

ALION

Helping the U.S. government advance how it gathers, integrates, validates, and activates mission-critical information.

ADVANCED DATA FUSION

Cutting-Edge Engines & Algorithms Backed by Deep Learning

NAVIGATING THE DATA DELUGE

Thanks to advances and expansions in technology, U.S. defense and intelligence leaders now have access to more data than at any previous point in history— data on adversaries, systems, operational movements, human performance, and more. It's coming from all sides.

In theory, all of this data will help drive mission success. But modern sensors, for example, capture data in such high volumes that even the most advanced traditional processing techniques are overwhelmed. With so much information available, leaders face a new challenge: They must quickly collect and synthesize vast amounts of data to get the full picture and make the right call.

Data fusion technology can help military and national security operators cut through the noise and make better-informed command and control decisions by simultaneously integrating multiple data sources into a single view. The result is a critical capability to derive more consistent, accurate, and useful information than can be provided by any one source alone.

THE FUTURE OF FUSION

At Alion, we are working closely with government, academia, and industry partners to develop the next generation of advanced data fusion solutions in support of U.S. national defense and security. Our vendor-agnostic approach and comfort with open source or third-party applications mean that we are moving at the speed of Silicon Valley to bring the best, most secure data fusion solutions to the DoD.

Building on our applied artificial intelligence (AI) capabilities, we provide mission management, mission planning, and data fusion software to streamline and ensure effectiveness in ISR mission areas for multiple platforms. By delivering the ability to ingest all available inputs from multiple sources for an integrated, more robust collection, analysis, and classification tool, we are driving smarter military action and changing what it means to “fuse data” forever.

Together, we are pairing data insights and systems expertise with machine and deep learning capabilities to help revolutionize America's national security.



ALION'S DATA FUSION SOLUTIONS

We've been trusted, tireless partners to the national security community for more than 80 years, with a track record of quality and the credentials to prove it. By applying our agile engineering methodology to every project and program, we help clients save time and money while deploying industry-leading data fusion solutions that deliver massive efficiencies for current and future missions.



DECISION TOOLS

Our tools aggregate and sort both organic and inorganic data, to provide coherent track picture and management functions, in addition to sensor tasking and processing.



PLATFORM INTEGRATION

Alion's engineers are on the forefront of advancing and integrating leading-edge data fusion algorithms and unique advanced sensors onto special mission military platforms.



MACHINE & DEEP LEARNING

As a leader in applied Ai for national defense, we use machine and deep learning to increase speed and performance of the fused solution, while improving human-machine teaming.



SYSTEM INTEGRATION

We fuse data into systems to allow real-time decision making — including using advanced algorithms to process imagery — with open source software that prevents “vendor lock.”

FEATURED WORK

MARITIME PLATFORM SOFTWARE INTEGRATION

Alion currently supports the U.S. Navy in the development of advanced data fusion software for maritime platforms. In this role, our architects and software engineers provide continued evolution and delivery of an integrated, real-time, multi-intelligence data ingest, conditioning, exploitation, display, and dissemination system that supports multi-platform/multi-sensor intelligence, surveillance, and reconnaissance. As an integral part of the DoD team, we used several programming tools — such as C++ and Java — to develop this state-of-the-art application.

PROCESSING, EXPLOITATION, AND DISSEMINATION

Our capabilities in Processing, Exploitation, and Dissemination (PED) continue to grow. We are expanding our offerings into multimode radar data processing; Electronic Warfare signal classification; and new applications of Ai, machine learning, and deep learning. Our PED analysts provide critical data via proven processes to OCONUS customers, while our engineers are supporting the integration of tools that expand the use of Ai and machine learning to full-motion video and still imagery, increasing military ISR efficiencies.

With a detailed understanding of defense and national security applications gained through work on the ground, we combine technical excellence with real-world operator experience to deliver proven solutions that support your mission success, even as the battle landscape changes. To learn more about our complete package of data fusion solutions, or to get connected with one of our experts, visit us online at www.alionscience.com/datafusion.

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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. For more information, visit www.alionscience.com.

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