Enabling Intelligent Fulfillment

Presented by:
Zebra Technologies
Objectives

• Understand how new technologies are disrupting long-established warehouse management solutions

• Learn to leverage new technology platforms in mobility to drive productivity and operational effectiveness

• Understand how sensor-based visibility can transform operations throughout the supply chain
2019 Business Climate

• Omnichannel fuels a rapidly evolving supply chain
• Warehouse space is growing but still constrained in key markets
• Labor is increasingly expensive and often scarce
  • $15/hr = $40k fully burdened
  • 5% productivity improvement returns a $2K investment / user in 12 months
• Technology solutions are often advancing more quickly than operations can assimilate them.
The on-demand economy and ecommerce are pressuring warehouse operations with:

- Faster expected delivery times
- Higher volumes
- Shift to item-level fulfillment
- Increased returns management
- Continually rising consumer expectations

Retailers, manufacturers and logistics professionals speak to the future of fulfillment:

- 89% agree ecommerce is driving the need for faster delivery times
- 78% currently provide or expect to offer same-day delivery by 2023

Warehouse professionals anticipate:

- $4.5 Trillion projected online global retail sales by 2021
- 76% increase in volume of items shipped by 2020
- 62% increase in annual inventory turns by 2020
- 55% increase in number of skus by 2020

Sources:
Zebra Technologies, Future of Fulfillment Vision Study, 2018
eMarketer, Worldwide Retail and Ecommerce Sales: eMarketer’s Estimates for 2016–2021
Omni Channel Impact

- Affects the entire supply chain
- Evolving rapidly
- New Facilities
- New Workflows
- New Solutions
Warehouse Transformation Dimensions

• Physical Automation
• Warehouse Management Systems
• Workflow Optimization
• Worker Augmentation
• Operational Visibility
• Data Platform, Analytics and Artificial Intelligence
WMS & Workflow Optimization

Basic WMS
Character-based
WMS Clients

Touch
Optimized User
Experience
Waveless order
release

Distributed
Architecture
Flexible
Adaptable to process
needs
Leverages location
awareness and other
sensors for optimized
work and error proofing

FIND YOUR WOW
Worker Augmentation

- Handhelds for all tasks
- Paper & Label Picking

Augmented Reality

- Wearable Technology
- Voice
- Touch
- Optimized UX
- Intuitive Applications
Visibility

Transactional
Bar-code Based

RFID in place at bottlenecks and portals

Constant Visibility
All Assets and materials located by the infrastructure
Data Platform

Manual processes for device update and management

Mobile Device Management in place for IT assets.
Single dashboard for device status and repair pipeline

IOT Platform based
Multiple data sources incorporated and correlated for predictive analytics
All assets with digital twin
Blockchain enabled transactions across supply chain partners
Inbound

- GS1 compliant labeling for ASN and extended data capture
- RFID for no-touch receiving
- Mobile workstations
- Blockchain events and data access

55% of organizations are missing out on real-time visibility during fulfillment with their current use of paper-based systems to manage omnichannel logistics.¹
Inventory Control

- IC as a key indicator of operational effectiveness
- Criticality to the on-demand supply chain
- Mobile Platforms (Robotic, Drone)
- Facility-based / Constant visibility

INVENTORY MANAGEMENT

91% of retailers, manufacturers and third-party logistics providers realize the need for inventory accuracy with plans to invest in RFID-based inventory management systems by 2028.

- Digitize cycle counting and implement RFID technologies to increase inventory accuracy.
- Put speed and accuracy in your workers' hands with mobile devices, and see better demand forecasting and less out-of-stocks.
- Increase inventory accuracy up to 99% and maximize your workers' time when you automate inventory management using RFID technologies. Customer satisfaction levels also improve with accurate inventory.
Fulfillment

- Operational challenges
  - Labor
  - Track & Trace
  - Speed & accuracy

- Wearable Computing Innovations:
  - Scan
  - Displays
  - Voice

49% expected increase in the adoption of wearable mobile computers by 2028.¹

Increase order picking accuracy up to 99.8% when you combine hands-free scanning and mobile computing with voice-directed picking.¹ Digitize the process to equip front-line workers with the ability to fulfill orders quickly and greatly reduce errors to improve customer satisfaction.
Transportation

- Large and growing spend
- Visibility needed
  - Realtime
  - Process Improvement
- Cold Chain
- Error Proofing

OUTBOUND

98% of transportation and logistics providers will provide visibility by investing in tools for electronic interface with shippers by 2028.²

- Digitize tracking and locationing during packing, staging, loading and shipping to instill confidence and provide greater order accuracy.
- Use barcode labeling for order verification and to keep track of goods in transit.
- Implement locationing solutions to make transfers fast and efficient, so workers can be confident that nothing is lost or left behind during staging and loading. Enhance customer service with accurate updates and fast delivery.
Key Takeaways

• New technologies are disrupting long-established warehouse management solutions across all dimensions

• Android, RFID, and wearables drive productivity and operational effectiveness

• Sensor-based tools that are “always on” can speed and error-proof operations.
For More Information

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