



# Research goals and funding opportunities in Germany

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# DLR Project Management Agency

# We

- » drive research, innovation and education
- » support policies, programmes and projects
- » operate nationally, across Europe and internationally
- » network disciplines, industries and stakeholders
- » stand for dedication and professionalism

**CONSULTING**  
EVALUATIONS  
ANALYSES

TRAINING

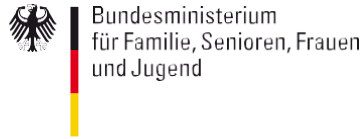
INFORMATION,  
COMMUNICATION, DIALOGUES  
**FUNDING MANAGEMENT**  
RESEARCH AND INNOVATION  
MANAGEMENT



Bundesministerium  
für Wirtschaft  
und Energie

# Our Clients

- » Federal ministries, state ministries, public authorities
- » Foundations, associations, research organisations
- » European Commission, foreign government bodies



Ministerium für Innovation,  
Wissenschaft und Forschung  
des Landes Nordrhein-Westfalen



# Our Unit „Information Technologies / Electric Mobility”

works on behalf of the



- » responsible for the “Development of Digital Technologies”
- » promotion of research and development at the precompetitive stage.

The aim of our work is to pick up on key trends at an early stage and to accelerate the process of transferring scientific findings into the development of marketable high-tech technologies with high-level potential for practical applications.

# Challenges for Applying ICT

## Impacts on businesses and the society



Production Systems  
(„Industrie 4.0“)



Energy Systems  
(„Energiewende“)



Social Systems  
(„Demographischer Wandel“)

→ ICT connects complex systems and transforms businesses and society

# Effects and impacts on businesses and the society

## Industrie 4.0 – Example „SpeedFactory“

- Manufacturing is the backbone of Germany's prosperity:  
**15 mio. jobs affected**
- Automation allows to bring back production to where the customers are.
- Intelligent robot technology will produce better Products e.g. Shoes according to individual customer needs and customer foot measures
- Industrie 4.0 will modernize and individualize the classical mass production.



# (How) to govern / influence the digital revolution?

## 1) Digital Transformation is on the German political agenda

- National Digital Summit: the central cooperation platform for politics, science, economy and society for designing the digital change.
- The current coalition agreement addresses important topics of the digital revolution (Industrie 4.0, AI, Blockchain)
- Political strategies have been worked out
  - a) New Hightech Strategy 2025: Ministry of Research and Education
  - b) Digital Strategy 2025 (BMW): „funding programs and lighthouse projects will be specifically set up in innovative technology and application areas“



# (How) to govern / influence the digital revolution?

## 2) Investments in applied research to promote a faster adoption

Currently, most of the funding is devoted to the following programs

- **Smart Data:** to develop and test new technologies that enable big data to be used in both the private sector and by the public in a secure and legally compliant manner; *2014-2017, 13 projects, 30 m€; currently in application approval process* **Smart Data Economy - learning from data**
- **Smart Service Welt:** to connect digital user areas using a targeted, secure combination of open service platforms, data management technologies, and Internet of Things; *2015-2019, 16 projects, 50m€ ; 2018-2021, 15 projects, 50m€*
- **Digital technologies for business – PAiCE** in which pioneering technology fields such as product engineering, agile logistics, service robotics, industrial 3D applications and industrial communication as well as their interconnectivity are addressed, which are particularly relevant for the digitization of the economy; *2016-2020, 16 projects, 50 m€*
- **ICT for Electric Mobility:** focusing on the key areas of logistics, mobility and energy infrastructure; Phase 3 (Commercial e-vehicles) 2015-2019, approx. 30 m€



# (How) to govern / influence the digital revolution?

## 2) Investments in applied research to promote a faster adoption

Currently, a call for the following program (in German) is open:

### **Innovation Competition "Artificial Intelligence as a Driver for National Ecosystems"**

*A BMWi technology program focusing on platform projects that exploit artificial intelligence*

The selection procedure has two phases. For the ideas competition phase, project proposals can be submitted until March 1<sup>st</sup> 2019, 12:00 noon.

# (How) to govern / influence the digital revolution?

## 2) Investments in application-oriented basic research

Currently, the following BMBF programs on communication systems and IT security are open:



- **StartUpSecure**

The BMBF supports start-ups in the field of IT security

- **Artificial Intelligence for IT Security**

Germany has great expertise in both AI and IT security research. The BMBF therefore intends to promote application-oriented research and development of IT security technologies and processes based on artificial intelligence.

*Deadline: 29.03.2019*

# (How) to govern / influence the digital revolution?

## 3) Fostering competence centres; business platforms & initiatives

- **Platform Industrie 4.0:** Under the lead of Ministers Altmaier and Karliczek, a broad alliance of associations, scientific organisations and trade unions has been created. 6 Working groups are driving the relevant topics
- **22 'Mittelstand 4.0 Centres of Excellence':** 18 regional Centres plus 6 thematic ones (eg. **Digital Skilled Crafts Centre of Excellence**): SMEs can test their own technical developments and interfaces with products and clients before they invest in customised systems
- **4 'Mittelstand 4.0' agencies** on relevant topics for SME („Cloud“, „Processes“, „Communication“, „Trade“) and take care for a broad knowledge transfer
- **Big Data Centres (Berlin, Dresden/Leipzig):** BMWi and BMBF cooperate in funding two centres / labs for cutting-edge research
- **AI Competence Centres:** BMBF is funding four centres / labs for cutting-edge research

# (How) to govern / influence the digital revolution?

## 4) Fostering innovative SME and Start-ups in the digital Sector

- The **Central Innovation Program SME (ZIM)** offers
  - Multiple funding variants for custom-fit funding
  - Possibility for continuous application for all kind of topics (ICT= #4)
  - Easy application and quick decision processes
  - About 400 Mio. Euro SME funding in ICT topics since 2008
  - More at <http://www.zim-bmwi.de/zim-overview>
- **EXIST program** for start-up businesses out of university
  - Supports students and researches in high-tech areas
  - Recently published new guidelines to improve funding and provide higher lump sums for material costs (November 2014)
  - More info at: <http://www.exist.de>

# Objectives of the R&D&I-Funding

**Accelerate the introduction of German Digital Technology innovations to the market**

**Drive the Digital Transformation of the German Economy through the development of prototypical solutions**

All the research programs that receive funding involve model users who pilot the developments in order to establish their technical and economic viability. The results are then used as a starting point for the creation of market-ready products, solutions, and business models, particularly for SMEs.

# More info and examples:



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