



# Building An Agile Organization With RFID

Spring 2016

  
 macy's inc  
 MACY'S BLOOMINGDALE'S  
 BLUEMERCURY



# MOM 2.0

Building on our successful MOM strategy, to meet evolving customer needs

**M**

**O**

**M**

MY MACY'S LOCAL  
↓  
MY MACY'S PERSONAL

OMNICHANNEL  
↓  
OMNI CHOICES

MAGIC SELLING  
↓  
MAGIC CONNECTIONS

We inspire in new and surprising ways

We are there when and where you want us

We don't just sell - we solve

**This requires agility to execute well!**





# Inventory visibility

- Stores provide competitive benefit, to fill online orders
  - Leverage entire assortment of owned inventory
  - Reallocate non-congruent returns, to avoid markdowns
  - Hundreds of additional shipping and pickup points
- *But* if you can't "see" it, you can't:
  - find it
  - measure it
  - control it
  - **SELL IT**
- Without RFID, a retailer may sell an item online but not be able to find the product to fulfill the order
- EPC-enabled RFID delivers inventory accuracy, visibility, and location – key to the agility required for successful omnichannel retailing

# Current RFID Use Cases

- RFID tested internally, then published to vendors since 2012. Department expansion continued regularly, as benefits confirmed and business cases identified.

## Active Business Cases

<u>Established</u>	<u>Maturing</u>	<u>Emerging</u>
<ul style="list-style-type: none"> <li>• <i>Item File Accuracy</i></li> <li>• <i>Fulfillment / Single Unit</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Back to front</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Shortage Visibility</i></li> </ul>

- RFID technology is a powerful tool that has enhanced our ability to access and leverage inventory quickly across the network.
- Macy's & Bloomingdale's continue to expand RFID in stores, to leverage all these business cases and to position for additional use cases in future.



# Item File Accuracy

- Uncorrected item files deteriorate 2-3% monthly, resulting in missed sales and disappointed customers.
- With RFID, inventory read and corrected regularly, targeting 95% accuracy and providing visibility to up to 33% more inventory. Replenishment orders generated.
- RFID DVNs have monthly cycle counts from February to October. In 2015, updated over 42 million units monthly. Maintained a better avg variance than historical, with 5.8% GUV (gross unit variance), net 1.1%.
- Product availability and item accuracy allows sell through at higher margins.
- Additional benefits include associate confidence, decreased out of stocks, etc.



# Fulfillment / Single Unit

- About 20% of inventory represented at the single unit level by location, either by design or sell through.
- Intentional exposure of single unit allows ability to fulfill omnichannel demand and avoid markdowns, leveraging the full network inventory.
- Single unit fulfillment works best when the item file is accurate; protects initial fill rate, overall fill rate and customer experience.
- RFID contributed to strong increases over LY in fulfillment sales. Examples: Social Dresses +98%, Mens Areas +142%
- As of Spring 2016, >550 departments on single unit visibility. Many eligible and enabled because of confidence and corrections delivered with RFID.



# Back to Front

- Use RFID systems to ensure the maximum SKU representation on the selling floor to the color / size level across FOBs, streamlining a historically manual process.
- Developed B2F tool for stores Fall 2015. Piloted in penetrated RFID categories with significant SKUs not on selling floor or high overall back stock.
- Process development and learnings used to develop best practices for expansion.
- As of Spring 2016, all Bloomingdale's stores deployed. Macy's stores on implementation plan for 2016, targeting highest opportunity categories first. (Eg. Mens, Handbags, Soft Home, Intimate Apparel, with additional consideration for areas like Swim, Wm Coats, Junior / Missy Denim)
- Leveraged vendor participation with B2F tool design; anticipate a vendor-facing tool to be available later in 2016.





# Shortage Visibility

- Monthly cycle counts maximize item file integrity and allow for timely reordering of out of stock inventory.
- On average, monthly variances predictive of year end shortage.
- Opportunity exists to utilize data for Asset Protection programs to identify and prevent shortage.

- Test & Learn Cases:

## Example 1

- Determine loss baseline and trends, including fitting room trends. Utilize video capture functionality and LP resources to identify source of theft.
- Prove ability of RFID-enabled LP functionality to reduce shortage . Make recommendations for go forward strategy

## Example 2

- Evaluate effectiveness of Smart Exits for RFID tagged merchandise in key areas.
- Understand how exit reads can be integrated with POS to identify theft events and integrate into high shortage doors



## 2016 – What Now?

- Driving MOM 2.0, with a focus on organizational agility.
- Continued need for RFID benefits calls for continued DVN expansion, with intent for full store use by end of 2017.
- Macy's private labels are on board, with most already tagging and balance beginning of 2017.
- Development of an in-store tagging and expense offset process in progress now.
- Objective to accelerate vendor merchandise tagging to enable the benefits of RFID, including monthly cycle count.
- Targeting heavily penetrated areas Spring 2017, to complete tagging for laggard vendors and gain RFID benefits for full category.

# Adoption timeline/how to get started

- For a vendor to successfully be included in RFID, they must commit to and deliver on item-level tagging for all product in a DVN. Tag consistency and proper placement must be maintained, to ensure accurate execution in stores and item file updates.
- Key steps for vendor adoption:

#	Step	Comments
1	Review macysnet.com for relevant RFID information and understand requirements.	Updated regularly. Registration in macysnet required. Key contacts listed in EPC-Enabled RFID Technical Specifications document.
2	Consider educational courses through GS1. <a href="http://www.gs1us.org/industries/apparel/epc-item-level-readiness-program">http://www.gs1us.org/industries/apparel/epc-item-level-readiness-program</a>	GS1US is an industry resource, for many vendors and retailers.
3	Identify internal stakeholders and develop your team.	Include packaging, merchandising, IT, logistics, etc.
4	Determine and test tagging options.	Review Tag selection, application, encoding, etc. See EPC-Enabled RFID Technical Specifications for providers and inlay details.
5	Notify Macy's Inc. of timing for tagging new shipments at 100% of department level (dvn). Information shared with internal constituents (merchants, AP, stores, etc).	Please send commitments, as well as changes to the following individuals: marie.hurst@macys.com, jill.baker@macys.com and mary.coleman@macys.com
6	Send sample tags (no merchandise) for quality and data integrity checks prior to first shipment.	Address in EPC-Enabled RFID Technical Specifications document on macysnet.com.
7	Provide updates on progress toward target commitment date, with any relevant timing changes.	Please send commitments, as well as changes to the following individuals: marie.hurst@macys.com, jill.baker@macys.com and mary.coleman@macys.com
8	Execute tagging to standards published on macysnet.com.	Consistency of tagging execution is very important to ensuring that a vendor's product will be cycle counted monthly without interruption.





The Global Language of Business

# GS1 US Apparel and General Merchandise

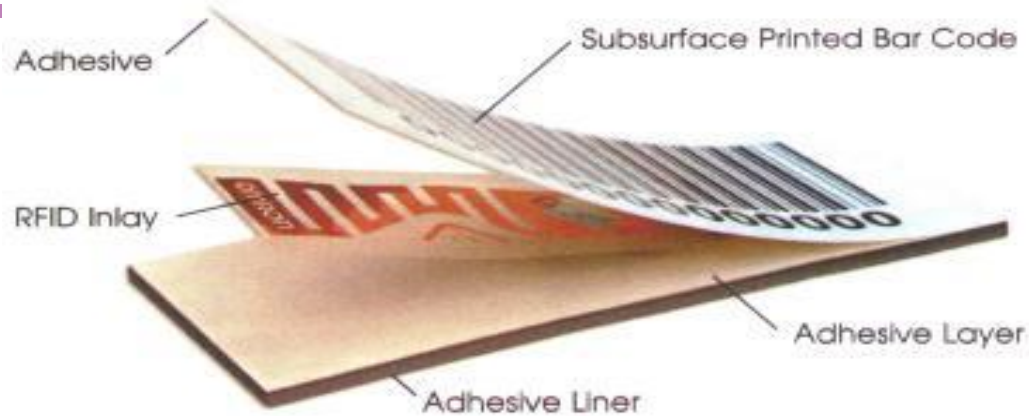
EPC® / RFID Industry Update

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Gena Morgan, Industry Engagement, GS1 US  
May 2016

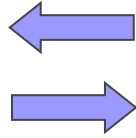


# Tagging Options



- “Wet” solution or a sticker
- Integrated tag solution
- Secondary tag solution

# Basic Components Of An RFID System



## Antenna



## Reader



The Global Language of Business

## Host Computer



- Device made up of an electronic circuit and an integrated antenna
- Portable memory
- RF used to transfer data between the tag and the antenna
- Read-only or read/write
- Active or passive
- Usually attached to specific items

- Receives and transmits the radio waves
- Wireless data transfer

- Communicates with the tag via antenna
- Interprets radio waves into digital information
- Provides power supply to passive tags
- Receives commands from application software

- Issues commands to reader and provides/receives data
- Stores and evaluates obtained data
- Links the transceiver to an application, e.g. ERP

# EPC-enabled RFID



The Global Language of Business

- What is EPC<sup>®</sup> and how does it relate to RFID?
  - EPC = Electronic Product Code
  - EPC is an \*identifier\*; RFID is a \*data carrier\* that holds the EPC identifier
    - RFID and barcodes are both data carriers
    - EPC is an identifier that identifies a \*specific\* physical object
- EPC identifier for items is the Serialized Global Trade Item Number<sup>®</sup> (sGTIN)
  - GTIN<sup>®</sup> identifies the product SKU (U.P.C. is one type of GTIN)
  - sGTIN = GTIN + added serial number to distinguish different instances of the same SKU



# RFID is Gaining Traction!



## Manufacturer Usage ↑



### Items Made with RFID Tags

On average, 40% of items made by apparel and general merchandise manufacturers have RFID tags, according to survey respondents.<sup>1</sup>

# 40%

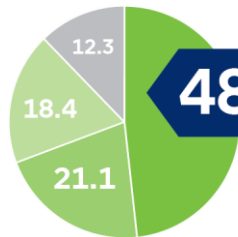
## Retailer Usage ↑



### Items Received with RFID Tags

On average, 47% of items received by apparel and general merchandise retailers have RFID tags, according to survey respondents.<sup>1</sup>

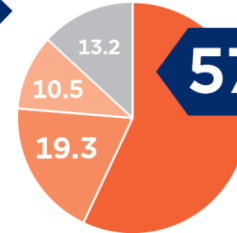
# 47%



# 48.2%

### Apparel and General Merchandise Manufacturers Currently Implementing RFID<sup>1</sup>

21.1% Implementing in next 6-12 months  
18.4% Implementing in next 13-24 months  
12.3% No plans to implement



# 57%

### Apparel and General Merchandise Retailers Currently Implementing RFID<sup>1</sup>

19.3% Implementing in next 6-12 months  
10.5% Implementing in next 13-24 months  
13.2% No plans to implement

## Improves shipping/picking accuracy

Using item level tagging delivers an 80% improvement in shipping/picking accuracy and improves receiving time by 90%.<sup>2</sup>

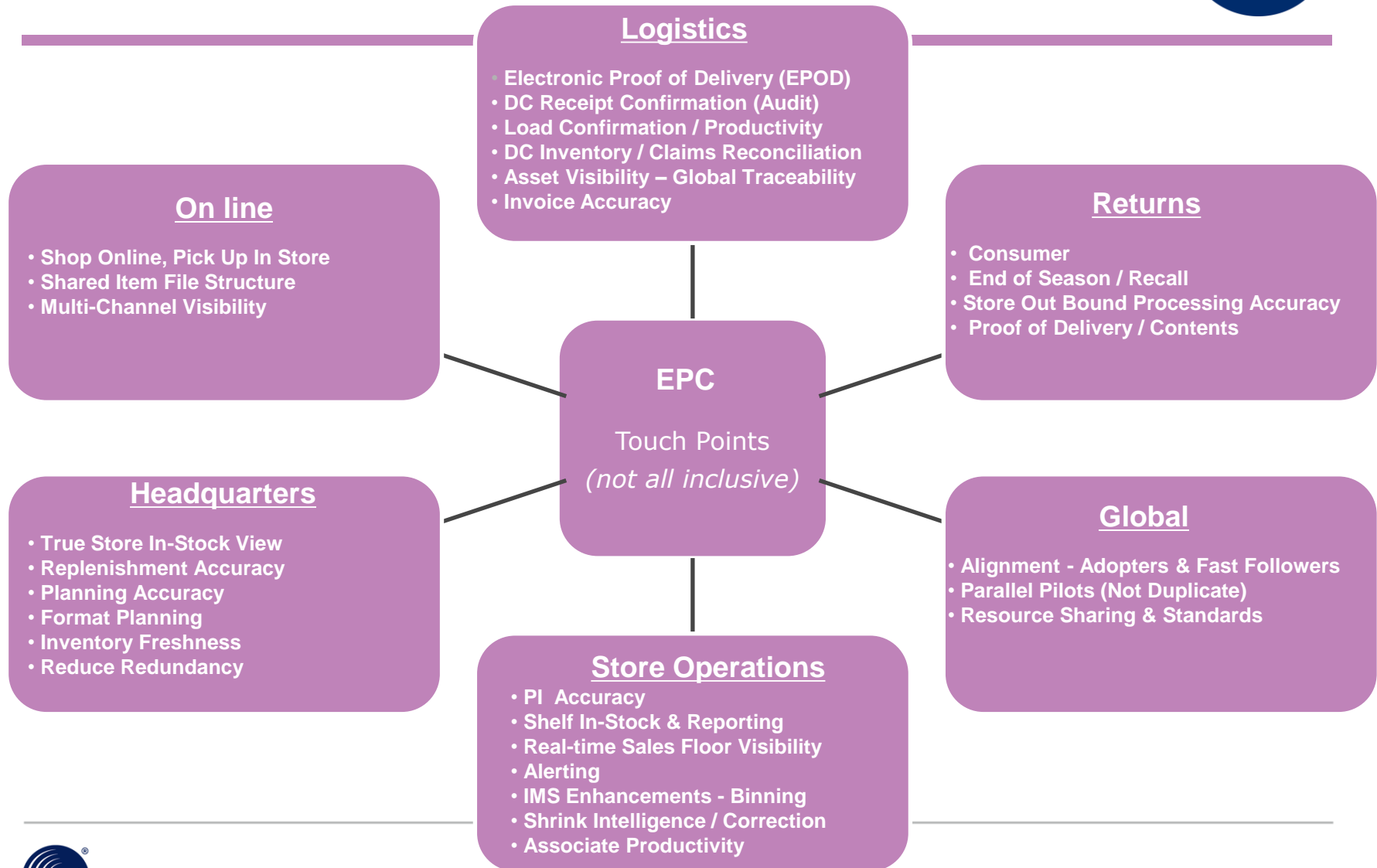


## Raises inventory accuracy

Using item level tagging enables 95% accuracy  
In the tracking of every piece of merchandise, in every retail stock location (raising inventory accuracy from an average of 63% to 95%).<sup>2</sup>



# Item Level RFID: Use Case Mapping



# Raising Awareness



## Free Access to Tools & Resources

- [www.gs1us.org/industries/apparel-general-merchandise/workgroups/item-level-rfid](http://www.gs1us.org/industries/apparel-general-merchandise/workgroups/item-level-rfid)
- Guidelines:
  - Tagged Item Performance Protocol (TIPP), Serialization, Tag Placement and more.
- Infographics:
  - GS1 US Standards (RFID) Usage Survey
  - EPC-enabled RFID Delivering the Omni-Channel Experience
- Video/Webinars:
  - See how EPC-enabled item level RFID delivers the omni-channel consumer experience
- Newsletters and Education Bulletins
  - Tri-annual GS1 US Item Level RFID Newsletter
    - Sign up at [www.gs1us.org/subscription-center](http://www.gs1us.org/subscription-center)



- Questions?

- Thank you for coming!



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