2014 Automation:
See Latest & Greatest MODEX & the Industry Has to Offer in 45 Minutes

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Automation Alliance - MISSION

To coordinate the promotion of automation and automated products

VISION: To be the authoritative advocate for how automated material handling solutions improve supply chain performance to maximize the growth of the market.

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Automation Alliance

Automated Storage/Retrieval Systems

Automatic Guided Vehicle Systems

Conveyor & Sortation Systems

Integrated Systems & Controls Council

Order Fulfillment Solutions
Presentation Agenda – Latest & Greatest

- AGVs
- AS/RS
- Consulting
- Controls
- Conveyors
- Labeling
- Lift Products
- Order Picking
- Palletizing & Packaging
- Robots & Industrial
- Sortation
Latest & Greatest: AGVs

Description

• AGVs transport loads such as boxes and totes.

• Used in manufacturing, these vehicles and the product they carry are typically small/light

• Navigation system provides users the flexibility of easily and quickly creating/modifying travel routes.
Latest & Greatest: AGV’s
Latest & Greatest: AGVs

Benefits

- Flexible, driverless product transport system
- Eliminates non-value added material handling labor
- Drives productivity gains and increased profitability
- Flexible transportation systems for automotive, plastics, electronics, pharma, healthcare, food/bev, and warehousing
Latest & Greatest: ASRS

Description

- High-performance, super-fast mini load ASRS
- Highly-efficient sortation system, buffering & sequencing cases.
- Two cranes operate independently passing each other without interference to reach every rack position
Latest & Greatest: AS / RS
Latest & Greatest: ASRS

Benefits

• More than four times as fast as other systems

• Ultimate scalability, modular design allows multiple systems to be stacked on top of each other.

• Maximizes throughput and redundancy with optimal labor efficiency
Latest & Greatest:  ASRS

Description

• Deep lane pallet storage system is a pre-engineered kit made up of software, rack, fork AGVs and battery powered satellite shuttles.

• The solution provides automated pallet staging at a lower capital investment level than traditional ASRS automation.
Latest & Greatest: AS / RS
Latest & Greatest: ASRS

Benefits

- High density, compact footprint
- Omits floor stacking & product damage
- Load sequencing, FIFO, LIFO, FEFO
Latest & Greatest: ASRS

Description

- High-density storage maximizes floor space while increasing warehouse productivity and SKU selectivity.
- Runs underneath pallet loads on rails, delivering & extracting pallets within a deep-lane storage system.
- Significantly improves throughput, in both FIFO/LIFO applications, by indexing loads directly to the 1st aisle position.
Benefits

- High performance travel speed ensures rapid response and enhanced productivity, including lift, pallet indexing, and lowering functionality.
- AC driven technology and streamlined mechanics reduces maintenance costs and downtime.
- Patented Pallet Count System counts the number of pallets in a lane use the “stock count” function on the RF controller.
Latest & Greatest: ASRS

Description

- Mid-Load ASRS
- Applications between mini and unit loads
- Cost effectively handles loads up to 2000 lbs.
- 180 transactions/hour
- Options keep inventory 100% accessible
Latest & Greatest: AS / RS

ASRS - Items, cases or pallets with unique sizes and dimensions
Latest & Greatest: ASRS

Benefits

• Fast ROI
• Cost effective
• Saves floor space
• Eliminates 2/3+ labor
Latest & Greatest: ASRS

Description

- System is a high throughput Automated Storage and Retrieval System (Goods to Man) for trays, plastic totes and/or boxes.

- 3 elevators per aisle out-front for throughput optimization:
  - 1 elevator for inbound flows
  - 1 elevator for outbound flows
  - 1 elevator for shuttle level change or shuttle maintenance.
Latest & Greatest: ASRS

Benefits

• Performance - optimization of the operators' movement

• Quality - reduce errors in order fulfilment

• Compactness - density of SKU storage
Latest & Greatest: ASRS

Description

• Performance - optimization of the operators' movement
• Quality - reduce errors in order fulfilment
• Compactness - density of SKU storage
Latest & Greatest: ASRS

Benefits

• High speed automated fulfillment engine capable of storage, buffering and sequencing within a single fulfillment module.

• Flexible and able to be installed in any facility to improve fulfillment operations.

• Modular concept provides highly dynamic system solutions for the storage and picking of individual items (piece picking), cases, layer trays, and whole pallets.
Latest & Greatest: ASRS

Description

- Lightweight design of Mini-load AS/RS means quick acceleration and high travel speeds.
- Multiple load handling devices offer increased product handling flexibility.
- Energy-efficient drives utilize energy equalization, energy re-feed and standby modes to lower overall power consumption.
- Dynamic drive with vibration-optimized driving curve enables speeds up to 787 ft/min.
Latest & Greatest: AS / RS
Latest & Greatest: ASRS

Benefits

• Reduced/optimized labor
• Increased space utilization
• Accurate picking
Latest & Greatest: ASRS

Description

- Designed for conventional and new-building facilities
- High-density, double-deep or single deep systems
- Range of temperatures
- Rack and non-rack supported structures
Latest & Greatest: AS / RS
Latest & Greatest: ASRS

Benefits

- Maximizes productivity and accuracy rates
- Triples storage capacity and space utilization
- Reduction in operating costs
- A customer consolidated three warehouses into one 555,500 sq. ft. automated distribution center.
Latest & Greatest: Consulting

Description

• LIDaR (Light Detection and Ranging) technology is used to create accurate 3D environments of existing facility
• Allows for interferences associated with new equipment expansions and retrofits to be understood prior to construction.
• Captures geometries seldom depicted on any drawing sets.
Latest & Greatest: Consulting
Latest & Greatest: Consulting

Benefits

• Helps avoid project timeline creep
• Change order avoidance
• Allows for better solutions/designs
• This modeling capability is very beneficial in complex facility expansion efforts that often need to take place without shutting down production
• Potential pitfalls are found and documented electronically
Latest & Greatest: Controls

Description

• A single motor for many applications, compact and energy efficient - integrates functions for material handling

• Adjustable set points reduce the number of geared motor versions up to 70% and you can select from five fixed programmed speeds.

• Provides highlights like soft start function, Smartphone programming without power and energy saving mode.
Latest & Greatest: Controls

Benefits

• In tandem with gearboxes, the compact motor enables efficiency of over 94% across the entire transmission range.

• Is available with directly built-on gearbox and various motor options, including a holding brake.

• Features a 'soft start' function and integrated ramps for smooth acceleration and deceleration to protect the system mechanics and goods being conveyed.
Latest & Greatest: Controls

Description

- Variable speed drive ranging from 0.5HP to 30HP
- Modular design
- Embedded Ethernet/IP & embedded safe torque off
- World class footprint & high ambient operation
- Scrolling text display with multi-lingual capabilities
- USB Mains free programming
**Latest & Greatest: Controls**

**Benefits**

- Embedded Ethernet/IP communication with optional dual port Ethernet/IP card
- Embedded safety for SIL2/PLd
- High ambient operation...capable of 70C continuous operation with drive power derate and optional fan kit
Latest & Greatest: Conveyors

Description

• Converts bulk flow of packages into a manageable single-file flow

• Prepped for downstream scanning, weighing, dimensioning and sorting

• Offers the highest capacity throughout singulation system for three dimensional flow on the market today in a minimal footprint arrangement
Latest & Greatest: Conveyors
Latest & Greatest: Conveyors

Benefits

• Totally automated. No manual intervention needed to singulate packages

• Handles a wide array of products such as flats, polybags and cartons with one singulation system

• Buffers volume surges feeding a sortation system by leveling package flow

• Up to 6000pph, 77lbs, 39”x24”x24”
Latest & Greatest: Conveyors

Description

• Roller drive for unit handling conveyors
• With a 24V DC brushless motor, integrated in a tube
• It delivers continuous power of 32 W
• Ideal solution for a wide range of conveyor applications
• Greatly reduced energy costs
Latest & Greatest: Conveyors
Latest & Greatest: Conveyors

Benefits
- A single drive for every application
- Up to 30% energy savings due to feedback energy
- Safe due to 24V DC technology
- Fast and easy configuration.
- Intelligent conveyance flow
Latest & Greatest: Labeling

Description

- PLC Based print/apply labeler w/IP addressable Ethernet, full-color touch screen HMI, choice of OEM print module

- Texting and web reporting options enables operators to request/receive status alerts for pro-active unit care & increased uptime and enables tracking of equipment data using specifically coded tags
Latest & Greatest: Labeling
Latest & Greatest: Labeling

Benefits

• Easy integration into PLC based production & WCS systems

• Reliable, accurate print and apply labeling in any orientation

• Bi-directional communication for up to date status and equipment optimization reporting
**Latest & Greatest: Lift Products**

**Description**

- 2-post mechanical straddle vertical lift (VRC) installed with automated conveyor system controlled by HMI automated system requires no operator interface and powered by a heavy duty gear motor.

- Lift an operational speed of 125' min and employs HMI touchscreen controls rated Category 3 for safety.

- Designed and manufactured for high cycle requirements.
Latest & Greatest: Lift Products
Latest & Greatest: Lift Products

Benefits

• Speed of operation - transport large volumes at high operational speed for high throughput

• Conveyance of product and location information - integrated controls instruct the system as to the product being delivered and the location to be stored

• Vertical travel - allows the customer to store more product vertically without taking up valuable, limited, space at ground level.
Latest & Greatest: Lift Products

Description

- Backup detection system is an active awareness, collision alert solution for manned forklifts
- Provides real-time feedback to the driver only when any stationary or moving objects appear in the obstructed-view
- Reduces forklift accidents by actively monitoring without field-mounted or wearable devices.
Latest & Greatest: Lift Products
Latest & Greatest: Lift Products

Benefits

• Reduction in forklift accidents due to active monitoring of obstructed-view behind forklift

• Flexible configuration options, high immunity to ambient light / noise and intelligent device algorithms minimize nuisance trips while providing reliable detection of in-path objects.

• Independent solution that requires no reflective vests, badges, etc
Latest & Greatest: Order Picking

Description

• The pocket sorter system handles goods such as apparel (flat and hanging), shoes, cosmetics and general merchandise.

• Using the sorter bag, for the first time, the picking and order consolidation of a large variety of products is done simultaneously.
Latest & Greatest: Order Picking

Benefits

• Ideal for small quantity orders
• System can process and sequence 10,000 items per hour
• Handles a large variety of goods for sortation, sequencing or buffering
• The sorter bag/system is ideal when orders are large in number with a small quantity of items per order.
• A single system can process and sequence 10,000 items an hour
Latest & Greatest: Order Picking

Storage area
Description

• Comprehensive WMS, WCS, order fulfillment, labor management and supply chain business intelligence software. Adaptive, task-driven workflows, real-time, constant analysis of inventory, labor, process and equipment information to optimize fulfillment.

• Enables adjustments and process optimization through drag-and-drop workflows, eliminating software coding. Points-based tasking algorithms, uses point accumulation to make real-time decisions in milliseconds.
Latest & Greatest: Order Picking
Latest & Greatest: Order Picking

Benefits

• Constant status communications for increased throughput speed and real-time response

• Full enterprise visibility of inbound, outbound, automation flow, inventory and yard management, providing increased fulfillment capacity.

• Easy-to-configure platform enabling faster software implementations, true upgrades and customer-level configuration.
Latest & Greatest: Order Picking

Description

• The first portable A-Frame dispensing product.

• Simply stack product into the channels, roll the unit up to your conveyor and plug it in.

• Connected to your network, the system automatically ejects items into the correct containers or directly onto the belt.
Latest & Greatest: Order Picking
Latest & Greatest: Order Picking

Benefits

• Portable and flexible to integrate into a warehouse operation

• Economical entry into automation

• Excellent for seasonal or cyclical demands in throughput

• Can be utilized on a temporary basis to meet the changing demands of order fulfillment within a warehouse operation
Latest & Greatest:
Palletizing & Packaging

Description

• Manages each case by a robot equipped with a vision system performing all the handling and manipulation of the cases, cartons, bundles, crates, etc.

• System takes directly from the source pallet to the custom mixed order pallet.

• Batch building custom order pallets directly from single SKU source pallets using vision systems on robots avoiding larger case buffers, case conveyors and case sorters.
Latest & Greatest:

Palletizing & Packaging
**Latest & Greatest:**
**Palletizing & Packaging**

**Benefits**

- Streamlined, efficient and simple operation
- Software built to customer specifications
- Less equipment means less maintenance and less total cost
Latest & Greatest: Robots & Industrial

Description

• A cell with its single robot can handle up to 1,400 cases per hour.
• Conventional cells employ two robots and yet still can only manage 1,000 cases per hour at most.
• System can position adjustable fingers at different levels to grip SKUs & place it on top of uneven layers.
• Controls adjusts each finger independently, horizontally or vertically, left or right.
Latest & Greatest: Robots & Industrial
Latest & Greatest: Robots & Industrial

Benefits

• Flexible, fast and accurate, addressing the need to find new solutions to deliver orders in more store-friendly formats for a diverse and expanding range of store configurations.

• Less floor space and less equipment needed to maintain high throughputs with true mixed SKUs.

• Is package-type independent allowing new SKUs and new package types to be added easily.
Latest & Greatest: Robots & Industrial

Description

• Perimeter safety fence for around robotic work cells, ASRS Systems and any automated equipment where worker protection is required.

• Recently used by a leading integrator in automated products and systems. When they developed their palletizer, this product is now used for their new palletizer.
Latest & Greatest: Robots & Industrial

Clear Polycarbonate or Solid panels

MODEX 2014
**Latest & Greatest: Robots & Industrial Benefits**

- Our modular system allow for quick and easy assembly and modifications.
- Meets all ANSI/RIA Safety Standard including Canadian and European Standards
- Assembles from the outside of the work area and is available in a variety of sizes to meet any special requirements
Latest & Greatest: Sortation

Description

• Tilt Tray shipping sorter capable of high throughputs and multiple inductions points

• Handles bags and boxes equally effectively and accurately. Max: 47” x 28” x 23”. Capable of two tray items.

• Catalog of standard destinations, design to interface to a variety of shipping equipment.
Latest & Greatest: Sortation
Latest & Greatest: Sortation

Benefits

- Modular design with pre-engineered parts for fast install at low cost: accelerated ROI
- Flexibility to meet day 1 rates and phase for future throughput requirements
- Durable, robust, and proven technology = Low Risk
Latest & Greatest: Sortation

Description

• Sliding shoe sorter providing quiet, accurate and gentle sortation for high-capacity operations

• Gentle, positive divert system provides unparalleled carton control and accuracy

• Capable of throughputs in the 400 items per minute range (24,000 units/hour)
Latest & Greatest: Sortation
Latest & Greatest: Sortation

Benefits

• Patented "soft touch" divert system eliminates mis-diverts and jams by reducing item impact speed by 500% compared to conventional sorters.

• Preventive maintenance package enables regular, remote analysis of machine performance.

• Industry-leading throughput rates along with the widest variety of "conveyables" lead to the best technology utilization in the industry.
Latest & Greatest: Sortation

Description

• A high-speed bi-directional sorter that was developed as a cost-effective solution for low-density applications (i.e. where the spacing between sort points is greater than 6 ft).

• It easily sorts in vectors commonly seen in WDC facilities: 30, 45, 60, or 90 deg.

• 3,600 packages/hour for items 24” x 16” avg
Latest & Greatest: Sortation
Latest & Greatest: Sortation

Benefits

• Right-angle transfers at the fastest available throughput
• Receives and sorts on the same conveyor
• Compact footprint
• Developed for zone picking where items must be sorted to manual picking areas and then merged back onto the same conveyor
• Another application is single-level infeed/outfeed to ASRS Systems
SUMMARY - Q&A

Please take a detailed handout before leaving
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