



| Make decisions based on actual data

Machine Performance Monitoring with MindSphere – an Industrial IoT Journey

by Clemens Orendt

**Together, you can hear your machines
talking – *anywhere, anytime, secure.***

Why should you have an Industrial IoT solution?

Collecting and analyzing industrial data provides...

- detailed insights into performance for improved OEE in *real time* by *monitoring and comparing data*
- increased machine availability and lower maintenance costs by *remote monitoring and collaboration*



86%*

of companies report **increase in profitability** with machine monitoring and optimization

*Tech-Clarity Machine Monitoring and Optimization survey 2020

75%*

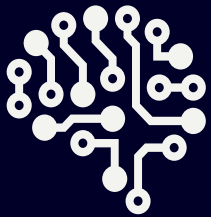
Top performing companies are **75% more likely to be able to react in near-real time** to machine anomalies

10% - 12%**

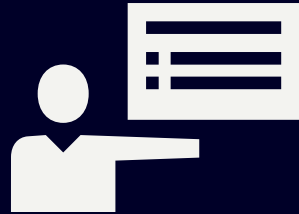
Average profit gains with smart factory initiatives

**2019 Deloitte and MAPI Smart Factory Study

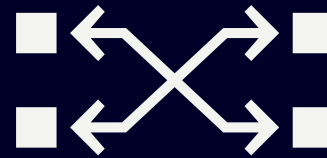
What challenges must you overcome?



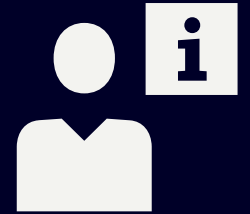
Manual Input,
paper-based tools,
human errors



Missing standardization
of data capturing
methods



Heterogeneous
equipment landscape
(hardware and software)



Missing intelligence to
make data insightful and
available

Realize immediate value!



Optimize Performance

Provide full access to relevant machine KPIs to solve problems, find solutions, and share best practices with all stakeholders



Increase operational efficiency

Increase machine uptime and efficiency with quicker solutions



Reduce maintenance costs

Expediate service to machines with mobile notification handling

Customer successes

20%

Increase in
operational
efficiency

10%

Increase in
maintenance
efficiency

Performance Monitoring

**is a dedicated MindSphere
solution**

that tackles these challenges

Siemens Industrial IoT

Low-code platform

Build apps faster for cloud, on-premise or hybrid infrastructure

IIoT as a service

Centralized compute and storage, with solutions, apps and services

Edge computing

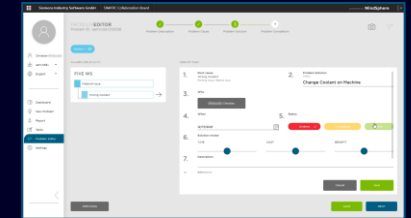
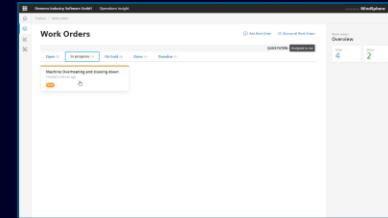
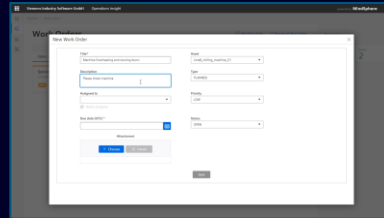
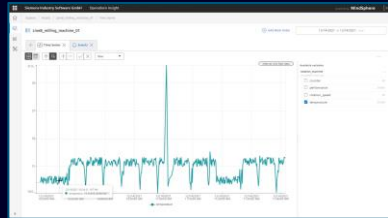
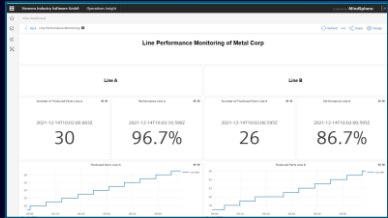
Decentral compute and storage with device runtime, apps and management

Field/control

Automation runtime and engineering connectivity



End-to-end workflow example



Monitor plant

Compare different lines across the factory and **identify performance deviations**



Plant Manager

Asset drill down

Drill down from line to machine level to find out which machine is causing the performance problems



Production Manager

Notify service

Notify the service personnel on site and make them aware of the problem, **providing insights** on how to solve it



Production Manager

Identify solution

With these first **insights at hand**, the service engineer investigates the problem and **finds a solution**



Service Engineer

Document solution

The solution of the problem is documented and can **serve as best practice** in the future to be shared



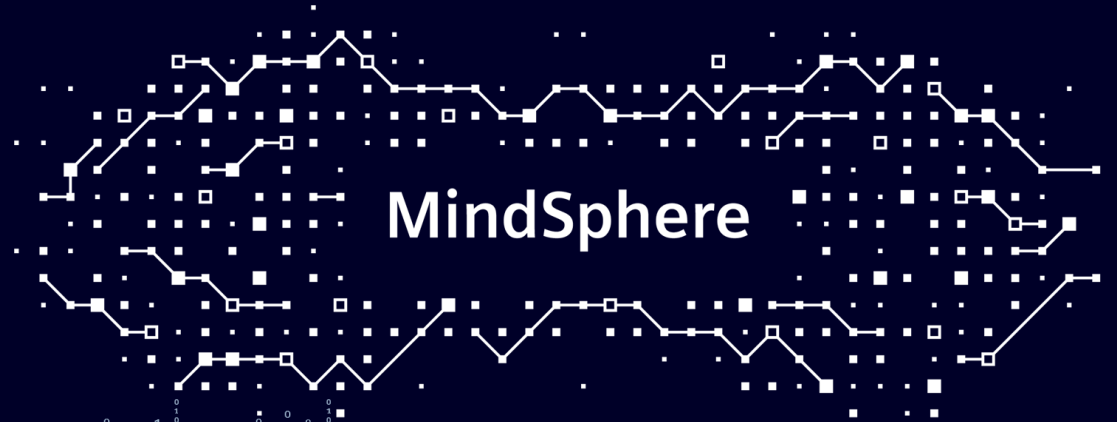
Service Engineer



Performance Monitoring and Collaborative Improvement



Operations Insight



SIMATIC Collaboration Board



MindConnect Software Agent

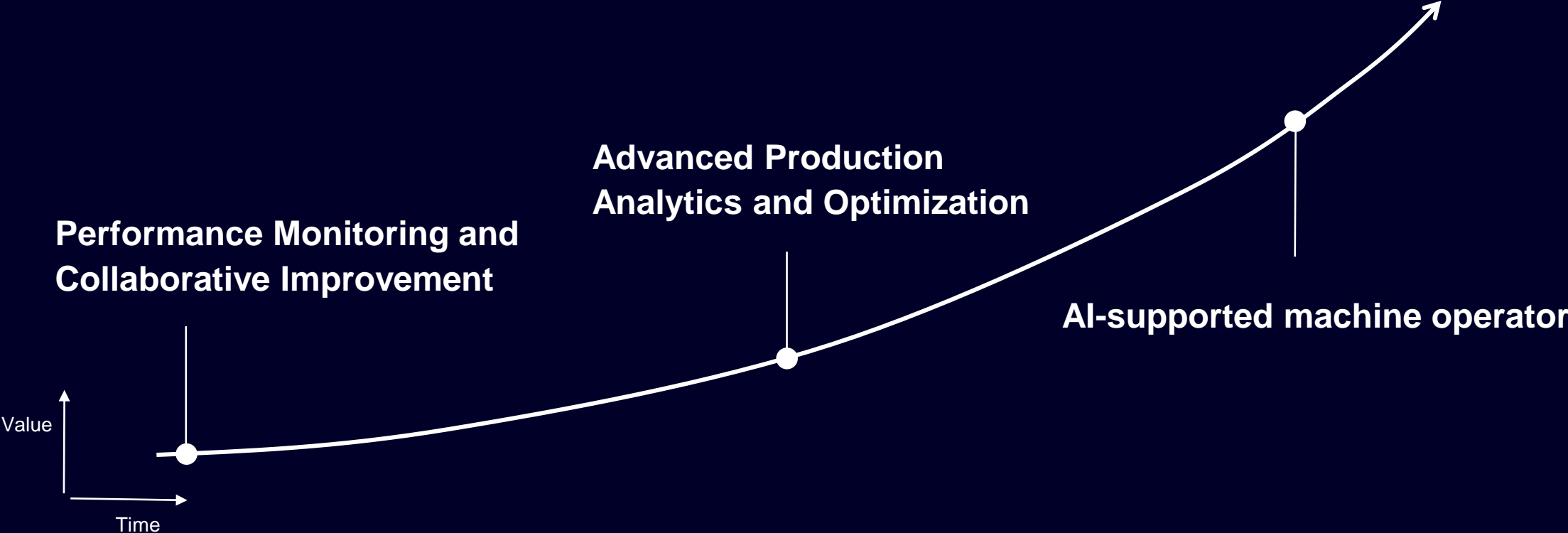


Realizing business value with MindSphere industrial IoT – Take 3 steps

Foundation



Start right, then scale and expand



Next steps

Exploring Performance Monitoring and Collaborative Improvement

1

Deep-dive session

- Demonstration
- Deep dive with domain expert

2

Workshop

- Business check: potential savings
- Technical check: feasibility, implementation

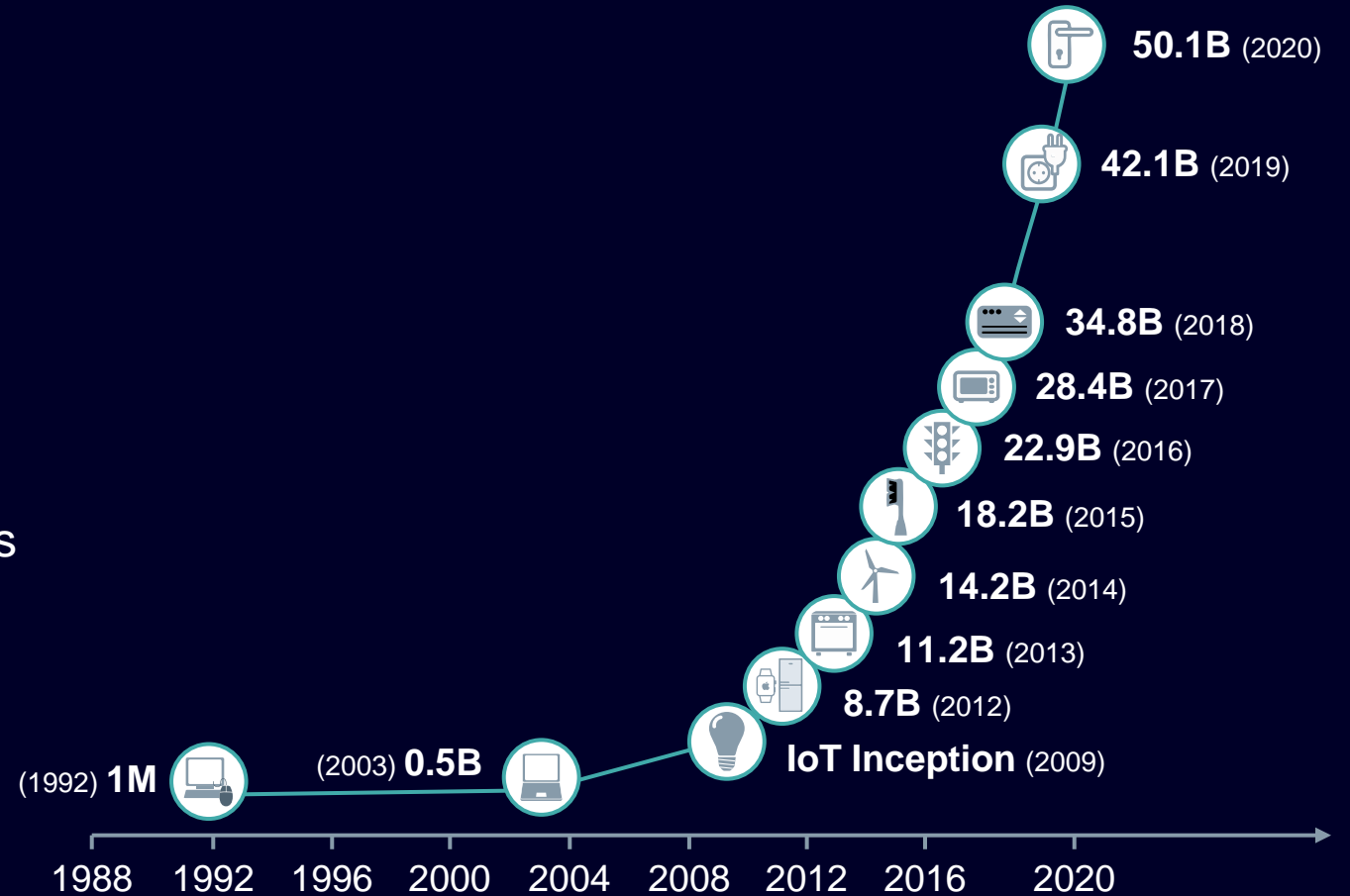
3

License and service proposal

- Bill of material
- Statement of work

IoT is a catalyst for competitive advantage

- 1 Entry point to digitalization
- 2 Foundation for development of applications
- 3 Multiplier for digital services and new business






Questions

| Contact



Clemens Orendt

MindSphere Business Development
Siemens Digital Industries Software

 +49 152 22716947

 clemens.orendt@siemens.com