

Airplane Simulation

Multi-Axis

Industry: Aerospace

Summary

Customer Challenge

Flight simulator manufacturers must achieve maximum mechanical fidelity to comply with strict FAA regulatory standards. The control system requires highly responsive and exceptionally accurate force feedback to prevent lagging. Without precise real-time load monitoring, the actuators cannot faithfully replicate the micro-stresses and realistic "feel" of actual flight conditions.

Interface Solution

6AXX 6-Axis Standard Capacity Load Cells are installed directly into the inline assembly of the electromechanical actuators. The 6-Axis load cells provide exceptional rigidity and resists extraneous side loads, allowing it to continuously measure dynamic tension and compression forces. The BX8-AS BlueDAQ Series Data Acquisition will collect the force results, where it can be displayed when connected to the customer's PC with supplied BlueDAQ software.

Results

Pilots in training receive a highly realistic, responsive, and safe flight experience that flawlessly mimics actual flight dynamics. Interface's load cells ensure the system easily satisfies rigorous FAA certification criteria.

Materials

- 6AXX 6-Axis Standard Capacity Load Cells
- BX8-AS BlueDAQ Series Data Acquisition with Industrial Enclosure with included BlueDAQ software
- Customer PC or Laptop

How It Works

1. Multiple 6AXX 6-Axis Standard Capacity Load Cells are bolted directly into the inline assembly of the actuators that support and move the flight simulator chassis.
2. As the actuators move to mimic flight maneuvers, the 6-Axis load cells continuously monitor tension and compression forces. The BX8-AS BlueDAQ Series Data Acquisition will collect the force results, where it can be displayed when connected to the customer's PC with supplied BlueDAQ software.

