

€526 million: Record investment in German particle accelerator FAIR

Getting to the heart of the matter

This release is available in [German](#) [1].

The city of Darmstadt, Germany, will soon be home to one of the world's largest research centres. The international Facility for Antiproton and Ion Research (FAIR) will be built on a 20-hectare site using 35,000 tons of steel and 600,000 cubic meters of concrete. In addition to providing a hub for basic research, FAIR will also be used to develop new medical therapies and diagnostic procedures as well as energy-efficient, high-performance computers and new materials, for example, for space missions.



State Secretary Dr. Helge Braun, Dr. Beatrix Vierkorn-Rudolph (Chair of FAIR Council), professor Boris Sharkov (Chairman and FAIR Scientific Managing Director), State Secretary Ingmar Jung (State of Hesse), Hesse's former Science Minister Ruth Wagner (from left), 2nd row: professor Günther Rosner (FAIR Research and Administrativ Managing Director), professor Horst Stoecker (GSI Scientific Director).

The commitment from BMBF means that construction work can now start at the site located next to the GSI Helmholtz Centre for Heavy Ion Research (GSI Helmholtzzentrum für Schwerionenforschung). "FAIR will position Germany as the leading light in global atomic and particle physics for the next 20 years," explains

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Braun. "The particle accelerator will be at the heart of an international research network, delivering key scientific insights while educating thousands of promising up-and-coming scientists. We know from experience that the basic research of today leads to the innovations of tomorrow," he continues. 3,000 scientists and engineers from over 50 countries are already developing the accelerators and experiments for FAIR. In future, the facility will play a pivotal role in educating a new generation of international scientists and engineers. And this new talent will have a significant impact on society as over two thirds of the young men and women will go on to work in industry once they have completed their PhD.

Professor Boris Sharkov, Scientific Managing Director of FAIR expressed his delight at the announcement: "FAIR is a dream come true for the scientific community - one that is built on passion, perseverance and fantastic support from Germany, the German state of Hesse and our international partners." The new centre will act not only as an international melting pot for ideas and knowledge, but also as an intercultural magnet for young talent from around the world.

The 20-hectare construction site is already set for building work to start. In autumn, following the construction of four kilometres of roads, the first of a total of 1,500 drilled piles will be bored into the ground at depths of up to 60 meters, providing a solid foundation for the high-tech facility. A tunnel will also be built at the site to house a ring accelerator with a circumference of 1.1 kilometres. Twenty-four buildings and tunnel sections will provide 62,000 square meters of usable space and a home for 3.5 kilometres of beam pipes plus huge detectors and a complex technical infrastructure. A total of 600,000 cubic meters of concrete will be used to build the facility - the same amount required for an airport terminal. The 35,000 tonnes of steel that will go into FAIR is enough to build almost five Eiffel Towers.

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