



Federal Ministry
of Education
and Research

German AI Initiatives - Using digital technologies for sustainable solutions

Dr. sc. Lothar Mennicken, German Embassy Tokyo



German AI Strategy (1)

- Federal Gov. (BMBF, BMWi, BMAS) publ. Nov. 2018
- Goals
 - (1) Make Germany and Europe a leading Centre for AI
 - (2) Ensure that AI serves for the good of society
 - (3) Integrate AI in society in ethical, legal, cultural and institutional terms

www.ki-strategie-deutschland.de
German/English/French/**Japanese**

German AI Strategy (2)

BMBF focus:

- Strengthening research, education, and training
- Extending European research cooperation
- Transfer into application
- Data spaces
- National and international networks (e.g. GE/FR/JP)
- Conducting the societal dialogue

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R&D Cooperation Germany-Japan

Joint Declaration of Intent on
promotion of joint R&D in AI signed by
Federal Minister Karliczek (BMBF)
Minister Shibayama (MEXT)
Tokyo, April 16th 2019





National Competence Centers in AI

- (1) Berlin
- (2) Dortmund/Bonn
- (3) Leipzig/Dresden
- (4) Munich
- (5) Tuebingen
- (6) DFKI - German Research Center for Artificial Intelligence
(Kaiserslautern, Saarbruecken, Bremen, Berlin, Osnabrueck)

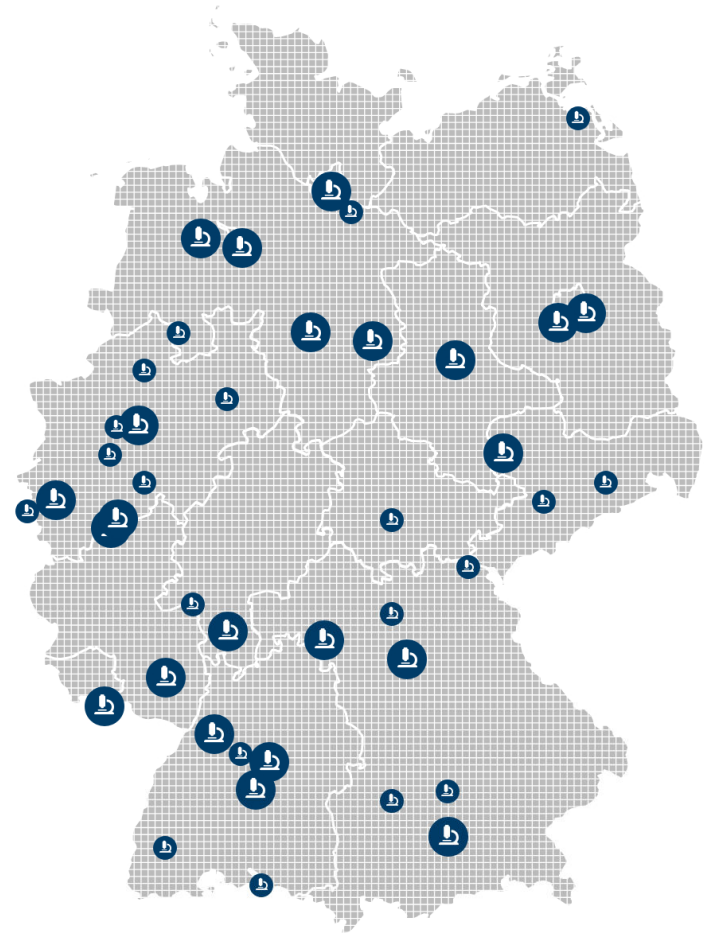


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AI Research in Germany

<http://www.ki-landkarte.de>

by **Plattform Lernende Systeme**





Strengthening Research on AI

- Extension of the 6 national Competence Centres in AI
- Establishing a national cooperative network of AI centres
- German-French research and innovation network as a seed for European cooperation
- Various calls for project proposals





Strengthening education and training on AI

- Setup of 100 additional AI professorships (chairs) at universities
- Support of in-company training and further education
- Strengthening STEM education





Conducting the societal dialogue on AI

- **Plattform Lernende Systeme**
the German expert forum for AI
- **Science Year 2019 “Artificial Intelligence”**
public campaign to inform and discuss
about AI



An Initiative of the Federal Ministry
of Education and Research

Science Year 2019

**ARTIFICIAL
INTELLIGENCE**

Digital technology for ecological challenges (1)

Digital GreenTech

(sensors, networking, automation, digital platforms => system solutions and new business models)

- sustainable water management,
- circular economy,
- resource efficiency



Digital technology for ecological challenges (2)

Future Proof Power Grids (BMW/BMBF)

- network operation management
- network planning
- transmission and distribution techniques

STROMNETZE

Forschungsinitiative der Bundesregierung



Digital technology for ecological challenges (3)

Digital agriculture

- Agricultural systems of the future
- *DAKIS - Digital Agricultural Knowledge and Information System*
- Incorporate externalities in the decision-making process of the farmer
- Record, forecast and control site-specific real-time effects of agricultural activities





Digital technology for ecological challenges (4)

Local Climate and Environmental Models for Future Cities and Regions

- Computer models/ databases offer locally specific information on environmental and climate scenarios.
- enable cities and regions to prepare for the future
- goal: customized databases/user interfaces using AI for decision-making in cities and regions

Open Questions (1)

- In which areas/ ways have AI applications the potential to bring “transformative change” and can thus function as “game changer” to tackle climate change?
- Which impact have AI applications today on tackling climate change?
- What are future opportunities?



Open Questions (2):

- How can we distinguish AI applications with potential impact on climate change from mere “science fiction“?
- What are the barriers, bottlenecks and limitations for the use of AI applications to tackle climate change?
- Which ethical and legal issues/risks are/will be involved? How can we secure a “human-friendly“ and “earth-friendly“ AI? What could be unintended consequences for the earth?



Further Information

<https://www.ki-strategie-deutschland.de>

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