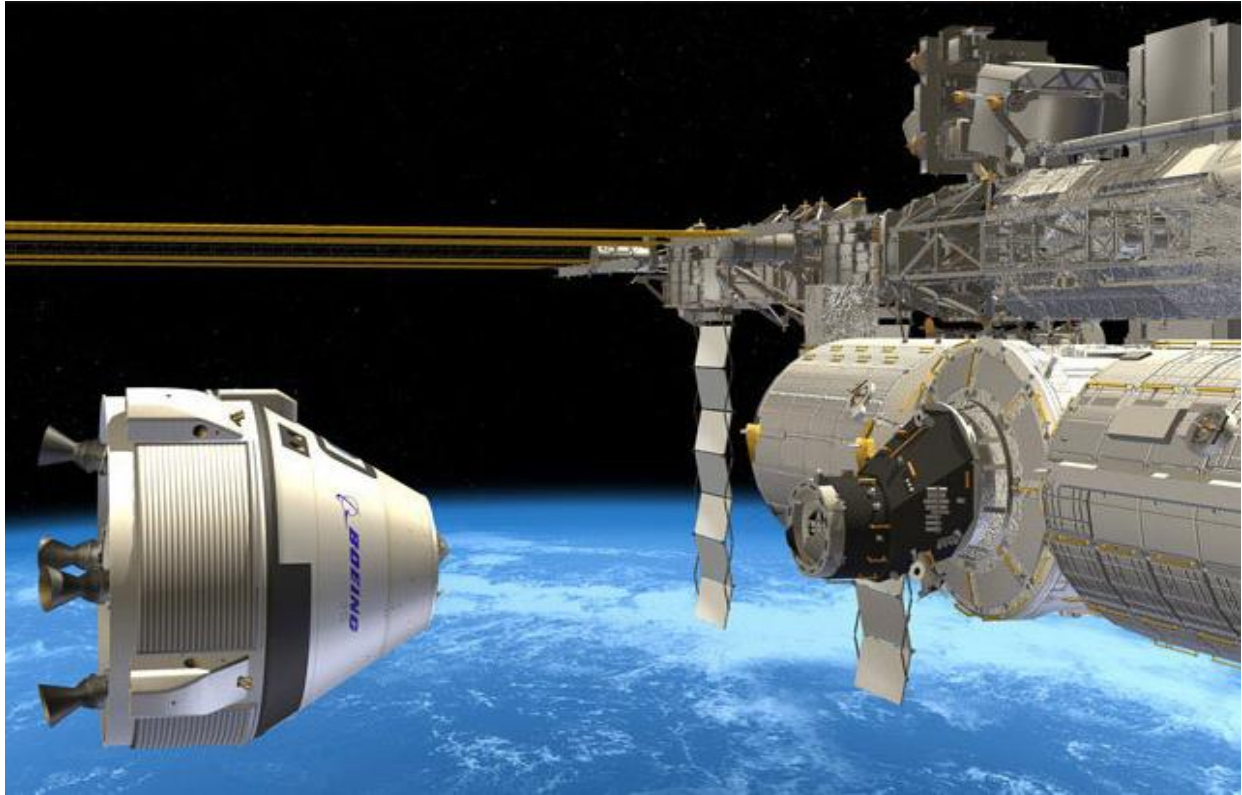


Frontier Electronic Systems Corp (FES) supporting Boeing's CST-100 Starliner



The FES designed, qualified, and manufactured Interface Control Panel for the ISS International Docking Adapter will control the hook motors enabling CST-100 to dock and depart from station.

Company Highlights:

Co-located in Stillwater Oklahoma with Oklahoma State University (OSU), FES is a woman-owned, Native American high technology engineering, manufacturing and systems integration business providing innovative and affordable electronic systems, avionics units, automatic test equipment and associated products for global aerospace and maritime markets.

Dr. Ed Shreve, an OSU electrical engineering professor and his wife Peggy, started the company in 1973 to offer quality engineering jobs to OSU graduates for design and manufacture of innovative electronics for both government and commercial customers. Dr Brenda Rolls, the daughter of the founders, has taken FES to the next level of excellence in STEM employment, customer satisfaction and business performance. She leads 140 engineering, manufacturing and business professionals working in a repurposed 86,000 sq. ft. former hotel to fulfill customer expectations while earning \$41M in FY 2020 revenue.

FES has earned four Boeing Supplier of the Year awards, two of them for Boeing space programs and three NASA Special Achievement Awards for excellent support of satellite and human space flight programs. The company is AS9100D, ISO 9001:2015, JSTD-001, IPC-610, NADCAP 7120 (electronics), and NIST 800-171 cyber security compliant. FES material engineers are experts in EEE parts selection/up-screening, DPA testing, counterfeit parts prevention and obsolescence management.

FES Support for Boeing's CST-100 Starliner Program:

Crew and Service Module Power Control Assemblies accept power from multiple inputs and distributes power loads via current limiting Remote Power Controllers (RPCs). RPCs provide on/off control/status monitoring via 1553 data bus. FES manufactured these assemblies as well as the Automatic Test Equipment (ATE). Crew Module Lighting Controller was designed, qualified and manufactured by FES. The equipment illuminates capsule pushbutton controls and the panel edge lighting for instrumentation and control panels. The lighting controller was the first Starliner unit robust enough to pass the challenging pyro-shock environmental test on the first attempt. FES also designed, qualified and manufactured Resistor-Network Assemblies supporting the crew lighting system. Crew Module Main Battery Assemblies provide power to the capsule. FES designed and 3-D printed innovative fixturing for safe soldering of lithium-ion batteries into the battery assembly. Additionally, FES designed, built and qualified ATE to perform full functional test as well as environmental stress screening requirements.

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