RFID IN RETAIL
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 2015

Omni-channel
- Cross-channel Inventory Accuracy
- Last-Mile Order Fulfillment

Shelf Availability
- High Complexity SKUs
- Core Replenishment Items That Drive the Sales of Other Items
- “Bloated Inventory” That Doesn’t Sell

Internal Theft
- Bigger Problem than Shoplifting in the US
- Surveillance in “Hidden Areas” - Back Rooms & Rest Rooms

New Stores & Remodels
- Modern Infrastructure for Now and the Future
- RFID-based EAS Point-of-Exit

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 Use Cases for Loss Prevention
- Selecting RFID Tags
- Chain-Wide Deployment Considerations
- RFID Priorities by Business Function
- Building a Path to Rapid ROI
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.

<table>
<thead>
<tr>
<th>RETAILER NEED:</th>
<th>SHOPPER BENEFITS:</th>
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<tbody>
<tr>
<td><strong>OMNICHANNEL FULFILLMENT</strong></td>
<td>▪ Being able to pick and reserve items for a customer order quickly and efficiently, from stores and DCs</td>
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<tr>
<td><strong>STORE PICKUP (BOPUS)</strong></td>
<td>▪ Fulfilling online orders directly from stores to shorten the distance between order and customer</td>
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<tr>
<td><strong>RETURNS PROCESSING</strong></td>
<td>▪ Being able to verify customer returns at the correct sale price and make them available for purchase</td>
</tr>
<tr>
<td><strong>IN-STORE ORDERING</strong></td>
<td>▪ Enabling customers to order products from in-store kiosks or smartphone apps while browsing in store</td>
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**FULFILLING OMNICHANNEL ORDERS TAKES TOO LONG**

Average Time to Pick and Fulfill an Online Order In-store = 30 min/order

*(Hard to plan for order variability)*

– Surveyed retailers at RILA Supply Chain 2015

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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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<tr>
<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 2014
SELECTING RFID TAGS

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**

**Speed**

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

**Compliance**

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

**Store Format**

**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.

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**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

57% of US retailers are implementing item-level RFID as of the end of 2014

An additional 21% plan to implement item-level RFID in the next 13-24 months

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
ABOUT CHECKPOINT SYSTEMS

Checkpoint Systems is a global leader in merchandise availability solutions for the retail industry, encompassing loss prevention and merchandise visibility. Checkpoint provides end-to-end solutions enabling retailers to achieve accurate real-time inventory, accelerate the replenishment cycle, prevent out-of-stocks and reduce theft, thus improving merchandise availability and the shopper’s experience.

Checkpoint's solutions are built upon 45 years of radio frequency technology expertise, innovative high-theft and loss-prevention solutions, market-leading RFID hardware, software, and comprehensive labeling capabilities to brand, secure and track merchandise from source to shelf.

Checkpoint's customers benefit from increased sales and profits by implementing merchandise availability solutions to ensure the right merchandise is available at the right place and time when consumers are ready to buy. Listed on the NYSE (NYSE: CKP), Checkpoint operates in every major geographic market and employs more than 4700 people worldwide.

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