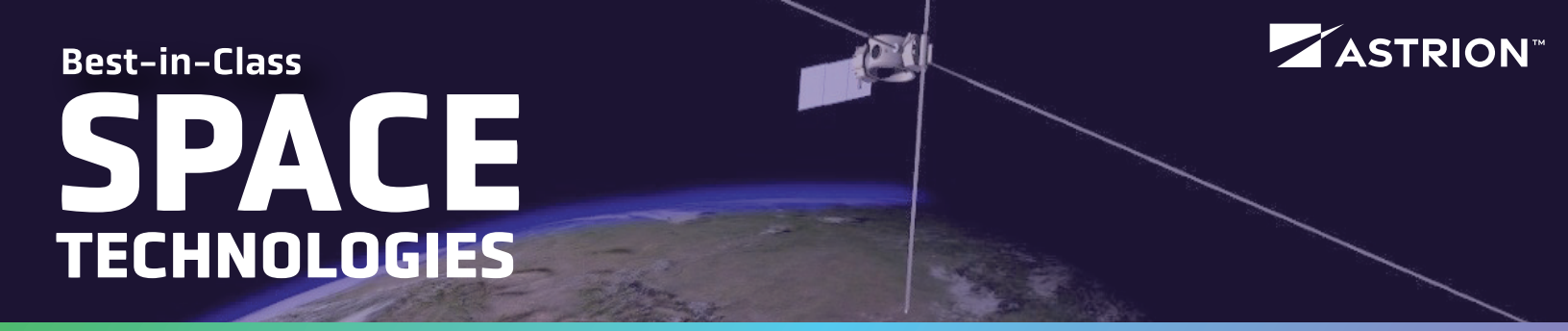
Best-in-Class

SPACE TECHNOLOGIES



FROM ACQUISITION & LAUNCH THROUGH GROUND OPERATIONS & SUSTAINMENT, OUR SPACE TECHNOLOGY SOLUTIONS ENSURE ENHANCED SAFETY, EFFICIENCY AND RELIABILITY FOR GOVERNMENT AND COMMERCIAL SPACE MISSIONS.

Advancing Mission Success Across the Space Domain

Astrion provides comprehensive support to space missions, delivering cutting-edge engineering, advanced software solutions, meticulous safety oversight, and rigorous mission assurance. Our expertise spans engineering, cyber, software development, launch vehicle integration, mission operations, and ongoing mission sustainment, positioning us as a critical partner at every mission stage.

Why Choose Astrion?

- **Trusted Partner** – Proven track record in space technologies across agencies and customers with exceptional CPARs.
- **Expertise & Innovation** – Deep domain knowledge in engineering, R&D, and mission-critical support utilizing MBSE and AI/ML capabilities.
- **Scalable & Cost-Effective Solutions** – Tailored for both government and commercial partners with SMEs across all technologies but agile to deliver at the speed of need.
- **End-to-End Lifecycle Support** – From design and testing to operational deployment and sustainment.
- **Mission Success Focused** – Delivering reliable solutions for the most demanding aerospace environments.
- **Precision & Safety** – Standards for quality assurance and risk mitigation.

Technology Focus Areas & Expertise:

Our experts specialize in the following technologies for our customers:

Launch Operations • Safety & Mission Assurance • Space Science & Mission Support • Rocket Propulsion • Hypersonics • Operational Energy • Spacecraft Engineering & Payload Integration • Systems Engineering & Integration • Assembly, Integration & Test • Commercial Space Research & Development

Tracking & Telemetry Systems:

- **Use Autonomous Vehicle Tracking System**
- **UAS Tracking System:** Real-time tool integrating debris propagation and mission boundaries, incorporating multiple tracking sources (e.g., radar, GPS) for enhanced airspace situational awareness.
- **Launch Vehicle Telemetry Display:** Customizable system for NASA's SLS that maps telemetry data to critical display elements for safety monitoring.

Space Domain Expertise:

- **Launch Systems Engineering:** USSF/SSC's end-to-end launch operations support, including risk management and program-of-record sustainment.
- **USSF/SSC National Security Space Innovation:** Integrates digital M&S for battlespace visualization (USSF/SSC) with AEDC's hypersonic testing (USAF) and AFRL's RISE contract for space superiority systems.
- **Hypersonic and Advanced Testing:** AEDC's hypersonic CTF for USAF programs and AFRL's environmental test asset management.
- **CubeSat Development and Mission Operations:** Modular, app-based flight software and Assembly, Integration and Test for resilient Air Force CubeSat missions.
- **Spacecraft Certification and Cybersecurity:** Integrates NASA Kennedy's Commercial Crew Program systems with USSF/SSC's launch vehicle certification, cyber security, and logistics.
- **NASA Mission Assurance and Testing:** Combines NASA Ames' mission assurance tools (risk management, certification validation) with Marshall Space Flight Center's umbilical/cryogenic testing, non-destructive evaluations, and LASSO II's fracture control analysis for flight readiness.
- **SLS Avionics and Simulation:** Marshall Space Flight Center's avionics tools (SIL, ARTEMIS) enabling HWIL testing and off-nominal scenario modeling.
- **Kennedy Space Center Testing:** Operates 70+ aerodynamic/propulsion test facilities, including wind tunnels and space environmental chambers.

Our People:

Our expert engineers, analysts, and technical specialists push the boundaries of innovation to solve the toughest challenges in National security, civil, and commercial space.

- **Validating Space Launch Technologies:** Evaluating launch platforms under extreme conditions, from scorching heat to subzero cold.
- **Uncovering Vulnerabilities:** Rigorously testing complex weapons systems to expose weaknesses before adversaries can exploit them.
- **Fortifying Cyber Defenses:** Countering evolving cyber threats with cutting-edge adversarial testing and digital hardening.
- **Pushing Unmanned Systems Beyond Limits:** Stress-testing autonomous technologies to ensure operational excellence.

Customers:

NASA Launch Control System • NASA Commercial Crew & Artemis • USSF Space Systems Command • USSF Space Operations Command • Air Force Research Laboratory • US Air Force Test Center • US Army • Army Redstone Test Center Army Futures Command • Federal Aviation Administration • Joint Special Operations Command

Risk Analysis & Flight Safety Tools:

- **JARSS/Sentry Mission Planning:** Software suite for computing risks (e.g., Pi, Pc, Ec, ship & aircraft) associated with space launches and reentry vehicles.
- **Flight Analyst Workstation (FAWS):** Pre-flight configuration tool for the Autonomous Flight Safety System, enabling MDL development and testing; FAA Safety Element Approved (2018, renewed 2023).
- **Pelican Situational Awareness Program (PSAP):** Provides real-time reentry risk visualization for a classified government program.
- **Operational Risk and Containment Analyzer (ORCA):** IRAD-funded next-generation FSA tool suite, set to replace legacy systems by 2026 while meeting Part 450 fidelity standards.

Facility and Mission Equipment & Management System (FAMEMS)

An advanced tool for management planning focused on facility design concepts, budgetary planning, and operational reality.

- Combines 3D graphical presentations with a tailored database to provide complete configuration information on products, systems, and facilities.
- Supports inquiries about design changes, problems, warranties, and life cycle calculations.
- Mission Lifecycle Development Lab (MLDL™)
- Provides simulation, testing, and wargaming capabilities to assess military spacecraft and weapons systems.
- Supports full lifecycle simulation and operational assessments for space systems.
- Avionics Real-Time Environment for Modeling, Integration and Simulation (ARTEMIS)
- Developed for NASA's Marshall Space Flight Center for the Space Launch System (SLS).
- Includes real-time modeling and simulation used for SLS hardware-in-the-loop (HWIL) testing.

Certifications:

AS9100 / ISO 9001 • CMMC Maturity Level 2 • CMMI-DEV Maturity Level 3 • CMMI-SVC Maturity Level 3 • Greenhouse Gas Protocol • ISO 27001 • ISO 9001

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