SECURING U.S. DOMINANCE IN THE AIR

The need for military dominance above the ground — and above the Earth — is now more critical than ever. While hypersonics and space warfare grab increasing attention, national defense and security leaders are working to quickly evolve U.S. capabilities in air and space. But new platforms take a long time and large budgets to create, especially as technologies evolve and adversaries become increasingly mature. Amid this discourse, recent narratives from agency leaders share two common threads: speed and innovation. They are calling for a renewed ethos in the way the U.S. builds and sustains weapons platforms to put America back in front.

To hold and extend U.S. dominance in the air, the country must complement its research and development of new military platforms with intelligent, agile system development, modernization, and management to support the long-term combat effectiveness and viability of existing air and space platforms while fielding new systems that support scale and replication.

EXPERTISE TO SUPPORT THE MISSION

Alion designs, develops, and modernizes a range of advanced aircraft and spacecraft platforms, using our leading-edge technology, in-depth operational experience, and national security expertise. From evolving capabilities in artificial intelligence (AI) to acquisition and engineering solutions, we support platforms at all levels.

We have supported air and space programs for the DoD — from inventing the “snow white” coating used on spacecraft to designing and producing unmanned future concept vehicles — for more than 40 years. And, since the initial charter for the Space Technology Evaluation & Assessments (STE&A) activities in 2004, Alion has provided the operational expertise to understand new warfighter needs as well as generate potential concepts of employment and capabilities driven by technology.

With 30 percent veterans and forward-deployed engineers, our technical and engineering expertise covers the entire lifecycle of these essential military systems, from concept through to sustainment.
ALION’S AIR & SPACE SYSTEMS SOLUTIONS

For us, success means more than financial results; it means returning the men and women of the U.S. Armed Forces to their loved ones, safe and sound. Our engineers, technologists, program managers, and other first-class experts apply vendor-agnostic tools and an agile engineering methodology to save our clients time and money while delivering industry-leading air and space system solutions to support America’s defense.

DESIGN & ENGINEERING
Our engineers analyze, design, develop, and maintain air and space systems—from complete platforms to integrated weapon systems—to secure, emerging technology solutions.

LOGISTICS & TRANSITION
We offer logistics design and technology transition solutions to help our clients manage acquisition, sustainment, and modernization processes for maximum readiness.

CYBER SECURITY
Through our dedicated cyber development and integration lab, we support complete weapon systems security, including certification, accreditation, acquisition, and protection.

DEVELOPMENT PLANNING
Alion provides development planning for air and space weapon systems, including open system architecture maturity, joint capability integration, and business or materiel integration.

FEATURED WORK: FULL LIFECYCLE WEAPON SYSTEMS ENGINEERING

We work closely with program managers and engineers of all USAF fighters and bombers—including the F-35—to identify enhancements for each lifecycle phase and acquisition milestone. From air worthiness, reliability, and qualification testing to cybersecurity and system safety, we develop engineering analysis and assessments for fighter/bomber airframes as well as systems and subsystems.

As part of this work, we have mitigated serious challenges stressing the fighter-bomber communities, such as spare parts availability, sustainment of aging fleets, lagging B-1/B-52 mission capability (MC) rates, decreasing F-15D/F-16D MC rates, decreasing B-1 inherent MTBF, and the upcoming B-21 development. Building on our ISR work, we also standardized processes to determine failure modes, reliability metrics, and levels of repair to analyze and develop supply, maintenance, transportation, risk, cost, and training plans for an overall Life Cycle Sustainment Plan.

Our SMEs also evaluate system and platform architecture, assess security controls implementation, analyze assessment results, and document residual operational risks in support of Risk Management Framework (RMF) Platform Information Technology (PIT) Assessment and Authorization activities, most recently achieving a 3-year full Authority to Operate for the MC-130J aircraft. In building Information Support Plans (ISP), we have supported numerous programs, including the MC-130J Common Terrain Following/Terrain Avoidance Radar System (MCTF) Implementation. We created DoDAF architectural views and products to ensure these system platforms comply with the DoD’s Net-Ready Key Performance Parameters.

About Alion Science and Technology
At Alion, we combine large company resources with small business responsiveness to design and deliver mission-critical engineering solutions. With an 80-year technical heritage and an employee-base comprised of more than 30% veterans, our engineers, technologists, and program managers bring together an agile engineering methodology and the best tools on the market to deliver mission success faster and at lower costs. Based just outside of Washington, D.C., we help clients turn big ideas into real solutions. Learn more at www.alionscience.com/air.

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