

Russia's participation in the construction of the European X-ray free-electron laser installation

Since 2009, Russia has been involved in an international project to build and operate the European X-ray free-electron laser installation. The installation is being built in Hamburg, Germany, and is intended for research in a number of areas, including solid state physics, geophysics, chemistry, materials science, medicine, and structural microbiology. The signed directive instructs the Kurchatov Institute National Research Centre to pay the remaining share of the Russian Federation's contribution towards the construction of the installation. The funds for these purposes have been allocated from the 2017 federal budget.

Reference

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The construction of the world's most powerful free-electron laser, the European X-ray free-electron laser installation (hereinafter XFEL, installation) is nearing completion in Hamburg, Germany. The installation will make it possible to pursue research at a level previously inaccessible for scientists in materials science, nanotechnology, chemistry, and biology, including studying viruses practically on an atomic level, determining the molecular composition of cells, and creating 3D images in the nanoworld, as well as recording ultrafast chemical processes in real time.

In keeping with Government Directive No.1025-r of 23 July 2009, Russia participates in the international project to build and operate XFEL. Russia is a key partner in implementing the project and second after Germany in the size of its share (26.79%). The Russian Federation has made an important contribution to developing the free electron laser idea and supplied Russian-made high-technology equipment, as well as special-purpose contributions towards the construction of the installation.

The participant in the project from the Russian Party is the Federal State Budgetary Institution Kurchatov Institute National Research Centre (hereinafter, Kurchatov Institute).

The Convention on the Construction and Operation of the Installation provides for the participants in the project assuming definite financial obligations. Since 2009, Russia has allocated special-purpose contributions towards implementing the project.

The signed directive instructs the Kurchatov Institute to pay the remaining share of the Russian Federation's contribution towards the construction of the installation. The funds for these purposes have been allocated from the 2017 federal budget.

The decision makes it possible to complete the project within the planned timeframe. The launching of the installation will offer new opportunities for studying chemical and physical processes. Implementing the project will enable Russian researchers as full-fledged participants in the international cooperation in the physical, chemical, materials science, and biomedical research to use what they develop, specifically new synchrotron radiation sources, and access the most advanced technologies.