



PROMAT

2015

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

ProMat's Newest Order Fulfillment Products & Solutions

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Presented by:

Ed Romaine, SI Systems

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What is the OFS - <http://www.mhi.org/ofs>

The Order Fulfillment Solutions (OFS) is dedicated to developing properly applied order fulfillment solutions.

Order Fulfillment is the process of moving, storing/staging, protecting, and controlling material and information flows within a facility to fill orders.

- OFS develops and delivers educational and training resources for end users, educational institutions, allied organizations, and its own members to properly understand and apply order fulfillment solutions.
- OFS defines the terminology that applies to order fulfillment.
- OFS promotes career opportunities within the industry.

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AUTOMATED GUIDED VEHICLES (AGVS)

Automated Guided Vehicles (AGVs)

- Customized using standard & proven components
- Open architecture allows fleet manager to interface with host systems
- Multiple navigations available to ensure the right solution for every environment





Automated Guided Vehicles (AGVs)

Product Category	Picking	Packing	Shipping	Assembly	Component
AGV	No	Yes	Yes	Yes	Yes

- Navigation: Laser, Wire, Inertial, Optical
- Speed up to 1.8 m/s
- Unit Load, Fork, Tugger, Custom

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AUTOMATED STORAGE & RETRIEVAL SYSTEMS (ASRS)

Automated Storage & Retrieval Systems (ASRS)

- Free rack location and double-deep storage achieves excellent storage efficiency and residual case handling
- Can be equipped with multiple load handling devices
- Higher throughput than existing single-deep micro-load AS/RS



Automated Storage & Retrieval Systems (ASRS)

Product Category	Picking	Packing	Shipping	Assembly
ASRS	Yes	No	No	No

- Maximum load capacities up to 300kg
- Flexible handling up to 4 cases
- Multiple-handling of 1-4 units and double deep storage.

Automated Storage & Retrieval Systems (ASRS)

- Goods-to-Person delivery eliminates labor
- Saves up to 85% of floor space with carousels and robotic interface
- Fast ROI due to cost effectiveness



Automated Storage & Retrieval Systems (ASRS)

Product Category	Picking	Packing	Shipping	Assembly	Component
ASRS	Yes	Yes	No	Yes	No

- Handles loads up to 36" W x 36" H x 36" D
- Up to 200 lbs.
- Systems up to 1440 transactions/hour

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AUTO ID (BARCODE, RFID, VOICE, OTHER)



Pick-to-Light

- Space efficient and economical to pick or sort a high number of SKUs
- Fast scan and sort methodology excellent for E-Commerce order fulfillment
- Lights on both sides of a put wall or station, enables light-directed put and pack





Pick-to-Light

Product Category	Picking	Packing	Shipping	Assembly	Component
Auto ID (barcode, RFID, Voice, other)	Yes	Yes	No	Yes	Yes

- Increases pick rate productivity by an average 40% over paper-based picking
- 99.9+% Accuracy level
- Rates achieved between 300-1200 units per operator per hour

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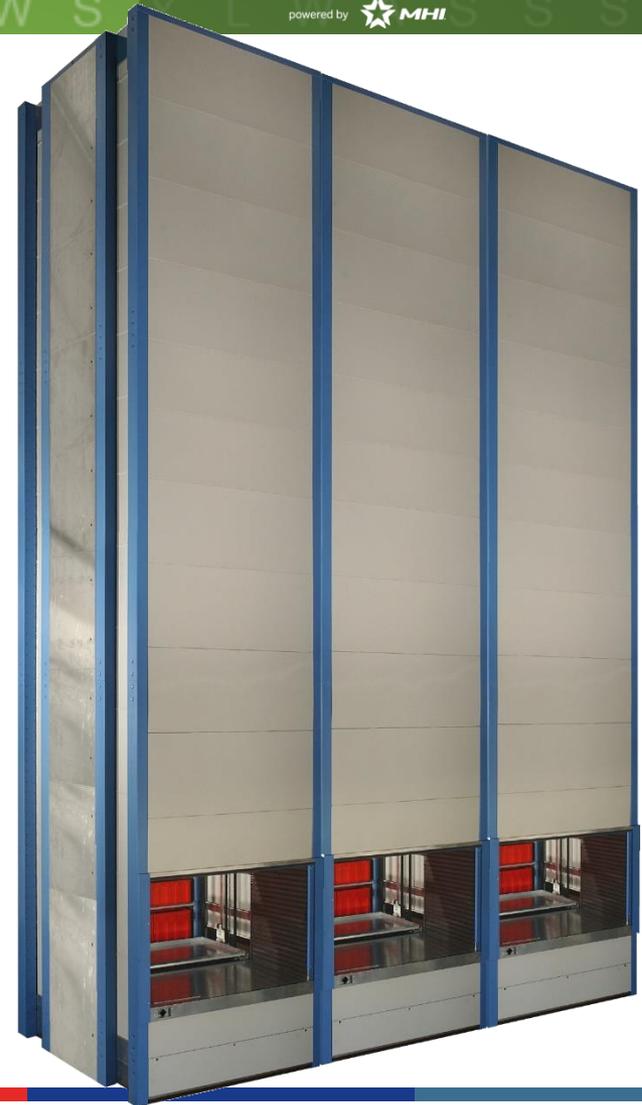
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CAROUSEL & VLM



Vertical Lift Module

- Optimized storage density saves up to 85% floor space
- High travel speeds and short waiting times result in higher picking rates that increase productivity
- Integrates with pick to light technology for 99.9% pick accuracy





Vertical Lift Module

Product Category	Picking	Packing	Shipping	Assembly
Carousels & VLMs	Yes	No	No	No

- Units up to 14.4 feet wide, 14 feet deep and 98.6 feet tall
- Heavy parts storage – up to 1,598 lbs. per tray
- Speeds adjustable up to 7.5 feet/second for fast access to stored items

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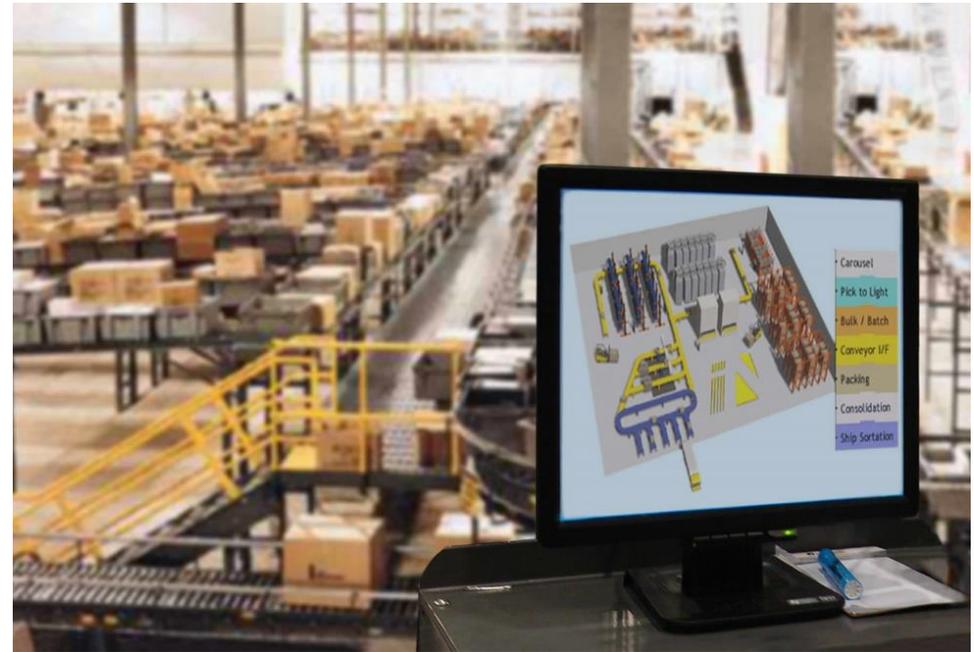
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COMPUTER SOFTWARE & HARDWARE

WES, WMS & WCS Software

- Uses your processes and procedures
- "True-Versioned-Platform" Means Always Upgradable & 100% Supportable





WES, WMS & WCS Software

Product Category	Picking	Packing	Shipping	Assembly
Computer Software & Hardware	Yes	Yes	Yes	Yes

- WES, WMS & WCS Warehouse Software
- Modular Construction
- Waveless & Dynamic Wave Picking

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Pick Wall

- High accuracy
- High labor productivity
- Portable and scalable





Pick Wall

Product Category	Picking	Packing	Shipping	Assembly	Component
Computer Software & Hardware	Yes	Yes	Yes	Yes	Yes

- Order consolidation solution
- Order packing solution
- Mobile configuration

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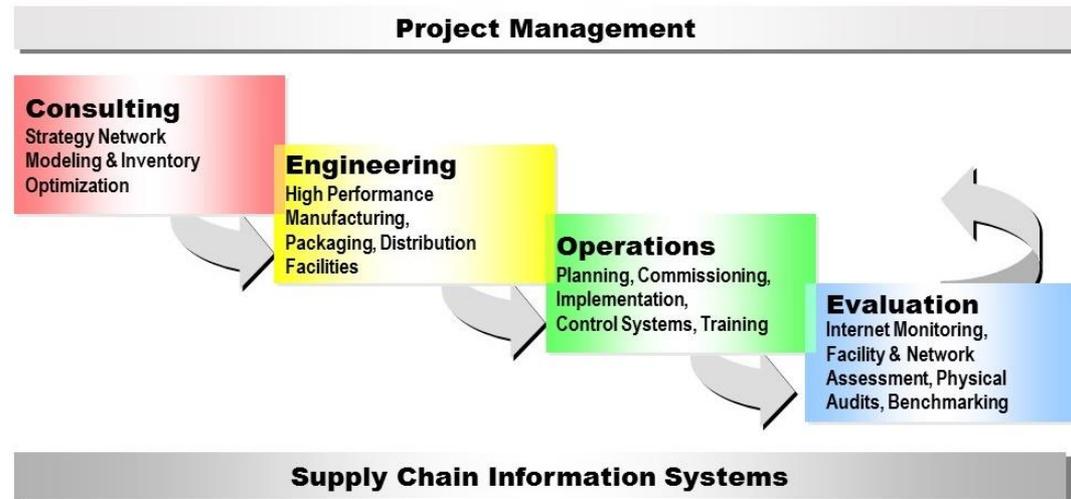
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CONSULTING, INTEGRATION & PROFESSIONAL SERVICES

Consulting, Integration & Professional Services

- Independent engineering and consulting solutions - meaning vendor agnostic.
- A respected company in the industry for over 30 years, with over 90 employees.





Consulting, Integration & Professional Services

Product Category	Picking	Packing	Shipping	Assembly	Component	Other:
Consulting, Integration & Professional Services	Yes	Yes	Yes	Yes	No	Facility Design

- Supply Chain Consulting Services
- Warehouse & Distribution Design
- Systems & Technology Experts

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CONVEYOR

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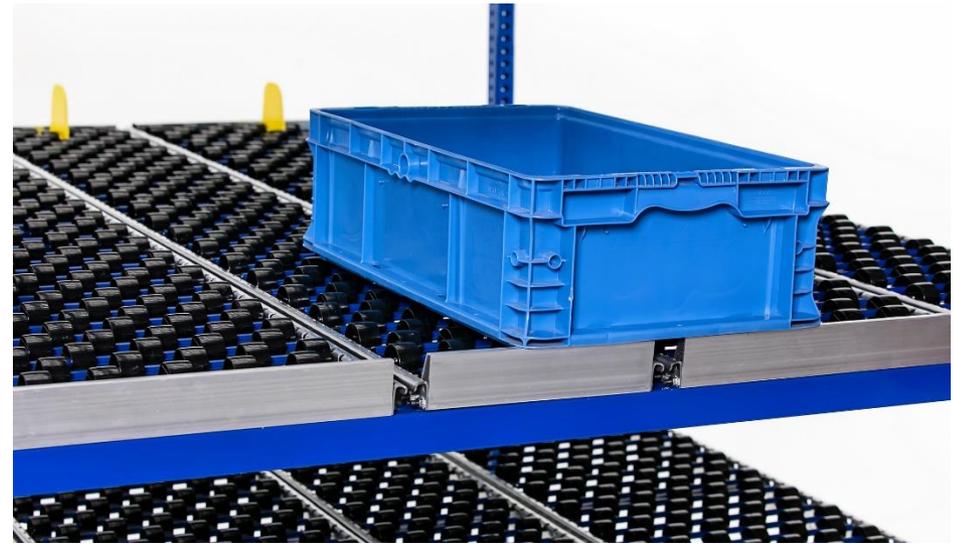
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Carton Flow Conveyor

- Ultimate Flexibility
- Maximizes Storage Space
- Reduced Travel Time





Carton Flow Conveyor

Product Category (Select One)	Picking	Packing	Shipping	Assembly	Component
Conveyor	Yes	Yes	Yes	Yes	Yes

- 7 year warranty
- Capacity up to 100lbs per foot
- 90% horizontal space utilization

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DIMENSIONAL & WEIGHING EQUIPMENT

Dimensional & Weighing Equipment

- Measures cases and irregulars with one portable system
- Legal for trade cubing & weighing device
- UPS Customer Technology Program (CTP) approved device





Dimensional & Weighing Equipment

Product Category	Picking	Packing	Shipping	Assembly	Component	Other:
Dimensional & Weighing Equipment	Yes	Yes	Yes	No	No	Warehouse Profiling

- Measurement capacity, 24 x 24 x 36" & 100 lbs.
- Accuracy: 0.1 in, 0.05 lbs.
- Custom interface for data transfer

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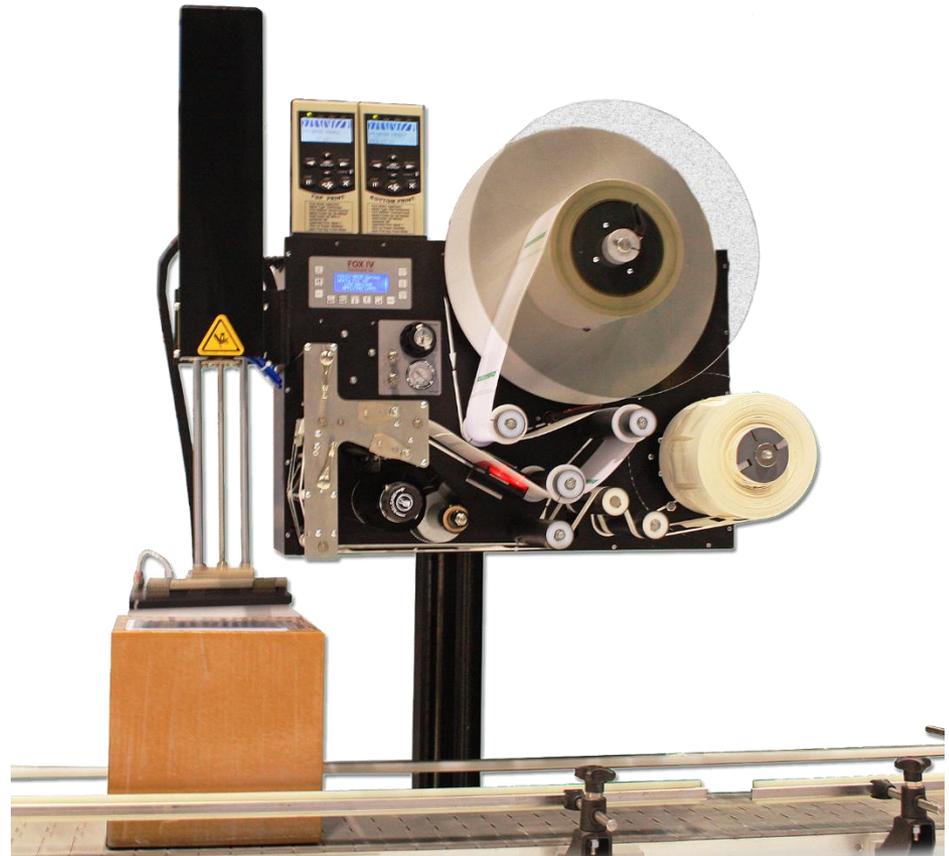
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LABELS, LABELLING DEVICES & TRACKING SOLUTIONS

Dual Packing Slip/Shipping Label Print & Apply System

- Guaranteed matching of packing slip to shipping label - eliminates mismatch errors
- Cost reduction and process improvement - no folding, stuffing, envelope costs
- Can be sequenced for even higher throughput rates



Dual Packing Slip/Shipping Label Print & Apply System

Product Category	Picking	Packing	Shipping	Assembly	Component
Labels, Labelling Devices & Tracking Solutions	No	Yes	Yes	No	No

- Prints and applies a two-sided label with the packing slip on one side and the shipping label on the other side.
- Packing slip is concealed when applied and accessed via tear strip.

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PACKAGING EQUIPMENT

Carton Packaging Equipment

- Eliminates excess void for parcel shipping
- Auto void fill options
- Drop in place integration





Carton Packaging Equipment

Product Category	Picking	Packing	Shipping	Assembly	Component
Packaging Equipment	No	Yes	Yes	No	No

- Up to 15 cases per minute
- 12" L x 8" W x 2" T – Min Case
- HSC Case Handling

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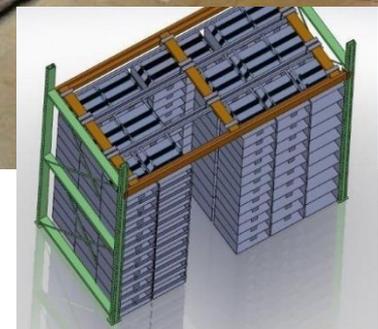
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RACK, SHELVING & CABINETS

High Density Storage for Slow-Med Velocity SKUs

- High density, maintenance free, mobile storage solution made from double PVC laminated Industrial Textile
- Non-fraying, fire, mold, & static resistant; safe for all types of storage applications: apparel, cold, electronics, food, high value, small to medium sized parts, etc.
- Operating Temp from -20° <-> +180°





High Density Storage for Slow-Med Velocity SKUs

Product Category	Picking	Packing	Shipping	Assembly	Component	Other:
Rack, Shelving & Cabinets	Yes	Yes	Yes	Yes	Yes	Pick Module

- Scalable and customizable storage solution that eliminates wasted space in the storage warehouse and retail back room
- ~240 lbs. per column, 35 lbs. per cell
- Improved storage density from 40-60% & pick efficiency from 30-40%

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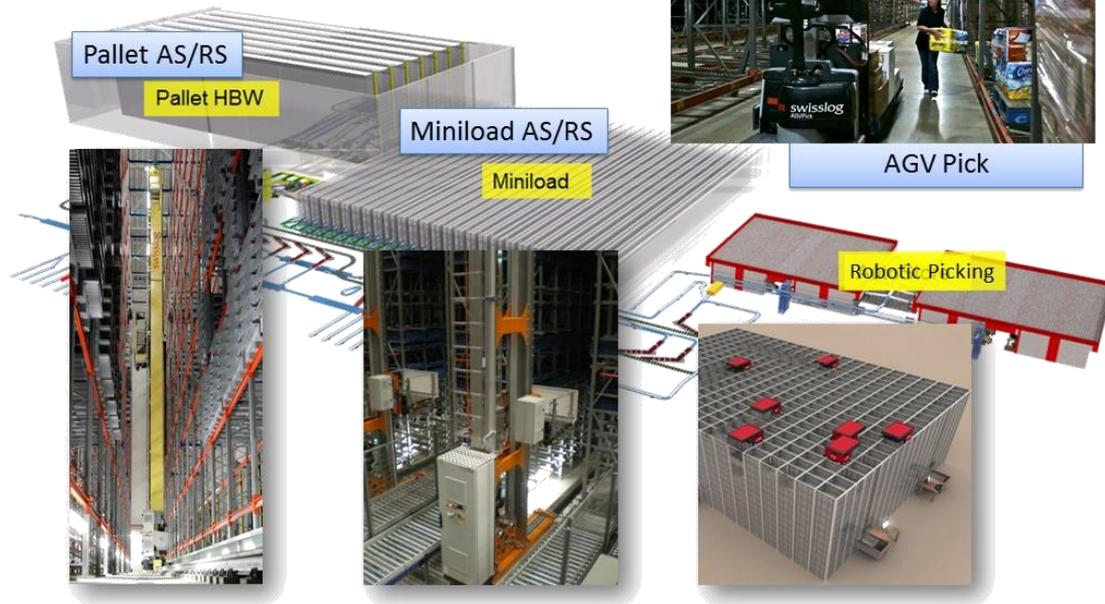
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ROBOTS

Robotic Automated Storage & Retrieval System

- Reliability –
100% redundancy
any robot to any bin
- Goods-to-man
picking - accuracy
and efficiency
- Highest storage
density possible -
maximize existing
infrastructure





Robotic Automated Storage & Retrieval System

Product Category	Picking	Packing	Shipping	Assembly	Component
Robots	Yes	No	Select One	No	No

- 5000 - 1,000,000 bin storage system
- Footprint of: 2000 - 400,000 Sq. Ft.

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SORTATION EQUIPMENT

Sortation System

- Gently and effectively sorts polybags, bags, padded envelopes, flats, and cases on the same conveyor
- Enables a small footprint with tight divert centerlines
- Sorts bi-directionally





Sortation System

Product Category	Picking	Packing	Shipping	Assembly	Component
Sortation Equipment	Yes	No	Yes	No	No

- Up to 200 products/min with 12" product length
- Up to 500 products/min with 4" product length

Belt Tray Sorter

- Labor savings/
productivity
improvement
- High throughput
with high order
accuracy
- Leverage inventory
across all channels





Belt Tray Sorter

Product Category	Picking	Packing	Shipping	Assembly	Component	Other:
Sortation Equipment	Yes	No	Yes	No	No	Split Cases/Eaches

- Weight: min: 100 grams, max: 32kg, average: 15kg
- Size: min: 76x76x6 mm, max: 914x762x762 mm
- Speed: up to 500 fpm (~2.5 m/s) throughput: up to 40,000 pieces/hr

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OFS Member Companies at Promat

Company	Booth(s)
BEUMER Corporation	1231
CubiScan	3923
Daifuku North America	1013A
Dematic	1203
Elite Storage Solutions, Inc.	1863
FOX IV Technologies, Inc.	4205
Frazier Industrial	3531
Grenzebach Corporation	2919
Husky Rack & Wire	2272
Integrated Systems Design	3572
Intelligrated, Inc.	2903
Intralox, L.L.C.	2027
Kardex Remstar, LLC	2031
Knapp Logistics Automation	3203, 3571
Lightning Pick	3903C

Company:	Booth:
Mallard Manufacturing Corporation	321
MURATEC - Logistics & Automation Div	3912
Reddwerks Corporation	4181
Retrotech, Inc.	1041
Schaefer Systems International, Inc.	2303
SICK, Inc.	1537
SI Systems	1278
SpeedCell/ Holland Storage Systems	4527
Steel King Industries, Inc.	1531
St. Onge Company	3481
SWISSLOG Logistics, Inc.	2912
System Logistics Corporation	4568
Tri-Boro Shelving & Partition Corp.	408
UNEX Manufacturing, Inc.	1238

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Q&A – Thank You

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