



Łukasiewicz  
Institute  
of Aviation



PROPELLER FOR  
**VTOL**  
**UAV**  
AIRCRAFT

# CHARACTERISTICS

The Łukasiewicz Research Network – Institute of Aviation provides tailored propeller design services for VTOL UAV aircraft, taking into account specific parameters. Our team can develop production tooling for propellers and manufacture a series of units based on customer specifications. Additionally, we offer expertise in propeller manufacturing technology development and design optimization through advanced stress and aerodynamics analysis.



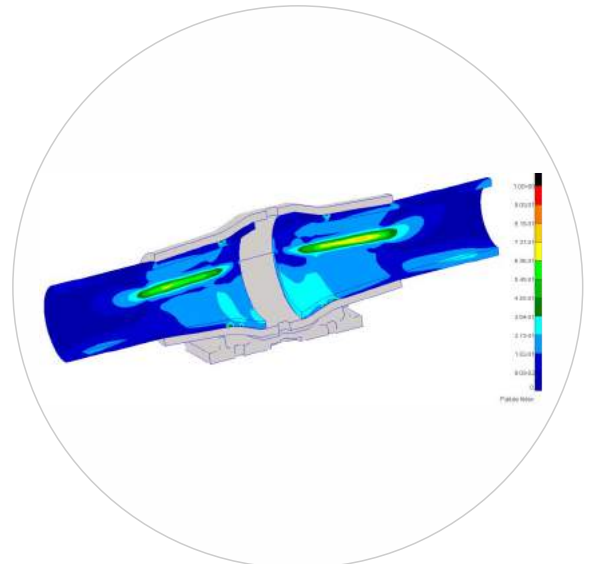
# KEY FEATURES

- Propeller diameter of 2 meters.
- Designed for VTOL UAV with MTOW 450 kg.
- Structure manufactured from carbon prepreg fabrics and UD tapes.
- Out-of-autoclave curing processes.
- Machined aluminum hub.



## Tests and research methods:

- conducts aerodynamic design and load assessments with CFD analysis,
- FEM stress analysis and optimization of the structure,
- natural vibration modes analysis and tailoring,
- prototype propeller testing on the stand.



## The Łukasiewicz Research Network – Institute of Aviation

offers a wide range of specialized research, engineering services and products. We provide comprehensive solutions, ranging from dedicated analyzes, simulations, engineering design, through the selection, testing and certification of materials and structures, to rapid prototyping and additive manufacturing.

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