MindSphere in action – Our open IoT operating system

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Jagannath Rao, Vice President, Siemens Digital Factory Division
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MindSphere –
The cloud-based, open IoT operating system from Siemens

MindApps
- Use apps from Siemens, partners or develop own apps
- Gain asset transparency and analytical insights
- Subscription based pricing model

MindSphere
- Open interface for development of customer specific apps
- Various cloud infrastructures: SAP, AtoS, Microsoft Azure offered as public, private or on-premise (planned)

MindConnect
- Open standards for connectivity, e.g., OPC UA
- Plug & play connection of Siemens and 3rd party products
- Secure and encrypted data communication
Only two easy steps to get started – MindSphere to create new 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

Run Service
Monitor e.g. health status of all assets in MindSphere with Fleet Manager and drill into details using Visual Analyzer
MindSphere increases business value for equipment suppliers and operators

**Business Value**

- **Increase Service efficiency/** lower warranty expenses
- **Offer additional services** (e.g. availability)
- **Enhance products** via feedback loop to R&D

- **Increase uptime/asset availability**
- Optimize assets
- Increase maintenance efficiency
MindSphere customer success stories

Major soft drink producer

Machine monitoring
- Affordable IoT solution for predictive maintenance of 150 motors
- Increased asset uptime through accurate failure prediction
- Global accessibility of data

Major OEM for Honing Machines

Machine uptime and quality
- The honing stones must be replaced before either critical threshold values
- Reduced downtime and guaranteed quality
- Differentiated service offerings & revenue stream for OEM

Major international airport

Failure prediction for baggage carts
- Identification of all potential failures in baggage trail
- On-time maintenance of defective baggage carts
- Visualization of system failures
MindSphere APIs – Scalable application and connectivity development

MindApps API characteristics

- Application Programming Interface (API) of MindSphere for development of customer owned analytical apps (MindApps)
- Optimized for industrial IoT App development with additional reusable supporting modules (e.g. parsing, analytics and visualization modules)
- Upcoming MindSphere App Store will provide ready to use Applications

MindConnect characteristics

- Dedicated IoT Gateways with MindConnect Nano and MindConnect IoT 2000
- MindConnect embedded in standard Siemens industrial products also with engineering via TIA Portal (v14), with e.g. SIMATIC, Sinumerik
- Upcoming MindConnect Software and APIs for own integration into assets/devices

API beta release planned for beginning of 2017
Ecosystem with strong partners being established …

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MindSphere
The cloud-based, open IoT operating system

… and more to come!
MindSphere offers key strengths as cloud-based, open IoT operating system

Unique MindSphere strengths

- Global Siemens installed base of millions of devices (30 million automation systems, 70 million contracted smart meters, 800 thousand connected products, e.g., trains)
- Transfer of domain know-how into vertical-specific analytical apps
- Integrated operational data with Digital Twin to optimize simulation and engineering (model-based analytics)
- Plug and play connectivity for quick connection of assets without coding
- Ecosystem with broad domain expertise and horizontal IT capabilities
We support our customers in developing digital business based on MindSphere

– Deep-dive workshop to identify use cases with our proven MindSphere ideation approach

– Implementation of one of the identified use cases with a technical proof of concept (PoC)

– Ongoing support after the PoC to maximize benefit from MindSphere