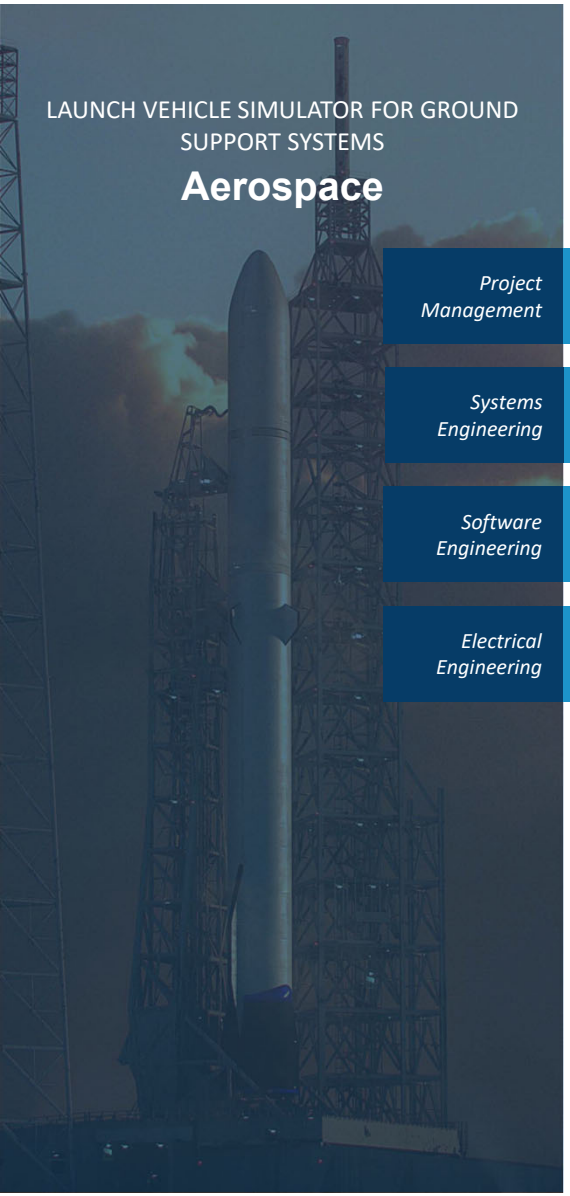

LAUNCH PAD ELECTRICAL GROUND SUPPORT EQUIPMENT AND CONTROLS (PLC) DEVELOPMENT

APPROACH

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

RESULTS

- Identified system simplification and validated with trade studies; weighed costs among various options based on design, implementation, and maintenance costs through the product's life cycle
- Produced design detail documentation—interface control documents (ICDs), wiring schematics, piping and instrumentation diagrams (P&IDs), and cabinet layouts
- Ensured safety products (FTAs, FMECA, E-stop implementations) meet system reliability, fault tolerance, and availability requirements
- Performed DAQ design and optimization—point-to-point wiring vs. remote I/O modules
- Performed data handling—capacity, bandwidth, and storage of incoming sensor data

KEY TOOLS & TECHNOLOGIES

- Ethernet-based communication (Ethernet, EtherCAT, CANbus)
- Safety PLC (Beckhoff TwinSAFE, Digsy, Allen-Bradley)

ALTEN TECHNOLOGY