



Real-time Visibility

*RFID-enabled
Applications for Retail
Supply Chain & Logistics*

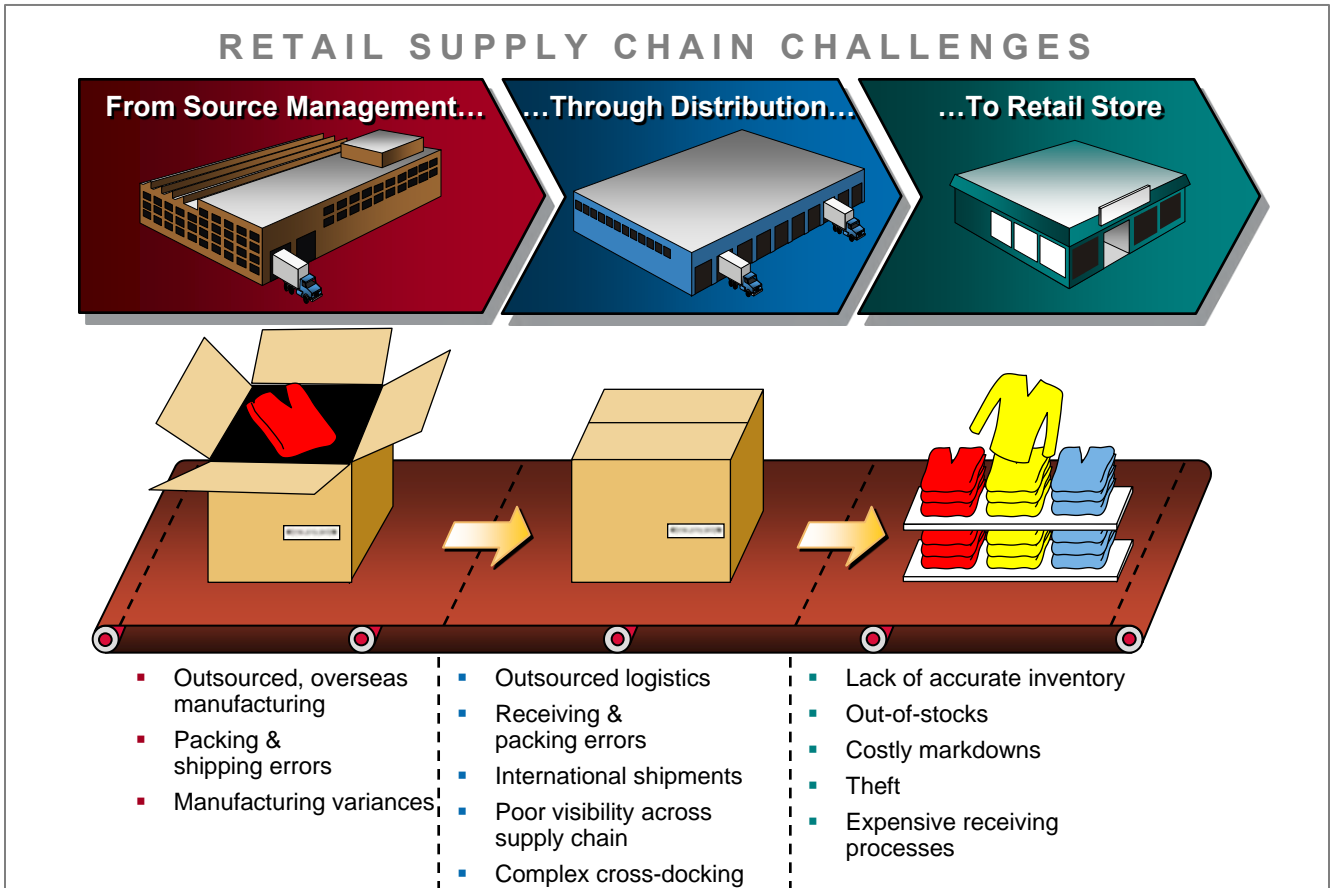
Deployment Guide



Delivering Real-Time Visibility
to the Enterprise

Why Source-to-Store Visibility is Critical

Studies show that retail logistics errors are pervasive, resulting in inaccuracies and operational issues throughout the supply chain and in stores. Leading retailers experience high error rates in packing and order fulfillment, increased delivery costs and high shelf-out-of stocks, all impacting sales and profitability.



Retailers need real-time visibility to drive operational efficiency for the complete retail supply chain, from manufacturing to distribution and throughout the store.

Visibility for Source Management and Distribution

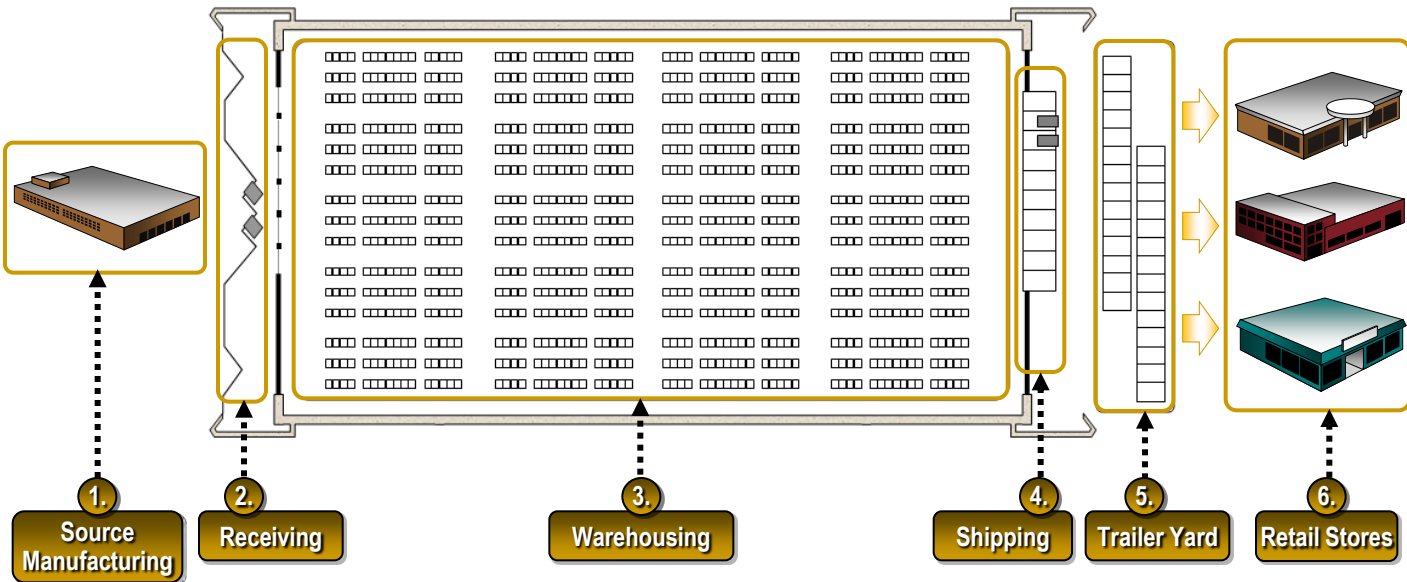
Real-time enabled applications can automate and error-proof lot packing, quality control, shipping, and receiving between supply chain partners. By leveraging RFID readers or Wi-Fi networks, outgoing shipments and inbound receipts can be confirmed and verified in seconds, minimizing make-goods and reducing expedite, labor, and inventory costs.

Visibility for Retail Stores

Real-time enabled applications provide accurate, up-to-the minute inventory visibility in receiving, in the back room, and on the sales floor. By monitoring shelf availability and back room inventory, proactive shelf replenishment can reduce out-of-stocks and increase sales.

Optimizing the Retail Supply Chain

By adding real-time visibility to business systems, RFID and Auto-ID technology deliver process efficiency and cost savings. Optimizing order accuracy, inventory management and reverse logistics across multiple nodes in the value chain decreases inventory and handling costs, increases customer satisfaction, and creates a more predictable revenue stream.

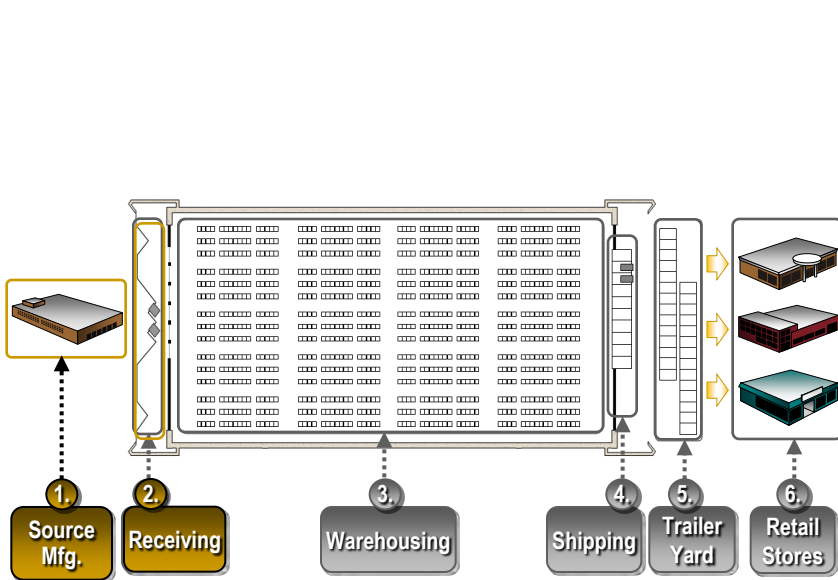


Automating and error-proofing even a single business process can deliver a significant return on investment. Process-specific projects often pay for themselves within 9-12 months, and are targeted in one or more of the following areas:

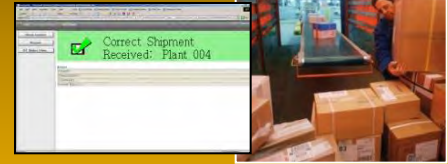
- Order Packing
- Receiving
- Stock Taking
- Order Tracking
- Yard Management
- Shipping
- Cycle Counting
- Shelf Replenishment

The use cases on the following pages illustrate specific areas where retailers can quickly and cost-effectively real-time enable their operations, throughout the source-to-store supply chain.

1. 2. Auto-ID Applications in Source Mfg/ Receiving



Receiving



Auto-ID Application

- Automate receipt & verification of incoming goods

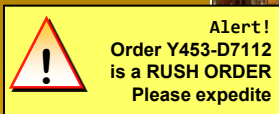
Web Services Integration Options for ERP & WMS Systems

- Compare received goods with content manifest or ASN
- Flag rush orders by comparing order number and special instructions
- Expedite rush orders to final destination
- Quarantine and track non-scheduled shipments

Auto-ID Value Add

- 100% automated tracking & reliable identification of shipments as they are received
- Significant reduction in error rates and costly correction processes
- Focus staff on exception handling vs. administrative paperwork

Order Packing



Auto-ID Application

- Automate picking and verification of outgoing orders

Web Services Integration Options for ERP & WMS Systems

- Verify individual items with customer orders
- Expedite rush orders
- Verify final destination, carrier and dock door location

Auto-ID Value Add

- 100% automated tracking & reliable confirmation of orders as they are shipped
- Improved packing accuracy
- Reduction in labor hours
- Fewer mis-shipments and make goods

“Currently being implemented in distribution centers, back rooms and storefronts around the globe, RFID revolutionizes the way retailers track inventory by moving it from a multi-day ordeal to a real-time operation.”

In short, RFID dramatically improves inventory management giving consumers better access to their favorite products when they need them.”

-Aim Global Industry Brief:
RFID Technology in Action: The Retail Sector

1. 2.

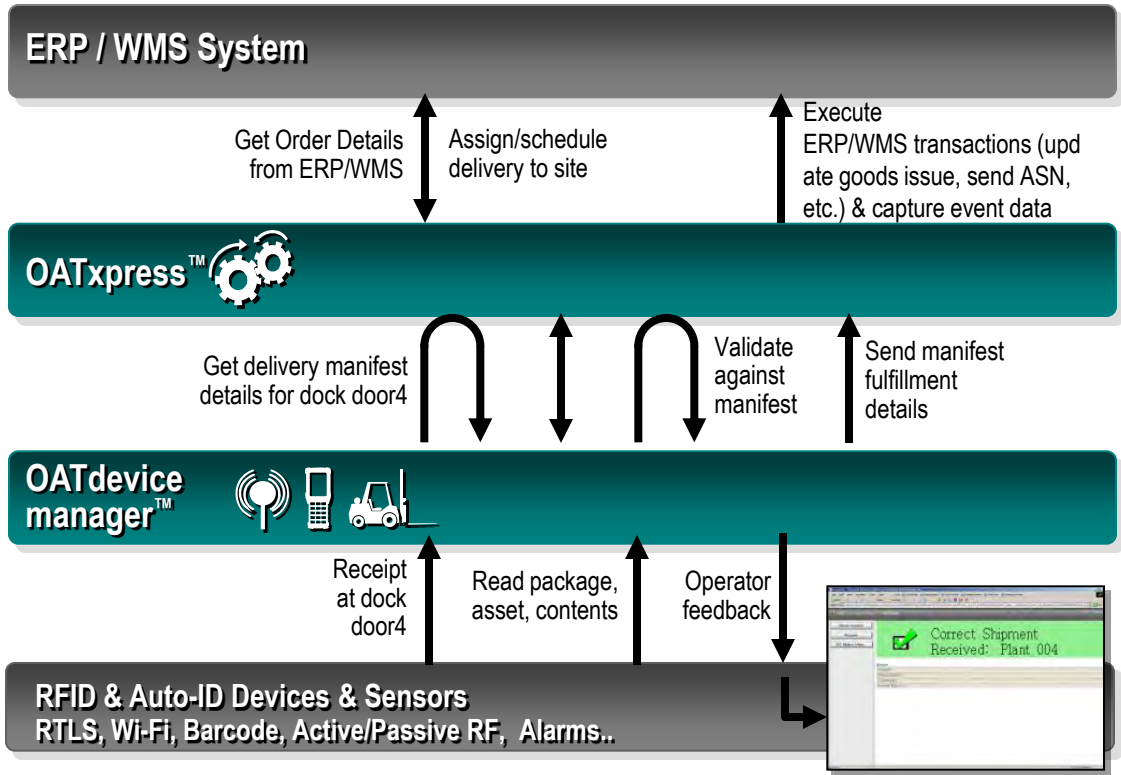
Source Mfg/ Receiving : Functional Process Flows

Receiving

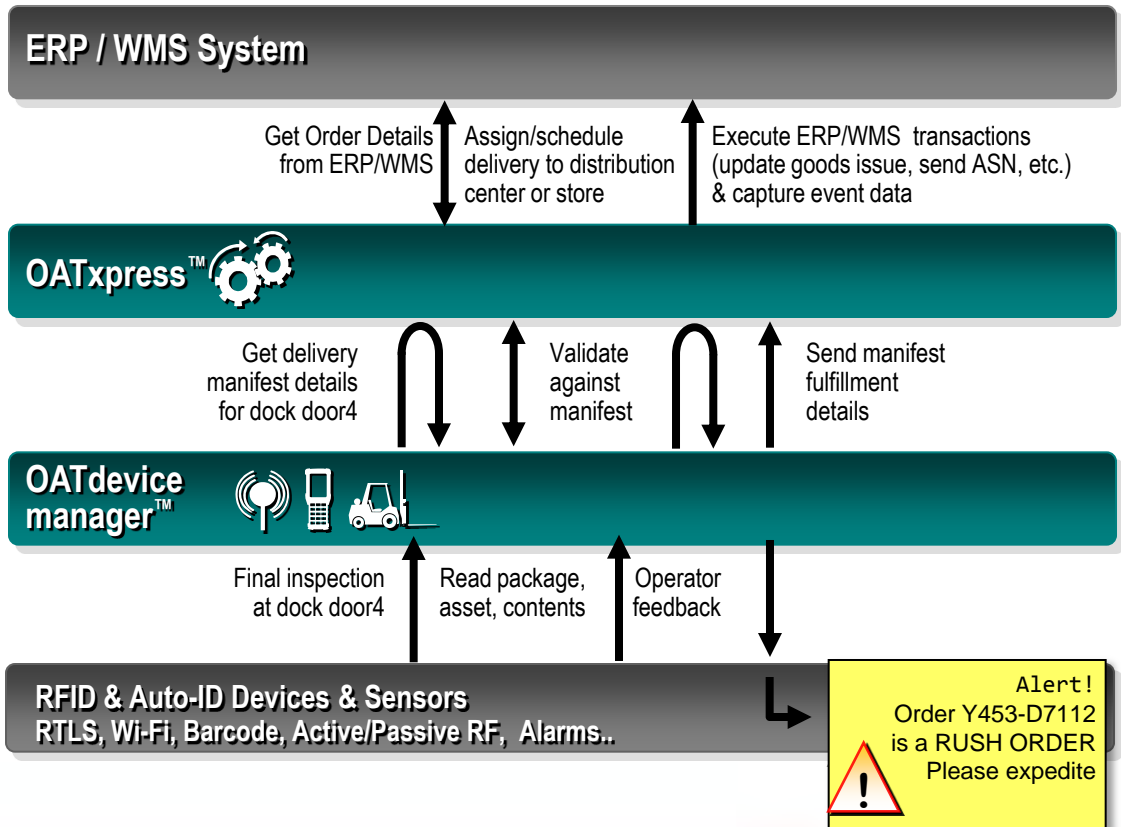


Sample Process Flow

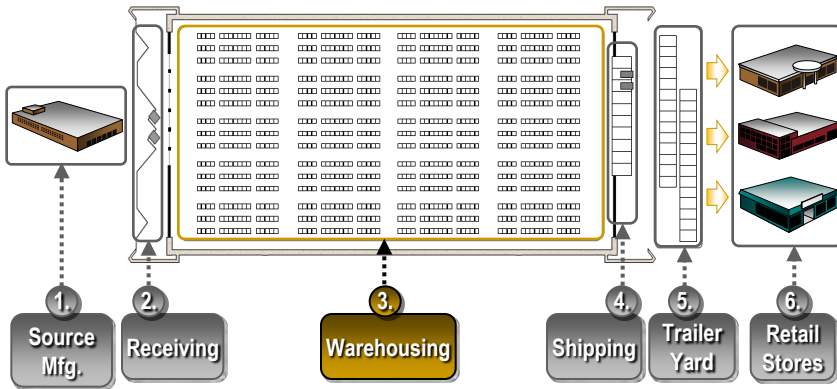
- Validating manifest details, ASN against physical shipments



Order Packing



3. Auto-ID Applications in Warehousing



Order Tracking



Alert!
Order DC7-45102
is a RUSH ORDER
Please expedite

RFID & Auto-ID Applications:

- Track orders & their individual items from location to location

Web Services Integration Options for ERP & WMS Systems:

- Pull order details to track supplier, end customer, final destination & item numbers
- Alert staff with a visual or audible alarm when an order is received at the wrong location, or needs to be expedited

RFID & Auto-ID Value Add:

- Real-time order status
- Reduce manual labor in confirmation, verification & search activities

Stock Taking and Putaway



Alert! Minimum Stock Level for Item AST7090 Auto-Replenishment Order in Process

RFID & Auto-ID Applications:

- Automated stock taking and inventory updates
- Automated goods receipt, confirmation, directed putaway and cross-docking
- Proactive inventory management and automatic replenishment

Web Services Integration Options for ERP & WMS Systems:

- Compare expected inventory with actual inventory
- Alert operator when inventory is placed in the wrong area
- Alert operator or automatically replenish when stock levels run low
- Update inventory levels in enterprise systems and dashboards

RFID & Auto-ID Value Add:

- Faster, more frequent inventory counts
- More accurate item-level inventory and replenishment
- Reduced cycle time, movement and handling costs
- Reduced search time and expedite costs
- Increased downstream productivity

Case Study:

Better Customer Satisfaction, Reduced Inventory Costs

A leading Consumer Electronics Manufacturer RFID-enabled its ERP and MES systems with OAT Asset Tracking to track component inventory, work-in-process, finished goods and deliveries.

With real-time visibility, the company was able to reduce its supply chain inventory by nearly 20% while significantly improving order accuracy.

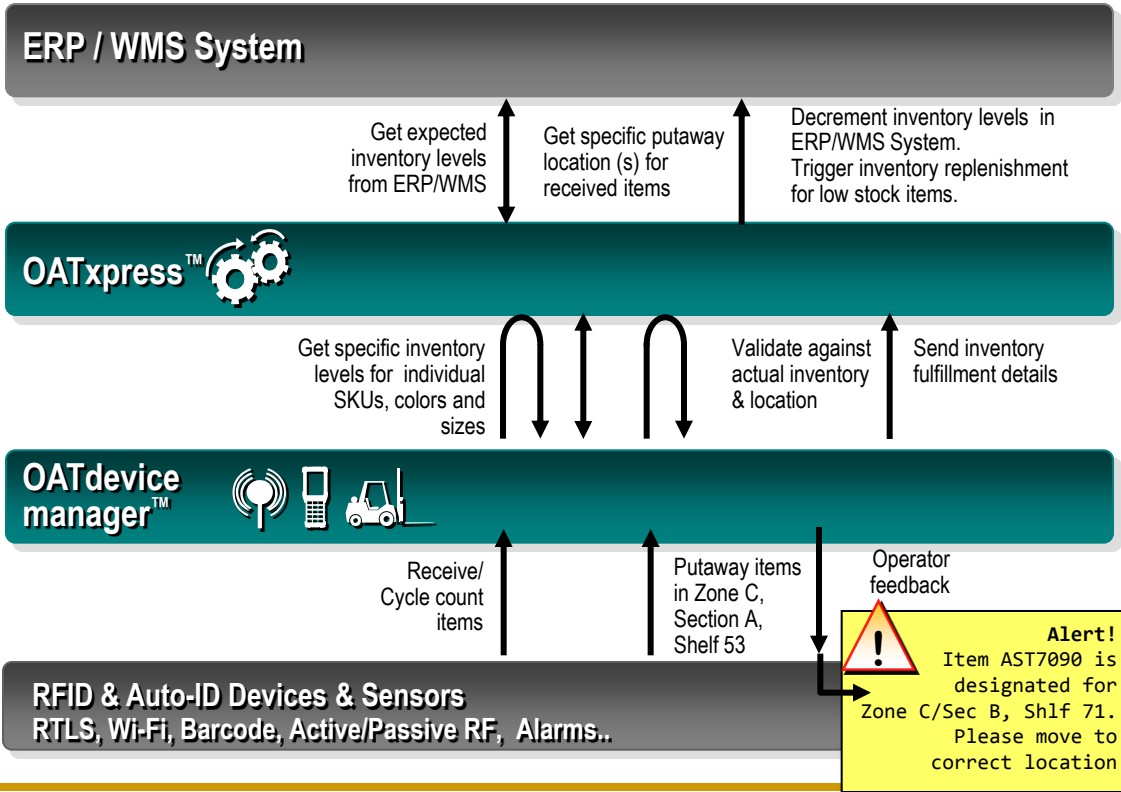
3. Warehousing: Functional Process Flows

Stock Taking and Putaway



Sample Process Flow

- Inventory verification and auto-replenishment

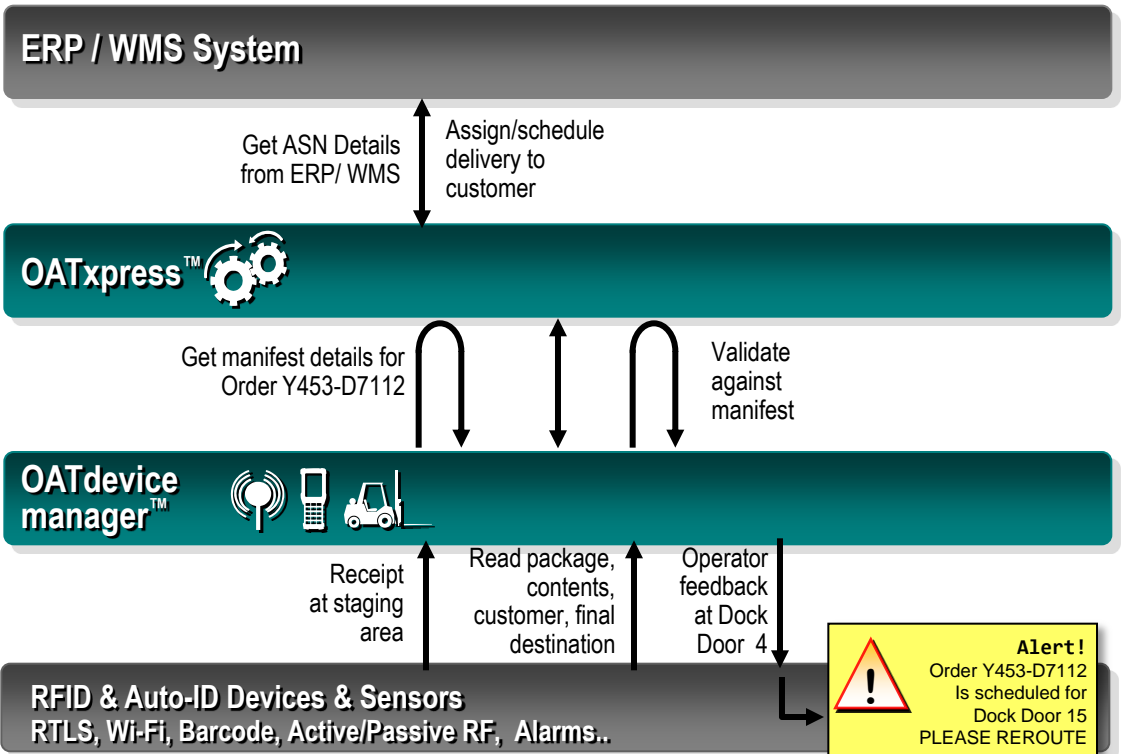


Order Tracking

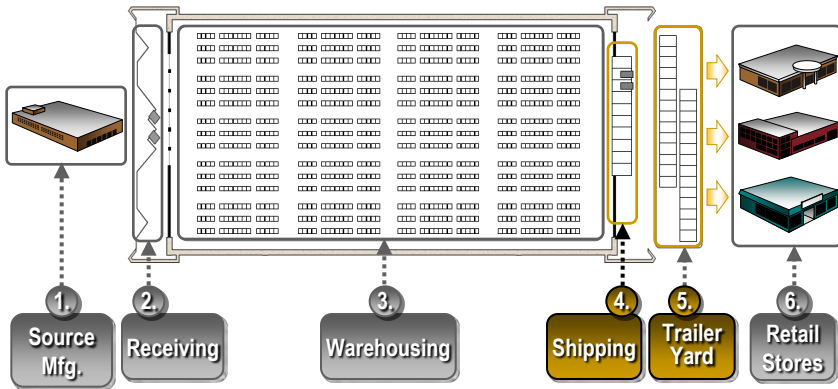


Sample Process Flow

- Validate physical items against ASN & customer order to track supplier, end customer, final destination and item numbers



4. 5. Auto-ID Applications in Shipping, Yards



Shipping



RFID & Auto-ID Applications

- Automate Advanced Shipping Notices (ASNs)
- Verify outgoing orders
- Automate tracking of delivery vehicles and associated orders

Web Services Integration Options for ERP & WMS Systems

- Expedite rush orders
- Verify individual items with customer orders
- Verify final destination, carrier and dock door
- Flag rush orders by comparing order number & special instructions

RFID & Auto-ID Value Add

- 100% automated tracking & reliable confirmation of orders as they are shipped
- Significantly reduce error rates and costly correction processes
- Focus staff on exception handling vs. administrative paperwork

Yard Management



RFID & Auto-ID Applications

- Automate tracking and identification of trailers and their contents as they arrive, exit or move within a laydown yard

Web Services Integration Options for ERP & WMS Systems

- Compare trailer contents with manifests, ASNs and work orders
- Update inventory and place replenishment orders as needed

RFID & Auto-ID Value Add

- Significantly reduce error rates, correction processes and 3rd party service costs
- Minimize driver and trailer detention time
- Minimize the need for extra trailers, safety stock and expedite costs

Case Study:

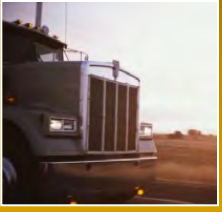
RFID & Auto-ID-enabled Tractor-Trailers Automate Cross Docking Process

A leading components manufacturer with six North American production facilities realized over 250% ROI in under 12 months by automating and error-proofing manifesting, loading and unloading processes with OAT software and Wi-Fi tagged delivery vehicles

The most significant cost savings came from recovering lost material, reducing excess inventory and improving labor efficiency.

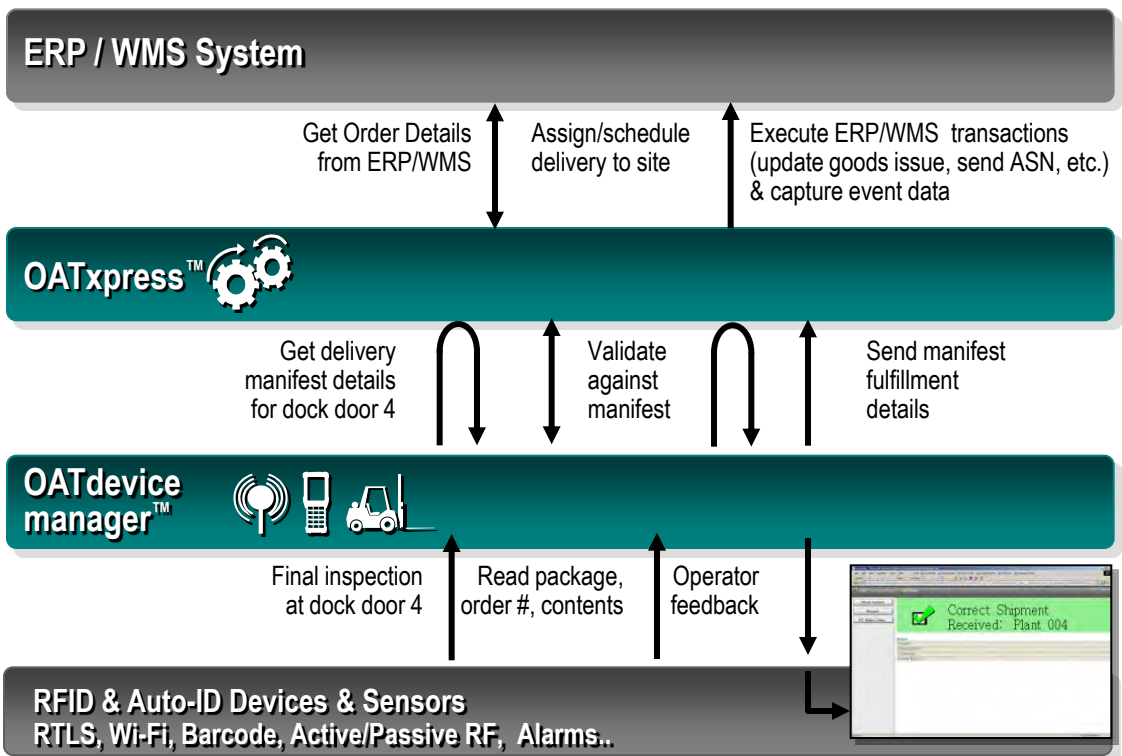
4. 5. Shipping & Trailer Yards: Functional Process Flows

Shipping



Sample Process Flow

- Verifying outgoing orders, validating packages against ASN

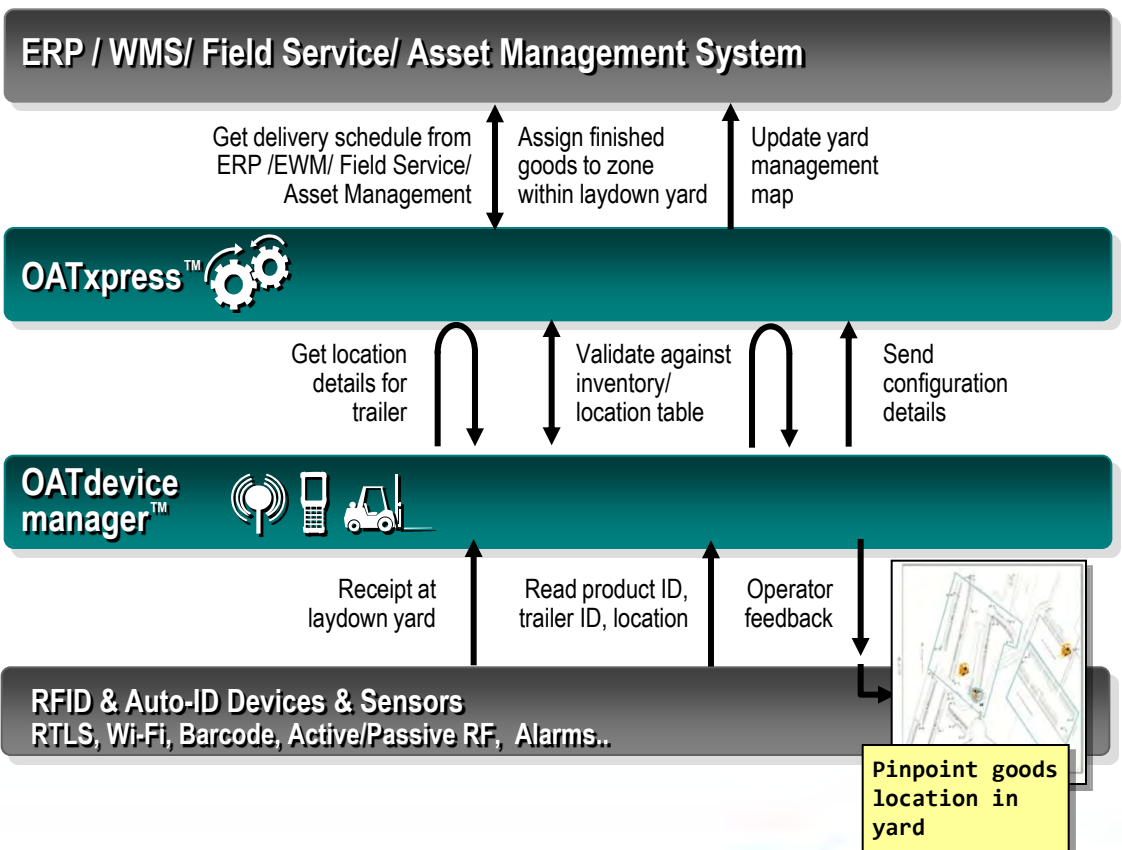


Yard Management

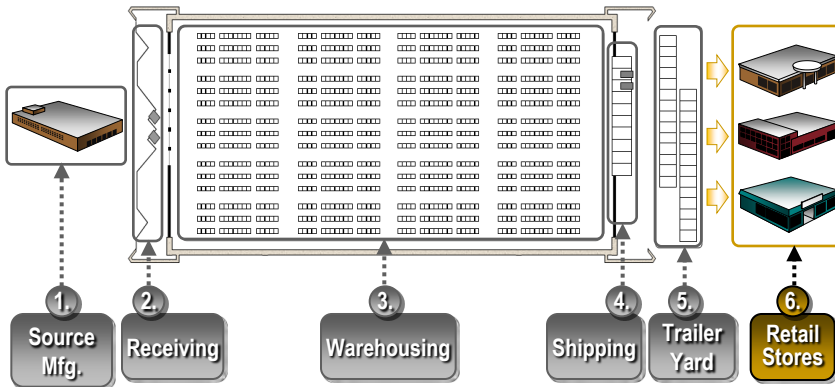


Sample Process Flow

- Verifying finished goods location and maintenance during check-in/ check-out process



6. Auto-ID Applications in Retail Stores



Shelf Replenishment



RFID & Auto-ID Applications

- Automated tracking and replenishment of fast-moving merchandise

Web Services Integration Options for Store Operations and POS Systems

- Compare current stock levels against recent sales
- Alert store associate to items that need to be moved to the sales floor or restocked
- Place replenishment orders when stock runs low

RFID & Auto-ID Value Add

- Increased shelf availability
- Sales associates spend less time tracking inventory and more time serving the customer

Cycle Counting



RFID & Auto-ID Applications:

- Automated item-level cycle counting

Web Services Integration Options for ERP & WMS Systems:

- Update inventory levels in enterprise systems and dashboards
- Compare expected inventory with actual inventory
- Alert operator when stock levels run low

RFID & Auto-ID Value Add:

- Faster, more frequent cycle counting
- More accurate item-level inventory
- Reduction in expedite costs, labor costs

Case Study:

Automated Shelf Replenishment RFID-enabled Inventory Systems

OAT real-time enabled an International Fashion Retailer's inventory systems, automating shipping, receiving and stock replenishment for customized assortments at each store location.

The result: increased shelf availability of high margin apparel items

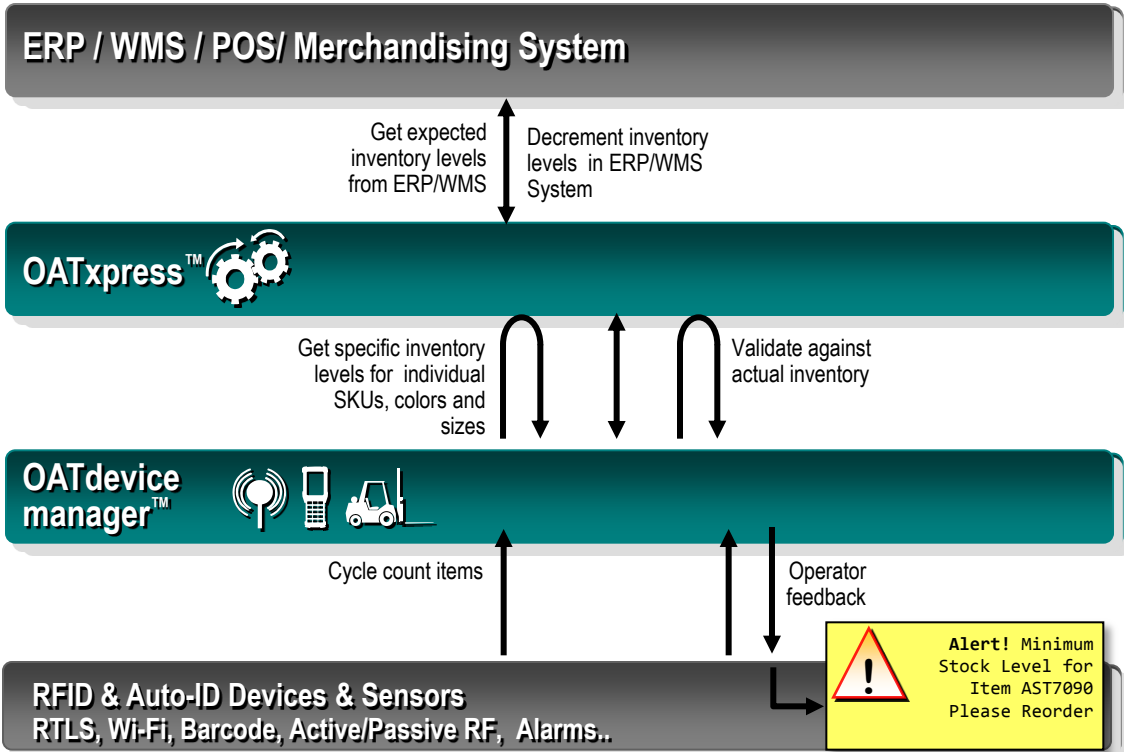
6. Retail Stores: Functional Process Flows

Cycle Counting



Sample Process Flow

- Automated item-level cycle counting

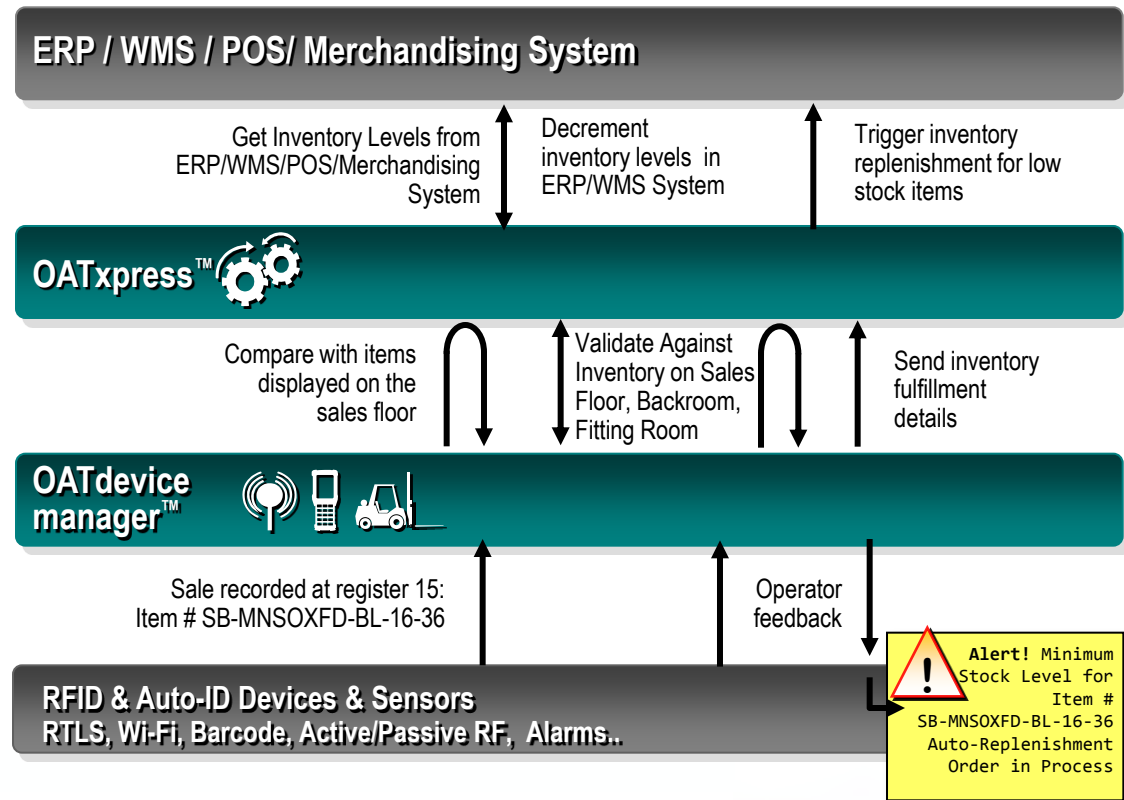


Shelf Replenishment



Sample Process Flow

- Verifying service orders and spare part availability during maintenance process



Real-Time Enabling Retail Applications

	Real-Time Enabled Processes
Source Manufacturing	<ul style="list-style-type: none"> ■ Tag and Track merchandise ■ Identify high-velocity items which need expediting
Warehouse Mgt & Fulfillment	<ul style="list-style-type: none"> ■ Confirm that custom orders match ASN manifest ■ Verify manifest & destination for outgoing shipments ■ Prevent mis-shipments with visual/audible alarms ■ Track finished goods inventory
Inventory Management	<ul style="list-style-type: none"> ■ Instantly locate merchandise on the sales floor, the back room, fitting room ■ Trigger automatic replenishment of high-velocity products, reduce overall inventory
Point-of-Sale	<ul style="list-style-type: none"> ■ Increase merchandise variety by tracking item-level merchandise in real time ■ Dynamically manage markdowns ■ Improve customer experience through automated checkout, smart fitting rooms
Dashboards & Analytics	<ul style="list-style-type: none"> ■ Automatically update dashboards to reflect: physical inventory levels, sales volume, merchandise assortments by location

RFID & Auto-ID enabling retail systems incorporates real-time order and location status into day-to-day business metrics. This enables staff to uncover and address process errors before they impact inventory availability and customer satisfaction

About OATSystems

OATSystems, Inc., division of Checkpoint Systems, Inc., is a recognized radio-frequency identification (RFID) solution leader with software that empowers businesses to achieve competitive advantage and ROI from RFID enabled applications. As a pioneer in developing RFID technology, OATSystems has been setting the standards in RFID for over half a decade and is responsible for industry firsts that include the largest scale and largest scope of deployments, as well as the most innovative approaches to providing enterprise-wide RFID solutions.

OATSystems' multinational client base consists of over 100 customers in retail, consumer packaged goods, consumer electronics, manufacturing, life sciences, aerospace and defense.

Contact OATSystems today at www.oatsystems.com or 781-907-6100 and get ready to take control of your operations.

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