

Innovation + Communication + Geostation = Heinrich Hertz Satellite Mission

The Heinrich Hertz satellite mission supports top technologies made in Germany in the entire field of satellite communication, thus securing its sustainable use. With a satellite communication mission of its own, Germany is strengthening its global position in the field of geostationary satellites systems and services, facing the international competition and securing jobs in the high-technology sector.



Der Satellit Heinrich Hertz
und sein Namenspatron

DLR at a glance

DLR is Germany's national research centre for aeronautics and space. Its extensive research and development work in Aeronautics, Space, Energy, Transport and Security is integrated into national and international cooperative ventures. As Germany's space agency, DLR has been given responsibility for the forward planning and the implementation of the German space programme by the German federal government as well as for the international representation of German interests. Furthermore, Germany's largest project management agency is also part of DLR.

Approximately 7000 people are employed at 16 locations in Germany: Cologne (headquarters), Augsburg, Berlin, Bonn, Braunschweig, Bremen, Goettingen, Hamburg, Juelich, Lampoldshausen, Neustrelitz, Oberpfaffenhofen, Stade, Stuttgart, Trauen, and Weilheim. DLR also operates offices in Brussels, Paris, and Washington D.C.

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Heinrich Hertz

Satellite communication
from Germany



Heinrich Hertz = Innovation

Constant availability and an insatiable appetite for up-to-date information and news **are** key attributes of our modern information society. Internet, mail, or text messages reach our mobile phones, tablet PCs, or notebooks at all times and places. Consequently, an unimaginably vast volume of data flows around the globe, growing permanently. To satisfy this thirst for information, new technological developments are needed for communication satellites.

The Heinrich Hertz satellite is a test platform on which new technologies for communication satellites will be exposed to the extreme conditions prevailing in space: for up to 15 years, these new developments will have to withstand high levels of radiation and enormous temperature fluctuations. This so-called in-orbit verification minimises a risk of failure in a way that cannot be simulated on the ground.

Heinrich Hertz = Communication

Mobile access to satellite services is getting more and more important. New developments in the field of user terminals with antennas measuring less than 80 centimetres in diameter test the limits of mobility and availability.

On Heinrich Hertz, science and industry will be able to run a multitude of experiments to demonstrate the functionality of each technology. And what is more, Heinrich Hertz will serve as a 'relay station'. It will clearly increase contact times with satellites orbiting the Earth, considerably enhancing the transfer of data. The basis for this is provided by new and innovative transmission methods and a recently developed Ka band antenna (23/26 gigahertz).

Heinrich Hertz = Geostation

Heinrich Hertz gives Germany's space industry an opportunity to develop, build, and launch its own communication satellite systems. At the same time, an innovative and flexible hybrid payload concept is being tested to investigate the opportunities and limitations of adaptability for future missions.

There is another ground-breaking aspect to Heinrich Hertz: In addition to the Federal Ministry of Economics and Technology which funds the scientific and technical part of the mission, the Federal Ministry of Defence is involved in Heinrich Hertz as well. It intends to use additional, independent capacities for its own communication purposes. Civilian and military forces operating in disaster or crisis regions where ground-based communication infrastructures are overloaded or destroyed will benefit from these new communication capabilities. In accordance with the federal government's space strategy, the Heinrich Hertz project aims to benefit society as a whole.

German systems competence in satellite communication

