

PRESS RELEASE

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AI, hydrogen, production, circular economy

Strong Impetus for Industry: Fraunhofer at the Hannover Messe 2025

The Fraunhofer-Gesellschaft will be represented at the world's largest industrial trade show with a joint booth (March 31–April 4, Hall 2, Booth B24). Fraunhofer institutes, groups and alliances will be showcasing 38 exhibits featuring technological highlights from the fields of production, energy, artificial intelligence, and digital transformation. The exhibits all reflect Fraunhofer's mission — to promote applied and demand-driven innovations that support the competitiveness of the industrial and business sectors.

Each year, the Hannover Messe is the benchmark for innovative strength and performance in the industrial sector in Germany and across Europe. In 2025, the Fraunhofer-Gesellschaft will once again be attending the world's leading industrial trade show (March 31–April 4) with a large joint booth (Hall 2, Booth B24). In line with the motto "Innovations for Our Future," 13 Fraunhofer institutes, groups and alliances will present their innovations and technologies, for a total of 38 exhibits covering three fields: AI for Industrial Innovation, Energy Solutions and Circular Economy, and Smart Systems and Materials Efficiency.

These exhibits will demonstrate how pathbreaking innovations are already helping companies to improve their competitiveness today, through streamlined processes and innovative products or services. This is especially true now, amid sweeping change and challenges affecting business, politics, and society. In their developments and solutions, Fraunhofer researchers always consider the aspects of sustainability and resource conservation. In the field of artificial intelligence, the Fraunhofer institutes will be presenting concepts that already offer true added value today. For example, AI is helping organizations accelerate and streamline processes. Even small and medium-sized enterprises are benefiting from these trends.

Highlight exhibits

The highlight exhibits feature key technologies that mark the leading edge of what is possible. These exhibits, selected for each main thematic area, are marked at the booth by an illuminated cube.

Trustworthy AI to monitor production

Artificial intelligence can make production processes more efficient and less error-

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prone, but many companies are still hesitant. How safe is AI? On what basis does it make its decisions? And who will be liable in case of an emergency? Fraunhofer IEM uses the example of quality monitoring for robot-based placement of expansion nuts to illustrate how trustworthy AI can be deployed in production settings and what added value it creates.

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High-speed production of 3D components

The Fraunhofer Institute for Laser Technology ILT has improved the extreme high-speed laser material deposition (EHLA) method, originally designed as a coating technology, for additive manufacturing (EHLA3D). It offers several advantages: construction of thin-walled elements, ability to process difficult-to-weld materials, near-net-shape additive manufacturing and even repairs.

Cyclometric: products suitable for the circular economy

The Fraunhofer Institute for Industrial Engineering IAO will present Cyclometric, a software platform and methods for sustainable development of products designed for circularity. The Cyclometric project makes it possible to assess and optimize the suitability of a product or component for the circular economy early on during the initial conceptual design phase.

Green hydrogen

The Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT will provide information centering on the focus topic of green hydrogen: A video table gives visitors an interactive way to explore how green hydrogen is produced, used and stored.

Edge Cloud Continuum for production

The Fraunhofer Cluster of Excellence Cognitive Internet Technologies CCIT brings together more than 20 Fraunhofer institutes to work on technologies and infrastructure for digitalized production. The Edge Cloud Continuum project combines sensors, edge computing and AI-supported analysis to enable resource-efficient, cost-effective manufacturing through the use of production data.

From plastic waste to 3D printing

Researchers from the Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM and Hochschule Bremen — City University of Applied Sciences (HSB) teamed up to develop a method of using recycled plastics for 3D printing. The granulated plastic produced in this way is nearly 100 percent pure and can be used in a 3D printer to make components.

Wooden wind turbine tower: the Wind of Change Tower

The Wind of Change Tower in the northern Swedish city of Skara is 150 meters tall, making it the tallest wooden tower for wind turbines in the world. It is built from modules bonded in place on site. Compared to structures made from concrete or steel, this method of wood construction cuts carbon emissions by up to 90 percent. The Fraunhofer Institute for Wood Research, Wilhelm-Klauditz-Institut, WKI supported the adhesive bonding process for the wooden tower. The exhibit will feature a replica of the tower.

General interest exhibit: energy of the future

An interactive exhibit will take specialists and laypeople alike on a journey focusing on hydrogen. Attendees can follow along as a molecule passes through the various stages — water, hydrogen, and energy. This exhibit stands for an important part of the Fraunhofer mission: transferring knowledge to society at large.

Hydrogen solutions in Hall 13

Nine other Fraunhofer institutes and research units will be on hand at a special themed area in Hall 13 titled Hydrogen + Fuel Cells EUROPE, showcasing solutions on the topic of hydrogen and the hydrogen economy.

Press tour for editorial staff

Fraunhofer experts will be available to answer questions or for background talks on all topics.

A press tour will be held at the joint Fraunhofer booth (Hall 2, Booth B24) from 12:30 to 13:30 p.m. on March 31. To register, contact presse@zv.fraunhofer.de.

Weblink:

[Fraunhofer Press Kit Hannover Messe 2025](#)

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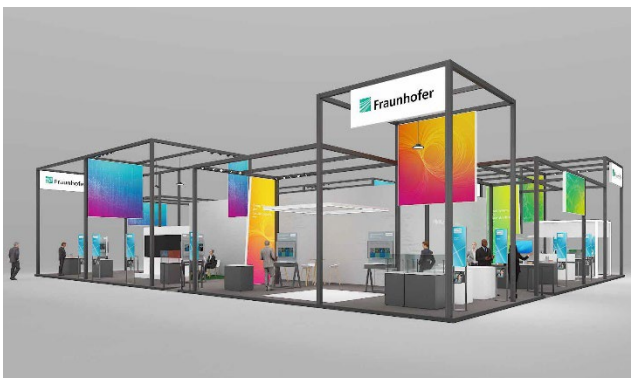


Fig. 1 Thirteen Fraunhofer institutes, groups and alliances will be appearing at the Hannover Messe 2025 to present 38 exhibits from three fields: AI for Industrial Innovation (blue), Energy Solutions and Circular Economy (orange), and Smart Systems and Materials Efficiency (green).

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