

UEI Embedded Solutions for Flight Simulation & Supersonic Flight Testing

WORKING TOGETHER TO FIND SOLUTIONS

A cutting-edge aerospace company has been working towards launching a new supersonic passenger jet. The company needed to run sophisticated tests with simulated and real hardware to make this new jet a reality, using hardware-in-the-loop (HIL), hanger tests, and full-scale simulator applications. The company required simulator control to collect sensor data for landing gear, shock, vibration, strain, and other critical safety and operational items. The ability to have both rugged and flexible data acquisition (DAQ) and control hardware and I/O was necessary to prove the viability of this new aircraft.



THE IMMEDIATE CHALLENGES

- 1 Rugged and flexible hardware to withstand the rigors of heavy simulator and hangar testing.
- 2 Breadth of I/O needed to conduct the volume of sensor data needed as well as control systems for simulators.

UEI'S PATHWAY TO SUCCESS

- [12-Slot programmable automation controller \(UEIPAC\)](#) for simulator control and monitoring, as well as HIL testing within lab settings.
- 7 different programmable automation controller (UEIPAC) [3](#) and [6 slot cubes](#) for hangar testing applications, including extensive landing gear and brake testing. I/O used includes [strain gauge](#), [sink digital input](#), [synchro/resolver](#), [simultaneous sampling](#) and [speed input](#).
- The ruggedness (depending on chassis style: up to 5 g vibration, 50 g shock, -40 to +85°C) and sizing flexibility of chassis systems allowed for easy maintainability and viability of aircraft test and simulator systems.

END RESULT

THE AEROSPACE COMPANY WAS ABLE TO ATTAIN SUCCESSFUL INLAB RESULTS LEADING TO FAA EXPERIMENTAL FLIGHT CERTIFICATION FOR FURTHER GROUND TESTING.

- [WIN]** The breadth of inlab and hangar testing successes help lead to the first major airline commercial order.
- [WIN]** Ruggedness and flexibility of UEI hardware has allowed for other testing to be conducted to further progress supersonic flight capabilities.
- [WIN]** UEI's [10 Year Availability Guarantee](#) on all COTS hardware removes the worry of obsolescence and ensures the aerospace company will be able to continue its progress for years to come.

ASK US HOW UEI CAN DO THE SAME FOR YOUR ORGANIZATION!

