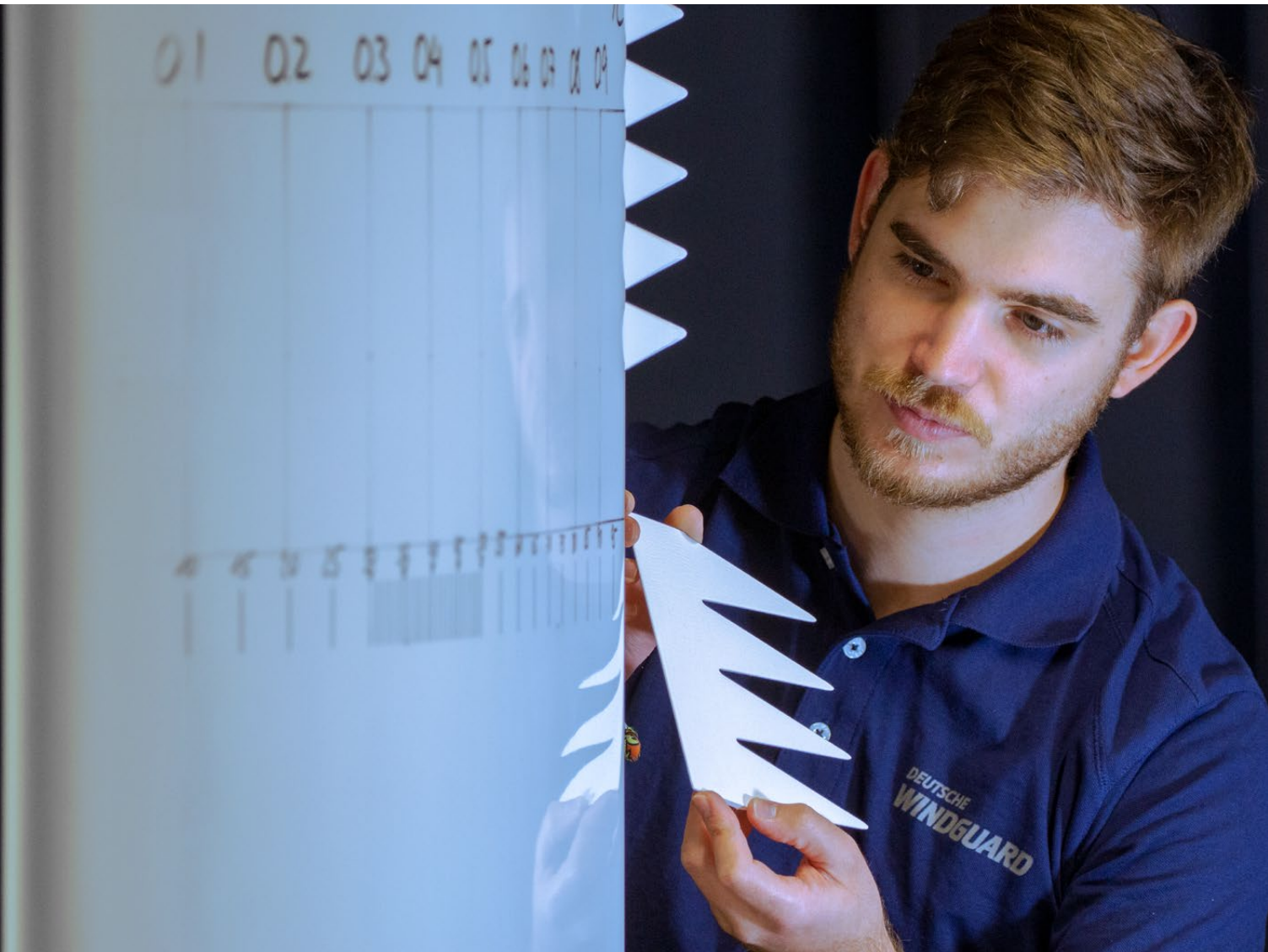


Professional wind tunnel measurements

Aerodynamic and Acoustic Testing



DEUTSCHE
WINDGUARD

LONG EXPERIENCE AND HANDS-ON SERVICES

Deutsche WindGuard offers OEMs, designers and component suppliers in the wind energy industry professional wind tunnel services. Aerodynamic loads, acoustic emissions, design verification, component and method validation, research and development are our daily business. Profit from our experience, first-class equipment and high quality standards.

AIRFOIL AND SCALED MODEL MEASUREMENTS

With expertise and experience in testing components and models since 2008, and several thousand airfoil-polars since 2012, Deutsche WindGuard is your competent partner for conducting airfoil and scaled model measurements.



FEATURES AND BENEFITS:

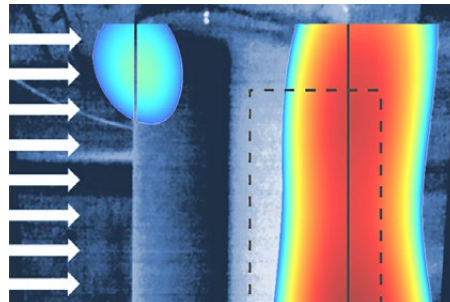
- Polars up to Re 6 million ($c = 0.9$ m)
- Surface condition effects: clean, rough, eroded, etc. as well as icing simulation
- Flow visualization: laminar-turbulent transition and stall-cell detection through thermography, oil-flow and tufts
- Optical deformation measurements, static and dynamic
- Custom-made measurement equipment to fit your specific needs

AT YOUR SERVICE:

- Deutsche WindGuard's wind tunnel centre with a total of 8 wind tunnels
- Aeroacoustic measurements up to 100 m/s
- Traceability of all measured quantities to national standards
- Redundant measurement system for increased reliability
- Over 30 years of combined expertise in commercial wind tunnel tests
- Full service: from model design to wind tunnel testing, customised post-processing and reporting – all from one single source
- Sensor calibration in Varel: DAkkS accredited calibration laboratory according to DIN EN ISO/IEC 17025, MEASNET associated member, IECRE-approved, ISO-14001- and ISO-45001-certified

OPTIMALLY EQUIPPED FOR ACOUSTIC MEASUREMENTS

Deutsche WindGuard's aeroacoustic wind tunnel, coupled with custom-made measurement equipment and state-of-the-art post-processing, is silent enough to permit acoustic measurements while operating with a closed test section.



FEATURES AND BENEFITS:

- Trailing edge noise measurements
- Trailing edge modifications: serrations, flaps, splitter plates, etc.
- 80 microphone, wall-mounted array
- Custom designed array, permits locating sources and filtering unwanted sources
- State-of-the-art post-processing
- In-flow measurements (3D traversing around test item)
- Directivity measurements

MODELS AND ADD-ONS TAILORED TO YOUR NEEDS

Leave the manufacturing of models, add-ons and individual measurement equipment to our experienced hands. According to the geometry you deliver, we ensure the model is produced on time and with the required precision.



FEATURES AND BENEFITS:

- Commissioning of model and add-on manufacturing
- Extensive experience including motorized models, adjustment mechanisms, alignment jigs, etc.
- In-house manufacturing of test parts: 7 additive manufacturing systems
- Tailored measurement equipment to meet your individual requirements
- Smooth project flow thanks to single-source services

DEUTSCHE
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