

Towards a Data-Driven Platform Economy

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The Digital Transformation of Manufacturing
Industries: Revolution or Evolution?

Munich, 22nd November 2016



Ensure Competitiveness in a Data-Driven Platform Economy



- Paradigm shift I: **Industrie 4.0**
 - Smart, connected, autonomous
 - From central control to decentralised self-organisation

→ **Rethink production processes, value chains and workplaces**



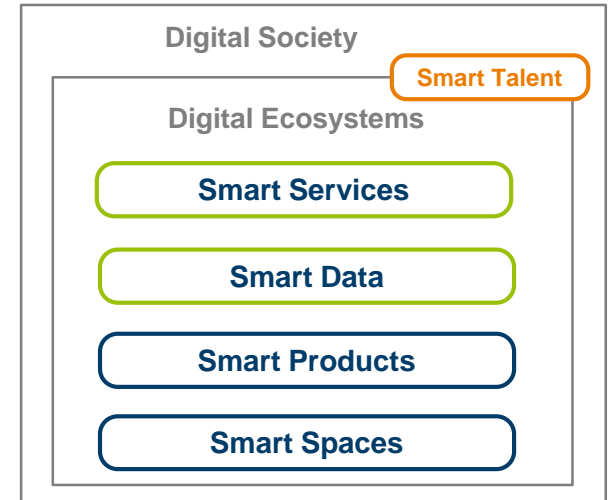
- Paradigm shift II: **Smart Service Welt**
 - The users at the center: in their respective roles
 - Personalised, on demand, using smart data

→ **Rethink business models and ecosystems**



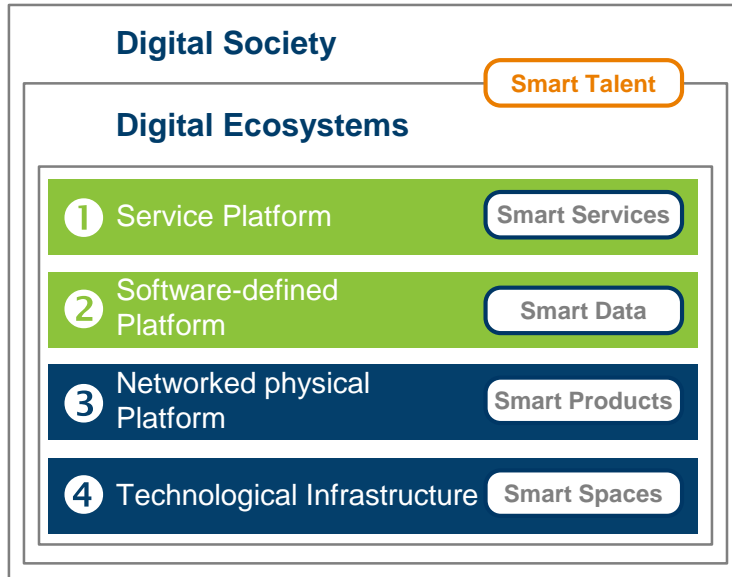
Data-driven Platform Economy

- Data are independent resources and economic ‘goods’
- Ownership, quality and value of data asset
- Data-sharing (value added)
vs. data protection (knowledge drain)
- Data-driven business models are disruptive:
‘everything as a service’
- Competition between digital ecosystems
- Digital ecosystems evolve around digital platforms



→ **Digital platforms improve asset utilization (‘share economy’) and SME participation**

Digital Platforms are Part of Digital Infrastructures



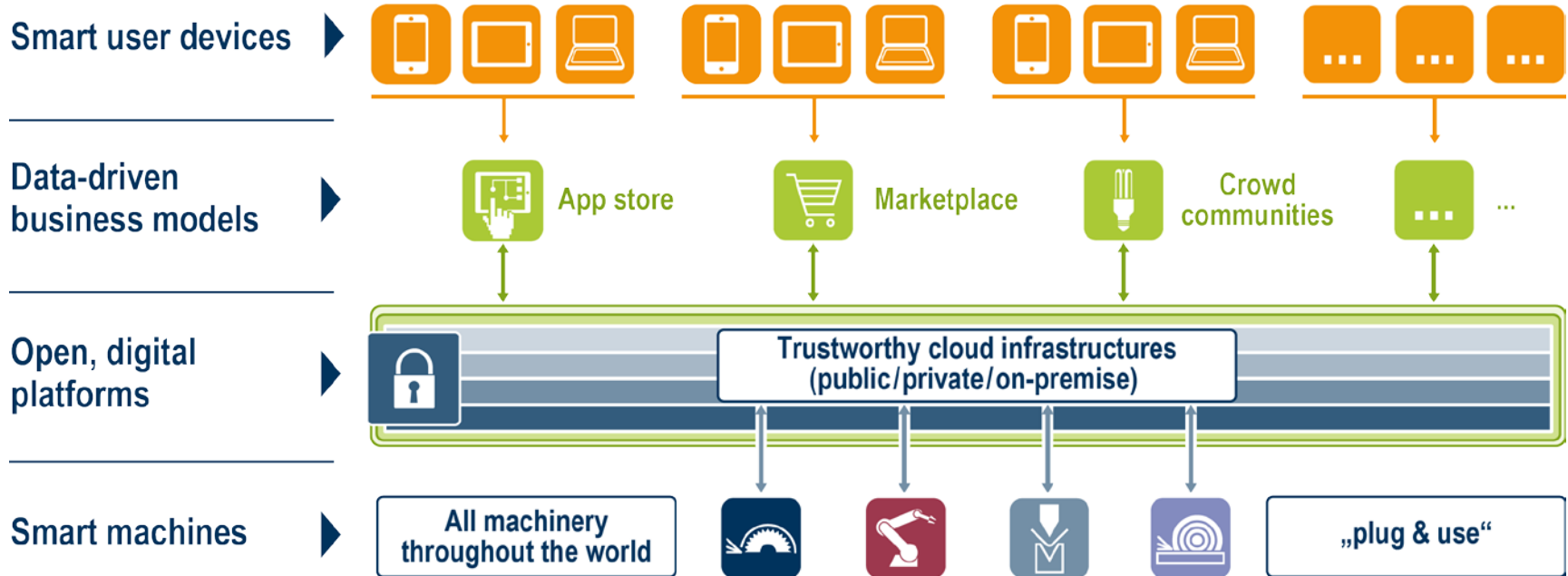
Talents with hybrid skills (**Smart Talents**)

- 1 **Business-centric integration layer**
→ Dynamic reconfiguration of value-added networks
- 2 **Technological integration Layer** (virtualization)
→ Interoperability, technological and data sovereignty
- 3 **Cyber-Physical Systems:**
→ Tools, Machines, Cars...
- 4 **'Realtime-Internet':**
→ Broadband, 5G and sensor networks



Platform Economy I

Optimisation of Industrial Processes



Smart Service Welt



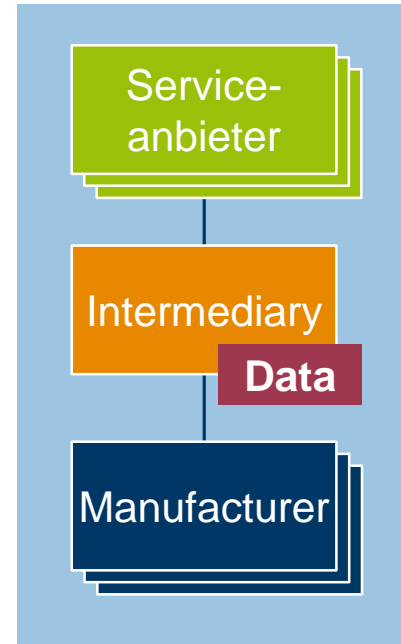
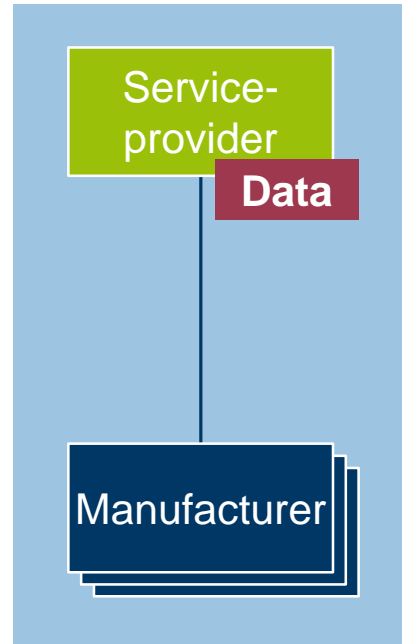
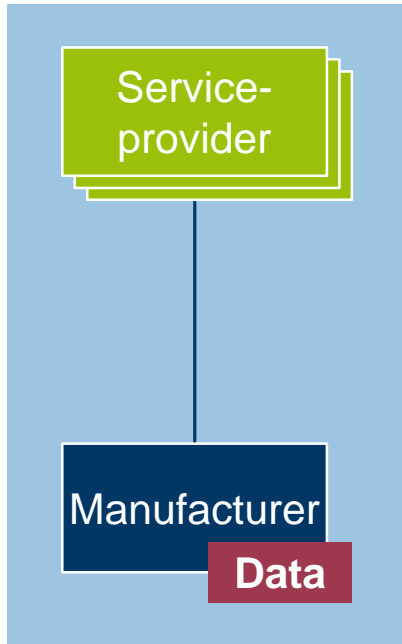
Final recommendations of the working group Smart Service Welt (2015):

1. Establishment of a business-driven implementation platform
2. Establishment of a policy-driven innovation platform
3. Industry-science cooperation in R&D
4. European digital single market





The Importance of Digital Platforms

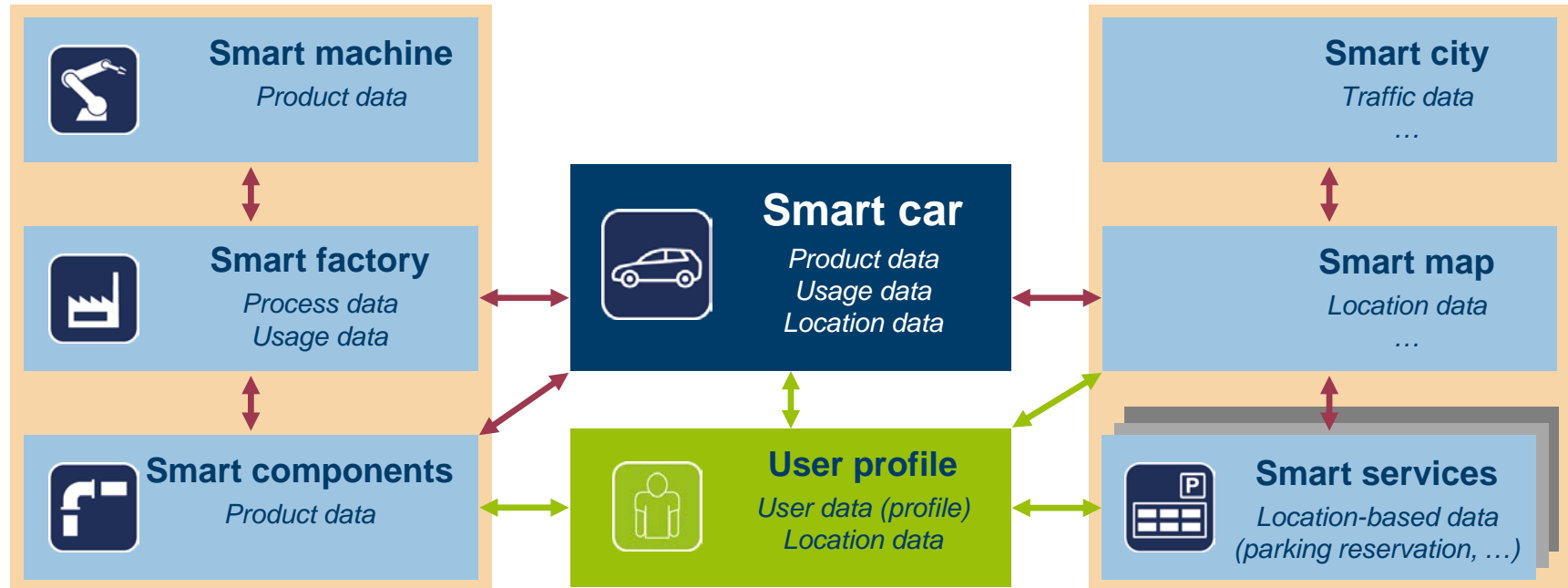


- Centers of gravity
 - for complementary innovation
 - ...
- Network effects
 - self-reinforcing growth
 - efficient matching
- Platform governance
 - Regulation
 - Trustworthiness
 - Interoperability



Data Ownership And Secure Data Supply Chains

Example Automotive Industry (↔ B2B, ↔ B2C)



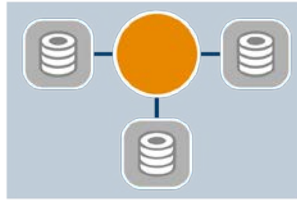


Digital Sovereignty

A Network of Trusted Data



- **Standardized Contracts** describe access to data and their use



- **Internal Connectors** make enterprise data available (enhance, connect)

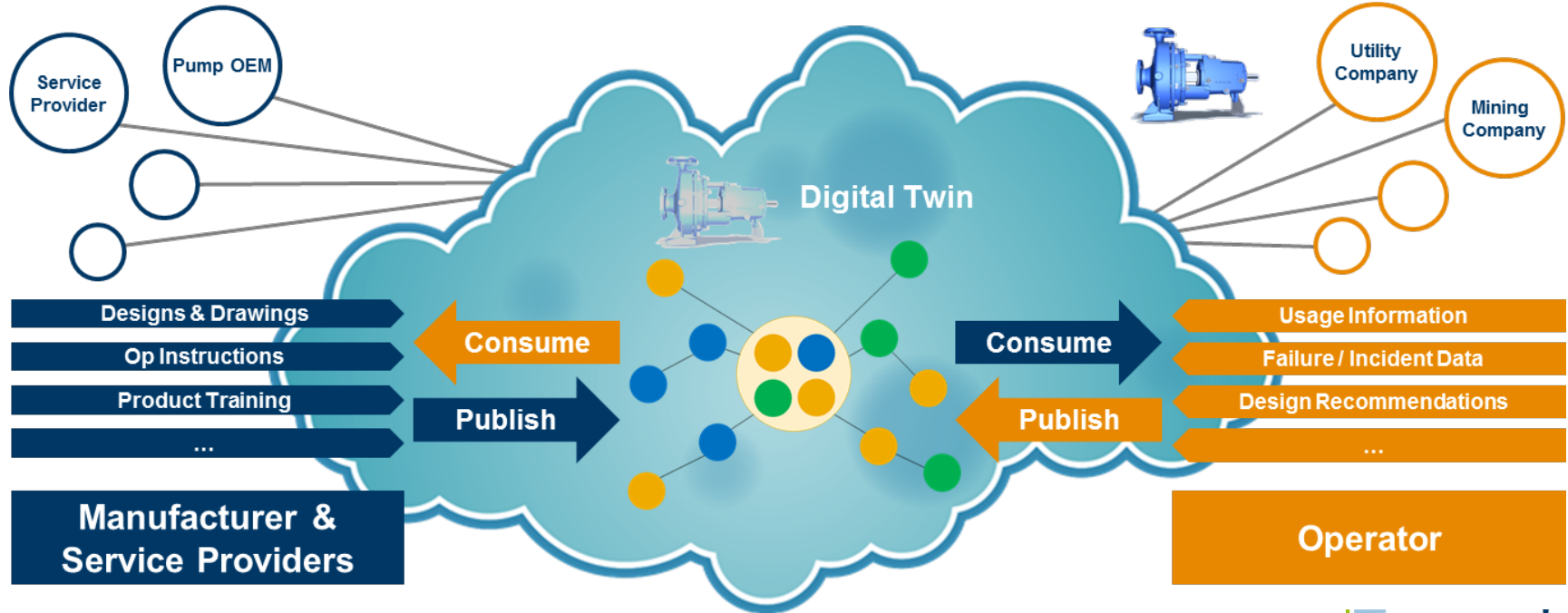


- **External Connectors** enable trusted data exchange within diverse digital ecosystems

→ An Initiative of the Data Space Association associated with the **Plattform I4.0**.

SAP Asset Intelligence Network I








A Network to Bring Together Business Partners



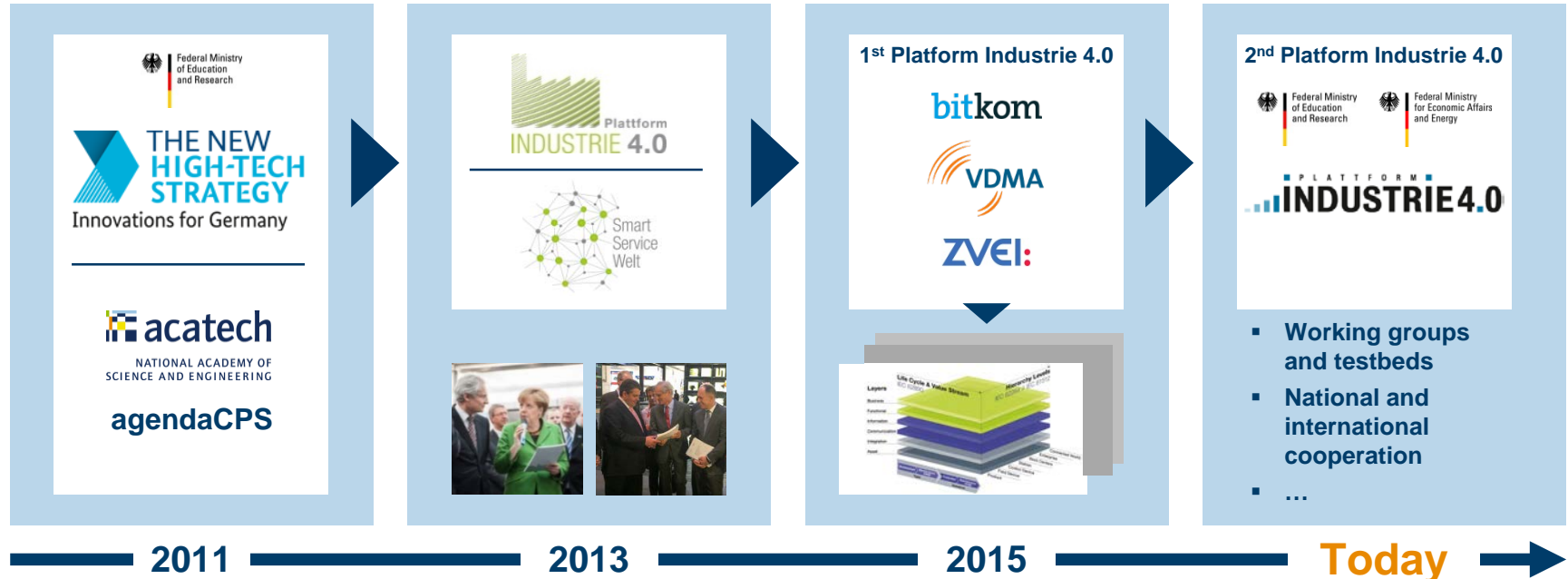


Diverse Initiatives Worldwide

International Cooperation is Key to Ensure Interoperability

 <h3>United States</h3> <ul style="list-style-type: none">▪ Industrial Internet Consortium▪ Smart Manufacturing Leader Coalition	 <h3>China</h3> <ul style="list-style-type: none">▪ Made in China 2025▪ Internet Plus	 <h3>Japan</h3> <ul style="list-style-type: none">▪ Robot Revolution Initiative▪ IoT Acceleration Consortium	 <h3>South Korea</h3> <ul style="list-style-type: none">▪ Smart Factory Initiative▪ Korean Smart Factory Foundation	 <h3>EU</h3> <ul style="list-style-type: none"> High Value Manufacturing Industrie du Futur▪ ...
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Germany's Journey to Industrie 4.0





Looking ahead

acatech Initiatives Supported by the Government





International Benchmark (INBENZHAP)

Project INBENZHAP: Develop a vision 2030 for Germany

- Goal: Provide a foundation for funding and support of key technologies and services

Key driver:

- Sustainable growth
- International collaboration
- User experience

Challenges and risks:

- Security / safety / privacy
- Standards / migration / interoperability
- Disruptive business models
- Not meeting market needs

→ Vision 2030 for Germany: “**Sovereign Global Player**”

- **As supplier:** Top level in vital technology fields as well as in services and platforms
- **As consumer:** Companies and civil society are capable of deciding between a range of offers



Risks and Opportunities in International Cooperation

Industrie 4.0 in Global Context (07/2015 – 06/2016)



- **Goals:**
 - **Identify challenges** for international cooperation regarding norms and standards
 - **Recommendations** for companies and policy advise
- **Method:**
 - **150 Interviews** with experts from China, Japan, South Korea, Great Britain, USA and Germany
 - Policy-driven initiatives, economic activities, and the perspective of science and standardization committees

→ **We present the results today.**

**Thank you very much
for your attention.**