FIND YOURS.

Connecting Warehouse Data for Overall Logistics Effectiveness

Presented by:
Dematic
Agenda

• Objectives
• Introduction to IT-OT and industry 4.0+
• Overall logistics effectiveness
• Convergence in data-based logistics
• Small steps to the future
Presenters

Scott Wahl
Vice President, Software
Dematic

Paul Berna
Senior Manager, Proactive Services
Dematic
Objectives

• Develop full lifecycle business intelligence strategy

• Bring operations and maintenance together

• Future-proof your overall logistics effectiveness
Introduction to IT-OT and Industry 4.0+

It’s NOT just analytics

It’s convergence
Overall logistics effectiveness (OLE)

- **Availability**: impact of interruptions to planned operations

- **Performance**: overall process speed, labor productivity, and equipment utilization

- **Quality**: the frequency of inaccuracies in inventory or order fulfillment
Connect the IoT dots
A more comprehensive view

<table>
<thead>
<tr>
<th></th>
<th>Physical World</th>
<th>Data Capture</th>
<th>KPIs Tracked</th>
<th>Stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise Systems</td>
<td>SAP</td>
<td>Order and Cost</td>
<td>Cost/Case</td>
<td>Accounting</td>
</tr>
<tr>
<td>Facility IT</td>
<td>WMS, WCS</td>
<td>Labor, Productivity, Throughput</td>
<td>Picks/hr Orders/hr</td>
<td>Supply Chain</td>
</tr>
<tr>
<td>Automation</td>
<td>AS/RS</td>
<td>Volume, Inventory</td>
<td>Throughput</td>
<td>Operations Inventory</td>
</tr>
<tr>
<td>Inputs &amp; Outputs</td>
<td>Machine devices and sensors, PLCs and CMMS</td>
<td>Cycles, Uptime, Actions</td>
<td>Flow</td>
<td>Facility Mgr, Maintenance</td>
</tr>
</tbody>
</table>

MHI
THE INDUSTRY THAT MAKES SUPPLY CHAINS WORK

FIND YOUR WOW
Moving beyond analytics to intelligence

**VALUE**

**Basic**
- PERFORMANCE DATA
  - What's happening?
  - Current Operations Monitoring

**Intermediate**
- GOALS & CONTROLS
  - How does that compare?
  - Short-Term Trending
  - Benchmarking
  - Target Comparison

**Advanced**
- INSIGHT
  - What does it mean?
  - Predictive Forecasting
  - System-Wide Cause-Effect
  - Simulation Sensitivity Analysis
  - Analytics Workflow
  - Industry Benchmarking

**COMPLEXITY**

**GOALS & CONTROLS**
- Long-Term Trending
- Site Comparison
- Historical Comparison

**PERFORMANCE DATA**
- Scorecards
- KPIs

**What's happening?**
- Short-Term Trending
- Benchmarking
- Target Comparison

**SYSTEMS**
- Analytics Workflow
- Simulation Sensitivity Analysis
- Industry Benchmarking

**Prediction**
- System-Wide Cause-Effect
- Predictive Forecasting

**FIND YOUR WOW**
Targets that are high-value & quick to implement

IoT Preventative
Minimize downtime
Avoid losses
Targets that are high-value & quick to implement

IoT Preventative
- Reduce CS calls
- Minimize downtime
Then focus on longer implementation opportunities

Real-time data
Avoid downtime
Increase throughput
Enabling the full spectrum of technologies
Turn your data into competitive advantage

- Ask the right questions
- Get comfortable with the cloud
- Harness the power of IIoT
- Gain deep and broad visibility with IoE
- Grow your OLE
- Step into AI
- Grow it.
- Measure it.
- Understand it.
Key Takeaways

• A broader approach is needed to converge order fulfillment and facility lifecycle management (IT-OT)
• Overall Logistics Effectiveness is a way to benchmark and improve warehouse productivity
• Data platforms have matured to enable us to access and combine multiple data sources to get a complete view
• Small steps in convergence today enable you to more easily implement future technological advancements
For more information

• Scott Wahl: scott.wahl@dematic.com
• Paul Berna: paul.berna@dematic.com
• Website: www.dematic.com

Visit Dematic Booths #S2903 and #S3203