Soluzioni digitali per lo sviluppo delle PMI italiane: una piattaforma pronta all’uso

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Siemens is the #1 automation provider, delivering mission critical operation and automation technology, with 30M automation systems, 75M contracted smart meters. And Siemens already has over 800K connected products in the field today.
MindApps
Powerful industry applications and digital services for asset transparency and analytical insights

MindSphere
Open Platform as a Service (PaaS) for scalable, global IoT connectivity and application development

MindConnect
Secure plug and play connection of Siemens and third-party products and equipment

MindSphere - The cloud-based, open IoT Operating System
Increase Performance …
…powered by digital transformation

Build Digital Business …
…through development of applications & digital services

Differentiate in the Market …
…through new service and business models

Majority of all assets will be connected within a short time frame
How to generate value with the smart interaction of OT/IT?
Smart OT/IT interaction drives…

Speed  Flexibility  Quality  Efficiency  

New business models  Security
OT / IT interplay from the Siemens factory in Amberg, Germany
OT / IT use-case from the Siemens factory in Amberg, Germany
What is the challenge @ the soldering line at our Digital Factory

Challenge
Production bottleneck

Quality
Ensure 100% Quality

Efficiency
Increase production output w/o rising labor costs & investment
OT – Operational Technology: 60 years of experiences with Totally Integrated Automation

1. Know-how on process and OT
2. Data transparency
3. Edge feeds Cloud
IT – Information Technology: MindSphere, the future of operating Systems

1. Smart Data
2. Cloud Analytics
3. Intelligence to the Edge

1. Know-how on process and OT
2. Data transparency
3. Edge feeds Cloud
With the smart interaction of OT/IT, Siemens factory in Amberg has solved a bottleneck problem in the PCB production line...

30% increase of output quantity

Savings of labor costs and investments

ensure 100% Quality of PCB’s
How can I acquire the current conditions of my machine tools and increase production transparency?

Is my machine tool in a productive condition?

What is the capacity utilization of my machine when planned and actual values are compared?

With Analyze MyPerformance, a targeted weak point analysis and therefore production optimization is possible.

How do my individual machine productivities compare with other production lines?

How high is the overall equipment efficiency of my machine tool?
Top highlights of first version
Analyze MyPerformance /OEE-Monitor

Transparency of the production status enables ...

- ... optimized planning of utilization and usage
- ... a wide range of standard evaluations
  - Plant monitoring
  - Availability and analysis
  - Indicator for current production level
  - Overall equipment efficiency (OEE indicators)
- ... longer machine operating times
- ... wide range of connectable controller types
- ... recording of machine operating times conditions
  - Machine operating times and conditions
  - Number of workpieces
  - Differentiation in good and bad parts
- ... higher levels of availability and productivity
Higher productivity of machine tools thanks to new knowledge and transparency

<table>
<thead>
<tr>
<th>Production</th>
<th>The solution</th>
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<tr>
<td>More transparency regarding utilization of machine tool capacity</td>
<td>&quot;User your machines optimally with better planning.&quot;</td>
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<tr>
<td>Increased productivity, reliability, and availability</td>
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<td>Lower production costs based on more precise planning</td>
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How can I make my cutting process more productive?

- Can I increase **machine availability** by elimination varying effects of cutting conditions?
- How can I achieve **optimum utilization** of machine and tools?
- Is there a simple way to **reduce cycle time**?
- How can I give a give solution for **extending tool life**?

**Adaptive Control and Monitoring**
ACM (Adaptive Control and Monitoring)
Main features and added value
ACM – top highlights
Increased productivity, quality and availability

... Cycle time reduction

... Increased machine capacity

... Consistently high workpiece quality

... Reduction in downtime

... Optimal utilization of machine and tools

... Elimination of damage to machine tool, fixture and part

... Tool life extension

... Increasing machine operating flexibility
Thank you for your attention

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