

Press Release

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When Research and Practice Take to the Field Together

Experience future-ready agriculture in action: The first Smart Farming Field Day will take place at the Thünen Innovation Farm in Tellow on 2. September 2026. The Fraunhofer Institute for Computer Graphics Research IGD and the Fraunhofer Research Institute for Large Structures in Production Engineering IGP, together with partners from research, industry, and startups, will demonstrate how artificial intelligence (AI), digitalization as well as automation can contribute to future-ready agriculture. The event will focus on practical applications and live demonstrations under real-world operating conditions.

Rostock. Making tomorrow's agriculture sustainable and economically viable requires both the continued development of established technologies and the implementation of new approaches. In addition, a close collaboration among research, the agricultural machinery industry, startups, and technology users is necessary. The Smart Farming Field Day at the Thünen Innovation Farm brings these stakeholders together and provides insights into current developments within digital agriculture.

This event will be held on September 2, 2026, from 9:00 a.m. to 1:00 p.m. The program includes live field demonstrations and opportunities to exchange ideas with experts from research, industry, and agricultural practice. Dr. Till Backhaus, Mecklenburg-Western Pomerania's Minister for Climate Protection, Agriculture, Rural Areas, and the Environment, will also attend the field day and engage in the discussions.

A Living Lab for the Agriculture of the Future

The Thünen Innovation Farm provides an opportunity to develop and test digital and automated agricultural technologies under real-world conditions. Coordinated by Fraunhofer IGD, the living lab combines scientific expertise with agricultural practice and creates space for the collaborative development of new smart farming solutions.

The two Fraunhofer Institutes based at the site contribute different but complementary expertise. Fraunhofer IGD specializes in the acquisition, analysis, and use of data through technologies such as sensor technology, remote sensing, AI, and digital twins. The Fraunhofer IGP develops automated and robotic systems for practical deployment.

Monitoring Plants and the Environment With 3D, AI, and Remote Sensing

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Using cereal crop breeding as an example, Fraunhofer IGD will demonstrate how field data collection can be further automated in the future. A camera system captures plants in three dimensions, allowing individual grain heads and other plant traits to be automatically identified and analyzed. This makes labor-intensive manual surveys more efficient and enables larger areas to be examined. At the field day, the system, which has previously been moved manually across the field, will be deployed autonomously for the first time.

The Fraunhofer IGD will also demonstrate how aerial and remote-sensing data, combined with AI, can be used to automatically identify invasive plant species and document their spread. Fotos from satellites, aircraft, drones, or ground-level cameras can be analyzed to identify affected areas more precisely and plan response measures more effectively.

The institute will also utilise an interactive peatland dashboard to demonstrate how diverse environmental and sensor data can be transformed into an easy-to-understand basis for decision-making. It combines AI-supported analyses of drone imagery, vegetation data, and hydrological data, making the condition of peatland areas and changes over time clearly visible.

Automated Technology for Fields and Sites

At the field day, the Fraunhofer IGP will showcase practical solutions in agricultural robotics and sensor technology. The focus is on autonomous and sensor-based systems that can support workflows, collect operational data, and automate repetitive tasks.

One autonomous vehicle, for instance, is designed to combine maintenance and inspection tasks at solar farms. While mowing or mulching, sensors and thermal imaging simultaneously monitor the condition of the solar panels. This can help identify potential damage or reduced output at an early stage.

Additional measurement and sensor systems will be presented. They capture load and operating data from agricultural equipment under real-world conditions. A mobile field office also enables data to be processed and analyzed directly on-site, for example, drone imagery and information used for autonomous-vehicle path planning.

The Smart Farming Field Day illustrates how digital technologies, AI, sensor technology, and automated systems can work together to develop new solutions in collaboration with agricultural practitioners..

Join Us and Experience Smart Farming in Action

Interested professionals from agriculture, industry, and research are invited to explore the technologies at the Thünen Innovation Farm on September 2, exchange ideas with our experts, and see the applications in real-world use.



Drones and AI provide valuable insights into crops and crop conditions. Visitors can experience these technologies live in real-world use at the Smart Farming Field Day in Tellow on September 2.

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Weitere Informationen

- <https://www.igd.fraunhofer.de/de/veranstaltungen-messen/veranstaltungen-2026/smart-farming-feldtag.html>
- <https://www.igd.fraunhofer.de/en/events/fraunhofer-smart-farming-field-day.html>
- <https://www.igd.fraunhofer.de/en/research/public-projects/bioeconomy/3d-point-clouds-for-grain-breeding.html>
- <https://www.igd.fraunhofer.de/en/research/public-projects/bioeconomy/3d-point-clouds-for-grain-breeding.html>

Fact box

About the Fraunhofer IGP

What will the innovative production of large structures look like in the future? The Fraunhofer Institute for Large Structures in Production Engineering IGP in Rostock is conducting research into this. The institute develops innovative concepts for product and process innovations. The research focus is on future-oriented industries such as shipbuilding and steel construction, energy and environmental technology, rail and commercial vehicle manufacturing as well as mechanical and plant engineering. The formerly independent research group was made into a Fraunhofer Institute at the beginning of 2020 and is now the first institute of the Fraunhofer Society to be headquartered in Mecklenburg-Western Pomerania.

Address of the Fraunhofer IGP

Albert-Einstein-Straße 30
18059 Rostock

About the Fraunhofer IGD

The Fraunhofer Institute for Computer Graphics Research IGD has been setting standards in visual computing – image- and model-based informatics – for more than 30 years. Its roughly 260-strong staff support companies and institutions across manufacturing and mobility, healthcare, bioeconomy, infrastructure and public services, and maritime economy sectors. Fraunhofer IGD provides specific technological solutions and support for strategic development. Its researchers carry out problem analyses, design hardware and software, develop prototypes, and implement interactive visual systems. The focuses are human-machine interactions, virtual and augmented reality, artificial intelligence, interactive simulation, modeling, and 3D printing and scanning. Fraunhofer IGD has been engaged in high-level research since 1987, supporting change in society and the economy with application-oriented solutions developed at its facilities in Darmstadt and Rostock..

The Fraunhofer-Gesellschaft, headquartered in Germany, is one of the world's leading organizations for applied research. It plays a major role in innovation by prioritizing research on cutting-edge technologies and the transfer of results to industry to strengthen Germany's industrial base and for the benefit of society as a whole. Founded in 1949, the Fraunhofer-Gesellschaft currently operates 75 institutes and research units throughout Germany. Its nearly 32,000 employees, predominantly scientists and engineers, work with an annual business volume of 3.6 billion euros; 3.1 billion euros of this stems from contract research.

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