The Future of Maintenance in an Automated World

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• Currently living in NJ with my wife Laura and two children  
• 16 Years with OPEX  
• Browns fan
Here’s what we’ll cover:

• The difference between service needed for conventional vs. automated solutions
• What to look for to build a successful maintenance team.
• Learn how you can best budget and plan for yearly maintenance and how it can directly impact the overall success of your company.
Warehouse Automation Trends

• According to the latest LogisticsIQ™ report global Warehouse Automation Market will grow more than 2x from $13 Billion in 2018 to $27 billion by 2025

• Order Fulfilment in E-commerce is the biggest factor driving the adoption of warehouse automation technologies

• High warehouse rents, shortage of skilled warehouse staffs and increasing minimum wages
Conventional vs. Automated
Conventional Systems

- Systems are fairly standard
- Technician’s abilities can carry over on a range of equipment
- Parts are relatively available
Automated Systems

• Systems are highly customized
• Technicians need specific knowledge
• Spare parts may not be as readily available
The Future of Maintenance

• MRO activities in a fulfillment center can span everything from more general facility maintenance such as changing lighting elements and air filters, to maintaining specific types of warehouse automation such as a conveyor, sortation equipment, AS/RSs, or other systems.

• MRO is not only repairs and preventative maintenance.

• Managing spare parts (too few or too many) can be challenging and costly.
Consider these questions…

• Just how automated are most operations today?
• What type of processes are companies looking at automating next?
• How do organizations plan to maintain their automated systems?
Organizations’ level of automation

- Fully automated: 3%
- About 75% to nearly fully automated: 5%
- About 50%-75% automated: 15%
- About 25%-50% automated: 30%
- We still handle most processes manually: 47%

*Peerless Research Group 2019
Labor Market in Warehouses

• Fulfillment demands of the e-commerce boom are making warehouse labor extremely tight.
• Difficulty filling open warehouse jobs.
• Overall unemployment rate is at a historic low (3.7% August 2019)
• Pushing organizations to consider automation
BUILDING A WINNING MAINTENANCE TEAM
Most significant issues or problems related to MRO operations

- **45%**: Inventory tracking/Buying parts and/or solutions we already have in stock
- **38%**: Labor productivity
- **37%**: Hiring and retaining capable technicians
- **32%**: Downtime due to a lack of parts, slow service from maintenance staff/provider
- **31%**: Understanding parts and consumables usage patterns
- **26%**: Excessive waste of consumables
- **23%**: A lack of visibility
- **8%**: Our service contract doesn’t always address what we need

*Peerless Research Group 2019*
Competency

• Mechanical
• Electrical
• Software
## Factors considered important when evaluating the services of maintenance companies

<table>
<thead>
<tr>
<th>Factor</th>
<th>Extremely/very important</th>
<th>Somewhat important</th>
<th>Not very/not at all important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technician competency</td>
<td>80%</td>
<td>15%</td>
<td>5%</td>
</tr>
<tr>
<td>Preventive maintenance</td>
<td>77%</td>
<td>20%</td>
<td>3%</td>
</tr>
<tr>
<td>Service level agreement (SLA)</td>
<td>45%</td>
<td>37%</td>
<td>18%</td>
</tr>
<tr>
<td>Upgrades and retrofits</td>
<td>35%</td>
<td>56%</td>
<td>9%</td>
</tr>
<tr>
<td>OEM parts</td>
<td>33%</td>
<td>56%</td>
<td>11%</td>
</tr>
<tr>
<td>Remote monitoring technology</td>
<td>26%</td>
<td>45%</td>
<td>29%</td>
</tr>
<tr>
<td>Size of service company</td>
<td>20%</td>
<td>51%</td>
<td>29%</td>
</tr>
</tbody>
</table>

Legend:
- Extremely/very important
- Somewhat important
- Not very/not at all important
How prepared are you?

Extent to which technicians are prepared to maintain highly-automated systems

- Very prepared 36%
- Somewhat prepared 47%
- Not very/not at all prepared 17%
CHARACTER
COMPETENCY
Character

- Honesty
- Integrity
- Communication skills
- Work ethic
2/3 respondents believe service contracting is highly important.

Importance of the service contract when evaluating material handling systems and equipment for implementation or upgrading

- Extremely important: 24%
- Very important: 44%
- Somewhat important: 28%
- Not very/Not at all important: 4%
How do you prepare for the future?

• Budget
• Maintenance contract/suppliers
• Competency
• Character
For more information:

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Or visit MODEX Booth 8819