

## Title of the Challenge

### **Mobile Communications Infrastructure rethought with Cutting Edge Technologies such as AI**

#### **What is the main issue the challenge addresses?**

If there were no existing mobile communications infrastructure, how would it be built "on a greenfield site" in a future-oriented, sustainable and cost-conscious manner, especially in rural areas? How can AI contribute to this?

In Germany, the mobile network operators are each building and expanding their own mobile network infrastructure. As a rule, the providers Telekom, Vodafone and Telefónica use the radio towers they have built on their own. Mobile phone coverage is particularly difficult in rural areas, as rugged valleys and mountainous regions are difficult to cover with radio masts - as is the case in large parts of Bavaria and Baden-Württemberg. In Germany, there are three parallel digitalization strands: the mobile communications infrastructure, the fibre optic network and the new possibility of integrating mobile devices and radio towers into the network via satellites.

That would be the starting point of our task. The question is: How could an alternative to the existing mobile communications coverage be technically and conceptually redesigned or constructed? What elements would have to be used to ensure that a nationwide mobile network for different users (private, industry and public sector (keyword: security)) can be set up in a cost-conscious, sustainable manner and be available at every location in Germany? And how can existing infrastructures be combined or integrated? How could cutting edge technologies such as AI help?

#### **Call to Action**

If there was no existing mobile communications infrastructure, how would it be built "on a greenfield site" in a forward-looking, sustainable and cost-conscious way, especially in rural areas? How can AI contribute to this?

#### **What is the desired impact of the challenge?**

Using all of the cutting edge technologies in Germany.

#### **Related SDGs**



### Category for the challenge

- People
- Nature
- Economy

### Who is behind this challenge?

The Mobilfunkinfrastrukturgesellschaft mbH (MIG) is a federal company established in 2021 to address mobile network gaps in Germany, particularly in rural areas lacking coverage. It coordinates funding for the construction of new mobile masts aiming to ensure that at least one mobile network operator provides reliable 4G service in underserved regions.