Case Study

Using Video Gauge™ for wind tunnel testing

Published May 2024

Challenge

Performing Research and Development within a wind tunnel requires capturing data from multiple points simultaneously. These data points represent displacement points of interest.

However, this displacement can take multiple forms and require the use of several types of sensors. In addition, capturing all necessary information from the test live can be problematic, meaning multiple test runs are required or an incomplete dataset is taken.

Solution

Combining Mobius Measurement Heads with Imetrum's Video Gauge™ software provides a suite of measurement tools to deliver the rich datasets required.

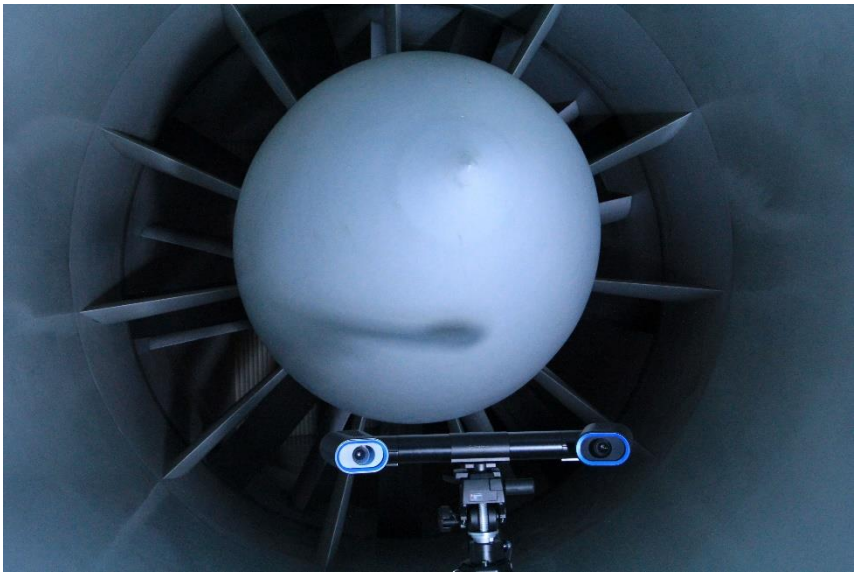
An unlimited number of virtual displacements, distance, strain, rotation, and LVDT measurements, as well as others can be made simultaneously. Full field strain and displacement maps can be captured.

Video data captured can also be used in post processing to re-evaluate the test and gain a deeper understanding of the object under test.

Rigid Body Motion correction can also be used to measure true deflections of components on an object under test.

Results

Combining Mobius Measurement Heads with Video Gauge™ allows wind tunnel operators to replace several sensors with a single system. This results in faster set-up times and simpler test configurations. It also results in more accurate data with the object under test not needing to be instrumented with contacting sensors. Using advanced tools such as full field strain maps and Rigid Body Motion correction also increases the data capture.



Visit our other case studies: https://www.imetrum.com/case-studies/