Plattform Industrie **4.0**

<< Plattform Industrie 4.0: A new approach in Germany >>

Henning Banthien, Secretary General Plattform Industrie 4.0

Industrie 4.0

Germany is in an **excellent starting position** for the successful implementation of Industrie 4.0

1. Powerful **engineering**, **production and ICT industry** provides a solid basis for the digitalization of the economy

2. Innovative **small- and medium-sized companies** as driving force of Germany's economic strength

3. **High level of qualification** due to application-oriented educational system and world-class research institutes

Plattform Industrie 4.0:

Shaping the digital transformation together

The digitale Transformation

Needs a broad-based foundation

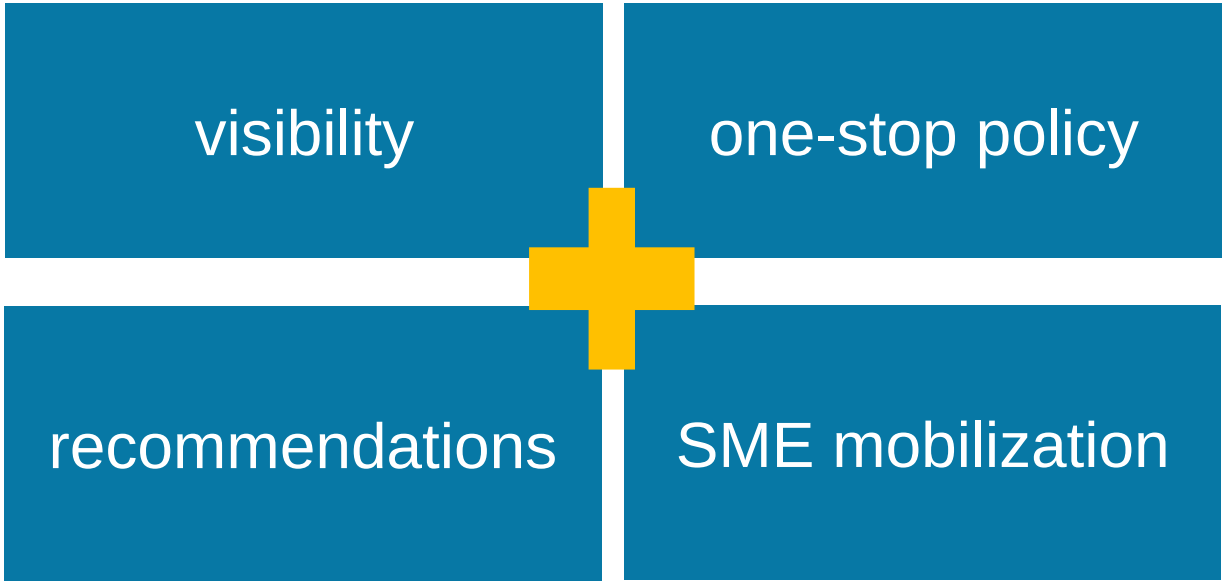
Industrie 4.0…

- … is a project of and for society as a whole…
- … , which requires a close alliance amongst the private sector, academia, politics, trade unions and associations …
- … and needs to be translated into practice and be implemented now.

The **Platform Industrie 4.0** provides support for the coordinated and organised transition into the digital economy in Germany

The Plattform Industrie 4.0

guarantees impact and visibility



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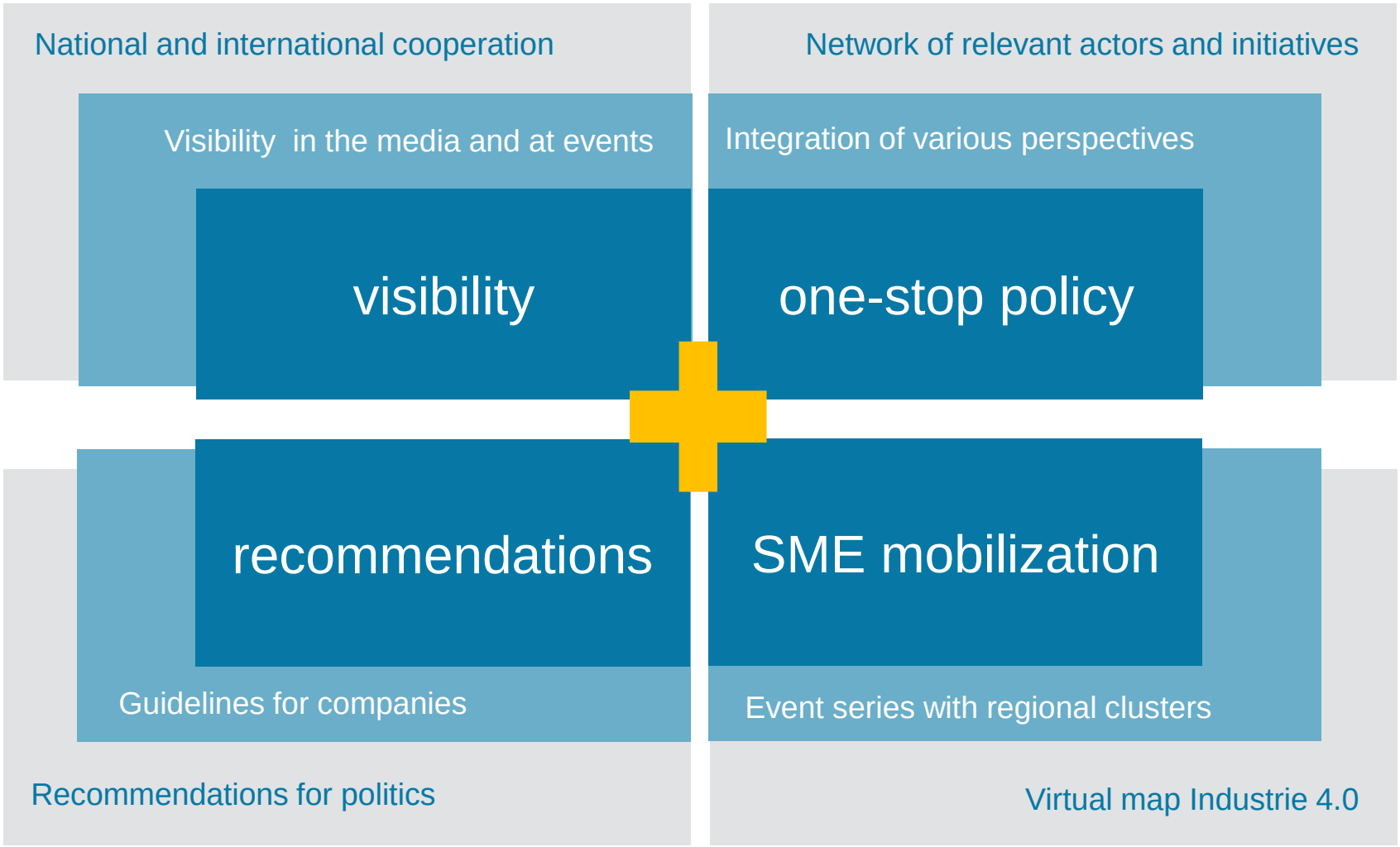


Plattform Industrie 4.0

Five things we do.

1. Focus on the **needs of businesses** and of end users
2. Create a **central point of contact** (for international partnerships and alliances)
3. Ensure acceptance through high **transparency and participation**
4. Develop a common language, **objective and key messages**
5. Establish **clear structures** and reliable processes for the day-to-day work of the platform

The **Platform Industrie 4.0** is the moderator of and catalyst for the exchange amongst all societal actors in the pre-competitive phase

Plattform Industrie 4.0
Structure

Technical and practical competences, decision-making

Steering Committee (business)

- Led by businesses, with the participation of BMWi, BMBF
- Chairs of working groups and other guests/ ambassadors

Development of industrial strategy, technical coordination, decision-making and implementation

Working Groups

- Reference Architectures, Norms and Standardisation
- Research and Innovation
- Security of Interconnected Systems
- Legal Framework
- Employment, Apprenticeships and Life-Long Learning
- Others, as needed

Working bodies with technical and practical competences; departments involved: BMWi, BMBF, BMI, BMJV, BMAS

Political direction, societal actors, multipliers

Strategy Committee (Politics, industry associations, trade union, academia)

- Chair: Secretary of State Machnig, Secretary of State Schütte
- Representatives of the Steering Committee
- Representatives of the Federal Chancellery, BMI
- Representatives of the Federal States Working Group
- Representatives of the industry associations (VDMA, ZVEI, BITCOM, BDI, VDA, BDEW)
- Representatives of the trade union (IG Metall)
- Representatives of the academia (FhG)

Agenda-Setting, political steering, multipliers

Academic Advisory Board

Market-linked activities

Industrial consortia and initiatives

Market implementation: Testing, Use Cases

International standardisation

Standardisation bodies (DKE and others), consortia

Project office as service provider

Coordination of the network, organisation, project management, internal and external communication

The Platform's Project Office

The central coordination hub

1. In charge of **coordinating the network – especially of the committees and working groups**
2. Responsible for all **organisational matters** regarding the Platform, as well as for project management
3. Manages **the internal and external communication** of the Platform
4. **First point of contact** for all enquiries

The Project Office is the coordinator of the Platform Industrie 4.0 and the communication manager of the Platform.

PLATTFORM INDUSTRIE 4.0

The working groups

Impulse generator of the Plattform Industrie 4.0

The Working Groups

The heart of the platform

- Five Working groups with focus on various thematic priorities
- The groups are understood as a work forum set up by representatives from businesses as well as works councils and trade unions
- Participation in the working groups is open for all interested and qualified representatives from businesses and works councils
- Criteria for the participation are a proven subject-specific expertise together with an effective mandate from the represented organisation and a regional multiplication effect




The Working Groups

Five thematic priorities

Working Group 1:

Reference architectures, standards and norms

Chair:

Dr. Peter Adolphs,
Pepperl + Fuchs

Working Group 2:

Research and innovation

Chair:
Johannes Diemer,
Hewlett Packard

Working Group 3:

Security of networked systems

Chair:
Michael Sandner,
Volkswagen AG

Working Group 4:

Legal Framework

Chair:
Dr. Hans-Jürgen Schlinkert,
ThyssenKrupp

Working Group 5:

Work, education and training

Chair:

Dr. Constanze Kurz
IG Metall

Working Group

Reference architectures, standards and norms

Goals and focus in 2016

Further development of the RAMI 4.0-Model (Reference Architecture Model Industrie 4.0)

- Development and Publication of the structure of the administration shell
- Design of an “Industrie 4.0-grammar”

Standardisation and international cooperation

- Initiating and support of DIN SPEC 91345 Part 1
- Development and coordination of the requirements for network communication
- Initiating a test-bed “RAMI 4.0-Fabrik” as an EU-funded project (Consortium outside the Platform)
- Foundation of a “Semantic Alliance” with w3c, IIC and other actors

Working Group
Research and Innovation

Goals and focus in 2016

Industrie 4.0 scenarios

- Development of various scenarios regarding the future development of Industrie 4.0
- Guidelines for the implementation of the technology transfer

Research & Development-Roadmap and innovation strategies

- identify research and innovation requirements from the industry perspective and set priorities

Working Group
Security of Interconnected Systems

Goals and focus in 2016

IT-Security for SMES

- introduction of “Industrie 4.0 security” aspects to SMEs
- help facilitating the necessary confidence between value chain partners

IT-Security within education and training

- define the new knowledge and experience required of employees in relation to Industrie 4.0 security issues

Working Group
Legal Framework

Goals and focus in 2016

Highlighting the fields where legislative action is needed

- Analysis of how the present regulation, which essentially addresses human-controlled behaviour, needs to be adapted to cover machine-controlled communication

Working Group
Work, education and training

Goals and focus in 2016

Work, education and training for Industrie 4.0

- In networked information and production spaces, human-machine interfaces and cooperation must be designed to serve the interests of the people involved and the innovative capacity of enterprises
- The organisational frameworks for coalescing value networks must be designed to facilitate working and learning within the processes.
- Training and qualification programmes in hybrid fields must be designed to accommodate operational skills development, process-oriented learning and new forms of learning.

PLATTFORM INDUSTRIE 4.0

Die Plattform Industrie 4.0:

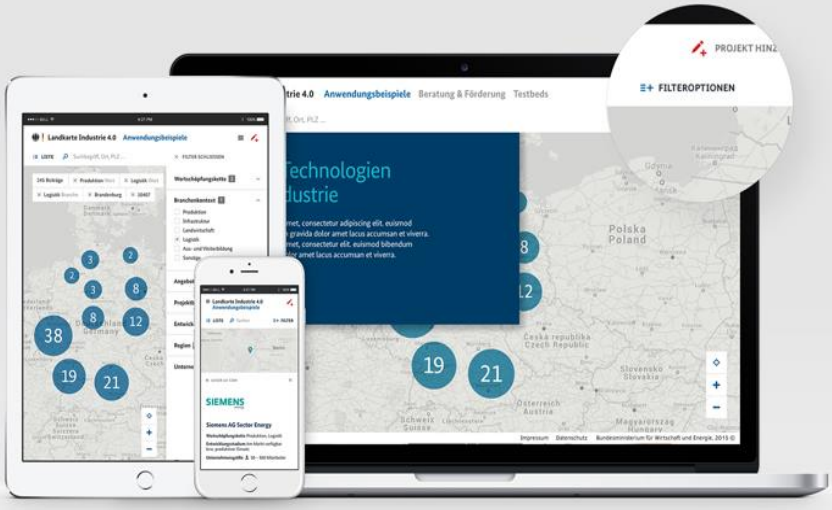
Service agency for the digital transformation

Virtual Map Industrie 4.0

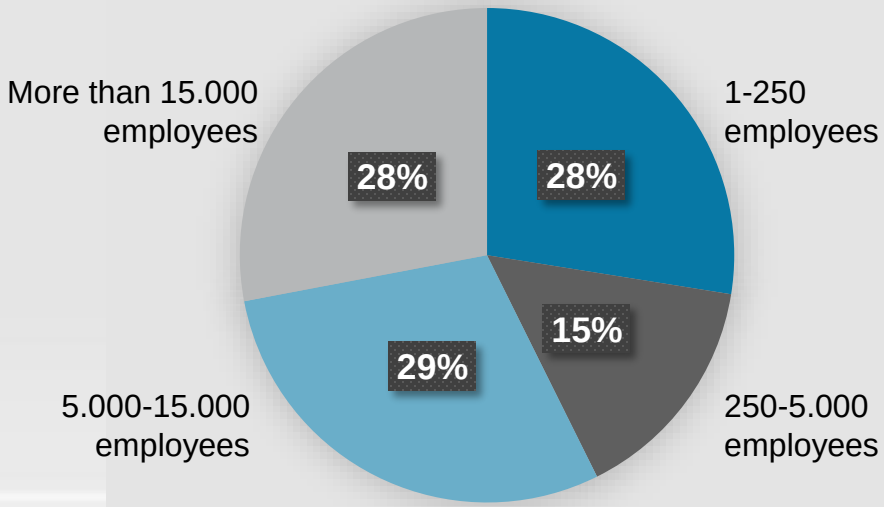
Where Industrie 4.0 is put into practice already today.

207 examples of application of Industrie 4.0…

…within **small, medium and large sized** enterprises from **various branches.**



Number of employees within the enterprises



[multiple answers possible]

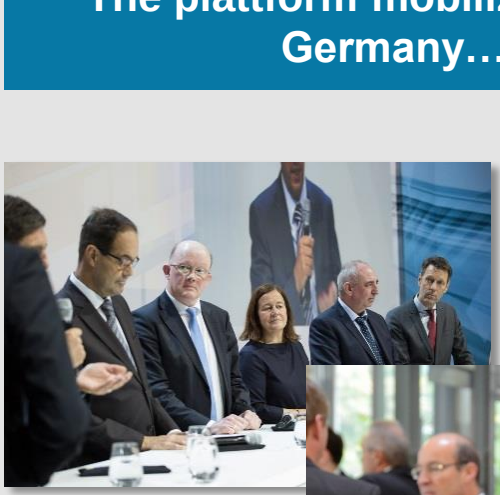
http://www.plattform-i40.de/I40/Landkarte

Only available in German

Plattform @ Events

Where Industrie 4.0 can be discussed practically

The plattform mobilizes within Germany…



… and continously invites to exchange latest developments, questions and views on Industrie 4.0

Testbed network Industrie 4.0

Where Industrie 4.0 can be tested for practical use

The plattform offers …

Erproben

Vernetzen

Gestalten

Labs Network
INDUSTRIE 4.0

…an overview of existing test-beds in Germany and provides information on further support structures to use those test-beds

Plattform Industrie 4.0

One common language within the media

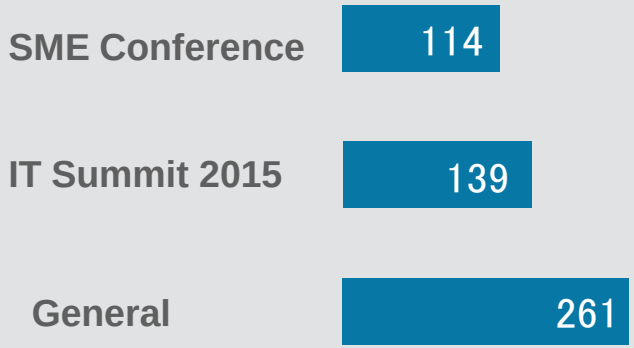
„The foundation for the factory of the future“
FAZ, 19.11.2015

„Test-beds help SMEs with their digitisation“
VDI Nachrichten, 20.11.2015

„Industrie 4.0 is one of the crucial topics for the future for Germany“
Die Welt, 26.11.2015

„Without the human being it does not work“
Der Tagesspiegel, 15.11.2015

Reports on the Plattform Industrie 4.0
Sep– Dec 2015



PLATTFORM INDUSTRIE 4.0

Example applications Industrie 4.0

Holistic Industrie 4.0-Approach
Robert Bosch GmbH – Werk Blaichach (BhP)

- Pilot testing and implementation of Industrie 4.0 technology in numerous projects in the fields of production and logistics

© Bosch GmbH

BOSCH
Technik fürs Leben

Robot milling center of Tischlerei Eigenstetter

Tischlerei Eigenstetter GmbH

- Automated procedure for milling big and complex components out of wood and plastic materials

© Tischlerei Eigenstetter GmbH

TISCHLEREI EIGENSTETTER

Umhausungsfreie Montagestation
ABB AG

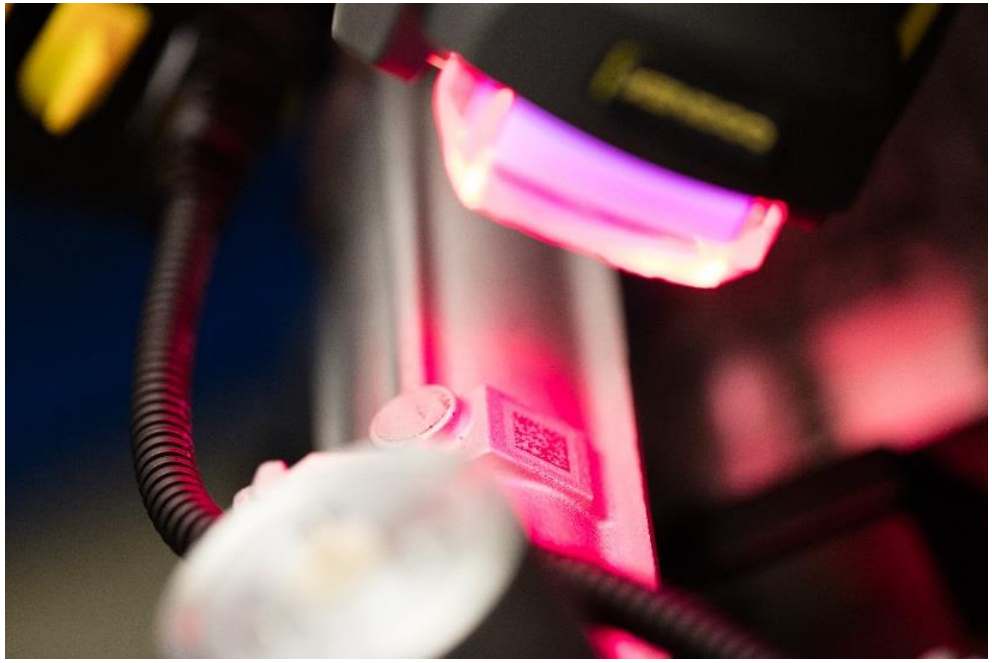
- Two-arm robot YuMi was developed as a reaction to the production requirements for the assembly during the production of small electronic components

© ABB

Camshaft production Ilsenburg

ThyssenKrupp Presta Ilsenburg GmbH

- „Smart Production“ during camshaft production enables that camshafts and material carry along information such as process, material, logistics and quality during the production process



© Thyssen Krupp AG

Predictive Maintenance
Kaeser Kompressoren SE

- Sensors inside the devices observe the aircompressors in real time, controlling for e.g. power consumption, operational readiness, security aspects or the compressed air quality, allowing service technicians to analyse the data online via the SAP Predictive Maintainance Solution

Source: Michael Sohn / AP
Luca Bruno / AP

Digitisation – Evolution or Revolution?

Plattform Industrie 4.0
Platform's Project Office

Plattform Industrie 4.0
Henning Banthien, Secretary General
Geschäftsstelle
Bertolt-Brecht-Platz 3
D-10117 Berlin
Tel.: +49 30 2759 5066-50
geschaeftsstelle@plattform-i40.de

www.plattform-i40.de [also available in English]