The Future of Production Intralogistics

Presented by:

Rupesh Narkar
Director - Sales Production Intralogistics
Swisslog Logistics Automation
Agenda

• Introduction
• Production Intralogistics – Definition & Problem
• Production Intralogistics of the Future
• What is holding us back?
• Key Takeaways
Intralogistics Automation for Forward Thinking Companies
Swisslog as part of the KUKA Group

KUKA

KUKA Automotive
Automotive production

KUKA Industries
Automotive supplier / Metal
Electronics / Machinery

Logistics Automation
Retail/E-comm, F&B, Pharma, Production

Integrated software solutions, modular product platform and global market access

Seamless knowledge transfer and exchange of expertise
What is Production Intralogistics?

The processes and technology that move materials in a controlled and efficient way both upstream and downstream of production.
Problem Statement

Typically, there is little to no technology and process control deployed upstream and downstream of manufacturing that is resulting in higher inventory costs, lost productivity and reduced production capacities.
"If I had asked people what they wanted, they would have said: Faster horses..."

Henry Ford
Intralogistics of the Future – The Smart Factory!

Improved upstream and downstream process control by implementing solutions that can store & retrieve goods, intelligent algorithms that can optimize storage space, state-of-the-art conveyance systems that can transport goods to and from production lines/cells. All with real-time tracking of inventory!

Upstream & Downstream process controlled by implementing Automation!
What’s Holding Us Back?

- Focus on automating manufacturing processes first
- Failure to control the manual process upstream and downstream from manufacturing
- Lack of awareness & knowledge regarding automation solutions
- Perception that automation is always a capital expenditure
- Perception that a change disturbs the settled process and affects the production targets
Why Control Intralogistics?

- Better process control upstream and downstream of production
- Optimization of inventory levels
- Improve inventory visibility, control and traceability
- Improved accuracy
- Increased productivity
- Optimized production capacity
Intralogistics of the Future

- Pallet conveyor
- Pallet crane AS/RS
- Goods-to-Person Storage & Picking
- Miniload crane AS/RS
- Case shuttle AS/RS
- Software
- Pallet conveyor
- Case conveyor
- Robotic Cells
  Robotic Manuf.
- AGVs
  Automated conveyance
- Goods-to-Person Kitting

Software
Receiving

- Controlled load conformity check and scanning
- Automated label application
- On line quality inspection
- Reject & rework
Automated & Controlled Storage/Retrieval

- Store
- Pallet Crane ASRS
- Pallet Shuttle ASRS
- Miniload ASRS
- Bin Shuttle ASRS
- Storage, Kitting
- Dense Bin Storage
Controlled Intralogistics Transport

- Shuttle Systems
- Monorail Systems
- Conveyor Systems
- Automated Guided Vehicles
Integrating Intralogistics into Manufacturing

Production

Item Picking & Placing

Kitting, Picking & Assembly

Robotic Cell based manufacturing
Intelligent Software- WMS

**Intelligent Services**

- **Event Manager**
  - Mobile notification and automated corrective actions
- **Tracking & Monitoring**
  - Transactions
  - User audit trails
  - Logging
- **Order Management**
  - Planning
  - Waves
  - Shipments
- **Receipt Management**
  - Shipment Notices
- **Machine Interfaces**
  - Std. interfaces & protocols MHS, robots and peripherals
- **Single Point of Control**
  - One unified user interface
  - Web-based Voice
- **Collaboration Platform**
- **Master Data**
  - Products, Contacts
- **Inventory**
  - Shelf Life controlling Attributes tracking Packaging
- **Warehouse Mapping**
  - Locations Profiles Zoning
- **Workstations**
  - Monitoring and management
- **Host Interface**
  - to/from 3rd party ERP/WMS systems, Web Services
- **Security**
  - Unified User & Role Management
- **Events**
  - Tracking of events from different sources
- **Visualization**
  - Interactive plant visualization in 3D with error handling
- **Receiving / Check-in**
  - ASN Receiving
- **Full TU Retrieval**
  - Dispatching
- **Putaway**
  - Strategy-based
- **Operational Services**
  - Putaway Strategy-based
  - Material Flow Control
    - Routing
    - Congestion control
    - Sequencing
- **Material Handling**
  - Cockpit Manager
    - Inventory Statistics
    - Labor Performance, Condition Monitoring
  - Print Manager
    - Toolset for managing and scheduling reports and labels
  - Intelligent Services
Key Takeaways

- Production arena has focused on manufacturing automation and process
- Efficient manufacturing requires looking beyond manufacturing automation & process control to material flow automation & process control
- State-of-the-art automated material flow solutions can improve process control by accurately storing, retrieving and transporting goods efficiently without sacrificing reliability
- Intelligent, modular and scalable intralogistics solutions are available to compliment the modern and highly automated production environments
- Solutions can be implemented with least disturbance and immense flexibility

Intralogistics of the future has arrived!
Questions? Thank you!

For more information
Contact: rupesh.narkar@swisslog.com
Or visit: www.swisslog.com
Or visit MODEX Booth #B4047