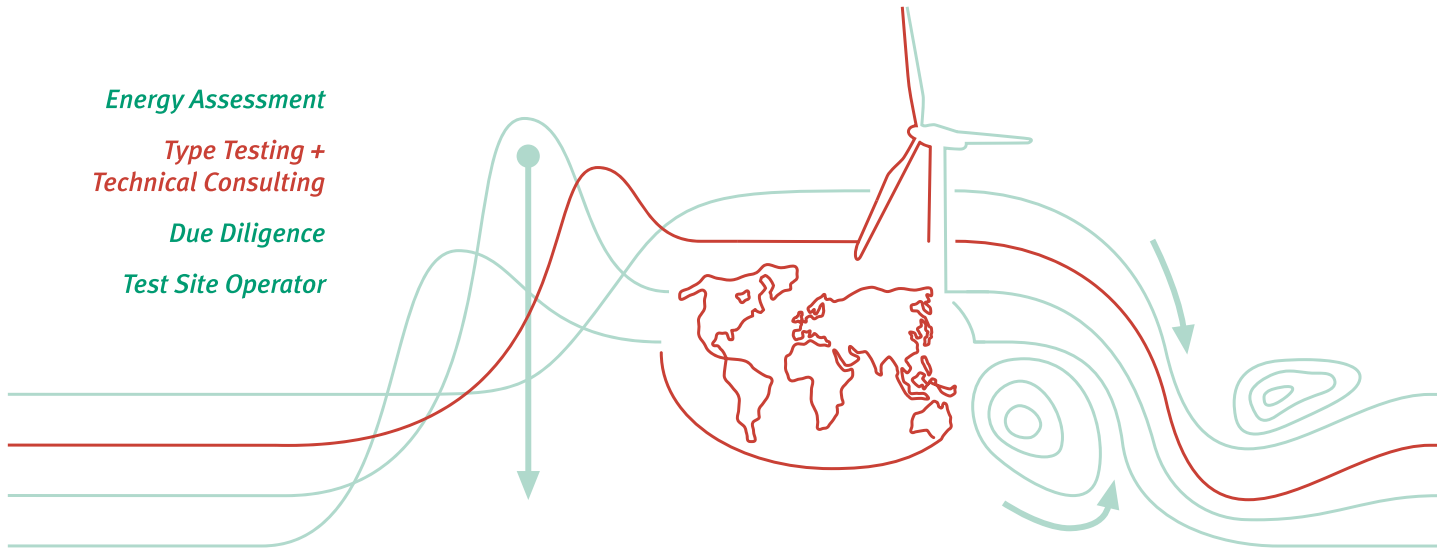


Energy Assessment

Type Testing +  
Technical Consulting

Due Diligence

Test Site Operator



Type Testing + Technical Consulting

## Load Measurement

Wind turbines (WT) and small wind turbines (SWT) as well as their components are subjected to a number of loads during their up to 20-year service life cycle. As a base for model validation and the validation of the real occurring loads during some typical events, highly accurate and high quality measurements are essential. Additionally, an advancement of the product can be performed at the base of this generated data.

### Customer benefits

The department Loads of windtest grevenbroich gmbh (wtg) offers various accredited measurement services at WTs, SWTs and components for IEC type certification.

The reliable operation of the entire WT and as few outages as possible are some of the fundamental principles of a successful wind farm project. It is therefore essential for our customers to provide a validation of their design that is accepted worldwide.

The main reasons for choosing wtg as the accredited partner are:

- High-quality, powerful cooperation with our customers before, during and after the project, which helps to identify problems early on and rectify them before certification;
- Ability to offer customized evaluations in addition to the evaluations according to IEC standards;
- Specialist skills and professional approach as well as the flexibility and ingenuity of our staff

## Basic implementation

For an accredited measurement of mechanical loads, wtg offers the following services:

- Site calibration: Our engineers appraise and evaluate the terrain in which the measurement of the WT is to be carried out in accordance with the requirements of IEC 61400-12-1. A measurement concept is developed on the basis of the local situation, a wind measurement mast (WMM) and measurement technology selected, configured and installed. The measurement period, as well as validation and evaluation of the data, are followed by the standard-compliant measurement of the power performance, which can be carried out parallel to the load measurement.
- Prototype measurement: Mechanical loads on prototypes are measured in accordance with international specifications. This is based on internationally recognized guidelines such as IEC TS 61400-13, IEC 61400-22 or GL 2010 as well as the IEC 61400-2 for SWT. Also, national guidelines are possible (e. g. AWEA and BWEA specific details).
- Safety and function test: Accredited testing and measurement of specified operating states of the WT relating to functional and safety criteria.
- Components and test beds: Design and optimization of the component test beds with accredited measurement technology and automated evaluation routines.



Depending on the suppliers and delivery times, wtg is able to install the measuring equipment in the customers WT in less than 5 weeks after placement of the order. The measurement period usually lasts for 3 to 6 months, depending on the conditions on site. In addition to the final report, which is needed by the certification body, monthly interim reports are prepared and handed to the customer.

## Competence

**wtg** is a service supplier accredited in accordance with DIN EN ISO / IEC 17025 and offers all necessary measurements based on national and international standards. Furthermore, our specialists are members of several national and international working committees like IEC and MEASNET. More than 950 projects carried out worldwide in the field of type testing made us gain our experience.

## Contact

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