



Solutions and Applications of a Smart Service World

„Digital Business Connectivity – Korean ICT and Smart Services”
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Agenda

Smart Service
Welt - a national
„future project“



The research program
„Smart Service Welt“

Exemplary
Applications and
Solutions

Topics and Learnings



Perspectives for
International
Cooperation



Smart Service Welt – a „future project“

- In 2014 the National Academy of Science and Engineering (acatech) recommended to setup a strategic initiative for web based services in businesses (“Smart Service Welt”).
- This initiative should complement the transformation of industrial production (“Industrie 4.0”)

“Good products in the long run will not be sufficient – smart services will fundamentally change the traditional business models of key industries and lead to a major paradigm shift”.





Smart Service Welt – a „future project“

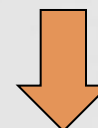
Intelligent embedded („cyberphysical“) systems



Networked Production machines
+ shop floors



Vision of „Industrie 4.0“



Interoperable, highly flexible
software & data platforms



Vision of „Smart Service Welt“

NEW

products and Services
business models
cooperation scenarios



Smart Service Welt – a „future project“

Next to smart products, the digital transformation will lead to structural, „disruptive“ changes in markets:

- from product-centered strategies to customer-centered business models.
- from proprietary offers towards interoperable and open solutions.

Digital platforms act as a mediator between service provider and customer. They create dynamic value creation networks superior to the traditional „pipeline“ model.

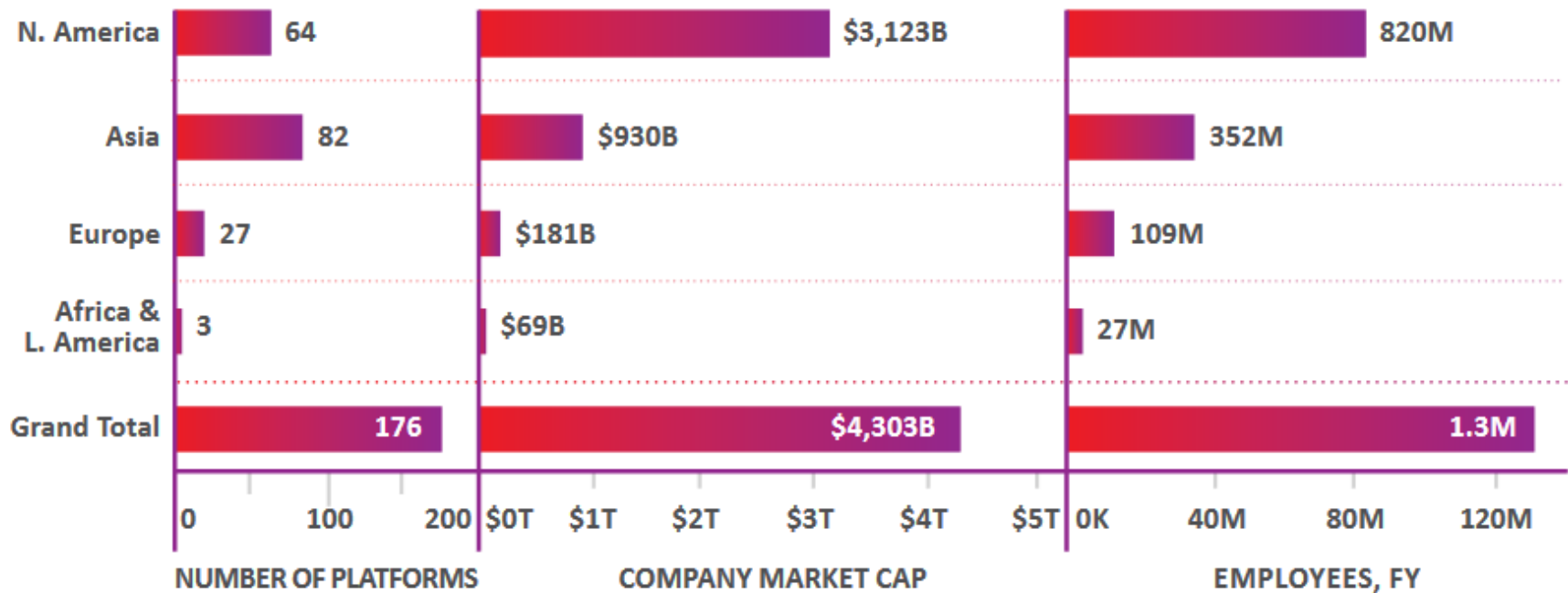


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EU/Germany needs to catch up in the platform business

PLATFORM COMPANIES BY REGION



SOURCE: Global Platform Survey, The Center for Global Enterprise, 2015



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BMW Research program „Smart Service Welt“

- Funding Priority 2016-2019 (57M €),
- Call for Tenders (11/2014 – 04/2015);
selection of 20 projects
with in total 115 partners
- Main Application areas:
Production, Mobility, “Good Life” & Cross-
cutting technologies





BMW Research program „Smart Service Welt“

Application Area	Number of projects
Smart Services in Production <ul style="list-style-type: none">- Augmented Reality / Visualization- Optimization of machinery & tools- Service Business Models	8
Smart Services in Mobility <ul style="list-style-type: none">- Geodata based Services, mobile services in public transport, Secure Apps in Vehicles	5
Smart Services for a good Life <ul style="list-style-type: none">- Doctor <-> Patient - Interaction- Water Management; Buildings Management	3
Cross-cutting technology topics: <ul style="list-style-type: none">- Automated service distribution, IoT Testware, ...	4



Exemplary applications and solutions: ServiceFactory

- Objective: online platform for the recording, transmission, and analysis of personal data gathered by appliances we use in our everyday lives (e.g. wearables, trainers, smart watches etc.). Once aggregated, this use data is to be used to develop smart health-related and sports services tailored to each individual customer.
- A multi-level platform with open APIs will allow for SME cooperation





Exemplary applications and solutions: SmartFarming



- **Objectives:** Smart Farming creates added value services to reach a high degree of work automatization, according to the needs of farmers.
- A service platform connects all kind of agricultural engines (producer-independent) and enables new business models.



Projektpartner





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Exemplary applications and solutions: MACSS

- Objective: Using IoT to improve the doctor-patient communication and improve treatment processes for patient with chronic diseases. The project wants to foster the shift from individual self-tracking to personalized medicine.
- A common unified communication platform for physicians, patients, pharmacies, across the various systems is established. Through the project, a central health data platform based on SAP Hana is established, as well as a prototypical German security concept for health data.



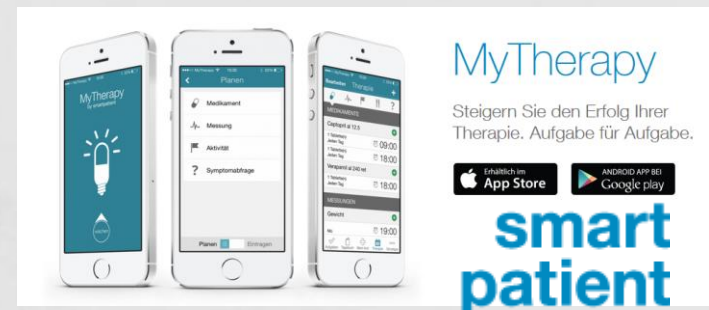
German Research
Center for Artificial
Intelligence GmbH



BEUTH HOCHSCHULE FÜR TECHNIK BERLIN
University of Applied Sciences



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Exemplary applications and solutions: IoT-T

- Objective: Create a methodology, a testware set and a platform for testing of innovative devices and software for the Internet of Things (IoT)
- The solution aims to ensure that solutions from SME are delivered with a high performance quality and reliability in terms of security and interoperability. It also aims at reducing development times and customer satisfaction.





Topics and Learnings – Service Business Models

Services can be used in different ways within business models, e.g.

- as a value-added to products: e.g. a cockpit functionality with specific data enrichment makes a machine more attractive
- as an additional business case; e.g. selling of the machine PLUS maintenance of the machine
- as cross-selling of data; e.g. data from a sold machine is provided to a 3rd party (e.g. an insurance company)
- as „product as a service“; a service (e.g. air compressor) is sold instead of a compression machine



Topics and Learnings – Platform Ecosystems

- The term „platform“ is used for various business models. The common understanding is that a platform organizes 2-sided markets that grow in value with the number of users (ebay, amazon, uber).
- B2B ecosystems may however work differently and must be based on a business logic, on high mutual security and trust level.
- Digital platforms are massively lowering the transaction costs by organizing the exchange between partners. Open APIs are of high importance to ensure participation and dynamic trade.
- Since the value of a platform is seen in its scalability and network size, fast growth often is more important than immediate earnings.



Topics and Learning's – Data Security, Data protection

- Services are often dependent on making use of (sensor based or personal) data. Protection laws need to be taken in account.
- Data protection rules can be a barrier for service development and business models, e.g. in telemedicine. National / international regulations can be helpful to support the digital transformation.
- Data exposure is connected with variable risks. Data protection should be based on a graded regulation concept and defined protection classes
- Intangible goods of companies (e.g. know-how) and intellectual property must also be protected in the Smart Service World and protection must be practicable enforceable.



Perspectives for Internat. Cooperation / Partnering

- With „Smart Service Welt II“, a new program with 15 projects and new application scenarios will be kicked off in 01/2018
- Key topic areas:
 - New Work scenarios („occupation“),
 - Smart Housing & Living,
 - Secure decentralized Energy Supply,
 - Smart Health applications
- International Organizations are welcome to participate as associated partners in these projects





Perspectives for Internat. Cooperation / Partnering

Smart Service Welt II will take care of:

- the digital transformation of SME in rural areas
- the next generation of operation theatres and personalized medicine
- market places for trading green-energy from private suppliers
- new forms of trade and delivery managed by intelligent crowds
- and many more





Perspectives for Internat. Cooperati on / Bilateral

Defining strategic new projects for bilateral (back2back) cooperation.

Example: In the project “SmartStage” (kickoff 04/2018), Aachen University will partner with KITECH towards an open platform for developing smart clothes





Perspectives for Internat. Cooperation / Standards

Services on a global scale ask for a basic set of common technologies:

- Secure infrastructures
- Secure authentication
- Interoperable solution
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Example: OPTIMOS project partners with SAMSUNG to develop an open infrastructure for smartphone based secure authentication services.





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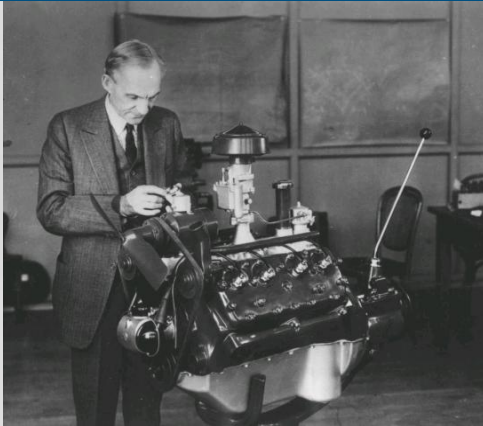


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„Coming together is a beginning,
keeping together is progress,
working together is success.“

Henry Ford

Thank you very much for your attention

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