SAIC and Space: Celebrating 60 Years

SAIC has been working alongside the space community on some of the greatest missions in U.S. history.

We don't just know space exploration. We've lived it, from designing inertial navigation systems in the 1950s to conducting independent verification and validation for the very first heavy-lift reusable rocket launch in 2018.

We have built a history of space age past and present:

- In 1969, when the world watched in awe on black-and-white television sets as Neil Armstrong and Buzz Aldrin made their first steps on the moon in the Apollo 11 mission, our engineers were designing and analyzing the next generation of space systems.
- Over the last four decades, we have supported 250 government space and missile launches.
- Since the 1990s, we have provided launch and mission assurance for the intelligence and defense communities in
 protection of the nation's security.
- In 2012, our systems engineering and integration teams ensured that the Curiosity Rover's "Seven-Minutes-Of-Terror" landing was successful for its scientific discovery journey across Mars.
- We have supported International Space Station safety for more than 25 years--from assembly through continuous
 operations. Today, SAIC engineers ensure the safety of our astronauts from onboard life support systems to space suits
 and space walks.
- We are there every day working with the U.S. Air Force to support the design and deployment of next-generation ground systems and space systems that can stand up to the challenges of contested space.

SHAPING THE SPACE FOR DECADES TO COME

Our teams are innovating and creating new capabilities, whether they are in:

- Systems engineering and integration, including model-based systems engineering, policy and strategy, space enterprise architecture, and digital engineering.
- Launch and mission safety and assurance, including vulnerability and resilience assessment, risk management framework, test and evaluation, and cyber hardening.
- Hardware and software integration for space and related ground systems
- Software assurance
- Satellite command and control and exploration ground systems, including agile integration, open architectures, cloud migration, and AI and ML-assisted decision-making.

Read blogs and feature stories on space at www.saic.com/space

- Helping NASA Design An Unmanned Spacecraft To Service Satellites
- Why Digital Engineering is Crucial for Space
- Engineering Aids NASA's Mission on International Space Station and Beyond
- SAIC Mentors Stem Scholars & Tomorrow's Space Pros
- SAIC Innovation Factory Concept



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Space and Transportation Systems

SAIC brings you proven, sophisticated systems engineering and aerospace expertise, tools, and processes to help your projects take off.

MISSION-CRITICAL SPACE AND TRANSPORTATION SUPPORT EXAMPLES

- Implement and apply model-based systems engineering (MBSE) processes and tools to evaluate potential enhancements to space, air, and ground architectures
- Design and deployment support for next-generation satellite, ground segment, and launch systems
- Manage networks and applications for over 100,000 users and 600 applications, supporting 24/7 operations
- Design dynamic high-performance computing systems and software for digital engineering, weather and climate modeling, space situational awareness, vehicle design and testing, and operational support
- Perform safety, software, and mission assurance for critical systems-of-systems, including hardware, software, and CONOPS
- Implement IT service management, cloud solutions, and cybersecurity in classified/ unclassified environments
- Conduct physical and cyber vulnerability assessments, implement security enhancements, and protect against insider threats
- Apply virtual reality technologies to enhance effectiveness, efficiencies, and safety for mission controllers and vehicle operators



MISSIONS

Remote sensing

- Navigation
- Climate and weather forecasting
- Missile defense
- Space situational
- awareness
- Science and exploration
- Communications Health sciences
- Manufacturing
- Human flight
- Launch
- Intelligence Defense

Science

- Tourism
- Economics/trade

Our Service Offerings

- Strategic planning/ market assessment
- Technology forecasting and development
- Systems architecture and engineering
- System and software design and development
- Integration and testing
- Safety, independent verification and validation, and mission assurance
- Program management, including acquisition/cost/risk analysis
- Information technology/network • services/applications support
- Training curriculum development and training services
- User/operational support

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KEY CUSTOMERS: National Security, DOD, NASA, NOAA, DOT

Key Capabilities

- Systems Engineering and Integration—Architect, design, and integrate effective, resilient, and cost-effective solutions. Manage complexity (including opportunity and risk) across the program lifecycle.
- **Positioning, Navigation, and Timing**—Analyze and engineer critical space, air, and ground-based capabilities to support all transportation modes.
- Modeling and Simulation—Conduct scientific analysis using physical-based and virtual and constructive tools for MBSE, training, and operational support.
- Agile Development—Provide rapid and responsive DevOps support to application development and system integration of COTS/GOTS and new software.
- Network Services/Applications Support-Provide comprehensive design, implementation, and operations of secure and efficient enterprise-wide communications systems (space and terrestrial-based) to support enterprise and mission applications.
- Data Analytics/Visualization—Apply statistical, inference, and optimizationbased approaches to evaluate driving factors in shaping mission outcomes.
- Artificial Intelligence/Machine Learning—Apply computational sciences to automate routine tasks and link disparate data inputs to enable efficient and effective operations.
- **Cybersecurity**—Engineer and operate secure and resilient systems. Provide full range of threat and vulnerability assessments, mitigation, and response.
- · High-Performance Computing—Design and operate HPC systems (processing, networking, data center, visualization tools) and optimize software (through code profiling, optimization and refactoring) to analyze alternative designs and enhance operations.

Proven Success

50+ YEARS

SUPPORT TO SPACE & COMMUNITY

DOD SPACE SE&I

DOT/FAA SERVICES (IT. TRAINING. ENGINEERING) 250 SPACE LAUNCHES

NATIONAL SECURITY SYSTEMS ENGINEERING

NASA SERVICES (IT AND ENGINEERING)



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SAIC Knows Space

SECURE – SOLVE – SURPASS

Whether it's integrating space into air, land, and sea battle domains, establishing a lunar gateway, or safely delivering humans to Mars, SAIC is there with our customers. From exploring the outer planets, to capitalizing on commercial space offerings, to protecting the nation from next-generation weaponry, SAIC has the domain expertise.

SATELLITE SERVICING AND PROXIMITY OPS

Helping NASA deploy robotic spacecraft to service in-orbit satellites.

PARKER SOLAR PROBE

Verified probe's ability to successfully approach the sun

GPS SATELLITES

Deliver systems engineering and integration for the GPS program

INTERNATIONAL SPACE STATION

Perform systems engineering and IV&V for the ISS for more than 23 years

SBIRS

Gained operational acceptance of next-generation OPIR ground system

INTERCONTINENTAL BALLISTIC MISSILE

Developed a quick response analysis tool suite to evaluate ICBM threats

CLIMATE AND WEATHER MODELING

Support the climate-measuring infrastructure of NOAA's information network

ORION SPACECRAFT

Conduct software safety and mission assurance for Orion spacecraft and SLS

HYPERSONIC VEHICLES

Modeled space sensor augmentation to address hypersonic threats

SPACE LAUNCH SYSTEMS

Executed mission assurance on the first Falcon 9 launch for DSCOVR

SPACE TRAINING

Training future space warfighters and astronauts

END-TO-END LAUNCH SUPPORT

Supported more than 250 successful space launches

CYBER HARDENING/ SPACE IT SUPPORT

Deliver cyber hardening into space system architectures

COMMAND AND CONTROL AND MISSION OPERATIONS

Designing systems of the future for operating in contested space

