Press Release

"Zukunftstag Kernfusion" Showed How SAXFUSION Matches Research, Industry, and Policymakers to Build a New Value Chain

Saxony Advances the Energy of Tomorrow

Press Release No. 09 | Dresden, September 9, 2026

Advancing fusion energy takes a concerted effort. On September 8, 2026, "Zukunftstag Kernfusion" brought together more than 100 registered attendees from research, industry, startups, and government at the Fraunhofer Institute Center Dresden. More than 50 companies expressed interest in the emerging fusion industry. At the event, SAXFUSION highlighted practical entry points for Saxon companies and strengthened dialogue across the future value chain. The European Union and the Free State of Saxony are funding the network's development with around 2.4 million euros through the end of 2027.

Saxony builds on a strong technological foundation. Expertise in laser and plasma technology, materials development, metalworking, optics, metrology, simulation and automation addresses key requirements of future fusion power plants. SAXFUSION links these capabilities and translates scientific findings into industrial applications.

Engaging Industrial Expertise at an Early Stage

"Zukunftstag Kernfusion" specifically targeted companies with capabilities relevant to Germany's fusion ecosystem but little previous exposure to fusion energy. Companies in metalworking, mechanical and plant engineering, hydrogen technology, scientific instrumentation, semiconductor manufacturing and precision optics already use technologies with clear potential in fusion applications.

Prof. Tony Donné, former program manager of the European research consortium EUROfusion, outlined the technology's current state and its industrial prospects. Representatives from Gauss Fusion, Siemens Energy, DANTE Fusion, Focused Energy, ALOtec Dresden, and the Fusion Industrial Liaison Office (FILO) then discussed requirements, timelines and initial business models. Tours of selected research facilities at Fraunhofer Institute Center Dresden and thematic discussion sessions matched specific technology needs with the capabilities of participating companies.

SAXFUSION connects research and industry across magnetic and laser fusion. Together, the partners also advance cross-cutting topics such as fuels, materials, diagnostics and simulation,

Research program:
EFRE InfraProNet 2021–2027 – Call "Forschungsnetzwerke an öffentlichen Wissenschaftseinrichtungen"
Funding source:
Sächsische Aufbaubank (SAB)
Funding period:
12.05.2025–31.12.2027
Total grant:
2.4 Mio. Euro
Funding code:

Co-funded by the European Union

Freistaat SACHSEN

This project is co-financed from tax revenues on the basis of the budget adopted by the Saxon State Parliament.

translating research results into industrial applications. This open approach helps companies assess how their capabilities fit the fusion sector, regardless of which power plant concept ultimately prevails.

Policymakers Create a Reliable Framework

The Free State of Saxony supports fusion research as a long-term strategic priority. The European Union and the Free State fund the SAXFUSION network project through the European Regional Development Fund and state funds. The network aims to raise the profile of existing expertise, initiate new collaborations and integrate Saxony into national and international networks.

Saxon State Minister for Science, Culture and Tourism Sebastian Gemkow emphasizes: "Nuclear fusion is a key technology today because it offers the prospect of a clean and safe energy source. Saxony has two decisive advantages in the race toward commercial fusion energy: excellent research institutions and the SAXFUSION research network. It pools the scientific expertise of Saxony's universities and research institutes. It connects them with companies across the state – from agile startups and highly innovative small and medium-sized enterprises to the global players of Silicon Saxony. These companies possess precisely the expertise that the global fusion industry now seeks."

The three national fusion hubs will provide additional momentum in magnetic fusion, laser fusion, and fuel cycle and materials development. Network partners participate in all three. The Federal Ministry of Research, Technology and Space (BMFTR) is providing around 125 million euros for the initial funding phase. The three new fusion hubs pool scientific and industrial expertise across Germany to advance key fusion technologies and accelerate their transfer into industrial applications.

Cutting-Edge Research Meets Industrial Application

The Helmholtz-Zentrum Dresden-Rossendorf (HZDR) and the Fraunhofer Institute for Material and Beam Technology IWS coordinate SAXFUSION. HZDR's high-power lasers, plasma experiments, materials research, and computer simulations provide key foundations for fusion research. The Center for Advanced Systems Understanding (CASUS) at HZDR develops advanced methods for simulation and data analysis.

"Fusion energy demands cutting-edge physics research and engineering expertise. SAXFUSION connects research and industry, moving us from laboratory experiments toward viable power plant concepts. Over the long term, this work will help secure Germany's energy supply," explains Prof. Sebastian M. Schmidt, Scientific Director of HZDR.

Fraunhofer IWS focuses on transferring research into industrial practice. The institute develops manufacturing processes for complex fusion components, studies materials for extreme thermal and mechanical loads and tests functional coatings as tritium barriers. Additive and hybrid manufacturing processes offer further opportunities for components with complex cooling structures.

"Fusion energy requires materials, processes and components that companies can manufacture reliably and cost-effectively," highlights Prof. Christoph Leyens, Director of Fraunhofer IWS. "Saxony disposes of these capabilities. SAXFUSION gives small and medium-

Research program:
EFRE InfraProNet 2021–2027 – Call "Forschungsnetzwerke an öffentlichen Wissenschaftseinrichtungen"
Funding source:
Sächsische Aufbaubank (SAB)
Funding period:
12.05.2025–31.12.2027
Total grant:
2.4 Mio. Euro
Funding code:

Co-funded by the European Union

Freistaat SACHSEN

This project is co-financed from tax revenues on the basis of the budget adopted by the Saxon State Parliament.

saxfusion

sized enterprises in particular access to new value creation opportunities in fusion technology."

Additional partners contribute expertise in high-power lasers, micro- and nanoprocessing, power and high-voltage technology, neutron technology, materials development and precision optics. SAXFUSION connects partners, helps form new consortia and develops joint research projects.

Network Welcomes New Partners

"Zukunftstag Kernfusion" marked yet another step toward building a fusion industry in Saxony. SAXFUSION invites companies, research institutions and startups to contribute their technologies and jointly explore new applications. The network shares information on technological developments and funding opportunities, connects suitable partners and helps turn initial ideas into projects.

About SAXFUSION

Since May 2025, SAXFUSION has been building a competence network for fusion-related research and technology development. Helmholtz-Zentrum Dresden-Rossendorf (HZDR) and the Fraunhofer Institute for Material and Beam Technology IWS coordinate the project and promote technology transfer. Other partners include Mittweida University of Applied Sciences, Zittau/Görlitz University of Applied Sciences, TUD Dresden University of Technology, the Leibniz Institute for Solid State and Materials Research Dresden and the Leibniz Institute of Surface Engineering in Leipzig.

The European Union and the Free State of Saxony are funding SAXFUSION with around 2.4 million euros through December 31, 2027. Funding comes from the European Regional Development Fund and tax revenues allocated under the budget approved by the Saxon State Parliament.

More information: www.sax-fusion.de

Research program:
EFRE InfraProNet 2021–2027 – Call "Forschungsnetzwerke an öffentlichen Wissenschaftseinrichtungen"
Funding source:
Sächsische Aufbaubank (SAB)
Funding period:
12.05.2025–31.12.2027
Total grant:
2.4 Mio. Euro
Funding code:

Co-funded by the European Union

Freistaat SACHSEN

This project is co-financed from tax revenues on the basis of the budget adopted by the Saxon State Parliament.

Press Contacts

Falk Lange
Saxon State Ministry for Science, Culture and Tourism
Press Spokesperson
Phone +49 351 564-60200
falk.lange@smwk.sachsen.de

Simon Schmitt
Helmholtz-Zentrum Dresden-Rossendorf (HZDR)
Head of Communications and Media
Phone +49 351 260-3400
s.schmitt@hzdr.de

Markus Forytta
Fraunhofer Institute for Material and Beam Technology IWS
Head of Corporate Communications
Phone +49 351 83391-3614
markus.forytta@iws.fraunhofer.de

Artificial intelligence assisted in drafting this article. Fraunhofer IWS reviewed and finalized the text.

Research program:
EFRE InfraProNet 2021–2027 – Call "Forschungsnetzwerke an öffentlichen Wissenschaftseinrichtungen"
Funding source:
Sächsische Aufbaubank (SAB)
Funding period:
12.05.2025–31.12.2027
Total grant:
2.4 Mio. Euro
Funding code:

Co-funded by the European Union

Freistaat SACHSEN

This project is co-financed from tax revenues on the basis of the budget adopted by the Saxon State Parliament.

At the "Zukunftstag Kernfusion," SAXFUSION highlighted specific opportunities for Saxon companies to engage. Heike Graßmann, State Secretary at the Saxon State Ministry for Science, Culture and Tourism (SMWK), (center) opened the event together with network coordinators Claudia Keibler-Willner (left) and Anne-Katrin Leopold.
© significant.pictures/Fraunhofer IWS

More than 50 companies expressed interest in the emerging fusion industry. SAXFUSION's "Zukunftstag Kernfusion" brought together research and Saxon industry across the future value chain.
© significant.pictures/Fraunhofer IWS

Research program:
EFRE InfraProNet 2021–2027 – Call "Forschungsnetzwerke an öffentlichen Wissenschaftseinrichtungen"
Funding source:
Sächsische Aufbaubank (SAB)
Funding period:
12.05.2025–31.12.2027
Total grant:
2.4 Mio. Euro
Funding code:

Co-funded by the European Union

Freistaat SACHSEN

This project is co-financed from tax revenues on the basis of the budget adopted by the Saxon State Parliament.

During a laboratory tour at the Fraunhofer Institute Center Dresden, researchers presented technologies and exhibits that could already prove relevant to the industrialization of fusion.
© significant.pictures/Fraunhofer IWS

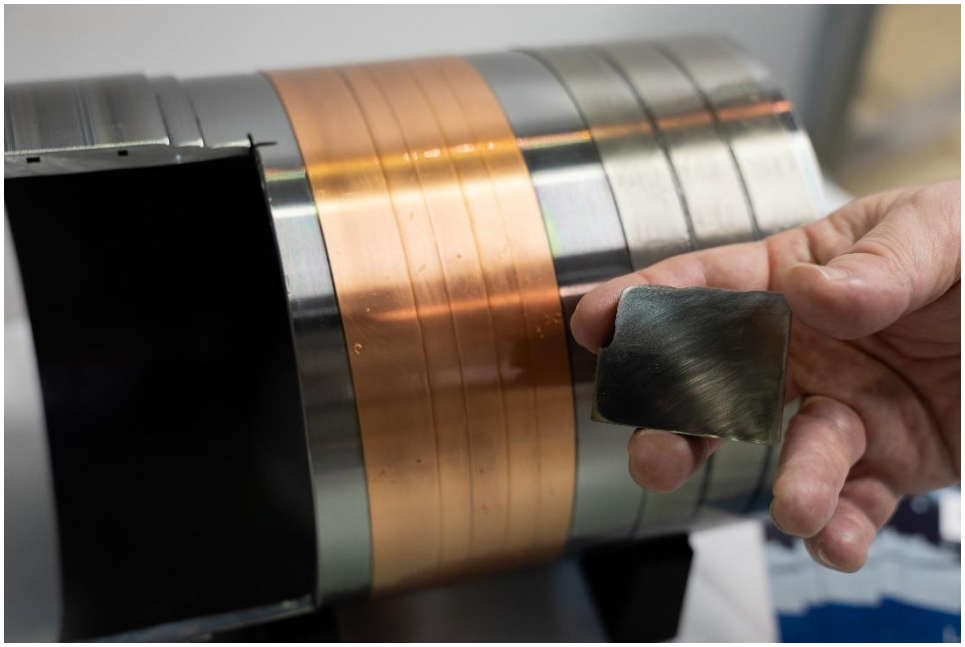
Research program:
EFRE InfraProNet 2021–2027 – Call "Forschungsnetzwerke an öffentlichen Wissenschaftseinrichtungen"
Funding source:
Sächsische Aufbaubank (SAB)
Funding period:
12.05.2025–31.12.2027
Total grant:
2.4 Mio. Euro
Funding code:

Co-funded by the European Union

Freistaat SACHSEN

This project is co-financed from tax revenues on the basis of the budget adopted by the Saxon State Parliament.

saxfusion



Participants showed strong interest in processing materials such as tungsten (right), which could play an important role in the construction of future fusion reactors.
© significant.pictures/Fraunhofer IWS

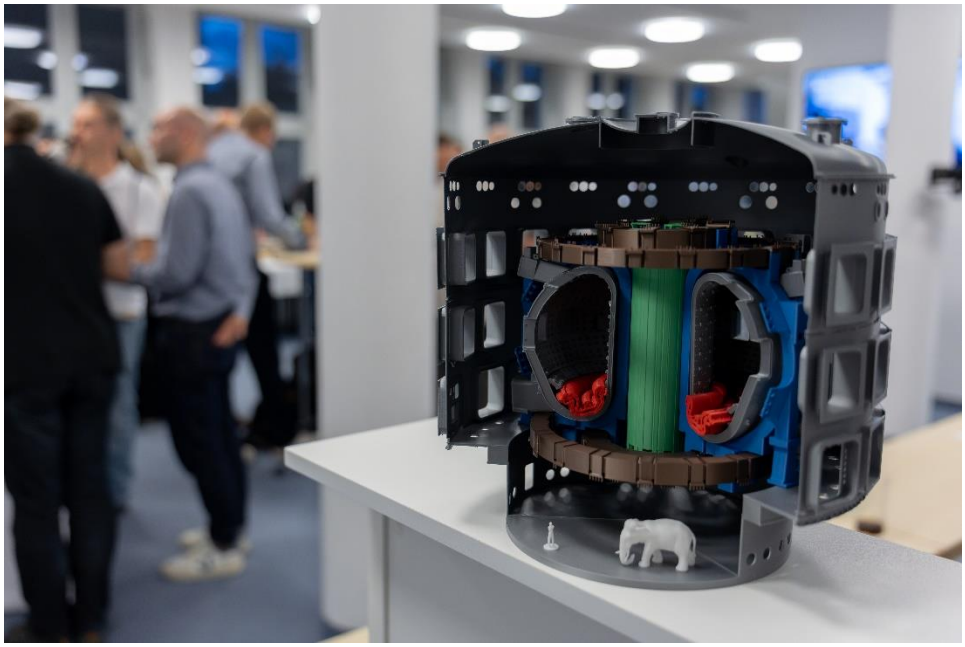
Research program:
EFRE InfraProNet 2021–2027 – Call "Forschungsnetzwerke an öffentlichen Wissenschaftseinrichtungen"
Funding source:
Sächsische Aufbaubank (SAB)
Funding period:
12.05.2025–31.12.2027
Total grant:
2.4 Mio. Euro
Funding code:

Co-funded by the European Union

Freistaat SACHSEN

This project is co-financed from tax revenues on the basis of the budget adopted by the Saxon State Parliament.

saxfusion



Networking in front of the tokamak model: The "Zukunftstag Kernfusion" brought together more than 100 registered guests from research, industry, startups and politics.
© significant.pictures/Fraunhofer IWS

Research program:
EFRE InfraProNet 2021–2027 – Call "Forschungsnetzwerke an öffentlichen Wissenschaftseinrichtungen"
Funding source:
Sächsische Aufbaubank (SAB)
Funding period:
12.05.2025–31.12.2027
Total grant:
2.4 Mio. Euro
Funding code:

Co-funded by the European Union

Freistaat SACHSEN

This project is co-financed from tax revenues on the basis of the budget adopted by the Saxon State Parliament.

saxfusion

Materials and Lasers – Competence with a System: The **Fraunhofer Institute for Material and Beam Technology IWS** develops complex system solutions in materials and laser technology. We define ourselves as idea drivers developing customized solutions based on laser applications, functionalized surfaces as well as material and process innovations – from easy-to-integrate custom solutions to cost-efficient solutions for small and medium-sized enterprises to industry-ready one-stop solutions. Our research focuses on aerospace, energy and environmental technology, automotive, medical and mechanical engineering, toolmaking, electrical engineering and microelectronics, and photonics and optics sectors. In our five future and innovation fields of battery technology, hydrogen technology, surface functionalization, photonic production systems and additive manufacturing, we are already creating the basis today for the technological answers of tomorrow.

Kontakt

Ansprechpersonen

Dipl.-Ing. Anne-Katrin Leopold
Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS
Stellvertretende Leitung SAXFUSION
Tel. +49 351 83391-3880
anne-katrin.leopold@iws.fraunhofer.de

Markus Forytta
Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS
Leiter Unternehmenskommunikation
Tel. +49 351 83391-3614
markus.forytta@iws.fraunhofer.de

www.iws.fraunhofer.de