

# PRESS RELEASE

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**Fraunhofer at the 2025 Paris Air Show**

## **Fraunhofer to Showcase Exhibits for the Aerospace Industry**

**The Paris Air Show takes place every two years and is the largest event in the aerospace industry in Europe. This year, the Fraunhofer-Gesellschaft will be represented with 10 Fraunhofer institutes, whose 21 exhibits will showcase space and aviation research. The exhibits will highlight pioneering technologies with a focus on environmental protection and sustainability.**

The Paris Air Show is an event that attracts aerospace experts and enterprises from all over the world. From June 16–22, the Fraunhofer-Gesellschaft will again be represented at the joint booth (booth 2C-C358) of the German Aerospace Industries Association (BDLI). A total of 21 exhibits from 10 Fraunhofer institutes will demonstrate technological excellence and solutions geared toward industrial practice but also to sustainability and climate protection, which underlines Fraunhofer's commitment to the United Nations Sustainable Development Goals.

Constantin Häfner, Executive Vice President for Research and Transfer, says: "The aerospace industry is at the forefront of technological innovation, with the potential to transform the transportation sector and provide critical solutions to global challenges. The space sector in particular is developing rapidly. Lower launch costs make low-orbit applications economically viable, which creates new opportunities for satellite communications and Earth observation. In times of climate change and global upheaval, it is crucial for us as a research institution to take responsibility and develop climate-friendly technologies. Our exhibits at the Paris Air Show will demonstrate how we transform cutting-edge research into practical solutions that promote a sustainable and connected future. I am thrilled that we have the opportunity to present our visions and technologies on this global platform. This will have a positive impact not only on the aerospace industry, but also on society as a whole."

## **Highlight exhibits for AVIATION**

### **"MFFD" — thermoplastic CFRP for aircraft fuselages**

In the Multi Functional Fuselage Demonstrator (MFFD) project, Fraunhofer researchers assembled —for the first time worldwide — a full-size aircraft fuselage section made of thermoplastic carbon fiber reinforced polymer (CFRP) in a fully automated process using thermoplastic welding methods. Fraunhofer's focus here was on the longitudinal

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#### **Contact**

**Monika Landgraf** | Fraunhofer-Gesellschaft, Munich, Germany | Communications | Phone +49 89 1205-1333 | [presse@zv.fraunhofer.de](mailto:presse@zv.fraunhofer.de)  
**Thomas Loosen** | Fraunhofer Institute for Technological Trend Analysis INT | Head of Central Office (SPACE) | Phone +49 89 2251 18-308 | [thomas.loosen@int.fraunhofer.de](mailto:thomas.loosen@int.fraunhofer.de)  
Appelsgarten 2 | 53879 Euskirchen, Germany | [www.int.fraunhofer.de/en.html](http://www.int.fraunhofer.de/en.html)  
**Simon M. Kothe** | Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM | Head of Central Office (AVIATION) | Phone +49 421 2246-582 | Wiener Strasse 12 | 28359 Bremen, Germany | [www.ifam.fraunhofer.de/en.html](http://www.ifam.fraunhofer.de/en.html) | [simon.kothe@ifam.fraunhofer.de](mailto:simon.kothe@ifam.fraunhofer.de)

joint. Experts from Fraunhofer IFAM and Fraunhofer IWS will present a printed 3D model of the fuselage and a welded fuselage panel. This technology sets new standards for manufacturing large aircraft structures and reduces the weight and production costs of aircraft fuselages by up to 10 percent.

The development of the MFFD was led by AIRBUS in collaboration with 40 international partners as part of the European aerospace research program, Clean Sky 2.

#### [Multi Functional Fuselage Demonstrator](#)

#### **RAFINESS: robot-guided additive manufacturing of aircraft cabins**

Together with ZAL Center of Applied Aeronautical Research based in Hamburg, Fraunhofer will present the RAFINESS Bin, a recyclable overhead bin manufactured in a semi-automated process. Robot-guided additive manufacturing not only saves time and reduces costs, it also increases sustainability. Instead of seven different materials, the process only requires two, and over 50 percent of the printing material is bio-based.

#### [RAFINESS](#)

### **Highlight exhibits for SPACE**

#### **GAIA: observation of wildlife using satellites**

As part of the GAIA initiative, researchers from the Fraunhofer Institute for Integrated Circuits IIS and the Leibniz Institute for Zoo and Wildlife Research (IZW) developed technology that uses satellites to observe wildlife populations. The project is tagging large birds such as vultures with camera tags that use on-board AI to analyze raw data on parameters such as acceleration as well as image data. Several of these transmitters can network to form an intelligent swarm that efficiently distributes the computing load and analysis processes. The mioty® IoT wireless protocol developed by Fraunhofer is used to transmit the extracted information to satellites, which in turn relay it to ground stations.

The data can be used to analyze wildlife population behavior and help detect epidemics. This principle of a networked swarm can also be transferred to other applications, such as cooperating drones within a fleet that uses distributed sensor technology and decentralized, resilient data processing.

#### [GAIA initiative](#)

#### **CubEniK mini satellite for quantum communication**

The mini satellite is the size of a shoe box and can be used for highly secure quantum communication from space. A photon source generates millions of entangled photon

pairs per second. This enables transmission of quantum keys over distances of 300 kilometers between two ground stations. The target group consists of public authorities and companies that are reliant on secure communication.

Led by the Fraunhofer Institute for Applied Optics and Precision Engineering IOF, the present objective is to develop the payload in collaboration with Quantum Optics Jena GmbH and SpaceOptix GmbH.

[CubEniK](#)

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## Service for editorial teams

Fraunhofer experts will be available for interviews and background discussions on all topics and exhibits.

### Media contacts

#### Space

Thomas Loosen, Head of Central Office (SPACE)  
thomas.loosen[at]int.fraunhofer.de

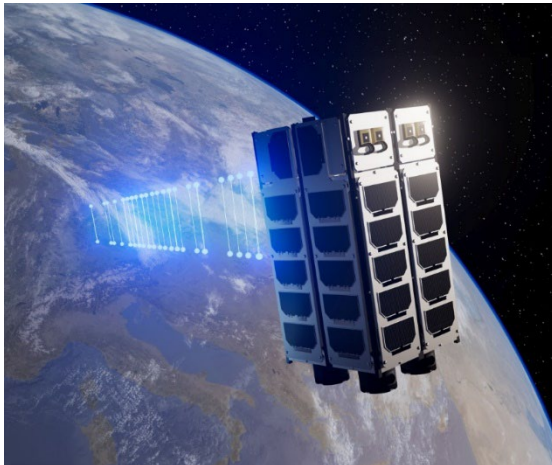
#### Aviation

Simon Kothe, Head of Central Office (AVIATION)  
simon.kothe[at]ifam.fraunhofer.de



**Fig. 1 Assembly research platform with thermoplastic fuselage shells of the MFFD at Fraunhofer IFAM in Stade.**

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**Fig. 2** CubEniK: The ultra-compact satellite for highly secure quantum communication from space.

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