

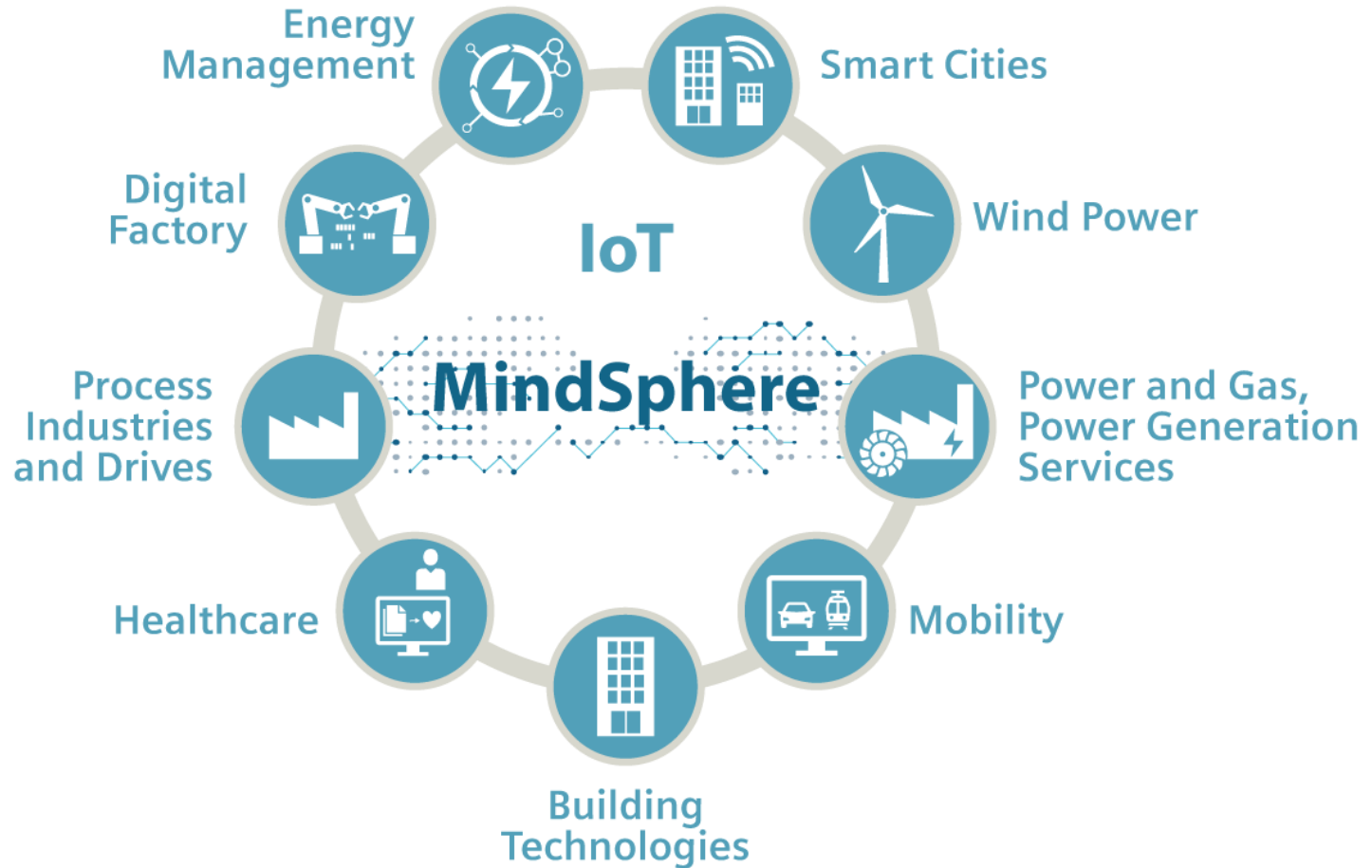
Soluzioni digitali per lo sviluppo delle PMI italiane: una piattaforma pronta all'uso

EDOARDO BRICCHI

Siemens Knows IoT and Connected Devices



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

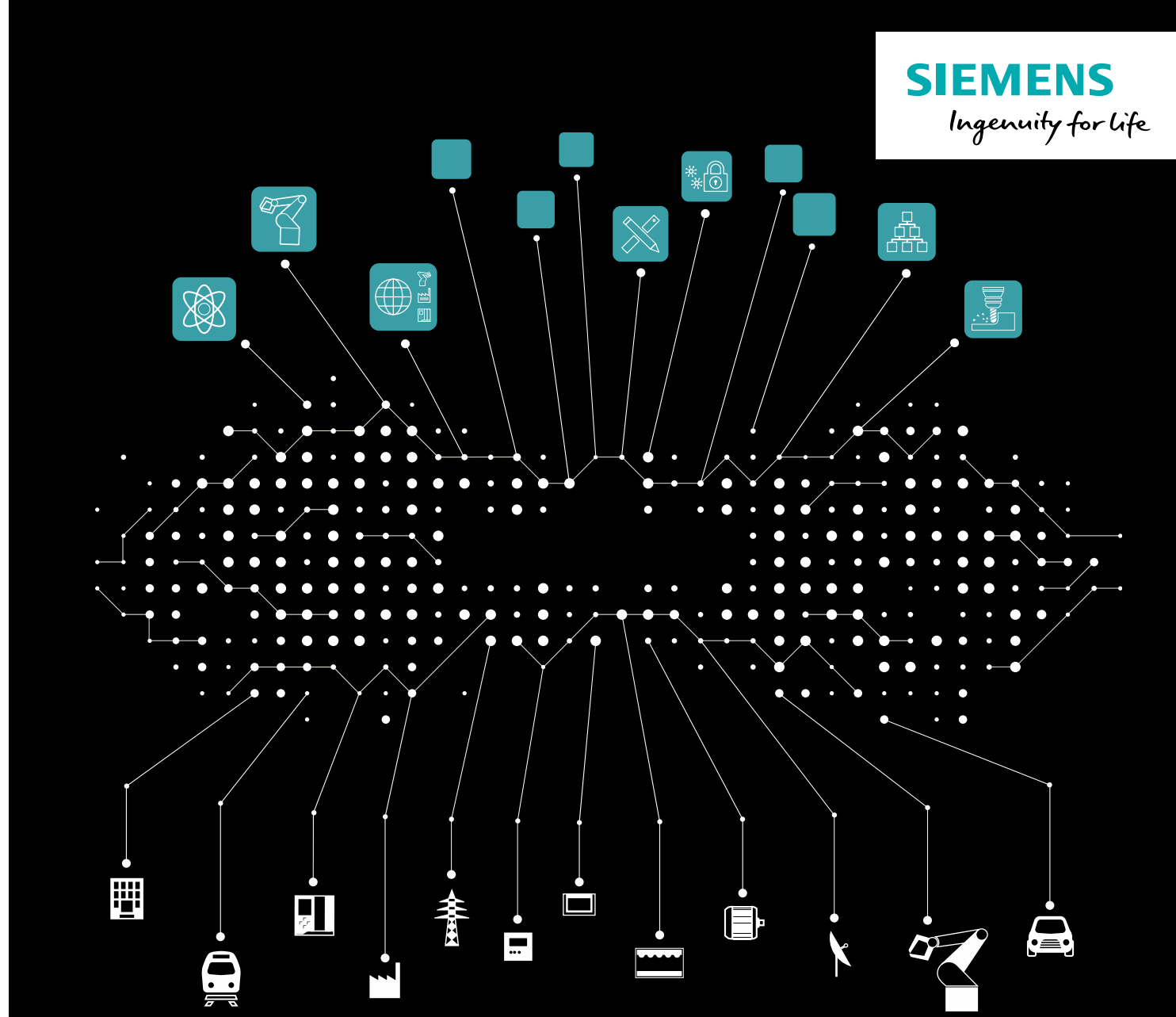
Powerful industry applications and digital services for asset transparency and analytical insights

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

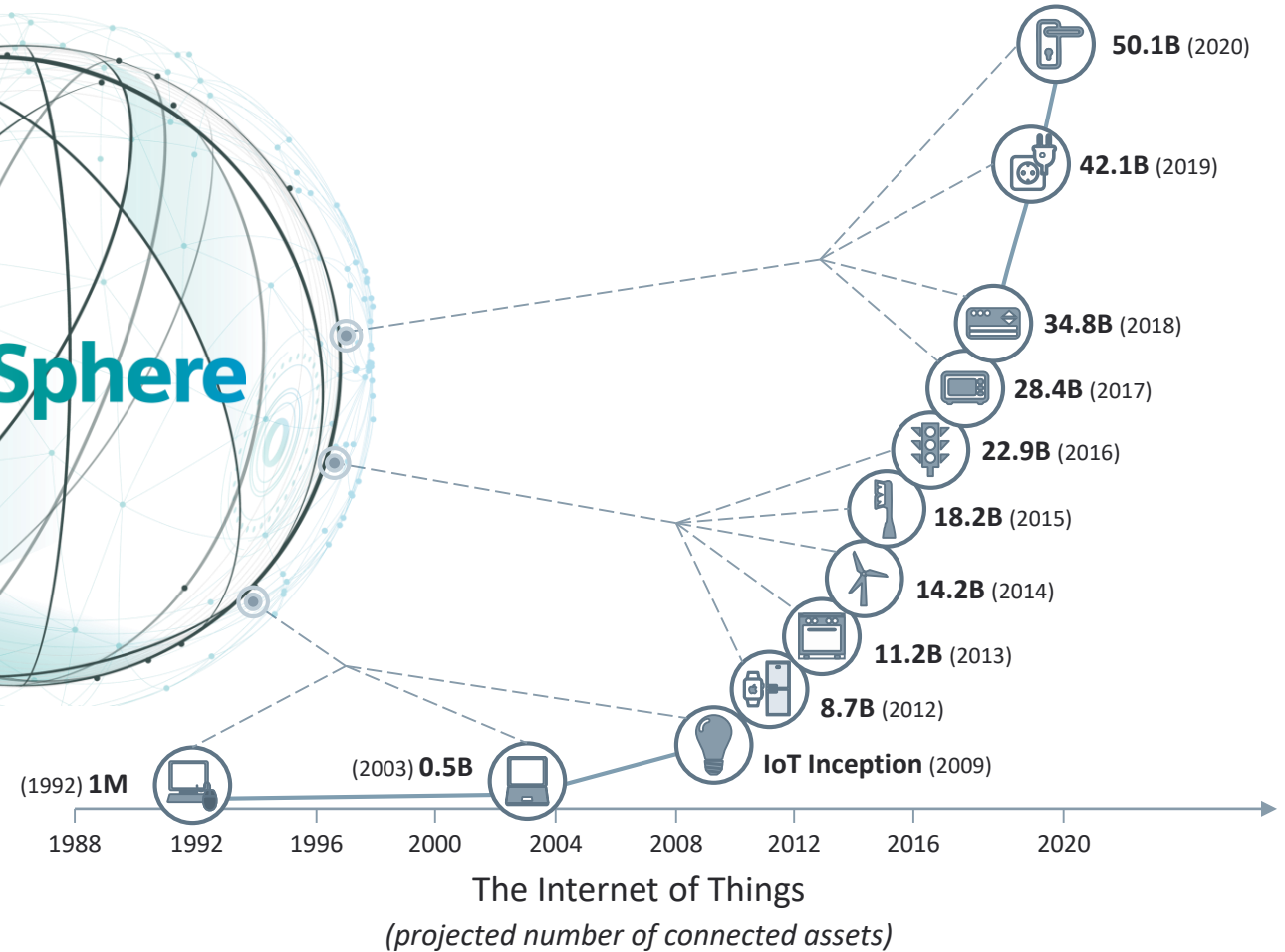
Differentiate in the Market ...

...through new service and business models



SIEMENS

Ingenuity for life



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...

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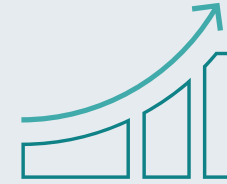
Speed



Flexibility



Quality



Efficiency



New business models



Security

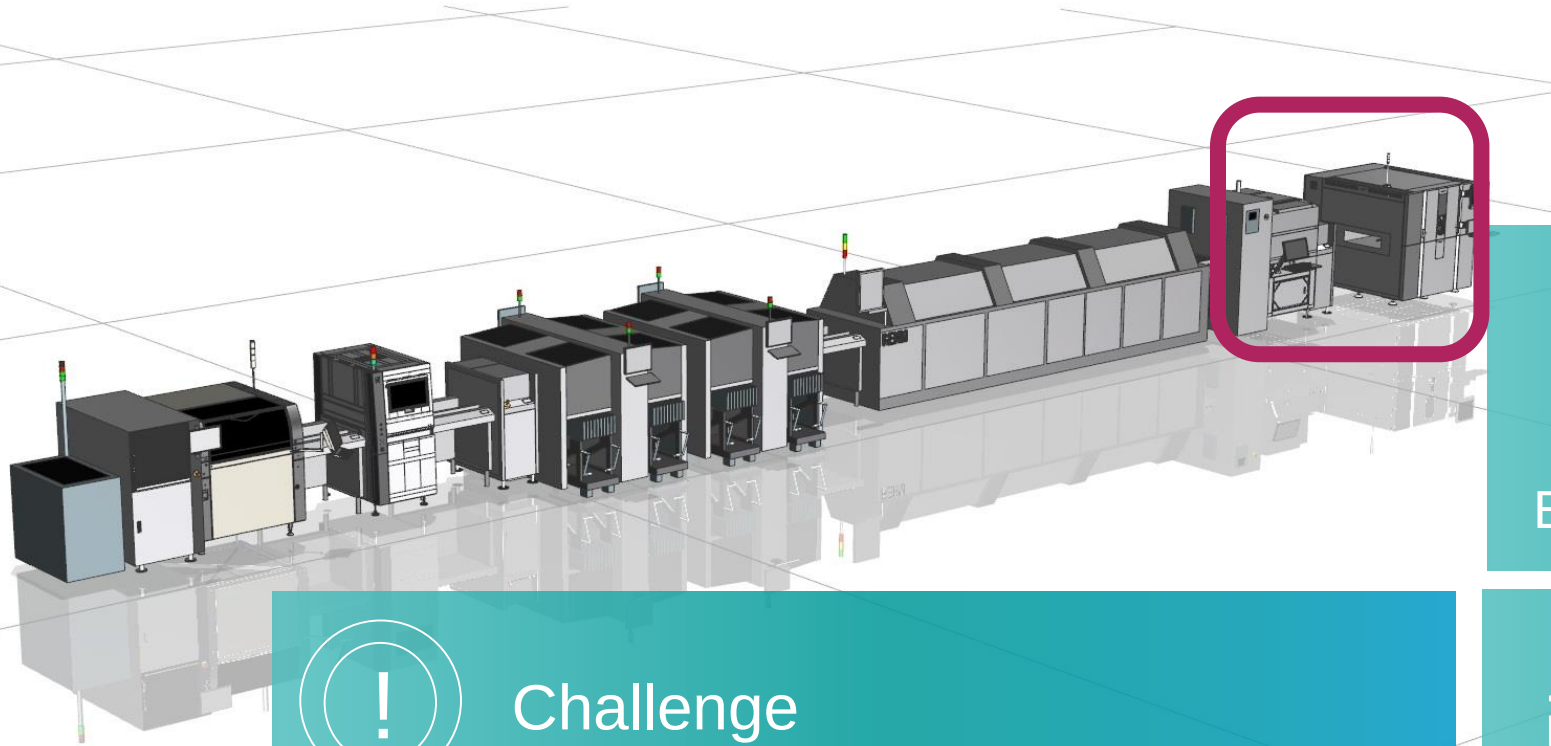


OT / IT interplay from
the Siemens factory
in Amberg, Germany



OT / IT use-case from
the Siemens factory
in Amberg, Germany

What is the challenge @ the soldering line at our Digital Factory



Quality

Ensure 100% Quality



Challenge

Production bottleneck

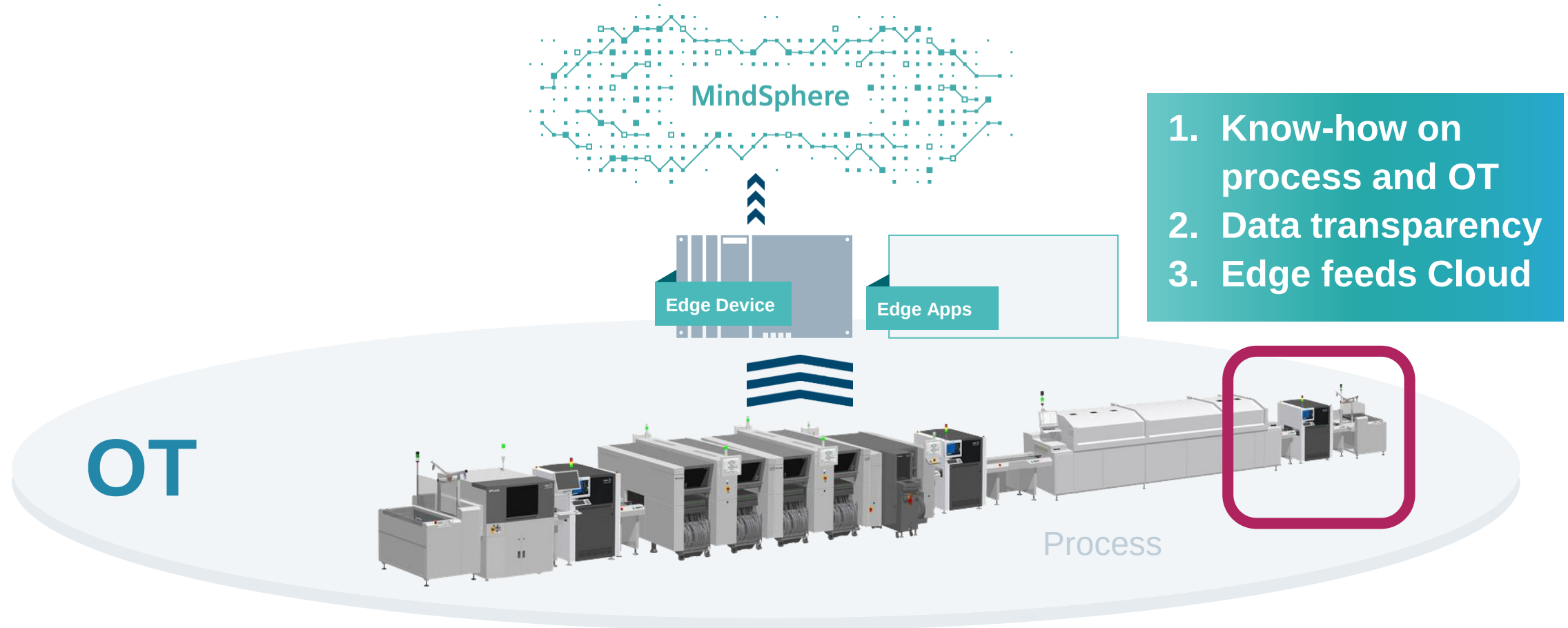


Efficiency

Increase production output w/o
rising labor costs & investment

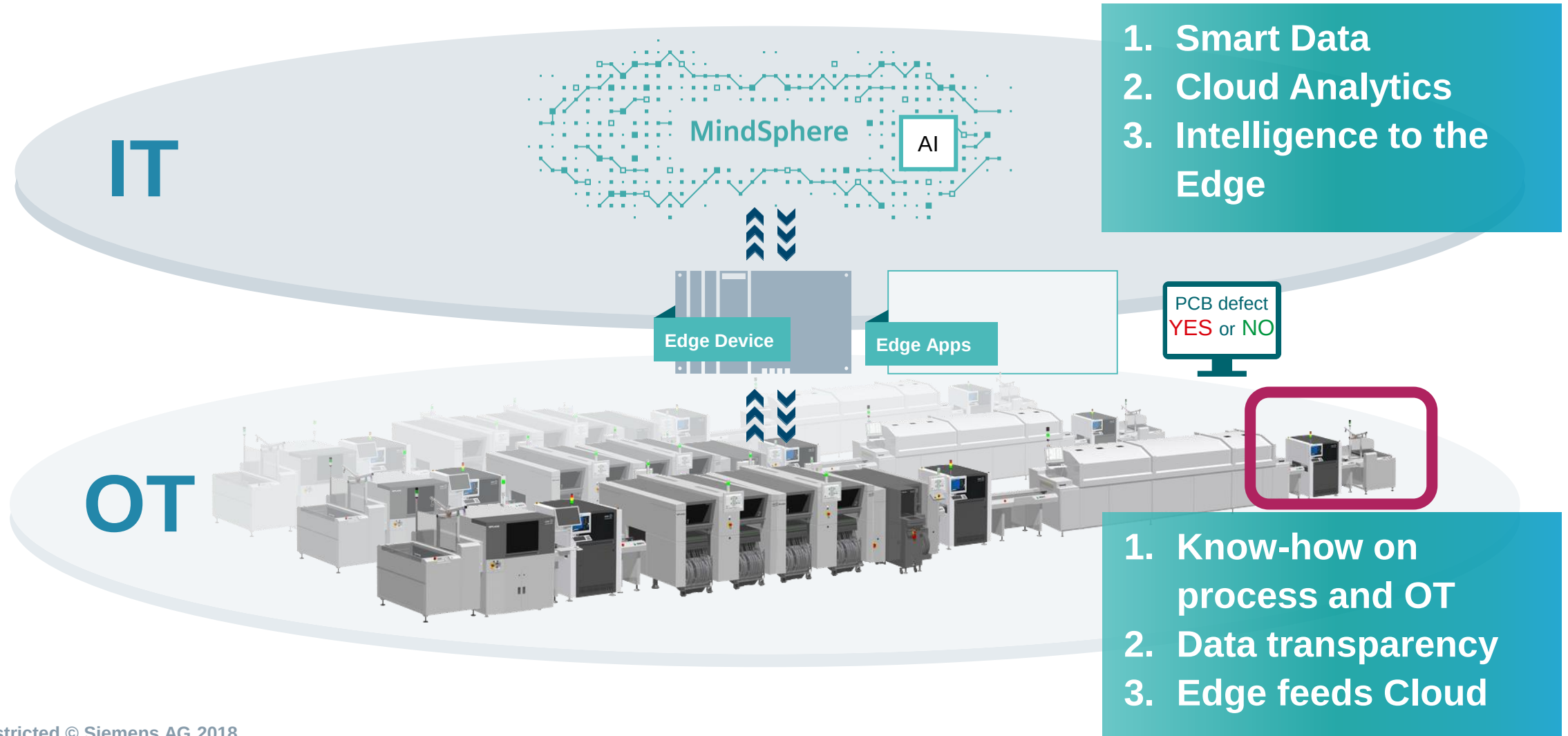
OT – Operational Technology: 60 years of experiences with Totally Integrated Automation

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IT – Information Technology: MindSphere, the future of operating Systems

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With the smart interaction of OT/IT, Siemens factory in Amberg has solved a bottleneck problem in the PCB production line...

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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

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Production



More transparency regarding utilization of machine tool capacity

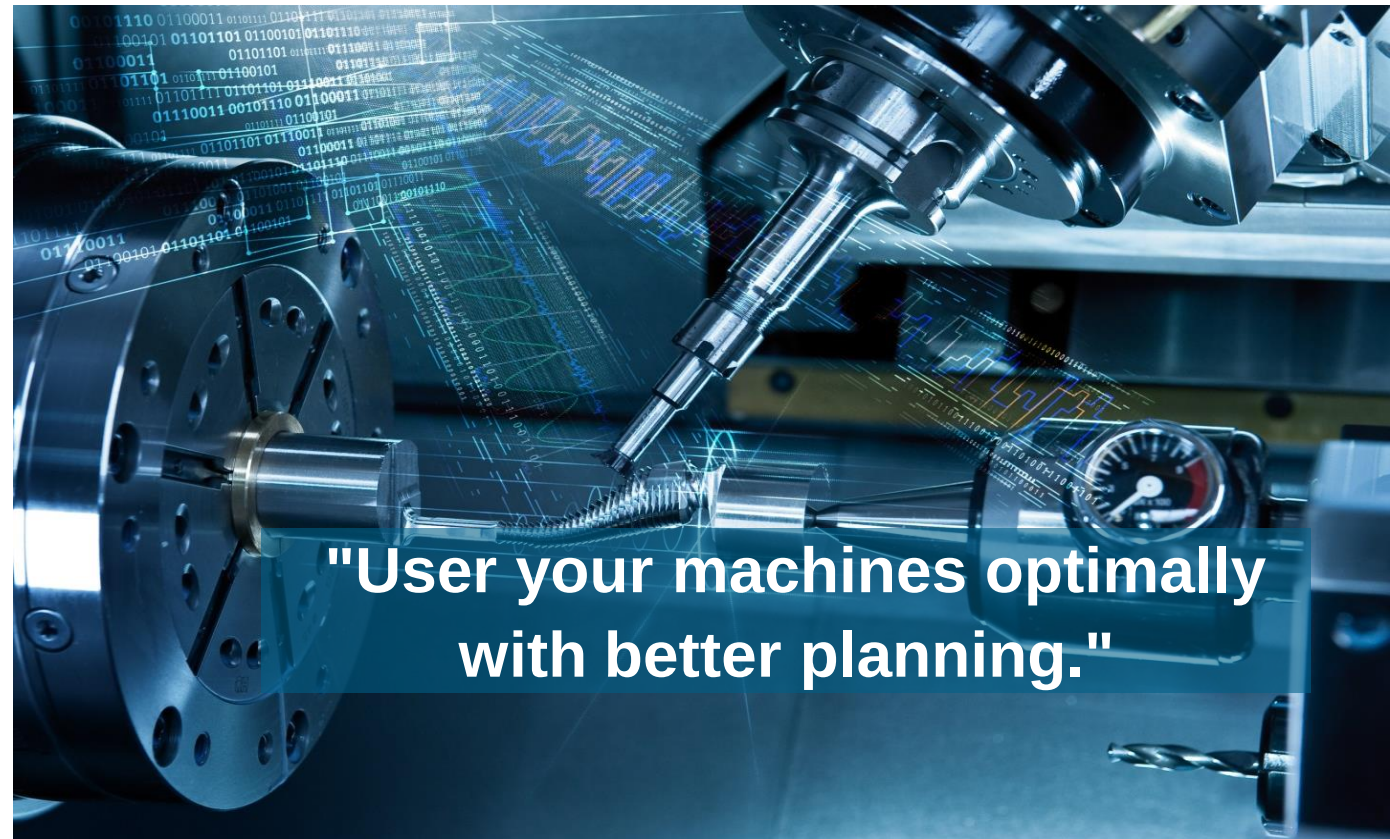


Increased productivity, reliability, and availability



Lower production costs based on more precise planning

The solution



**"User your machines optimally
with better planning."**

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?



Adaptive Control and Monitoring



Is there a simple way to **reduce cycle time**?

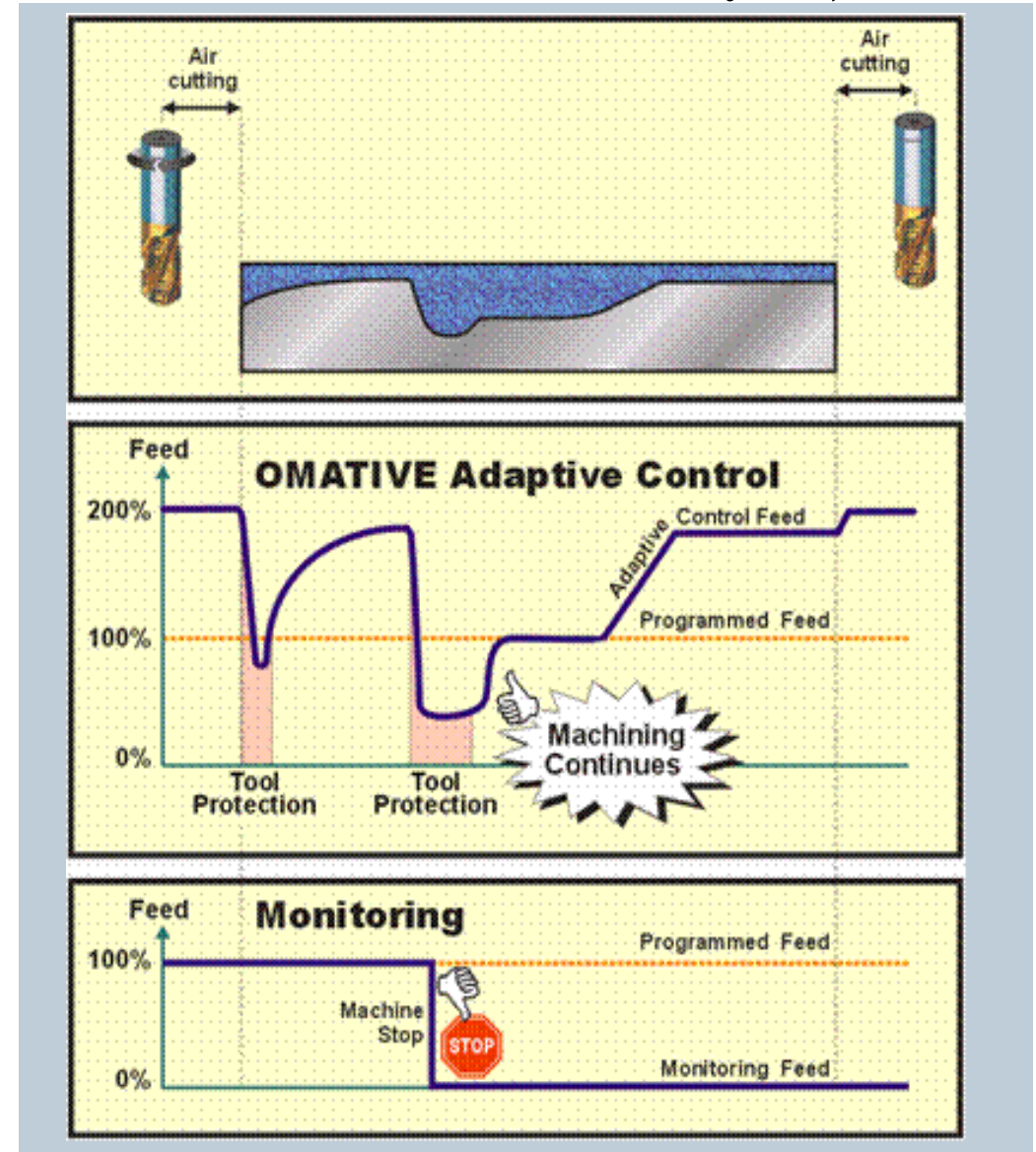
How can I give a give solution for **extending tool life**?



ACM (Adaptive Control and Monitoring)

Main features and added value

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ACM – top highlights

Increased productivity, quality and availability

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... Cycle time reduction



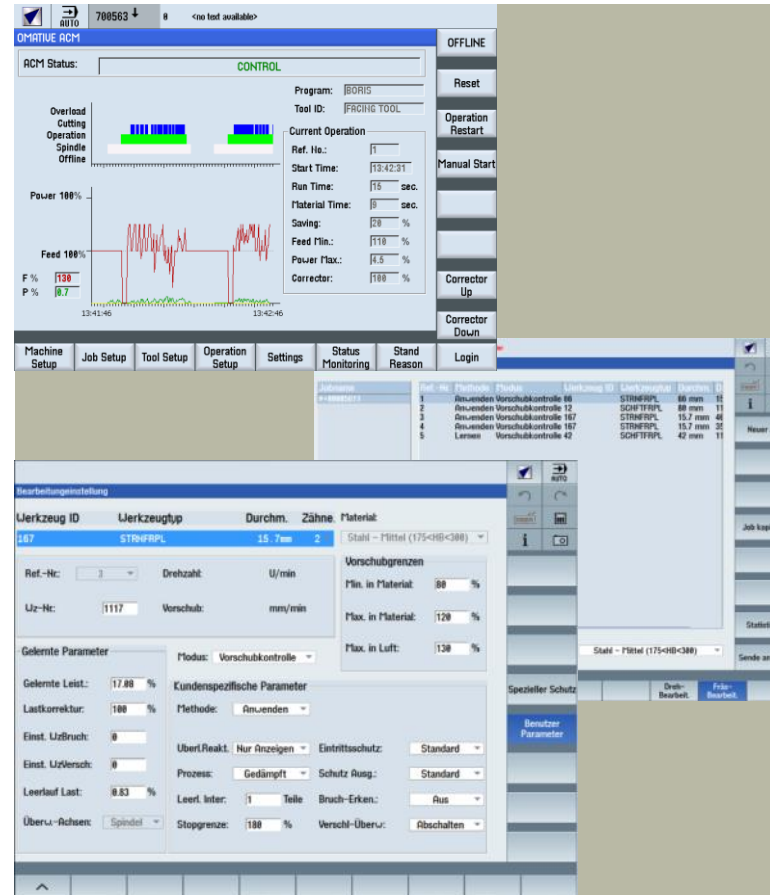
... Increased machine capacity



... Consistently high workpiece quality



... Reduction in downtime



... Optimal utilization of machine and tools



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



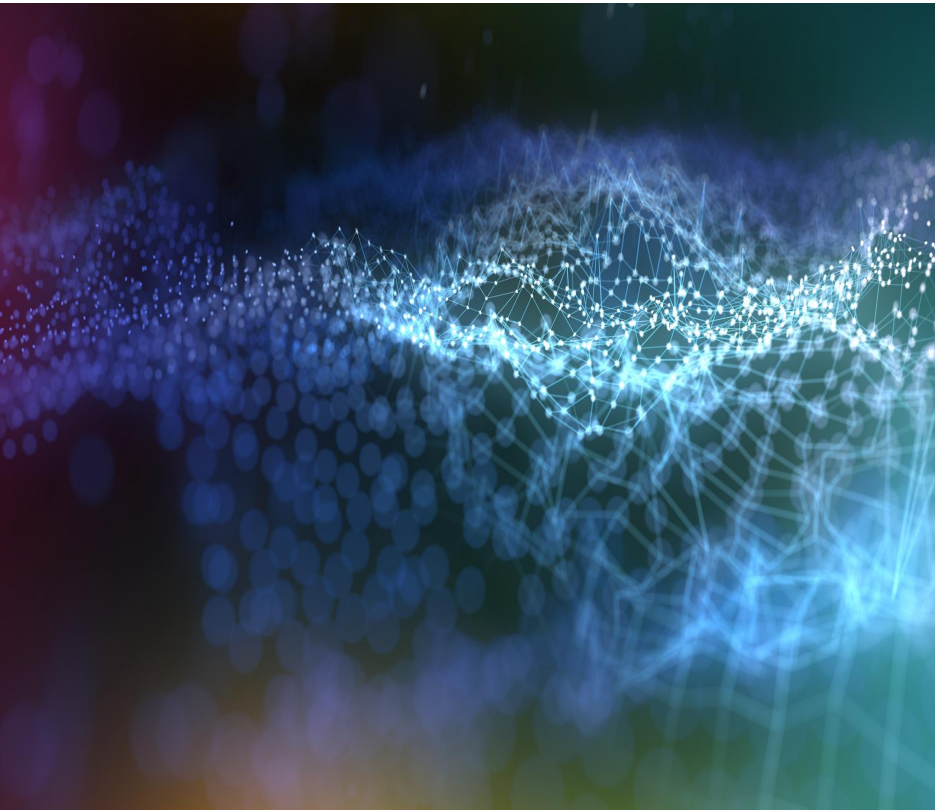
... Tool life extension



... Increasing machine operating flexibility



Thank you for your attention



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