ELECTRICAL GROUND SUPPORT EQUIPMENT FOR REUSABLE LAUNCH VEHICLE

APPROACH

- Gather requirements
- Identify and interview key stakeholders
- Utilize third-party vendors and build custom cables in-house
- Assemble and test

RESULTS

- Designed and manufactured four portable simulators that monitor and transmit the same electrical signals that interface with the four stages of the launch vehicle
- Produced design detail documentation—interface control documents (ICDs), wiring schematics, box layouts, and CAD drawings
- Completed thorough testing and configuration audit before shipping the finished boxes to the client
- Accomplished DAQ design and optimization—rack-mounted DAQ chassis with dedicated boards wired to custom PCBAs that condition and distribute the electrical signals
- Performed data handling—capacity, bandwidth, storage, and reporting of simulated sensor data

KEY TOOLS & TECHNOLOGIES

- Signal types—analog and digital I/O, RS-422, ISO-SPI, Ethernet
- Umbilical cables—MIL-DTL-38999 connectors, Quadrax contacts for network

ALTEN TECHNOLOGY