



PROMAT®

2015

McCormick Place South | Chicago
March 23-26, 2015
promatshow.com

Using Software to Maximize Your Order Fulfillment Performance

Sponsored by:



Presented by:

John Clark - viastore

Jerry Koch - Intelligrated

powered by



www.ProMatShow.com

© 2015 MHI®
Copyright claimed for audiovisual works and
sound recordings of seminar sessions. All rights reserved.

What You Will Learn

Software is becoming an increasingly critical component of your order fulfillment success strategy as it integrates the process, people and equipment with best practices to create an optimized solution.

This presentation will go over the various execution software systems (warehouse management, warehouse control, etc.), that work in conjunction with the many automation equipment solutions and people to create your automation solution.

Having an understanding of the roles each plays and how to combine them together will create the best solution for your operation and to increase your labor efficiency, productivity, system accuracy and overall throughput.

- *The differences in WMS, WCS and other execution software*
- *Balancing people and equipment equation*
- *Latest automation technologies*



FIND WHAT'S NEXT.



Who?

Integrated Systems and Controls

MHI's ISC Council address industrial automation issues by taking general requirements and specifications and providing an integrated solution.

Integrated Solutions are value-added functions that often require project engineering, documentation, procurement of equipment, hardware and software, installation, testing, commissioning and support.



FIND WHAT'S
NEXT.



PROMAT 2015

McCormick Place South | Chicago
March 23-26, 2015
promatshow.com

powered by  MHI

Presenters



John Clark, ISC Member
Marketing/New Business Development Manager



Jerry Koch, ISC Chair
Director Corporate Marketing/Product Management

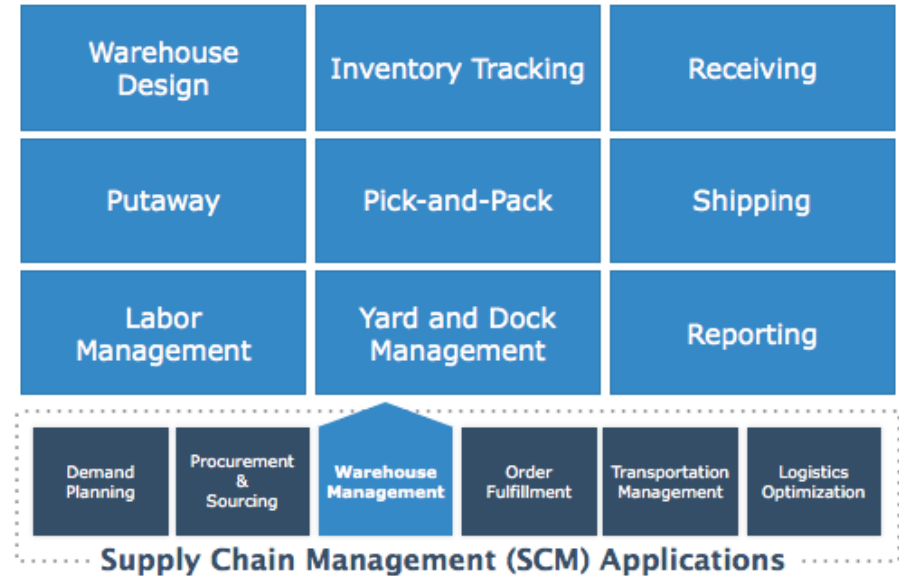
Warehouse Management System (WMS) – What is it?

“This execution software manages people, inventory, time and equipment for picking and processing customer orders.

It directs receiving, inbound Q/A, put-away, cross-docking, put-to-store, replenishment, slotting, picking, packing, outbound Q/A and shipping; dock scheduling and yard management; inventory management/optimization and cycle counting.”

MHI Learning Center

Warehouse Management System (WMS) Functionality



Software Advice™, Inc.

Did you know research shows labor accounts for 60% of the operational cost in an average warehouse?



WMS you Say...

WMS are designed specifically for managing the movement and storage of materials throughout the warehouse, with the key to these systems being the logic to direct operations to specific locations.

- Inventory Management
- Location Management
- Order Management
- Process and exception handling: receiving, put away, replenishment, and picking
- Interface with others for automated activity (moving, storing, picking, conveying, sorting, ...)
- Reporting



Did you know the first WMS was installed at J.C. Penney in 1975?

WMS Software is Great, but...maybe Old World?

- New DC in Bumble Junction, Kansas
 - Bigger is better
 - Throw labor at it
 - Its always cheaper than automation
- Are people-centric based solutions still viable?



New World...We Aren't in Kansas Anymore...

- The changing world “order”
 - E-commerce (and evolving regular ‘ol commerce) continue to change the landscape of fulfillment
 - Larger volume of smaller orders
 - Closer to the customer
 - Reverse logistics
 - Increased mobility and the overall consumer ‘experience’



Pushback to Distribution to do More

Evolving Regular 'ol Commerce too...

- Store-ready orders
- Less than full pallet
- Rainbow pallets
- Split case fulfillment
- Each picking
- Including store inventory as part of overall inventory
- Employee retention



Increased Pressure on the Supply Chain

If Only there was Technology that could Help...

Software

- Interactive communication between various systems
 - No more “Click to talk” solutions
 - Interactive conversation
 - Not scripted, but more adlibbed
- Waveless order fulfillment
 - Changing the meaning of “real time”
 - No longer a handoff with limited visibility to systems





Technology to Help You 'Connect the Dots'

- Use all your supply chain assets for speed and efficiency
 - Systems that are flexible
- Determine the priority of what to do 'now', not just 'today'
 - Flexibility to change on the fly
 - Take advantage of full operation and equipment
- Software enablement
 - But what kinds of software?...

Warehouse Control System - What is it?

Warehouse Control Systems (WCS) software provides device control for automated materials handling equipment, including conveyors, sorters, carousels, AS/RS, mini-load, and industrial robots, as well as related process management functionality.

MHI Learning Center

WCS started with conveyor routing software and has evolved to purposed software for managing and optimizing:

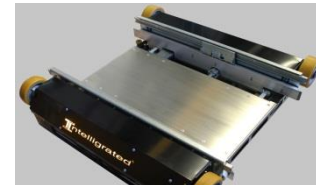
- *Conveyor Routing*
- *Sortation Management*
- *ASRS Management*
- *AGV Management*



Routing



Sortation



Shuttles



Unit Load



Print and apply



Robotics



Warehouse Control System, the Story Line

Originally purposed built

- Execution software – all about getting it done
- Real-time decisions (ms)
- Management of specific equipment type and functions
- Optimizes for speed, accuracy and throughput
- Interfaces with Hosts and equipment
- Monitors and manages statistics

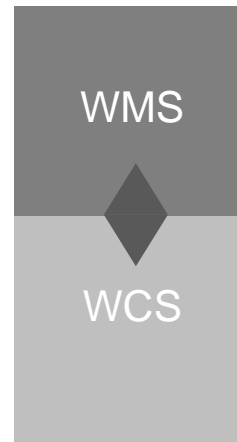


As picking technology evolved, order fulfillment systems were introduced to “automate” human picking process... took on order waving and release to optimize directed picking processes... and some inventory and replenish tasks.

- Storage solutions took on location and inventory management...



So, what is this WES / FES thing?



WES = Warehouse Execution Systems

FES = Fulfillment Execution Systems

LES = Logistics Execution Systems

“Maintains inventory and while driving material handling equipment.”

“Real-time responsiveness for order priority, inventory, labor, process and equipment information.”

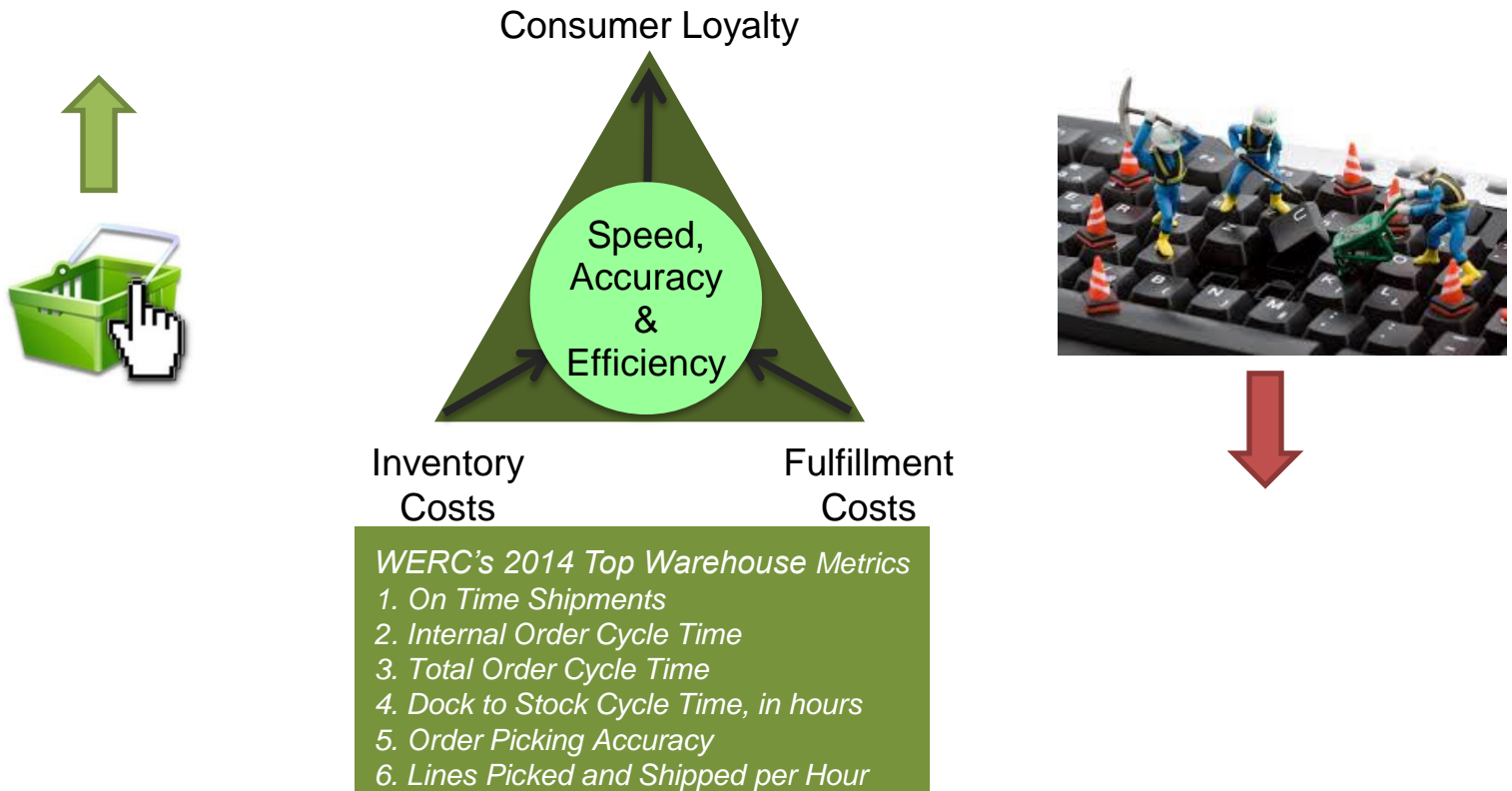
**FIND WHAT'S
NEXT.**

Software Gives you Flexibility

- Automation of people and process
 - Flex to meet seasonal demand
 - Flex to meet growth
 - Control of people AND equipment
 - Integrated communication
- From 'simple' to highly automated 'lights out' solutions

FIND WHAT'S NEXT.

How to get the most out of automation?



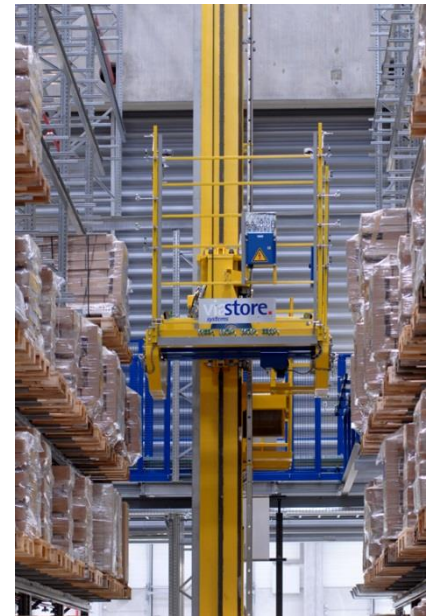
Answer: Coordinated automation of people, process and equipment.



AS/RS and Shuttles

Software drives

- Dynamic slotting
- Storage locations
- Automatic replenishment to pick zones
- Sequencing/Buffering for proper picking
- Visualization
- Feeding AS/RS via conveyor

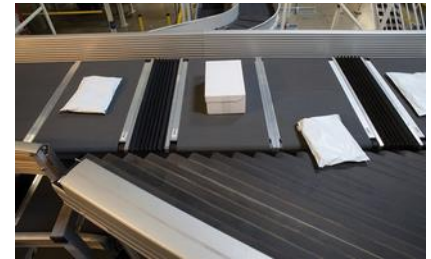




Item Sortation

Software drives

- Wave Order Execution
- Supply and Demand Fulfillment
- Virtual Sortation
- Induction Management
- Induction Load Balancing
- Chute Assignment and Management
- KPIs and statistical information



Conveyor and Sortation

- Buffering systems
- Wave flow management
- Carton identification
- Print and apply
- Destination management
- Intelligent zone routing
- High speed sortation
- KPIs and statistical information



Picking Technologies

- Waving
- Wave and Order Release
- Supply and Demand Allocations
- Location Management
- Replenishment Triggers
- Labor planning and tracking
- Workflow management
- Picking process optimization
- Picking device integration
- KPIs and statistical information



**FIND WHAT'S
NEXT.**



PROMAT 2015

McCormick Place South | Chicago
March 23-26, 2015
promatshow.com

powered by  MHI

Wrapping It Up...

- Software is taking the automation of people and equipment forward
- It can link the people and equipment solutions for an integrated supply chain solution
- There is an automation level for anyone



FIND WHAT'S NEXT.



McCormick Place South | Chicago
March 23-26, 2015
promatshow.com

powered by MHI



For more information contact:

Gary Forger

Managing Executive, ISC

email: Gforger@MHI.org

website: www.mhi.org/isc

