Digitalisering
- möjligheter med analys av industriell data
Rikard Skogh, Siemens Plant Data Services
The 3 paradigm shifts of digitalization
Paradigm shift 1: From hardware to software and content
Paradigm shift 2: From users to designers
Paradigm shift 3: New business models

From book stores to e-books

From record stores to streaming

From the Yellow Pages to the marketplace

From taxis to ridesharing
Simple consumer applications vs. complex industrial applications

6 sensors

2000 data points

Industry expertise is key to success
Creating value through new business models

Today:
Revenue through machine sales

The future:
New scope for value creation through the sale of machine output
And it is all about data and digital services

Enormous amount of data is already produced and available

The biggest hurdle is to collect, share and monetize them

Less than 3.5% of all machines today!
MindSphere
Siemens IoT Platform and Ecosystem
MindSphere
– Siemens IoT Platform and Ecosystem

PLC

CNC

DRIVES

NETWORK

SCADA

GEARS
MindSphere
Business values for OEMs and end customers

OEM

- Offer additional services (e.g. availability)
- Product enhancement via feedback loop to R&D

End Customers

- Increase asset uptime
- Maintenance efficiency
- Asset / process optimization

MindSphere Value proposition

- Plug & Play Connectivity
- Highest security standards
- Open connectivity and application interfaces
- Turn CAPEX into APEX with pay-per-use model
- Out-of-the-box analytics
- Saves money and IT resources
- Enable new business models
MindSphere
– Siemens IoT Platform and Ecosystem

Siemens Applications and Analytics

OEM / Solution Provider Applications and Analytics

End-Customer Applications and Analytics

Partner Applications and Analytics

3rd party applications

Siemens cloud

visualization

system management

analytics / rules

industrial device management

data management

3rd party clouds

Secure connection

Industrial device data integration

End-Customer

Applications and Analytics

OEM / Solution Provider

Applications and Analytics

Siemens

Applications and Analytics

Partner

Applications and Analytics
What the customer orders and gets

MindAccess Users

- Receive Email with Login Data (User Name and Password)
- Own URL: OEM.mindsphere.io
- MindApps are activated inside of MindShpere (Fleet Manager and Visual Analyzer are automatically activated with MindAccess order)

MindConnect Nano

- Hardware delivery
- Preinstalled IPC (based on SIMATIC Nano Box)
MindSphere
Enables a quick start into data-driven services

STEP 1
Connect
Get MindSphere user-account, receive and integrate Connector Box into machine / equipment

STEP 2
Configure
Configure data acquisition, connectivity and Visual Analyzer via MindSphere

STEP 3
Run the Service
Monitor e.g. health status of all assets and drill into details using MindApp Fleet Manager
MindConnect – Easy machine connectivity as additional differentiator

**Direct connectivity into running system**
- Direct connectivity into running systems
- Dedicated Connector Box: MindConnect Nano or IOT2040
- Easy configuration in no time

**Connectivity integrated into Siemens devices**
- Siemens devices delivered with „Connectivity on Board“
- Direct connectivity of DF / PD products with no additional hardware
- Direct engineering in TIA Portal v14 possible

**Connectivity integrated into 3rd party devices**
- MindConnect Software for integrated connectivity of 3rd party products
- Support for integrating 3rd party product by Siemens and partners
**MindSphere**

**Body Shop Example**

**X-Tools Server**
- Microbox
- S7 319F

**MindConnectNano**
- Ethernet (PNIO)

**Weld cell**
- Weld robot
- Kuka Controller (PNIO)
- Manipulator
- Conveyor
- Table

**Condition Monitoring Room**
- Monitoring critical KPIs
- Trend of process values
- Threshold of process values

**Siemens**
- Host the CM Database (WW)
- Integration of CM Station
- Maintain the system (backup/restore)

**X-Tools Client**
- MindSphere

**MindSphere**
- Ethernet

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MindSphere
Example dashboards
MindSphere
Example dashboards
MindSphere
Example dashboards

The floorplan shows the machine’s position in the factory.

Machine overview provides a one page summary of operation data.

Requests log all machines incidents based on predefined platform rules.

User defined aspects combine critical machine data for meaningful analysis.

Production manager

Maintenance manager or OEM service manager

Machine operator

Maintenance or OEM machine specialist
Digital Enterprise Software Suite –
The Siemens answer to Industrie 4.0 requirements

MES
SIMATIC IT

Lifecycle and Data Analytics
MindSphere

PLM
Teamcenter / NX

TIA
SIMATIC / SINUMERIK

Siemens Collaboration Platform: Teamcenter
Questions?
Thank you!

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