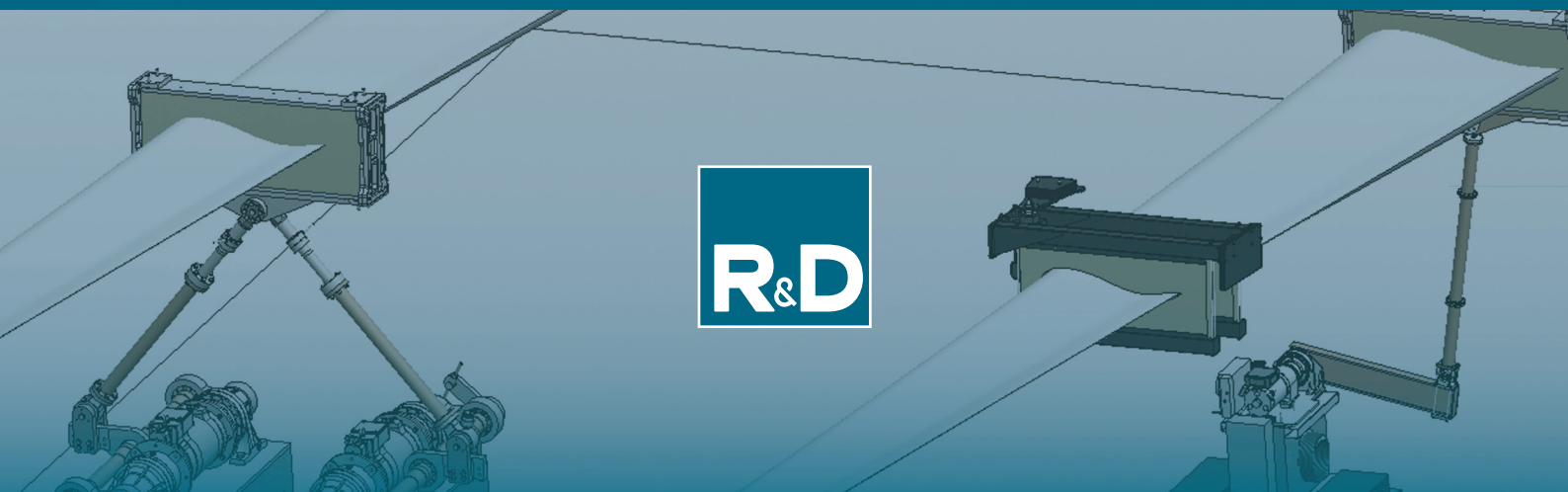




# BLADE TEST EQUIPMENT AND FACILITIES

Testing of large rotor blades



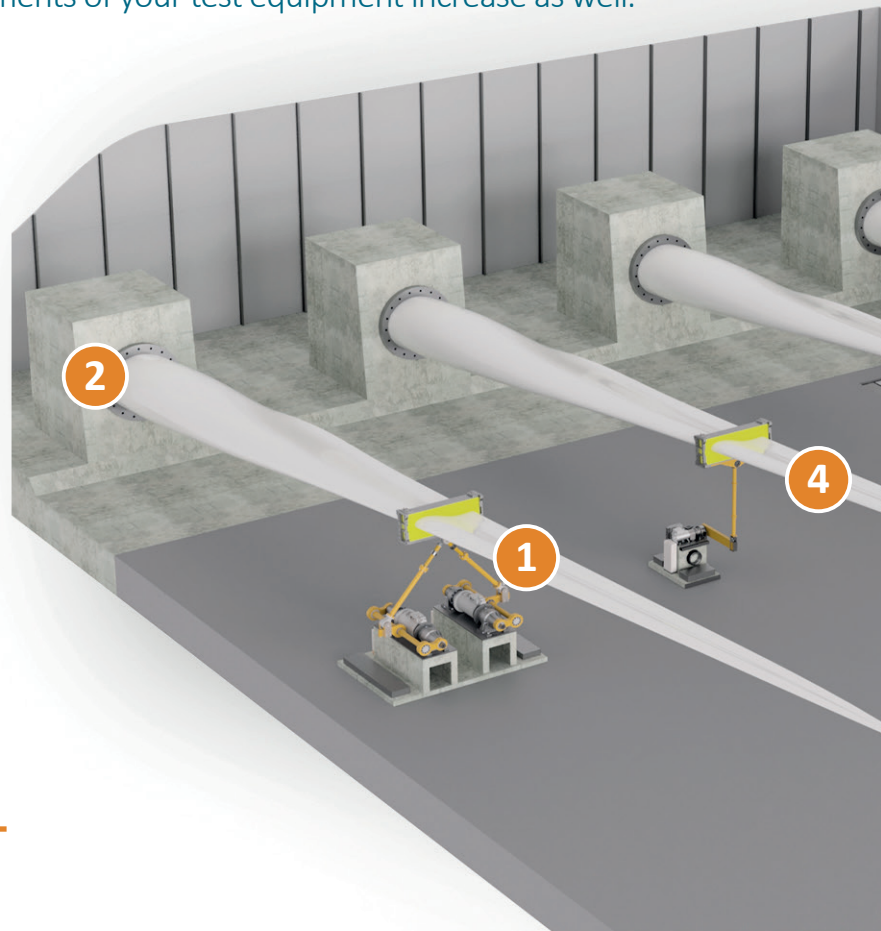


# WHAT DO YOU NEED FOR YOUR ROTOR BLADE TEST FACILITIES?

Rotor blades are subjected to both aerodynamic loads and inertial loads, which cause them to bend and twist in different directions. As blade design continues to increase in dimension and proportion, the requirements of your test equipment increase as well.

R&D Test Systems has unique experience and system insight within demanding test systems for the wind industry. Our long track record enables us to help you select the most suitable type of test for your rotor blade; from a standard test system to a tailor-made turnkey facility.

The testing solutions from R&D Test Systems enable you to verify your rotor blades according to the international standard IEC 61400-23.



## 1 DUAL AXIS EXCITER

The Dual Axis Electrical Blade Exciter for full-scale multi-axis fatigue blade testing.

The setup consists of an **electrical ground-based exciter that applies flap and edgewise loads simultaneously**. This setup ensures not only that the test system applies test loads equivalent to the loads experience under operation on the turbine but also reduces the overall duration for testing of the blades.

The test system can be developed and delivered as a standard setup or **customised to fit your requirements**.

## 2 FOUNDATION

We are well-versed and highly **experienced in the development of foundations for heavy-duty test systems**. We are able to develop and deliver customised foundation designs which fit the requirements of the test site.



# The only world-wide **full-scope supplier** of blade test facility

## 3 DATA ACQUISITION

R&D Test Systems offers a data acquisition system for collection of data from your blade testing.

## 4 FLAP AND EDGE EXCITER

The fatigue test setup for accelerated lifetime testing consists of the **Single Axis Flap Exciter** and/or the **Single Axis Edge Exciter**.

Both the Single Axis Flap Exciter and the Single Axis Edge Exciter can be delivered as a rotating mass exciter and/or a ground-based exciter.

**The Single Axis Flap Exciter and the Single Axis Edge Exciter** can be developed and delivered as a standard setup or customised to fit your requirements.

## 5 TEST FACILITY

Our deep knowledge of test operation enables us to design and deliver the test facility, which meets your testing requirements.

## 7 STATIC TEST SETUP

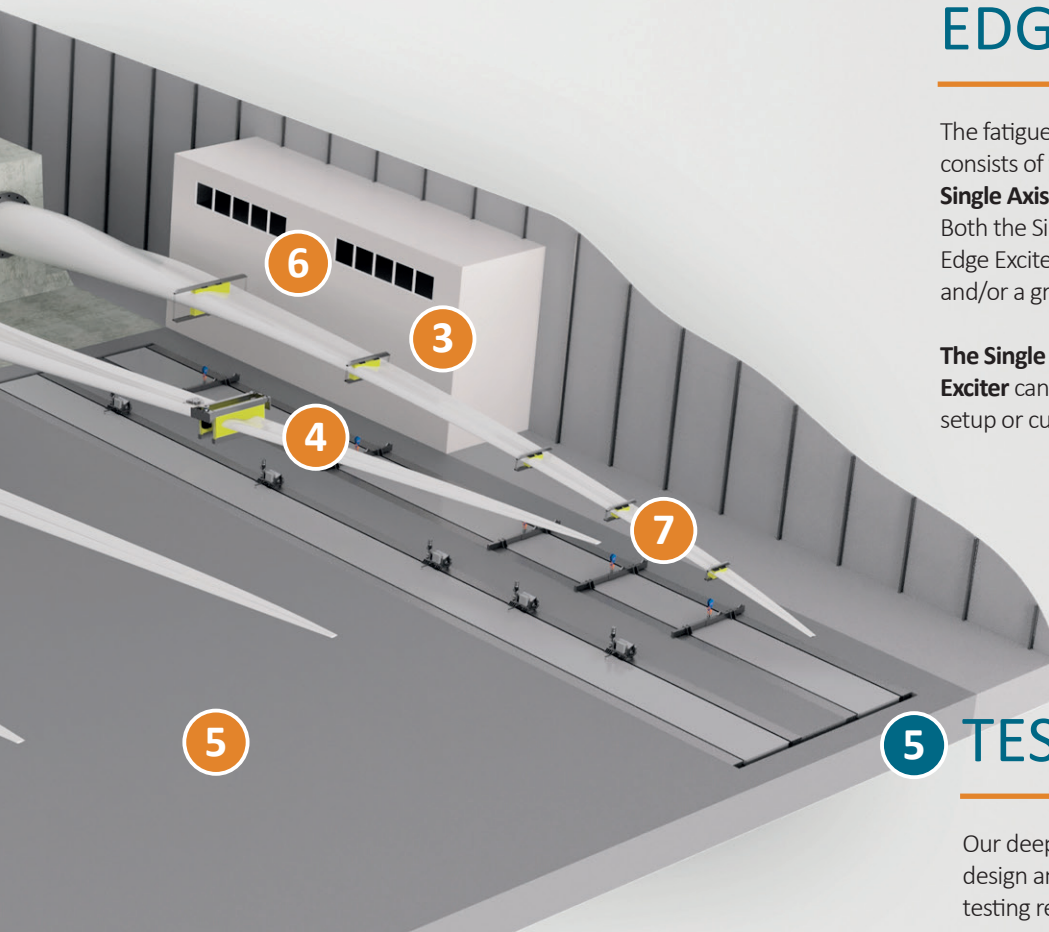
The **static test equipment** is designed to apply the needed extreme loads in all directions, i.e. towards the leading edge, trailing edge, suction side and pressure side in order to validate the blade design.

The **static test system can be developed** and delivered as a standard setup or customised to fit your requirements.

## 6 CONTROL AND HMI

An **advanced control system** is included in our standard test equipment, which is widely used by our customers worldwide.

We are able to integrate either a standard control system in the test equipment or **develop a customised control system** according to your requirements.





## R&D TEST SYSTEMS

Long track-record of turnkey solutions for the wind industry

**R&D Test Systems** has a workforce of engineering experts, who have acquired specialised competences through years of developing complex heavy-duty test systems.



Our in-house specialists enables us to address the system as a whole and provide the deliverables required for the complete life-cycle of the test system including project management, hydraulics, mechanics, high voltage engineering, software, electrical engineering, structures and foundations. By gathering all

competences in-house we are able to minimise the risks as well as reduce the delivery time of the turnkey solution.

**R&D Test Systems' portfolio** of heavy-duty test systems has been developed and delivered to a spectrum of large and internationally acclaimed companies within the wind industry. We have the largest number of references as supplier of test benches for drive train components and nacelle for the wind industry in the world, which makes us a trusted business partner.

### Further information

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