The United States’ long-standing military posture and national security have been gained, in part, through unparalleled intelligence, surveillance, and reconnaissance (ISR) capabilities. As the nation moves into a new era of defense — with changing adversaries who exploit an array of fast-evolving technology — its ISR capabilities must rise to meet new demands for speed, scale, and security.

A NEW ERA OF DEFENSE AND SECURITY
Mission success now requires quick, seamless, and secure access to information in the Cloud. It requires the intelligent, nimble integration of systems to support the long-term combat effectiveness of military platforms. It requires continued dominance of the electromagnetic spectrum, which has always been an imperative for military operations. And it requires the ability to synthesize vast amounts of data from modern sensors that overwhelm even the most advanced traditional processing techniques.

The future of ISR means keeping pace with the future of technology, so that America’s defenses remain at the leading edge.

ADVANCING CRITICAL U.S. INTELLIGENCE
At Alion, we exist to support American warfighters through technology and engineering innovation. We’ve been trusted partners to the national security community for more than 80 years, with a track record of quality and the credentials to prove it.

With 40% veterans and forward-deployed engineers, we bring operational experience to deliver ISR solutions that work in the real world. We are experts in sensors, platforms, processing, and C5ISR, with the ability to exploit massive DoD and intelligence community (IC) data sets. Today, we are augmenting ISR sensing and control systems with machine and deep learning to help U.S. government clients collect and synthesize data faster and more accurately, so they can make more informed command and control decisions.

As vendor-agnostic curators of commercial technology, we are helping advance the nation’s defense through proven ISR solutions backed by applied artificial intelligence (AI) and human-machine teaming across the full spectrum of military operations.
ALION’S ISR SOLUTIONS

From low-SWaP architectures to R.A.I.D towers, we provide integrated ISR solutions to aid military insight and interoperability. We are deeply analytical partners who never stop looking for a way to make things better. That’s why we apply our agile engineering methodology to every project and problem, saving time and money for our clients while delivering full-lifecycle ISR solutions.

SENSORS & SYSTEMS

The fusion of RADAR, communications, electronic warfare, and cyber effects into a low-cost, low-profile package is a force multiplier in the field. Our low-SWaP sensors and sensing solutions are built on state-of-the-art architectures and employ a system-on-a-chip embedded processor. They can operate as a stand-alone system, be connected for multi-mode operation, or be integrated into an existing common operating picture to provide maximum insight.

PLATFORM INTEGRATION

Alion is on the forefront of advancing and integrating leading-edge data fusion algorithms and unique advanced sensors onto special mission military platforms. Our engineers use rapid prototyping and agile development processes to deliver special-mission capabilities in mere months—solutions that would normally take years. We enlist and oversee critical partner capabilities to deliver best-of-breed solutions for our special mission customers in rapid time.

CLOUD SOLUTIONS

As an approved Amazon™ Web Services (AWS) Cloud Provider for the intelligence community (IC), we pair the benefits of a customized cloud operating environment with deep and machine learning capabilities to address the needs and heightened security concerns specific to DoD and IC customers. We help clients securely capture, organize, store, and manage their sensitive data— even as technology and privacy standards evolve.

NAVAL LIFECYCLE SUPPORT

On time, on budget, and absolutely to spec, we provide complete operational sustainment and lifecycle support services to maximize vessel capability and lifespan. Our full range of services encompass in-service support as well as lifecycle logistics, including technical data development using machine learning, contractor advisory services, and interim supply support. We also conduct availability planning, execution and control, and provide schedule management and onsite logistics representatives at home ports to deliver optimal results.

DATA FUSION

Alion is developing cutting-edge data fusion engines and algorithms to help the United States advance the way it gathers, integrates, validates, and activates mission-critical defense and intelligence information. Building on our machine and deep learning capabilities, we give you the ability to ingest all available inputs from multiple sources for an integrated, more robust collection, analysis, and classification tool that drives smarter military action.

EMBEDDED SYSTEMS

Multicore technologies, modern warfare systems, cloud technologies, and more are driving the need for embedded systems that deliver increasing complexity without compromising on size, weight, cost, or performance. Our engineers develop and deliver these systems—including microprocessors with increased computational power—by combining functional and domain experience with commercial off-the-shelf (COTS) hardware components at a rapid rate.

UNMANNED

We use applied AI, deep learning, and machine learning to prototype, test, and deploy the next generation of unmanned platforms. These smart systems can better pinpoint potential targets, while keeping humans on the loop, and offer superior navigation and collision avoidance capabilities. With leading-edge technical skills, hard-won insight into critical integration challenges, and unique credentials and facilities, we provide unparalleled unmanned platform solutions.

SPECTRUM SOLUTIONS

We are the leading industry experts on all things wireless spectrum—from specialized electromagnetic tools to policies that govern the use of this limited resource. With 65 years of experience and more than 200 spectrum engineers and policy experts, we are anticipating the future to optimize system performance within the complex electromagnetic environment, where more and more systems depend on interference-free spectrum access.

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About Alion Science and Technology

Solving our nation’s complex national security challenges, Alion works with our defense and intelligence communities to deliver advanced engineering solutions. With global expertise in Live, Virtual, and Constructive Training; Big Data Analytics and Cyber Security; Artificial Intelligence, Electronic Warfare and C5ISR, Alion ensures mission success. To learn more, visit alionscience.com.

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