The Future Of Manufacturing is Human + Machine In a Connected Worker World

Presented by:

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Empower industrial workers with modern digital tools to improve productivity, quality, and safety.
Pioneers of Connected Work Across Industries
Parsable Connected Worker Platform

- Analytics
- Procedure Authoring
- Job Scheduling
- System Integrations

- Paperless Data Collection
- Micro-Learning
- Digital Work Instructions
- Collaboration

Browser-based UI for the back office

Mobile apps for the front line
Transform Your Operations

01 Digitize
Make static, paper-based procedures mobile and interactive to enable collaboration with digital multimedia SOPs.

02 Execute
Guide human activity and trigger automated actions in your systems and machines, while collecting key operational data.

03 Measure
Analyze human activity data to accurately measure frontline execution.

04 Transform
Iterate and improve procedures - and automate steps.
### Task Instruction Sheet

**Task Instruction Sheet**

**Task Description:** NOZZLE REPLACEMENT

**Equipment Description:**

<table>
<thead>
<tr>
<th>Equipment Description</th>
<th>Number</th>
<th>Location</th>
<th>Date Prepared</th>
<th>Prepared By</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UG</td>
<td>Area</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CSS HEADS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Task:**

1. **Return to ME Origin**
   - Adjust the actuator to 50% to reduce nozzle level speed.
   - Push the “Home Mode” button.
   - The lamp light remains on while returning to origin. The lamp light returns to off when reaching the initial position.
   - Push the “OFF” button to confirm the nozzle position is correct for horizontal coordinates.
   - The nozzle position can also be displayed on the HMI by selecting “Manual Mode” and then “NC Editor.”

2. **Select Nozzle**
   - Select a nozzle on the HMI labeled “Manual Mode,” and then “Manual Holder.”
   - The nozzle will reposition near the door to make replacement easier.
   - While “Manual Mode” is displayed, select “Safety Gate.”
   - Under the “Safety Gate” button, select “Unlock.”
   - Push the “Function” button.
   - The wall LED lights will flash white, and the nozzle will turn on. Proceed to open the side door.
   - Proceed to engage the Emergency Stop button.

3. **Lockout the Machine**
   - Use the lockout procedure to lockout all energy sources (electrical and mechanical).

4. **Replacement of Each Nozzle**
   - Use an adjustable wrench to hold in place the nozzle holder.
   - Use a correctly sized wrench to loosen the nozzle tip.
   - Wrap sealing tape (PTFE) around the thread of the replacement nozzle tip.
   - Hold in place the nozzle holder with an adjustable wrench initially, then proceed to tighten with a wrench.

4.2. L-Type Nozzle
   - Hold in place the nozzle holder with an adjustable wrench and proceed to remove the bolts.
   - Caution: Be careful not to locate or place excessive load on the nozzle holder when removing the nozzles.
   - With the nozzle holder removed, replace the D rings (PTFE).
   - Reinstall the D rings (PTFE) in reverse order.
   - Tighten with the appropriate tool to ensure the nozzle is properly seated.

4.3. Multi-Head Nozzle Type
   - Hold the multi-head manifold by hand.
   - The body should be tightened with a torque of 20.9 Nm. Make sure to control the torque.

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**Notes:**

- TIS Sugino Example (Page1)  TIS Sugino Example (Page2)  TIS Sugino Example (Page3)
Digitize, Execute, Measure, Transform...the after
## Broad Spectrum of Applications

<table>
<thead>
<tr>
<th>Safety</th>
<th>Training, Service &amp; Operations</th>
<th>Quality</th>
<th>Maintenance</th>
<th>Supply Chain</th>
<th>Continuous Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Rounds</td>
<td>Line Change Overs</td>
<td>Visual Inspection</td>
<td>Standard Procedures</td>
<td>Material Inspection</td>
<td>Bottleneck Improvements</td>
</tr>
<tr>
<td>Job Safety Analysis</td>
<td>Shift Handoff</td>
<td>Remote Inspection</td>
<td>Troubleshoot and Repair</td>
<td>Supplier Collaboration</td>
<td>Root Cause Analysis</td>
</tr>
<tr>
<td>LAPs</td>
<td>Truck Roll</td>
<td>Audit \ Traceability</td>
<td>Issue Collaboration</td>
<td>Certificate of Destruction</td>
<td>Corrective &amp; Preventive Actions</td>
</tr>
</tbody>
</table>

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- **Lock Out Tag Out**
- **Procedural Adherence**
- **Product Release**
- **Remote Expert Collaboration**
- **Goods Receipt**
- **Best Practice Identification**
- **Line Change Overs**
- **Visual Inspection**
- **Standard Procedures**
- **Material Inspection**
- **Bottleneck Improvements**
- **Shift Handoff**
- **Remote Inspection**
- **Troubleshoot and Repair**
- **Supplier Collaboration**
- **Root Cause Analysis**
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- **Audit \ Traceability**
- **Issue Collaboration**
- **Certificate of Destruction**
- **Corrective & Preventive Actions**
The Power of Insights into Human Work
### A Platform Designed for Global Scale & Security

<table>
<thead>
<tr>
<th>Largest Manufacturing Deployment</th>
<th>Used Across</th>
<th>Largest Energy Deployment</th>
</tr>
</thead>
<tbody>
<tr>
<td>54 sites</td>
<td>131 countries</td>
<td>12,000 users</td>
</tr>
</tbody>
</table>

**Multi-Language Support**

- China
- France
- Germany
- Indonesia
- Italy
- Malaysia
- Portugal
- Spain
- Russia

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Introduction for today’s presentation

About Joris Stolk (NL | 1988)
- Maintenance, Utilities and Digital Innovation
- Governance, experiments, organisational development
- Alken, Digital Light-house, internal benchmark
- Parsable experiment

About Digital Journey: Don’t get ready, get started
- Our digital journey
- Connected Brewery
- Parsable initial expert
- Lessons learned
Digital progress: where are we today?

**Digital Transformation**
- Digital Mission: don’t get ready, get started
- 600 global experiments
- Global onboarding workshops
- Apps with global roll-out

**Connected Brewery**
- First scalable product of Digital Transformation
- Developed internally with partner
- Agile product development
- Full data ownership by HNK

Synced customer service
Intelligent Transport
Connected Brewery
Smart Warehouse
Procurement 4.0
**Connected Worker: tools scale-ups**

**Connected Worker tools**
- Empower for increasing complexity
- Different scale-ups with global coverage
- Currently based on manual input
- Growing portfolio

** Parsable: task management**
- Globally adopted tool for knowledge management
- 2 breweries implemented, 3 breweries implementing
- Global roll out with accelerating momentum
- ~150 breweries across the globe

**CONNECTED WORKER SOLUTIONS**

- **Knowledge**: 60+
- **Tasks**: 5
- **Deviations**: 100
- **Teamwork**: 200+
- **3D printing**: 15+
- **Remote support**: [X]
- **VR Safety**: [X]
- **Think**: Perceive
  - Data collection

**Remember**
- Data lake for all global operations
Parsable: Global Connected Worker

Functional needs:
- Task platform
- Opportunity for global scale
- Connectivity
  - Machines + Parsable in the digital landscape
- Knowledge distribution

Solution: Parsable
- Task platform with strong capability
- Scalable solution and ready organization
- API connectivity and analytics ready database
- Suitable to work as a community
- Agile development
Where we started with Parsable: E2E in different digital maturity levels

**Setup**
- E2E Department brainstorm
- Cost/effect analysis
- Sprint set-up experiments
- Training and experiment
- Evaluation

**Results**
- Adherence to standards
- Transparency and communication
- Data collection and visibility
- Operational improvements
Lessons learned

• Rejection-risk due to over-empowerment
• Operator survey: the definition of added value?
• Apps aren’t instant cultural game-changer
• Adoption speed vs. education level
• Key happiness indicator

Lessons to learn ➔ Advise welcome!

• Change management ➔ goodbye to legacy systems
• How to calculate real impact in productivity
Next steps in HNK Digital Journey

Next steps:
• Continue global digital innovation
• Add missing capabilities to connected worker
• Global roll-out of Connected Brewery
• Develop “think” capability to take out middle man
• Embed Connected Brewery in digital landscape
Future use-case: Parsable and Machine Learning

“As an operator, I want to receive an error code driven intervention proposal based on the highest problem solving probability to reduce my unplanned downtime”
Thank you / Questions

Booth 28
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Empower industrial workers with modern digital tools to improve productivity, quality and safety