Wind Tunnel
Multi-Axis

Industry: Aerospace

Summary

Customer Challenge

A major aerospace company was developing a new airplane and needed to test their scaled model for aerodynamics in a wind tunnel, by measuring loads created by lift and drag.

Interface Solution

A Model 6A154 6-Axis Load Cell was mounted in the floor of the wind tunnel, and connected to the scaled model by a "stalk". A BX8-AS Interface BlueDAQ Series Data Acquisition System was connected to the sensor to collect data.

Results

The company analyzed the collected data and made the necessary adjustments in their design to improve the aerodynamics of their theoretical airplane models.

Materials

- 6A154 6-Axis Load Cell
- BX8-AS Interface BlueDAQ Series Data Acquisition System
- Customer PC with supplied BlueDAQ Software

How It Works

1. The wind tunnel blew air over the scaled model creating lift and drag, which was measured and compared to the theoretical airplane models.
2. The output of the 6-Axis sensor was connected to the BX8-AS Interface BlueDAQ Series Data Acquisition System, which was connected via USB cable to the PC.
3. Software in the PC converted raw data signals to actual force and torque values at the "stalk".
4. The customer analyzed the data and made the needed corrections to improve the aerodynamics of their theoretical airplane models.

Airplane Model

6A154 6-Axis Load Cell

BX8-AS Data Acquisition System

Laptop with BlueDAQ Software

Stalk