



Federal Ministry  
of Education  
and Research

# International Future Labs



**ARTIFICIAL  
INTELLIGENCE**



# Preface

With a view to ensuring that “AI made in Germany” will become a strong international brand, we recently launched three International Future Labs for Artificial Intelligence to foster international collaboration in research. It is only through collaboration that we can arrive at much-needed solutions to the global challenges of our times.

In the Future Labs, we bring together top-class researchers from Germany and around the world to work as a team under attractive conditions. The three Future Labs are designed to forge closer international networks for German AI research. This will boost Germany’s strength in AI research.

*Federal Ministry of Education and Research*



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## **AI4EO**

**Technical University of Munich and German Aerospace Center (DLR)**

The **AI4EO Future Lab (Artificial Intelligence for Earth Observation: Reasoning, Uncertainties, Ethics and Beyond)** develops AI techniques to process large quantities of data – primarily from satellites, but also other geo-information. This allows precise monitoring and measurement of the current state of planet Earth and of changes such as global urbanisation, food availability and natural hazards. The high-quality information gathered using AI makes it possible to identify previously unknown correlations and gain new insights. This smart data collected from space benefits decision-makers down on Earth. It provides a basis for shaping sustainable cities, better managing resources and implementing the United Nations Sustainable Development Goals.

## **Leibniz AI Lab**

**University of Hanover**

A key focus of the **International Leibniz Future Lab for Artificial Intelligence (Leibniz AI Lab)** is personalised medicine. The aim here is to develop medical treatments that are precisely tailored to the individual patient. Fine-tuning medication and enabling more precise diagnosis involves crunching huge amounts of data. Using a wide range of methods from the AI toolbox, including machine learning, the Future Lab focuses on developing new algorithms for safe, smart, reliable systems.

## KIWI-biolab

Technische Universität Berlin, University of Hildesheim  
and University of Greifswald

**KIWI-biolab – the International Future Laboratory for AI-assisted Bioprocess Engineering** – combines the disciplines of biotechnology, machine learning, process engineering and robotics, focusing on autonomous process development for medicines, foods and sustainable plastics. Artificial intelligence is deployed in bioprocess engineering to analyse data and enable computers to autonomously plan, execute and optimise robotic experiments in real time. The economic, social and environmental dimensions of sustainable development are taken into account throughout.



# About the competition

Targeting top researchers in Germany and all over the world, the International Future Labs for Artificial Intelligence competition was launched by the Federal Ministry of Education and Research in 2019. Entries were submitted by over **35 German** and **70 international research institutions**. **Three research teams** were selected to receive funding of up to **€5 million** each **over a period of three years** commencing 1 May 2020.

Each of the **three Future Labs**, located in Berlin, Hanover and Munich, brings together as many as **twelve academics** from countries such as Argentina, Australia, France, India, Mexico, New Zealand, Singapore, Switzerland and the US to work on current AI-related research questions.

The objective of the Future Labs is to promote cross-border collaboration in AI research. The knowledge gained will be used to develop applications in the domains of sustainability, medicine and biotechnology. The results will benefit society as a whole, providing more personalised medical treatment and diagnosis, more liveable urban planning, early detection of natural hazards and the development of new medical drugs and sustainable plastics.



More about the competition at  
[bit.ly/37Dy2mX](https://bit.ly/37Dy2mX)

**Do you have any questions?**

**Please get in touch with:**

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