

# BLADE TESTING TO THE EXTREME

Researchers at the Technical University of Denmark (DTU) Large Scale Facility were looking to develop new advanced test methods to gain a better understanding of the failure in large structures.

## MARKET



Test



Niche Automation

## OTHER APPLICATIONS



Simulation

## CAPABILITY



Global Focus



Established Culture



Expertise



Modelling & Simulation



Support



Training



Field Service



## THE CHALLENGE

After soliciting proposals and securing funding from the Danish government, DTU picked Moog in the United Kingdom and its technical partners T A Savery and Qualter Hall for the project. Moog's expertise in aircraft structural testing and range of precision control systems, actuation products and engineering support services, which includes modelling and simulation capability, appealed to DTU's team. Furthermore, Moog had already developed actuation devices specifically engineered for wind turbine blades.

## THE SOLUTION

Moog's expertise with closed loop servo control and actuation helped it create a testing facility underpinned by a digital closed loop control system and application software.

To provide DTU testing flexibility, Moog and its partners designed and installed three test stands for 15m, 25m and 45m blade sizes, each configurable for DTU via the Moog system. Moog engineers also carried out the installation and commissioning of the suite of test equipment and provided training and ongoing support for DTU staff. The Moog scope of supply for the three blade test stands included the hydraulic power plant and distribution network, six hydraulic winches for the static test and a combination of eight mass resonance exciters (MREs) and linear actuator assemblies for dynamic test work. The solution also included all pipe work, hoses and actuation devices, control system electronics and application software.



DTU LARGE SCALE FACILITY

## THE RESULT

Moog delivered a solution which puts realistic loads on blades, enabling DTU to go to its next level of embedding sensors and creating digital twins to model what a blade's future state might look like, preventing blade failure before it happens.

Contact us today to find out more about **Moog precision motion control** on **01684 858000**