Unlocking the potential of digital transformation

Dr. Roland Busch, CTO and Member of the Managing Board of Siemens AG
We’ve scaled up our digital offerings

December 2016
Increase R&D investment to over $6 bn
Create new digital offerings, roll-out of MindSphere
Achieve double-digit annual growth in digital businesses

December 2017
$6.3 bn R&D investment in Electrification, Automation, and Digitalization
More than 250 digital offerings (digital services and industrial applications), 1 million connected assets (+25%)
Software and digital services businesses grew by 20%
Expanding our digital footprint by increasing our spending for research and development

$1.5 bn R&D in digital business in FY 2017

20% R&D intensity for digital business

Currently 24,500 software engineers globally

US R&D investment 2017: +16% to $1.3 bn

*in billions of US dollars

FY2014: 5.0
FY2017: 6.3
FY2018e: ~6.9

+40%
Atellica: ultrafast and flexible diagnostics platform
Mireo: innovative platform for premium-class mass transit
1,100 kV: record-breaking HVDC
3D printing of gas turbine blades
Innovation with a clear focus – Siemens Company Core Technologies

<table>
<thead>
<tr>
<th>Additive Manufacturing</th>
<th>Autonomous Robotics</th>
<th>Blockchain Applications</th>
<th>Connected (e)Mobility</th>
<th>Connectivity and Edge Devices</th>
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<tr>
<td>Cybersecurity</td>
<td>Data Analytics, Artificial Intelligence</td>
<td>Distributed Energy Systems</td>
<td>Energy Storage</td>
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<td>Materials</td>
<td>Power Electronics</td>
<td>Simulation and Digital Twin</td>
<td>Software Systems and Processes</td>
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Improving innovation speed and capital allocation with Siemens Company Core Technologies

Full innovation cycle: university collaboration – applied research – advanced applications and prototyping

Covering technological as well as business model innovations

Output-driven and market-oriented

Tapping outside innovations with partners/ecosystem and next47

$600 million focused investments
Our innovation and digitalization agenda

Speed and scale
Digitalization is a key driver of innovation and growth

<table>
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<tr>
<th>Digitalization</th>
<th>Revenue FY 2017</th>
<th>+20% nominal(^1)/+11% excl. Mentor</th>
<th>Market growth CAGR FY 18 – 22</th>
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<tbody>
<tr>
<td>Siemens Software</td>
<td>~$4.9 bn</td>
<td></td>
<td>~+8%</td>
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<tr>
<td>Digital services</td>
<td>~$1.5 bn</td>
<td></td>
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<td>MindSphere</td>
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<tr>
<td>Automation</td>
<td>Enhanced automation</td>
<td>~$23 bn</td>
<td>~+3%</td>
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<tr>
<td>Classic services</td>
<td>~$21 bn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrification</td>
<td>Enhanced electrification</td>
<td>~$53 bn</td>
<td>+1-3%</td>
</tr>
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</table>

Revenue digital businesses: $6.4 bn

1) Total growth: +20% (+20% in software, +20% in digital services)
Growth excluding Mentor Graphics acquisition: +11% (+9% in software, +20% in digital services)

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Our offering differentiates us clearly from our competitors

- Deep domain know-how in a broad range of markets and industries
- Strong installed base/connected fleet
- Powerful ecosystem
- Unmatched digital portfolio: MindSphere, Software, Services, Security
- Numerous Siemens internal use cases as proof points
Siemens is among the top 10 of the biggest software companies worldwide

We’ve invested more than US$10 billion in U.S. software acquisitions since 2007

*minority equity investment
Closed loop innovation – the digital twin improves development, production and operation

MindSphere connects the virtual with the real world – from factories to infrastructure
MindSphere, open cloud-based IoT operating system

- Connectivity
- Strong partner ecosystem
- Closed-loop innovation
- Advanced analytics and machine learning
- Powerful industrial applications and digital services

Scaling up with AWS
Developments of our digital offerings over the last 12 months

+25%  doubled  4x
connected assets:  number of  increase of digital
1 million devices  customers:  offerings:
and systems    plus 2,900  more than 250
The digitalization of industries requires a different approach

How to turn data into value?
How to create digital offerings?
How to turn data into value?
MindSphere Application Centers for Siemens digital offerings

Co-location

- Domain know-how/vertical expertise
- MindSphere and software portfolio
- Data analytics capabilities
- IoT integration competence

Co-creation

- Customer

Digital offerings
- Industrial apps
- Digitally enhanced services
- Integrated digital solutions
MindSphere Application Centers for Siemens digital offerings

20
MindSphere Application Centers

50
Locations in 17 countries across the globe

~900
software developers, data specialists and engineers

Speed and scale
MindSphere Application Centers – Locations around the globe
MindSphere Application Centers in the United States

- **Alpharetta**: Process Industries
- **Atlanta**: Rail Mobility & Infrastructure
- **Austin**: Buildings and Distributed Energy Systems
- **Berkeley** and **Orlando**: Utilities and Oil & Gas
- **Foster City**: Municipalities & Distribution System Operators
- **Pittsburgh**: Pumps, Fans, Compressors

The U.S. has the largest MindSphere Application Center footprint outside of Germany
MindSphere Application Centers – Creating value for customers

Jacksonville Grid infrastructure
$1 million savings per year with advanced metering

Amtrak Rolling stock
33% fewer delays thanks to predictive maintenance

Large US power station Drive train analytics
< 75 minutes instead of 6-8 hours to re-commission drives
Siemens is driving digitalization on all levels

Clear and focused R&D capital allocation to drive differentiation

Leverage domain know-how, digital portfolio and customer relationship

Growing digital businesses by more than 10 percent

Speed and scale