Supply Chain Wizard – Services & Solutions for Digital Supply Chain

Management Consulting

- Program Setup & Strategic Planning
- Project Management & Implementation / Integration
- ROI / Value Beyond Compliance & Sustainability

Supply Chain Consulting

- Supply Chain Strategy Design
- E2E Process Optimization
- Process Automation
- Advanced Analytics
- IoT & Big Data
- Blockchain & SC Security

Software Solutions

Strategy | Execution | Transformation
Managing and planning manufacturing processes suffer from highly volatile labor hours. Different labor performances & skillsets for running the equipment/product as well as non-visible labor performances prevent decision-makers from managing and planning the processes efficiently. Therefore, having full visibility of the shop-floor activities for labor & equipment drives productivity and reduces costs.

**Industry Challenge**

**What you get?**

Cloud-based solution: Low cost, highly scalable & no infrastructure to maintain

IoT Technology: Industrial Internet-of-Things (IIoT) enabled RFID card reader compatible with existing staff badges

Advanced Analytics: reports/dashboards and ML & AI-powered algorithms enabling data-driven decision making

**Quick setup:** 1-day implementation with minimal effort

**How does it work?**

Supply Chain Wizard sets up the cloud-integrated IoT based RFID card reader at the factory floor. Existing staff badges are used to check-in and check-out without any hardware replacement. Labor hours are associated with the production data in real-time and visualized in reports/dashboards. Actionable data into labor activities and advanced analytics enable to staff smartly, drive productivity, and reduce costs.

**Why you need it?**

Achieve complete visibility of the shop-floor activities for labor and equipment.

Analyze and identify reasons for equipment and labor effectiveness losses (e.g. overtime).

Optimize staff performance and productivity by enabling data analytics and labor engagement.

Reduce labor and overtime costs.
Digital Factory – Labor Tracker

Equipment and Labor Efficiency are key factors for a manufacturing organization

As many manufacturers suffer from high cost of labor overtime due to highly volatile demand, poor planning & scheduling; best way to control & reduce costs is to achieve complete visibility of their shop floor activities both for equipment & labor.

**Equipment**

Downtime activities
- Failure
- Setup
- Clean-up
- Maintenance

Performance problems
- Micro stoppages

**Labor**

Reasons for effectiveness loss
- Attendance
- Overtime hours
- Lead time for e.g. maintenance personnel to arrive
- Temporary personnel

**Work Order**
RFID based IoT card reader integrated to Digital Factory cloud software platform built on Microsoft Azure, which can be used for many applications within manufacturing, warehousing or retail to drive productivity by helping track labor utilization.

https://youtu.be/pFMJsopElbc
Digital Factory – Labor Tracker

Labor Tracking Technology: Card Reader

Existing HID / RFID card

6 Operators are checked-in, automatically associated with Machine Hours and Work Order data
OEE Tracker – Machine & Labor Tracking Features

Some of the OEE Tracker reports / features using machine and labor hours

KPI View shows OEE, Work Orders, Absorption and Labor Hours per month

- **OEE**: 78.0%
- **Absorption** (Units): 1,424,630
- **Schedule** (WO): 49
- **Overtime** (Hours): 324

Labor Hour levels + Regular vs Overtime Ratio

Labor Hours Trend

<table>
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<tr>
<th>Month</th>
<th>Regular Time</th>
<th>Over-Time</th>
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<tbody>
<tr>
<td>Jan</td>
<td>2,000</td>
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<td>Dec</td>
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</table>
OEE Tracker – Machine & Labor Tracking Features

Some of the OEE Tracker reports / features using machine and labor hours

Work Order Finalize View  System generates ERP style metrics

Finalize Work Order

484628 - Product5236

<table>
<thead>
<tr>
<th>WORK ORDER METRICS</th>
<th>Actual</th>
<th>Standards</th>
<th>Variance</th>
<th>Variance%</th>
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<tbody>
<tr>
<td>Yield (Good Count)</td>
<td>6159</td>
<td>6000</td>
<td>159</td>
<td>2.7%</td>
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<tr>
<td>Scrap (Rejects)</td>
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<td>0</td>
<td>200</td>
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<td>Setup Time</td>
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<td>Machine Hour</td>
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<td>12</td>
<td>1</td>
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<tr>
<td>Labor Hour</td>
<td>26</td>
<td>24</td>
<td>2</td>
<td>8.3%</td>
</tr>
</tbody>
</table>

WORK ORDER CHECKLIST

- OEE: 81%
- Availability: 85%
- Performance: 92%
- Quality: 97%

Machine & Labor Hours
Thank you

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