Robotic Capabilities Within the Warehouse

Presented by:
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Presenters

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Objectives

Drivers of the automation revolution

Key players and functional features

Range of robotic systems

Best practices on robotic automation applications
Problem Statements

- LABOR IS SCARCE AND EXPENSIVE
- CUSTOMERS DEMAND SPEED AND ACCURACY
- DISTRIBUTORS NEED FLEXIBILITY
- REQUIRE MODULAR, CONFIGURABLE, AND PORTABLE SOLUTIONS
- DAYS OF BIG MONUMENT MHE ARE OVER
Solution

• Automation is the solution
• Robotics maturity has arrived
• Flexible, scalable, portable elements
• Moore’s Law and technology price reduction trends now provide real ROI

“Virtuous cycle with components, processors, and software tools simultaneously getting better and less costly” - Tech Driver
Solution Benefits

• 24 Hour operations
• Greater capacity
• Flexible
• Enhances labor effectiveness
• Desirable ROI
• Rapid deployment
• Facilitates local automation
Key Concepts for Robotic Processes

Order fulfillment across every channel

- eComm
- Retail
- Wholesale
- Returns
Many Everyday Items Can Be Processed

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<th>Grocery</th>
<th>Health &amp; Beauty</th>
<th>Pharma</th>
<th>Electronics &amp; Consumer</th>
<th>Apparel &amp; Footwear</th>
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Range of Options

Fulfillment - Autonomous Robots

- Transport
- Pick & Place
- AMR Picking
- Goods-to-Person
- Sortation
Pick & Place

Item Picking for Supply Chain Processes

- Gripper – Festo, Soft, Kinova
- Vision + Software – Kindred, Fizyr
- Integrated Solutions – RightHand Robotics, IAM Robotics
AMR Picking

- Robotic – Locus, Nextshift, 6 River

- Shelf pick – IAM Robotics, Fetch
Goods-to-Person

• Robotic – AutoStore, Attabotics, Ocado

• Shuttles – Dematic, Knapp, Opex, etc.

• AMR – Swisslog, GreyOrange, etc.
Sortation

- t-Sort
- Berkshire Grey
- Sure Sort
Transport

Flexible Unit Load Handling

• Pallet – Vecna, Elettric 80, Etc.

• Case – Fetch, inVia
Key Concepts for Robotic Piece-Picking Systems

• The 3Rs: Range + Rate + Reliability
  Utilization Throughput Quality =
  Overall Equipment Effectiveness (OEE)

• An integrated system can “Own the Pick”
Robotic Piece-Picking System in Action
“Under the Hood” of a Pick Mission

1. Warehouse Control System

2. Environment
3. Task
4. Item
5. Robot Assets
6. Pick
7. Place
8. Inter-Operate
9. Learning Skills

Interface

RightPick.AI

Intelligence
Integrated Solutions

- Most technologies are point solutions
- Additional value with integrated solution
- Storage - Auto Induct - Sort - Autopack
- Lights Out
Robotic Breakpack Sortation With Put to Store
How To Use

- Need to really understand current workflows and process
- Factor in physical and software integration
- Start in an existing facility with tech forward leadership
- Educate yourself on options that fit your vision
When to Use

• Business growth outpacing ability to hire
• Piece-handling needs increasing dramatically
• Volumes support the justification of automation
• Majority of product attributes are within capabilities of automation
Justification

Hard Benefits

• ROI – expect 2 years or less for first project, faster ROI for subsequent sites
• Tangible capacity, accuracy, reliability, and space improvements

Soft Benefits

• Flexibility to support unpredictable future requirements
• Improved capability to operate 24 X 7
• Employee retention and leverage improvements
• Modular and scalable to deploy when and where needed
Key Takeaways

• Market and Tech Drivers – now is the time for robotic automation

• Wide range of options available

• Modular, configurable, adaptive, and portable systems provide a hedge against uncertainty

• Vendors to ensure simple & seamless user experience

• Hard and soft benefits create a strong business case
For More Information

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