Axient’s Work on the SLS Program

Axient is the SLS primary structural loads contractor providing the following:

- Integrated vehicle and element level loads analysis
- Structure fracture and fatigue analysis support
- Shock and acoustic propagation support
- Vibro-acoustic component loads and spectra development
- Debris impact analysis

Axient is the SLS primary developer of the SLS Avionics System Integration Lab (SIL) and the Avionics Real-Time Environment for Modeling, Integration and Simulation (ARTEMIS) tools for NASA’s Marshall Space Flight Center. Models and tools include:

- Real-time M&S used for SLS hardware-in-the-loop (HWIL)
- Closed loop physics-based M&S running across multiple computer nodes (multi-CPU) running at 400hz.
- Developed to easily switch models for real HW to support off-nominal
- SLS vehicle emulator deliveries to external organizations used for their development and testing (Launch Control and Crew Vehicle)
Axient provides primary guidance, navigation and control (GN&C) design, modeling, simulation, and analysis, and verification and validation (V&V) for SLS. This work includes:

- Mission design, trajectory design, navigation design & analysis, flight control design & analysis, plant & environmental modeling, liftoff & separation analyses, and Monte Carlo technique
- Model Based Design (MBD) delivery of executable GN&C for SLS FSW

Axient was also the SLS Ground Systems systems engineering and integration (SE&I) contractor, providing the following:

- SE&I of the exploration ground system for the SLS vehicle processing
- Verification and validation
- Logistics planning for vehicle processing

www.axientcorp.com

BREAKTHROUGH SOLUTIONS FOR MISSION SUCCESS

New challenges demand new thinking. The changing landscape and our nation’s critical missions demand adaptive, innovative, and accelerated solutions and new ideas. At Axient, we’re driven to new solutions for what comes next, whether new approaches, new insights or new technology to advance mission forward. From mission to operations and sustainment to cyber threats, we provide expertise and technical insight that enables customer missions to rise to every challenge.

DELIVERING AT MISSION SPEED

Innovation without responsiveness only solves yesterday’s problems. At Axient, we leverage our engineering, customer expertise and proven development process to drive solutions at the speed of mission, to ensure our customers are always ahead of the threat and clear of the challenge.

Locations

Huntsville, AL (HQ) • Arlington, VA • Wallops Island, VA • Dahlgren, VA • Washington DC • Greenbelt, MD • Columbia, MD • Pax River, MD • Aberdeen Proving Ground, MD • Tullahoma, TN • Warner Robins AFB, GA • Eglin AFB, FL • Melbourne, FL • Cape Canaveral, FL • Johnson Space Center, TX • Corpus Christi, TX • Albuquerque, NM • Cannon AFB, NM • Holloman AFB, NM • Yuma Proving Ground, AZ • Colorado Springs, CO • Hill AFB, UT • Moffitt Field, CA • Vandenburg AFB, CA • Armstrong Flight Research, CA • Los Angeles, CA • Pasadena, CA • Glendale, CA • Michoud Assembly Facility, LA •