

## Speaker’s corner at our aviation stand

Meet our scientist at the aviation booth. They will present their topics in short speeches.

### Wednesday, 22 June 2022

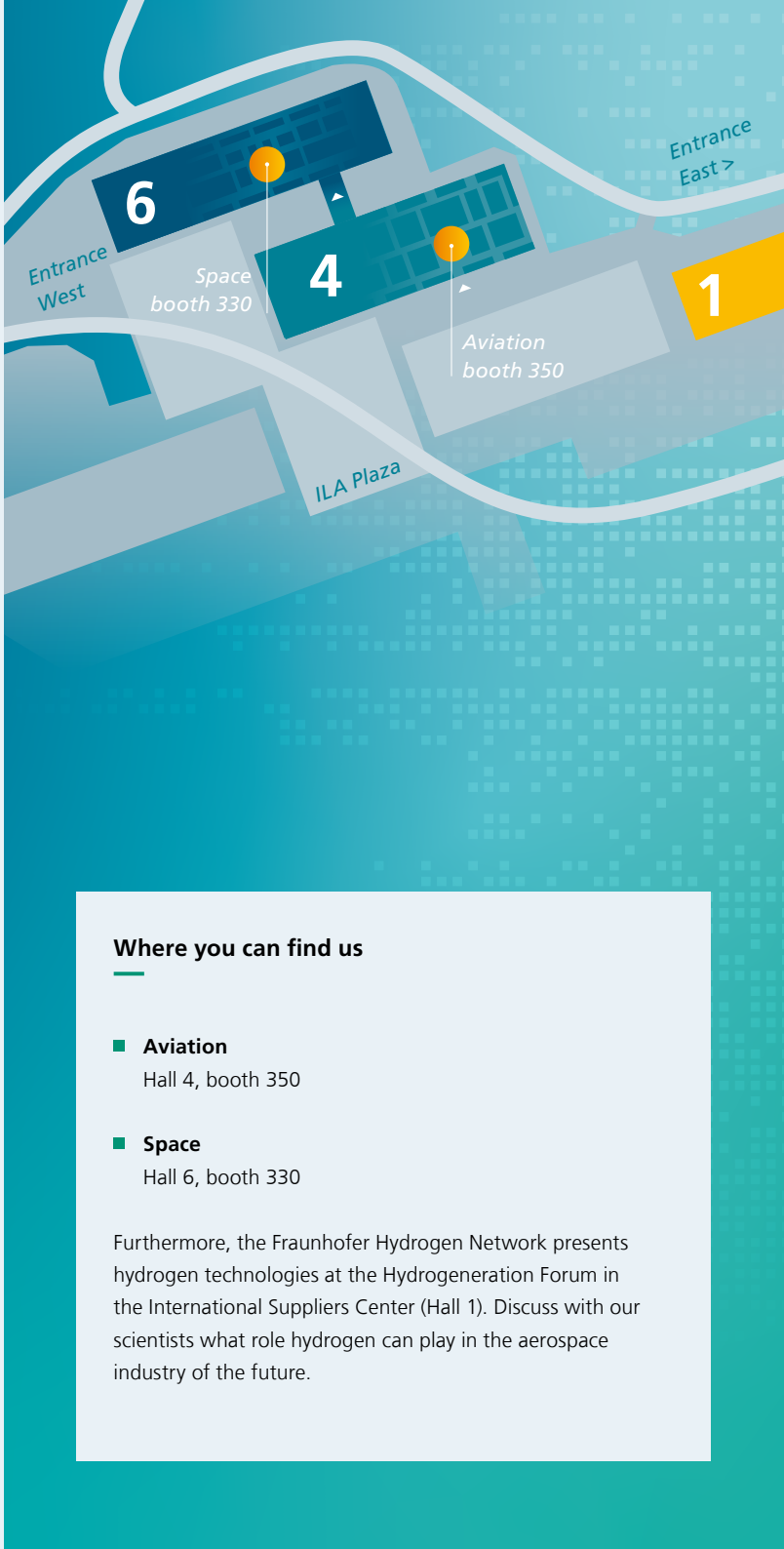
- 12:00 Clean Sky 2 – aircraft fuselage of the future
- 12:30 Joining techniques from actuators to hydrogen distribution
- 13:00 The AirBOX – make your processes transparent
- 13:30 New recyclable FRPs for green cabin interior
- 14:00 Permeation barrier for hydrogen tanks
- 14:30 Digital twins for hybrid electrical aircraft

### Thursday, 23 June 2022

- 12:00 Using VR for design reviews of cabin interior
- 12:30 ALBACOPTER – vertical take-off and landing glider
- 13:00 Solid-state batteries for urban aviation
- 13:30 Surface pre-treatment of thermoplastics with plasma
- 14:00 Flexible model-based assembly inspection
- 14:30 Laser – a universal tool for the production of sustainable integral fuselage structures
- 15:00 Flow-line production of CFRP components
- 15:30 Noise cancelling with vibroacoustic metamaterials

### Friday, 24 June 2022

- 11:00 Robotic 3D printing of gap fillers
- 11:30 Thermal spray functionalization of composite materials
- 12:00 Semantic product data for engine development



### Where you can find us

■ **Aviation**  
Hall 4, booth 350

■ **Space**  
Hall 6, booth 330

Furthermore, the Fraunhofer Hydrogen Network presents hydrogen technologies at the Hydrogeneration Forum in the International Suppliers Center (Hall 1). Discuss with our scientists what role hydrogen can play in the aerospace industry of the future.

## Kontakt

Fraunhofer AVIATION & SPACE  
[www.fraunhofer.de/aviation-space](http://www.fraunhofer.de/aviation-space)

Dr.-Ing. Simon M. Kothe  
Head of Central Office, Aviation Unit  
Tel. +49 421 2246-582  
Mobile +49 170 9381 356  
[simon.kothe@ifam.fraunhofer.de](mailto:simon.kothe@ifam.fraunhofer.de)

Thomas Loosen  
Head of Central Office, Space Unit  
Tel. +49 2251 18-308  
[thomas.loosen@int.fraunhofer.de](mailto:thomas.loosen@int.fraunhofer.de)

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# Meet Fraunhofer at ILA 2022

Discover innovations for tomorrow’s  
aviation and space industry



Prof. Dr. Dr. Michael Lauster (l), Prof. Dr. Bernd Mayer (r)

## Dear ILA visitors,

Imagining our world without aviation and spaceflight, is nearly impossible. Aviation is an integral part of our worldwide mobility and it performs indispensable logistics tasks for the global economy. Furthermore, everyday technologies we use in our communication and navigation would be inconceivable without space technologies.

However, we must transform the aviation and space industry for a world in which we use existing resources efficiently and take care of our planet. In this context, important goals such as climate-neutral flying and sustainable space travel come into focus.

We are convinced we can achieve all this through innovation. Fraunhofer AVIATION & SPACE pools the complete research power of the Fraunhofer-Gesellschaft for a climate-neutral and sustainable aerospace industry. We invite you to get to know our latest developments and look forward to a stimulating exchange.

Yours sincerely

Bernd Mayer  
Chairman, Aviation Unit  
Fraunhofer AVIATION & SPACE

Michael Lauster  
Chairman, Space Unit  
Fraunhofer AVIATION & SPACE



## Where to find us

- Aviation Unit: Hall 4, booth 350
- Space Unit: Hall 6, booth 330

# Meet Fraunhofer at ILA 2022

## Discover innovations for tomorrow's aviation and space industry

### New materials and technologies for clean aviation

Climate-neutral aircraft and sustainable production are defined goals for the aviation industry. At ILA 2022, the Aviation Unit of Fraunhofer AVIATION & SPACE exhibits innovations that contribute to clean aviation.

Thermoplastics are trendsetting materials that are easy to repair and ideal for recycling. Visitors will find out how these materials can be used for the manufacturing and assembly of aircraft components. A further novelty in aviation are vibro-acoustic metamaterials that reduce vibration and noise. Using these lightweight materials e.g. in cabin lining elements, flying can become quieter and more comfortable.

Additive manufacturing (AM) not only offers the benefit of high design flexibility, it also saves resources through a targeted material use. Fraunhofer exhibits 3D-printed parts for commercial aircraft and explains how this technology supports lightweight based eco-design. AM is even further explored in a case where robot-guided 3D printing is used as an automated joining technology for aircraft assembly. But eco-design already starts at the (virtual) drawing table. Using actual VR headsets, visitors get a peek into virtual methods for aircraft design and production.

Fraunhofer intensively researches new forms of air mobility and electric flying. At the ILA, developments for a scalable drone concept are presented. In addition, new electric propulsion concepts and hydrogen technologies enable to move away from fossil fuels.

### Sustainable space technology for a healthy planet

The Space Unit of Fraunhofer AVIATION & SPACE will be presenting a broad range of space technologies at booth 330, Hall 6. With a clear focus on sustainability, both provided for earth from space and within the space sector as well. This includes a joint venture by two start-ups, Spaceoptix and ConstellR, who have developed a space telescope for earth observation in the infrared range, which will help reduce global water consumption in agriculture significantly. A prototype has been launched to the ISS in April for in orbit demonstration. Both start-ups operate independently but have roots at Fraunhofer.

Furthermore, Fraunhofer will present barrier coatings for liquid hydrogen storage, which will be used in CFRP-based fuel tanks of launch vehicles. These coatings make the tanks almost impermeable to hydrogen, which is, by nature an extremely volatile element. This level of integrity would be difficult to achieve, especially when working with lightweight CFRP structures. This project offers huge transfer potential into many other industries which have similar needs in the area of liquid hydrogen handling and storage.

Another highlight will be an extendable optical bench developed for ATHENA (Advanced Telescope for High-Energy Astrophysics) using additive manufacturing and selective laser melting. These super-efficient processes will ensure a lean and sustainable production process while at the same time guaranteeing high end quality for this groundbreaking space instrument.

