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The (R)Evolution of Digital Business Models in Industry with MindSphere

IoT Week 2019

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Digitization of industries

The world is changing faster then ever before

New business models in the internet age are disrupting complete markets

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Paradigm Shift

From a product-focused to a user-centric mindset

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Source: Internet

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An industrial (r)evolution

A global and cross-industry development

Business and technical drivers are accelerating the digitalization of industries

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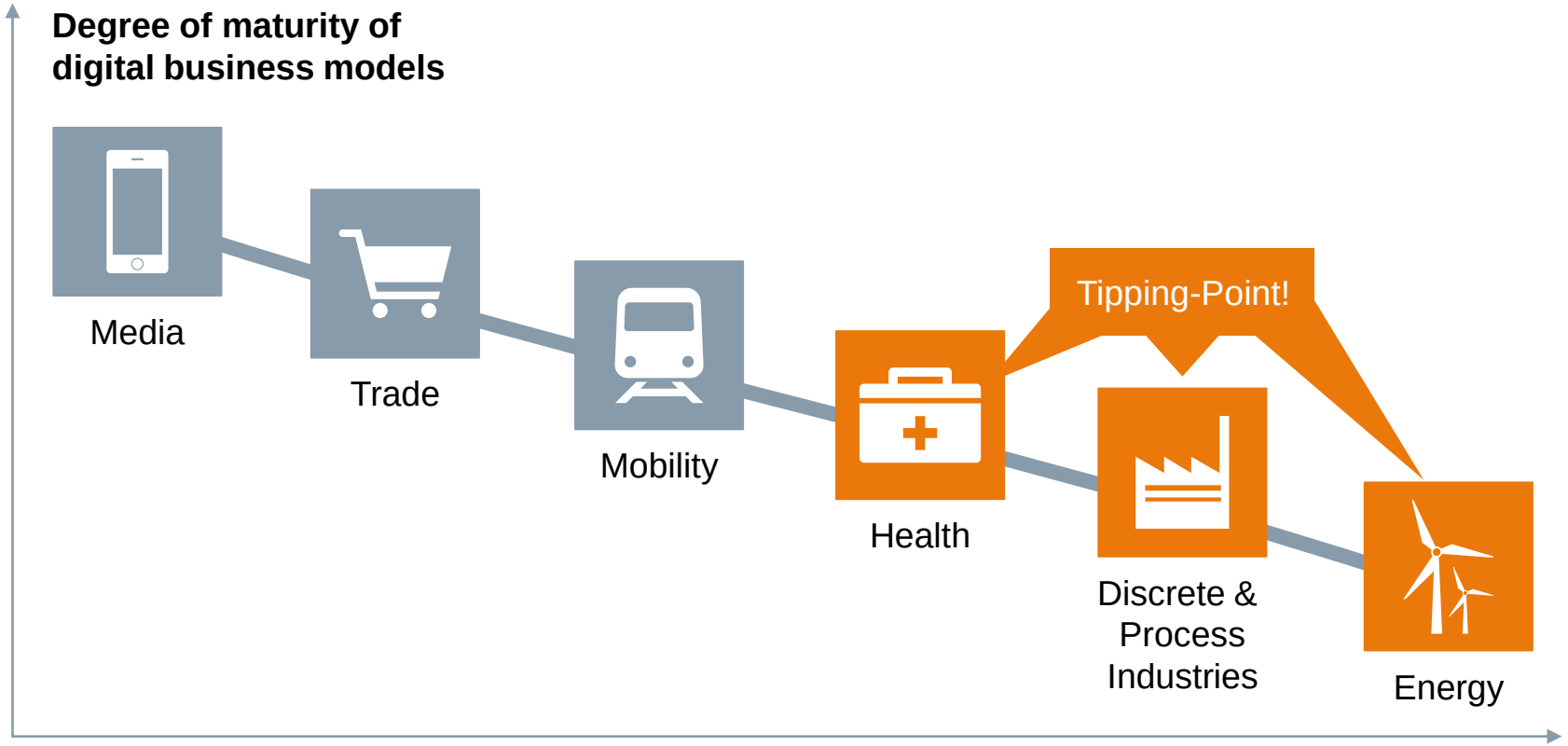
1 Technical Drivers

Digitization, Sensors, Connectivity, Bandwidth, Data Capturing and Storage, Clouds, Analytics, etc.

2 Business Drivers

New Business Models, Ecosystem concept and Paradigm shift: From product-focused to user-centric mindset, etc.



Based on “Smart Service Welt” report/Accenture visualization

Industrial Internet of Things (IIoT) increases business value for equipment suppliers and operators

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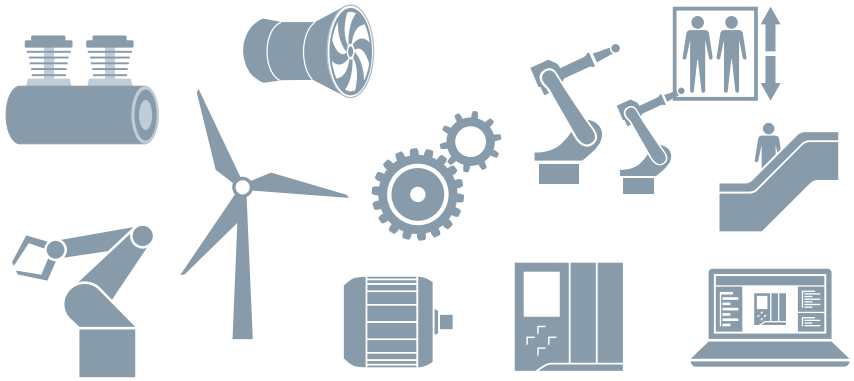
Equipment supplier



Equipment operator

Business Value

- **Increase Service efficiency /** lower warranty expenses
- Offer **additional services** (e.g. availability)
- Enable **new business models**
- **Enhance products** via feedback loop to R&D leveraging Digital Twins

- **Increase uptime / asset availability**
- Optimize assets and increase maintenance efficiency
- Enable **new business models**

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Enabling industrial companies to implement new **data-driven Services** and business models

MindSphere - the cloud-based, open IoT operating system from Siemens

MindSphere
The Cloud-based, Open IoT Operating System

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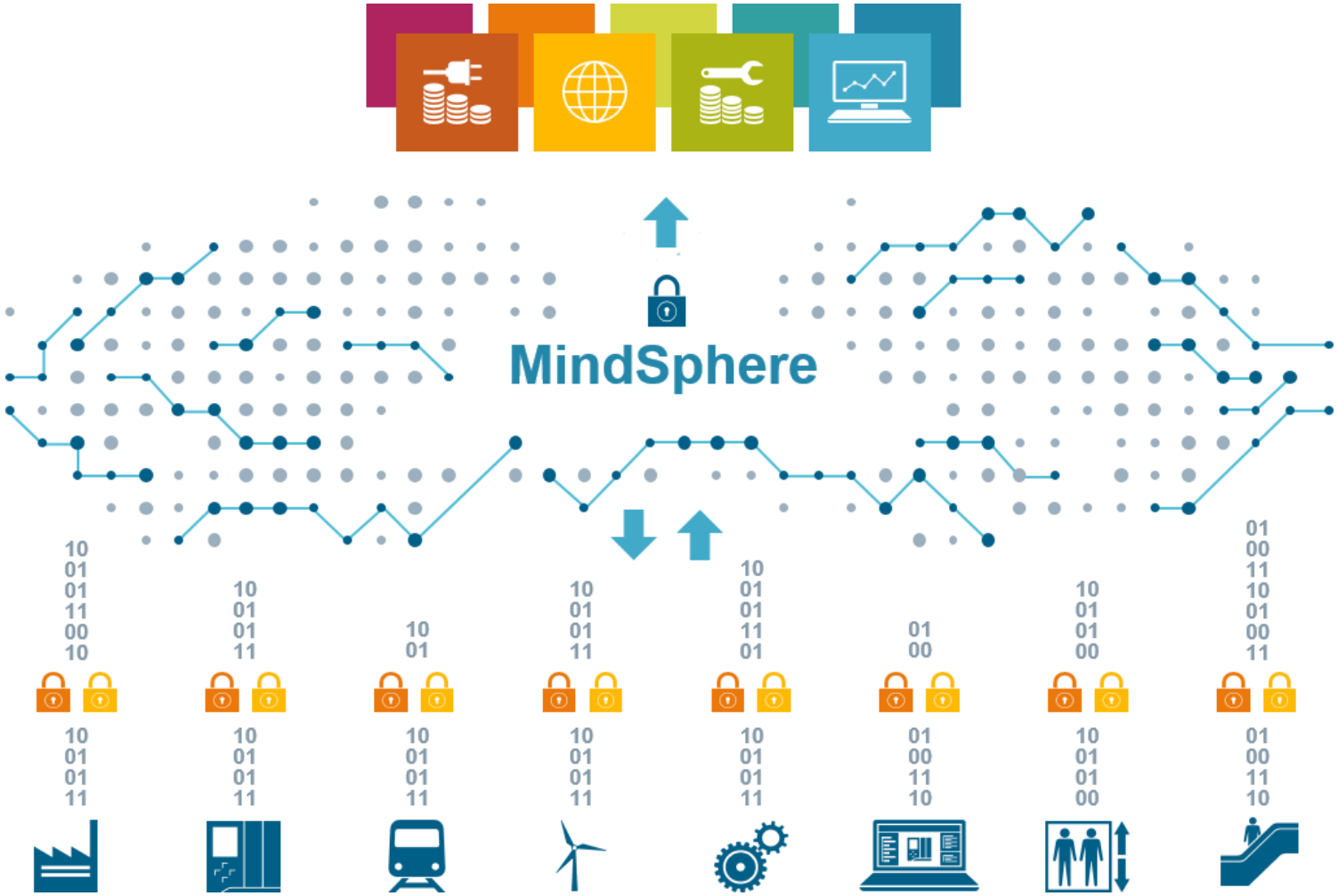

Applications
Asset transparency and analytical insights into machines, plants, fleets and systems

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

MindConnect
Secure plug and play connection of Siemens and third-party products as well as Industrial Edge

MindSphere IoT solutions

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Rittal GmbH & Co. KG

- Predictive maintenance management driving higher quality, efficiency, and services offerings
- Increase machine availability
- Demand-driven maintenance
- 30% savings on service & maintenance

MindSphere IoT solutions

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Gebr. Heller Maschinenfabrik

- Reduction of unplanned downtime
- Global data access
- Optimization of systems productivity with increase in quality for end-customer
- Greater end customer collaboration
- New business opportunity for pay-per-machining time

MindSphere IoT solutions

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Siemens – Bad Neustadt

- Predictive analysis of motor failures
- Increased machine uptime
- Improved maintenance processes
- Efficient maintenance schedule planning
- Showcase factory for digital applications in metal working

MindSphere enables the creation of a powerful Digital Twin through the entire value chain

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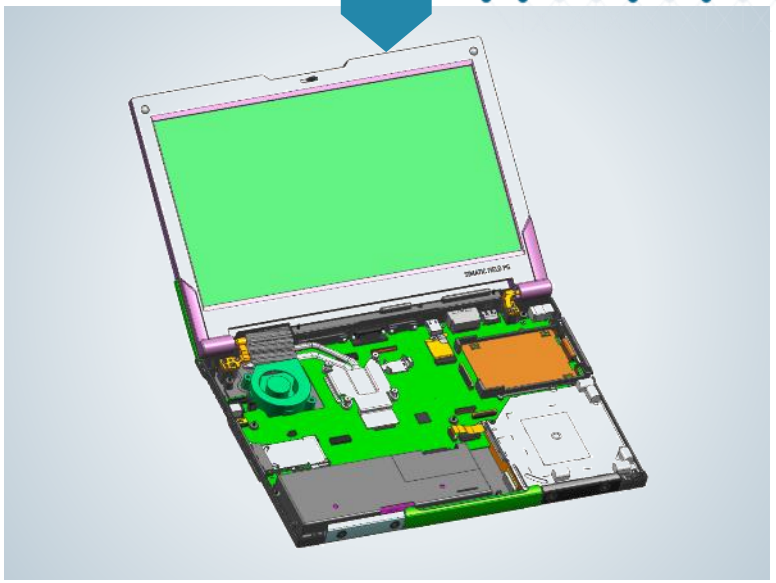
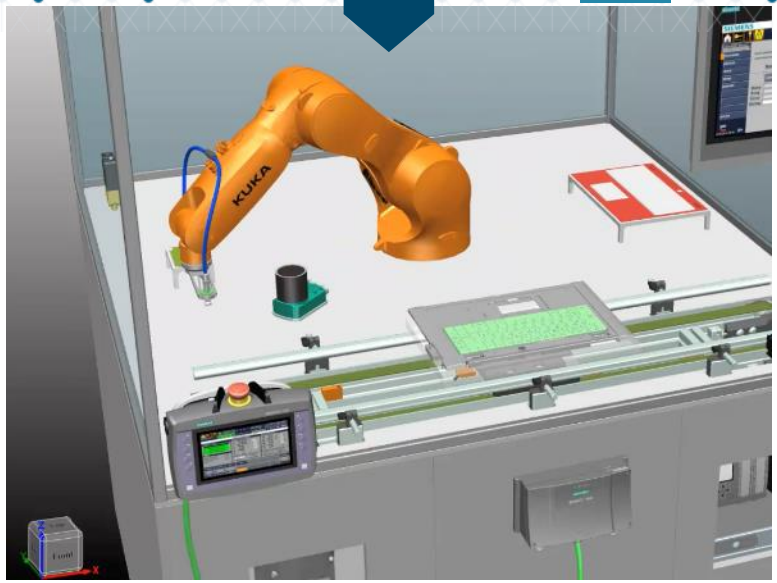
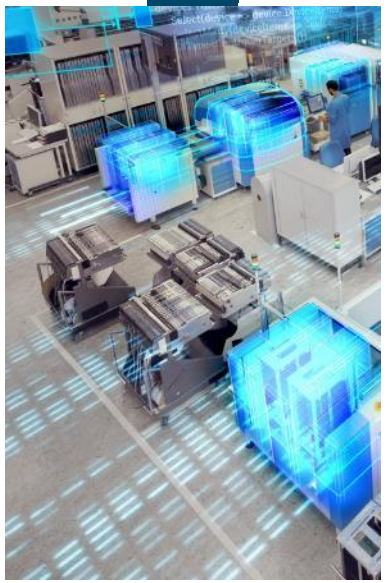
MindSphere

feed back insights to continuously optimize product and production







Digital Twin of the product	Digital Twin of the production	Digital Twin of the performance

Collaboration platform: Teamcenter

Suppliers and logistics

Digital Twin of the Performance – Konecranes Inc.

MindSphere – Digital Innovation Platform Accelerates Product Development Process

Challenges

- Minimize or Eliminate Non-Optimized Product Designs that are Frequently Over Engineered
- Speed up Product Development Process by Reducing Prototypes, and Increasing Traceability
- Integrate Design, Simulation and Prototype Testing Organizations from Operating in their Own Silos
- Improve Quality and Reduce Development Cost

Transformation Results

- Siemens Digital Twin Innovation Platform including MindSphere, Teamcenter and Simcenter Portfolio
- Realtime data collection to validate Testing And Operational Reliability
- Closed-feedback with Virtual Engineering Assets; Engineering Design, Analysis And Simulation

Value

- Continuous Product and Process Optimization
- Increase Collaboration across Organizations
- 360-degree View of Prototype Performance

MindSphere
The Cloud-based, Open IoT Operating System

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Develop robust industrial IoT solutions faster

Open PaaS with native cloud accessibility

Extensive device and enterprise connectivity

Powerful industry solutions with advanced analytics

Global partner ecosystem

The future: Output- and performance oriented business models

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