

## **AZL Aachen GmbH launches new Joint Partner Project on 'Propellers and Rotors' for air mobility and small and medium-sized wind energy systems**

AACHEN, August 2024 — AZL Aachen GmbH announces the launch of a new Joint Partner Project focusing on the further growth potential and technology developments for composite propellers in the field of air mobility and for composite rotors for small to medium-sized wind energy systems.

The nine-month consortial industry project will investigate current and future composite applications for propellers and rotors and their requirements, provide technological insights and develop new product concepts and evaluate them in terms of economic efficiency. Interested companies can join the project consortium until the Kick-Off on September 18<sup>th</sup>, 2024.

### **Addressing future large-scale production applications**

The project aims to address the growing demand for efficient, powerful and compact composite propellers and rotors for the growing markets of air mobility and decentralised power generation. Although the application, manufacturing and material technologies for propellers and rotors made of composite materials have proven to be technically mature, they have so far mainly been used in the high-performance sector for large propeller aircrafts and large wind turbines. Due to the increasing interest in efficient electric propulsion system in the field of air mobility, e.g. air taxis or parcel delivery drones, as well as for decentralised energy generation with the help of small/medium-sized wind energy systems, a rising demand for these components and their production volumes are expected.

“With uprising technologies for cost-efficient flying vehicles and new possibilities for off-grid energy generation, innovative materials have the potential to play a crucial role. Propeller and Rotors are key components in these sectors and can enhance their efficiency significantly. As a provider of composite materials, we already have experience in the field of drones and propellers, and we think that we can contribute to these technologies and future production concepts effectively. However, it is essential to gain a deeper understanding of the market potential, technological potential, design principles, and challenges involved. Like in previous AZL Joint Partner Projects, we aim to gain valuable insights into the market and technology. We look forward to this exciting collaboration to expand our knowledge and strengthen our network.” says Inoue Hiroki, Senior Technical Expert Liaison Group at Mitsui Chemicals Inc.

AZL will bring together experts along the entire value chain in the project to analyse current and future product concepts. During the project, the participating companies will gain a comprehensive understanding of composite propeller and rotor technology. The project team will carry out a detailed screening of current and future technologies, investigate different materials and processes for the production of propellers and rotors and elaborate design options as well as analyse and evaluate them in terms of technological and cost-effective criteria.

The requirements and expertise of the developers and manufacturers of aircraft and wind energy systems will be combined with the manufacturing and materials expertise of the AZL network for high-performance materials. In addition, the project will assess the costs and carbon footprint of alternative designs and production concepts to ensure a holistic approach to support the business and technology development of the project participants along the value chain.

### How interested companies can participate

AZL Aachen GmbH invites interested companies to join the consortium and contribute to this innovative project. By participating, companies gain direct access to all project results, benefit from joint technology development through cost sharing and can efficiently advance their development strategies in this rapidly evolving field.

If you would like to get further information about the project or would how to participate, please contact:

## Contact

Philipp Fröhlig  
Head of Industrial Services  
Mail: [philipp.froehlig@azl-aachen-gmbh.de](mailto:philipp.froehlig@azl-aachen-gmbh.de)  
Phone: +49 241 475 735 14

Pictures for download: <https://my.hidrive.com/share/7n9ufmv5ad>

AZL Joint Partner Project

# Propellers and Rotors

Potentials for composite materials and technologies in the field of air mobility and small / medium sized wind energy systems



**AZL** Aachen GmbH

Excellence in Lightweight Production

Image 1: Key-Visual "Propeller & Rotors" © AZL Aachen GmbH



Mitsui Chemicals Group



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Inoue Hiroki | Senior Technical Expert @ Mitsui Chemicals Inc.

Image 2: Testimonial Inoue Hiroki © Mitsui Chemicals Inc.



*Image 3: Carbon Fiber Drone Propeller © Mitsui Chemicals Inc.*



*Image 4: Portrait Philipp Fröhlig © AZL Aachen GmbH*

## About AZL Aachen GmbH

As a close partner of RWTH Aachen University, one of the world's leading universities in the field of production technology, AZL Aachen GmbH specialises in lightweight construction. As a central, interdisciplinary solution provider, AZL Aachen GmbH supports its customers in analysing, understanding and developing products, processes and markets. AZL Aachen GmbH offers platforms and projects to exchange knowledge and efficiently drive innovation through shared effort. Its services include studies and benchmarks, technology consulting and development projects. AZL Aachen GmbH utilises its strong network on the RWTH Aachen Campus, one of the largest research landscapes in Europe for companies and research institutions.

[www.lightweight-production.de](http://www.lightweight-production.de)