

Specialized Engineering and Project Support



At TriVector, we are renowned for our expertise in specialized engineering and project support, backed by industry leading experience. We have successfully performed a wide range of complex tasks for Missile Defense Agency (MDA), Program Executive Office (PEO) Missiles and Space, and the U.S. Army Combat and Capabilities Development Center (CCDC) Aviation and Missile Center (AvMC). Starting from concept design and continuing through integration, testing, and mission operations, our proven results deliver significant value to our customers.

Areas of Expertise

- ▶ *Systems Engineering Requirements & Verification*
- ▶ *Systems Security Engineering (Cybersecurity)*
- ▶ *Radar and Missile System Performance*
- ▶ *Software Design, Data Timing, and Airworthiness*
- ▶ *Quality Engineering and Manufacturing Readiness Assessments*
- ▶ *Reliability, Availability, and Maintainability*
- ▶ *Digital Engineering / Transformation*
- ▶ *Model Based Systems Engineering*
- ▶ *Advanced and Additive Manufacturing*
- ▶ *Configuration and Data Management*
- ▶ *Electromagnetic Environment Effects (E3)*
- ▶ *Program Protection*

Program / Project Support

- ▶ *PEO M&S TAGM, SHIELD, & IFMC PO Support*
- ▶ *Aviation and Missile Command (AvMC) System Readiness Directorate (SRD)*
 - ▷ *AvMC S/W Mission Assurance*
 - ▷ *Mission Equipment Division (MED)*
 - ▷ *Manufacturing and Electronics Technology (MET)*
 - ▷ *Manufacturing Science & Technology (MS&T)*
 - ▷ *Special Operations Aircraft Division (SOAD)*
- ▶ *AvMC SWMA - Multi Core Processor (MCP) Laboratory*
- ▶ *MDA Ground Based Mid-Course Defense – SE, GS, GBI, NGI*

Delivering Engineering Excellence . . . Ensuring Technical Performance



Reliability, Availability, Maintainability and Quality Assurance

Under SHIELD (formerly CMDS), TriVector provides Quality, Reliability, and Production support to the Stinger Based Systems. From restarting Stinger and Avenger production, to establishing new systems such as EMAM, TriVector supports the SHIELD PO by ensuring that high quality, reliable advanced capability products are developed and delivered to the warfighter for successful mission completion. For TAGM, TriVector provides production and sustainment support to the JAVELIN Block I Launcher and Missiles. We also provide Systems Engineering and Reliability support to the JAVELIN Light Weight Command Launch Unit development program. TriVector is an invaluable partner to both project offices through commitment to quality through expert analysis.

Software and Mission Equipment Airworthiness Support at Army's System Readiness Directorate (SRD)

TriVector provides software and mission equipment airworthiness support to the Army's System Readiness Directorate (SRD). Our engineers review and develop airworthiness artifacts, including Airworthiness Qualification Plans, Specifications, Releases, and Substantiation Reports, for platforms such as the Apache, Blackhawk, Chinook, and Special Operations Aircraft. We evaluate documentation across avionics, navigation, and flight control systems, as well as integrated software builds, ensuring compliance with the Army Military Airworthiness Certification Criteria (AMACC). TriVector also represents SRD customers on Integrated Product Teams and during test witnessing, providing expert analysis and formal findings to support certification decisions. Through the Task Tracking System (TTS), we complete and adjudicate tasks that directly enable airworthiness approvals, supporting both line-replaceable unit and platform-level certifications. Recognized as mission-essential by SRD customers, TriVector ensures Army aviation systems achieve timely and accurate certification to maintain operational readiness and safety.



Multi-Core Processing Laboratory

TriVector provides advanced test engineering and software assurance support to the Army's AvMC Multi-Core Processing (MCP) Laboratory. Our team developed test procedures, interference matrices, and Python-based visualization tools to evaluate timing, determinism, and interference in multi-core and AI-enabled avionics systems. We authored technical reports and guidance documents that informed Army airworthiness policy and acquisition program recommendations, while also contributing award-winning tutorials and papers at the Digital Avionics Systems Conference. TriVector's work has expanded the lab's capacity for repeatable evaluations, strengthened CRADA partnerships with industry, and established knowledge repositories that advance standards for software assurance. Through these efforts, we have enhanced the Army's ability to certify next-generation mission computing platforms.

Next Generation Interceptor (NGI)

TriVector provides Executive Officer Support to the NGI GMY Team Project Office, coordinating efforts with warfighter commands and within other organizations within MDA. Through the course of our work, our experts led efforts within the NGI Integrated Product Teams (IPTs) on engineering subject areas including power, survivability, Contract Data Requirements List (CDRL) engineering reviews, and Technical Interchange Meetings (TIMs). Our SMEs are also working to improve Digital Engineering within NGI program by assessing software tools and making recommendations to IPT Leads and the Chief Engineer on process improvements for engineering coordination and data flow (e.g. QlikSense, GitLab, Jira, SharePoint, etc.).

