the most common applications in store and in the supply chain are linked to store remodels (where RFID-EAS infrastructure is installed at point of sale and point of exit), inventory management, Omni-channel operations (where RFID is used to speed order fulfillment), On-shelf availability and Customer Service. In the supply chain, RFID is increasingly being used for electronic proof of delivery and for tracking merchandise from point of manufacture.
Using RFID for real-time inventory is quickly becoming a prerequisite for Omni-Channel retailing. Retailers need to know what merchandise they have and where, so that they can efficiently source items for a customer order and either ship them from a single location or reserve them at the nearest store. In an Omni-channel world, RFID enables retailers to deliver on their promises to customers.

### Omnichannel Fulfillment

**Retailer Need:** Being able to pick and reserve items for a customer order quickly and efficiently, from stores and DCs

**Shopper Benefits:** Shoppers receive items more quickly, and can waive shipping costs when picking up in store

### Store Pickup (BOPUS)

**Retailer Need:** Fulfilling online orders directly from stores to shorten the distance between order and customer

**Shopper Benefits:** Items are ready for pickup upon customer request

### Returns Processing

**Retailer Need:** Being able to verify customer returns at the correct sale price and make them available for purchase

**Shopper Benefits:** Shoppers can receive faster credit for returns that can be applied to new in-store purchases. Shorter wait times at customer service

### In-Store Ordering

**Retailer Need:** Enabling customers to order products from in-store kiosks or smartphone apps while browsing in store

**Shopper Benefits:** Shoppers can save time by ordering complementary products for purchased items, or different colors/sizes for merchandise that was tried on in the fitting room

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**Omnichannel Ship-to-Store is inefficient.** Most retailers can only find 35-60% of items on an order picklist in store, leading to wasted time & money to fulfill the customer order.

Labor is wasted looking for the non-existent items and the non-filled list is shifted to the next store (generally the next day) which delays shipping the order.

– Dr. Bill Hardgrave, Auburn University June 2015
Although most retailers start deploying RFID in store, a “source to shopper” program provides additional efficiencies and economies of scale. Deploying RFID early in the process enables a more responsive, customer-centric supply chain. This also creates operational efficiencies since shipments are verified before they reach the store, and store personnel spend less time verifying inventory and more time assisting shoppers.

Since implementing RFID, our stock accuracy has improved up from 60–70% to circa 90%, and we have more opportunity to push accuracy further. Some of our assortments already show at least a 20% improvement in on-shelf availability.”

–Rupert Thorpe, RFID Program Leader, John Lewis Partnership

“We expect RFID to help us better fulfill online orders placed for store pickup which already account for 15% of Target.com purchases”

– Keri Jones, Executive VP of Global Supply Chain & Operations, Target

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**RFID USE CASES FOR LOSS PREVENTION**

Loss Prevention leaders are implementing RFID to protect against Internal Theft, Diversion, Counterfeiting and Spoilage, as well as to secure high-risk merchandise. Many LP professionals are also building RFID infrastructure into new stores and remodels as part of the construction plan to complement store design.

<table>
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<th>USE CASE</th>
<th>Benefits</th>
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| **SHOPLIFTING & ORC**     | - Item-level detail on what was stolen, enabling re-stocking to improve shelf availability  
- Differentiated Alarms – by quantity, value of items stolen  
- Protection for multiple merchandising formats incl. Mall Stores, Luxury Stores  
- Automated, chain-wide alerts for ORC  
- Ability to analyze patterns of theft over time and respond |
| **INTERNAL THEFT**        | - Extending EAS to the dressing room, back room and other “pre-POS” areas of the store  
- Improved inventory visibility throughout the store  
- Ability to analyze patterns of theft over time and respond |
| **ADMINISTRATIVE ERROR**  | - Automated cycle counting to identify anomalies, sources of shrink more quickly & easily  
- Electronic proof of delivery at DC and stores |
| **DIVERSION**             | - Automated Shipping & Receiving, Chain of Custody Tracking  
- Electronic proof of delivery at DC and stores |
| **COUNTERFEITING**        | - Chain of Custody Tracking, Electronic proof of delivery at DC and stores |
| **SPOILAGE**              | - Cold Chain Tracking, Prioritized Receiving |
| **VENDOR FRAUD**          | - Automated Inbound Receiving, Electronic proof of delivery at DC and stores |

Most US Shrink Comes from Store Employees: **42.9%**  
(compared to 37.4% from shoplifting, 11% vendor fraud, 9% admin errors)

– Global Retail Theft Barometer 2015

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RFID SYSTEM COMPONENTS

Every RFID system has the same basic components, although the specific components differ based on the nature of each deployment. For instance, apparel retailers often use a combination of hard tags and soft tags based on the type of merchandise and loss prevention practices. Luxury retailers often select readers integrated into their store design, for a seamless customer experience.

### TAGS
- **Types**
  - Hard Tags
  - Hang Tags
  - Combo Tags
- **Considerations**
  - Tagging process
  - Tag cost
  - Whether the tag needs to serve as a visual deterrent
  - Whether the tag needs to be removed at POS, or can be used to validate returns
  - Value of merchandise being tagged

### READERS
- **Types**
  - Portal
  - Overhead
  - Handheld
- **Considerations**
  - Aesthetics and store design
  - Where the reader will be located (exit door, dressing room, back room, receiving dock)
  - Whether the reader will be used for both inventory management and loss prevention
  - Whether the reader needs to be integrated into the store design or merchandising plan

### SOFTWARE
- **Types**
  - Solution Software
  - Integration Software
  - LP Applications
- **Considerations**
  - How different readers will be configured and managed (locally, remotely, centralized mgt)
  - How LP data will be used/analyzed (exit door alarms, differentiated alarms based on qty/value stolen, post-event analysis)
  - Which systems need to be informed: inventory mgt, POS, CCTV, other LP systems
  - How data will be centralized for chain-wide reporting

### SERVICES
- **Types**
  - Design
  - Implementation
  - Integration
- **Considerations**
  - Services needed for testing and deployment (system design, hardware installation, use case configuration, training, integration, ongoing support)
  - Which system platforms need integration with LP data (IBM, Oracle, SAP, in-house, etc.)
As RFID technology becomes more prevalent in retail, and higher volumes of tags are in circulation, standards are emerging, tag costs are decreasing, and tag selection is becoming faster and simpler. Here are a few considerations when evaluating RFID tags.

### CONSIDERATIONS FOR RFID TAG SELECTION

#### What's Being Tagged?
- Consider "off the shelf" tags that are already tested for use on specific materials (e.g., GS1 Category M tags which are certified for apparel and footwear)
- Does it have a barcode or loss prevention device? How is it attached? Can it serve a dual purpose?

#### Where is it Being Tracked?
- Densely-packed merchandise (e.g. cosmetics on peg hooks) may require short read ranges
- Cartons in DCs may require long read ranges – transport containers may require weatherproof tags

#### How are You Tagging and Encoding Items?
- High Volumes of items in DCs or Source Manufacturing may be tagged in bulk, using conveyor tunnels, commissioning tables
- Printers and Handhelds may be used for low volume applications
- Consider pre-encoded tags or tagging services to outsource the process
- Use Enterprise Number Management to prevent data errors

#### How Much Do Tags Cost?
- Passive RFID tags cost less than 10 cents at high volumes
- RTLS (always on) tags can cost $30 or more – generally used for high theft applications
- Consider combining RFID/Barcode/LP tags to free up RFID budget for training, systems integration, professional services that will save money in the long run

#### How to Decide on the Right Tag?
- Narrow down short list based on business case and pre-certified tags by product category
- Consider standardizing on a few tags to simplify sourcing and testing
- Deciding on a standard provides more flexibility than selecting a specific tag, and mitigates the risk of using a single vendor
CHAIN-WIDE DEPLOYMENT CONSIDERATIONS

Retail deployments have unique complexities, including: distributed operations spread across thousands of locations, high volumes of inventory, frequent product introductions, multiple store format variations and a variable work force.

CONSIDERATIONS FOR CHAIN WIDE DEPLOYMENTS

- Minimize disruption of customer-facing operations
- Take seasonality into account
- Pre-plan, pre-stage, pre-configure as much as possible

- Device & data mgmt. across 100s, 1000s of stores
- Store processes & associate training
- Vendor programs, source tagging
- Enterprise number management

- Site surveys to accommodate variations in store design/ layout
- Inventory mgmt./assortment variations
- Construction, shielding, unusual entrances?

WHAT RFID TAGS TELL US

- I am a bottle of pain relief medication and I am only available with a prescription
- I was manufactured by Company X fifteen months ago as part of Batch # 1654TE14
- I was transferred from Store 0044 and received in Store 0053 at 9am Today for a Customer order
- My contents expired 5 days ago

PLEASE DISPOSE of this medication immediately!
I cannot be used to refill prescriptions!
RFID has been widely deployed in Apparel to improve shelf availability of complex SKUs. It is also quickly gaining traction in other retail formats. And as retail formats continue to merge, RFID-readiness has more to do with the merchandise being sold than the primary format of the retailer.

For a typical retailer, RFID enables:
- Cycle counts to be completed about 25 times faster than manual bar code scanning
- Improvement of inventory accuracy, by 20-30%, enabling many retailers to achieve 99% inventory accuracy
- Decrease in out-of-stocks (OOS), by 15 to 30% resulting in sales uplift from 1-10% or more

– ChainLink Research 2014
RFID PRIORITIES VARY BY BUSINESS FUNCTION

Every business function has different priorities and measured goals for revenue and profitability. Aligning the goals of an RFID project beyond a single functional area helps justify the cost of deployment, as well as encouraging adoption by all stakeholders.

ALIGNING RFID PROGRAM GOALS WITH BUSINESS GOALS

Over 40% of Apparel Brands are Source Tagging with RFID for some categories & retail partners -- it is the new requirement for omni-channel operations.

Over 50% of US Apparel Retailers are using RFID in some form -- and the number is expected to increase in 2016.

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BUILDING A PATH TO RAPID ROI

The rate of change in Retail is at an all-time high. Focusing RFID projects around key merchandise categories, customer-facing processes (where reputation is at risk), and significant high risk/high opportunity programs is important to ensuring a successful deployment that delivers measurable results for the organization. Retailers would be well-advised to start with a list of “Top 100 SKUs”, Top Corporate Initiatives, New Ventures when planning an RFID deployment.

Several retailers have opted to roll out RFID technology in new stores and flagship stores first, where there is high visibility, an opportunity to work with other functions during the planning stage, and to align RFID program goals with company KPIs. Then RFID-enabling other stores becomes part of the store remodeling/ redesign process, which carries its own capital budget.

Other retailers have been successful integrating RFID programs into IT projects for Omni-channel, e-commerce or in-store experience.

FACTORS TO CONSIDER WHEN PLANNING RFID RETAIL PROJECTS

“80/20” Rule

- Which Products Generate the Most Revenue?
- Which Products Generate the Most Profit?

Customer-Facing Processes

- Omni-Channel Fulfillment
- Product Recommendations
- Item Location

High-Risk / High Opportunity Areas

- New Product Lines
- New Stores & Remodels
- Market Expansion

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ABOUT CHECKPOINT SYSTEMS

Checkpoint is the global RFID deployment leader, with supply chain and retail deployments across formats, functions and geographies.

Checkpoint provides source-to-shopper automation solutions enabling retailers to increase on-shelf availability, streamline omni-channel operations, improve asset protection and gain new insights on inventory movements and shopper behavior. Listed on the NYSE (NYSE: CKP), Checkpoint operates in every major geographic market and employs more than 4700 people worldwide.

Our global solutions team has implemented RFID in over 30 countries and can be reached at contact@checkpt.com for a complimentary consultation.