

# **Policy Research Workshop 2018**

Industry 4.0: Challenges for productivity, employment and inclusion Session 1: New digital technologies: Potential for innovation German Development Institute, 28. / 29.05.2018, Bonn



PROJECT EXCELLENCE WETTBEWERBSSTRATEGI - PRÄMIERT -UNITY AG

> Wirtschafts Woche

"The world is becoming digital: digitalization will happen irreversibly! The only question is: who starts first?"



acatech Impuls 2016



Profound competences in the field of Industrie 4.0 / Industrial Internet of Intelligent Things IIoIT



#### 1. BMWi RESEARCH: Agile Industrial Business Models

- GEMINI | structured development of Business Models, Patterns od Business Models and IIoIT Technologies
- Innovation Scrum | Speed and Agility within the Innovation Processes
- Innovation Sales | Enabling of the Sales and Development Organizations

#### 2. BMBF RESEARCH: Technology and Business Know-how

- Digitalization | Definition of Architectures and Solutions
- Provider | Market Knowledge concerning Technologies and Capabilities
- User | Cross-Industry Know-how about Requirements out of different Eco-Systems
- Transformation | Design and Guidance of Technology induced Change Processes

### 3. INDUSTRY: Realization from Idea to Solution

- UNITY a HNI Spin-Off | Business Model Development, Technology Management and Market Entry
- Smart Mechatronics | Requirements and Specifications, System Design and Systems Engineering
- CP contech | Prototyping, Industrialization and Product & Customer Care

## "Industrie 4.0" Understanding Evolution and Categorization



Many users, 1 computer



## **Superior Characteristics of Industrie 4.0** From Customer Configuration to Customer Delivery





Vertical integration and networked production systems Horizontal integration across added value networks **Consistency of** engineering throughout the entire life cycle **Integrated Engineering** forms a linking point between product and production system and

> uses the fusion of the digital and virtual world

9/12/2017 Industrie 4.0 / Digitalization | Realizing Industrie 4.0

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## **Future Options Industrie 4.0**





## **Consolidation of the Benchmark**

Assessment of Germany's strengths and weaknesses

Focus Areas	Assessment of Gemany		Highlights
Security			
Standards, Migration & Interoperability			
Sustainability			
Usability			
Collection and analysis of field data			
Flow of Material & Information			
Training & Qualification			
Social Importance of »Manufacturing«			
Work Culture & "Entrepreneurial Spirit"			
Business Models			*
Corporate Culture & Flexibility			
International			
Political Will & Restrictions			<b>**</b>
Access to Capital			
Access to Sales & Procurement Markets			*



Assessment by the expanded core team in May 2015 after introducing and discussing the benchmark results.

#### **HEINZ NIXDORF INSTITUT UNIVERSITÄT PADERBORN**



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DEUTSCHE AKADEMIE DER **TECHNIKWISSENSCHAFTEN** 

Sponsored by:



Bundesministerium und Forschung

Managed by:

PTKA Projektträger Karlsruhe im Karlsruher Institut für Technologie

Source: Prof. Jürgen Gausemeier, Prof. Fritz Klocke, ESMT, Berlin, 13. Januar 2016

Industrie 4.0 affects entire economy: 3 main questions every company should pose itself and have answers to consequences on people and environment!



Source: ZVEI nach PwC (ZVEI-- German Electrical and Electronic Manufacturers' Association --according to PwC, translated by UNITY)

# **Overcoming the Bridging Challenges with Industry Work 4.0**

Three types of personalities are required: Innovators, Integrators and Stabilizers





## **Industrie 4.0 Maturity Models**

Strategic analysis to identify the competitive position





There are varying levels of maturity on the path to Industrie 4.0. More advanced companies have a better capability to provide customer benefits based on digitalization!



# The INLUMIA Maturity Model

Knowledge Base: Research projects and hands-on experience with SMEs as well as large corporations

# The acatech

Industrie 4.0 Maturity Model



Inlumia Industrie 4.0 Quick Check



Industry Know-how & Project experience



Linear versus exponential growth in the digital age:

"Innovations often came later than presumed; the effects were mostly graver than anticipated."







## **INNOVATOR**

Whether it is Smart Services, Products, Factory or Data – we develop all your Industrie 4.0 solutions.



## **INTEGRATOR**

We integrate Industrie 4.0 processes in your business – along the entire value chain.



## **STABILIZER**

Shape the transformation of your corporate culture successfully through Industrie 4.0.

# Industrie 4.0 Our Service Offerings

www.unity.de/industrie-4-0



#### Digitization Campaign

Determine your current position & derive recommendations for action (Readiness Check)



#### Strategies and Business Models

Find innovative Business Ideas and transform them into concrete Business Models



#### Technologies and Platforms

Development of architectures and platform strategies from the office to the shop floor



#### **Data Analytics**

Identify optimization and business potential through data-driven services



#### **Digital Agenda**

Definition of appropriate steps to your Industrie 4.0/ Digitization solution



#### Governance and Roadmapping

With the introduction of governance structures master the transformation of the working world



#### **Advanced Systems Engineering**

Industrie 4.0 solutions with systems engineering principles

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#### **Digital Factory / Smart Factory**

Digital planning and protect for the efficient use of e.g. PLM, MES systems and automated equipment





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# Thank You for Your Attention!

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