

CAPABILITY STATEMENT

FWDE
FORWARD ENGINEERING

ENGINEERING TOMORROW'S MISSIONS TOGETHER

Helping Primes and mission partners reduce risk and accelerate delivery of mission capability.

PEOPLE | ENGINEERING | INTEGRATION | TEST | MISSION READINESS

CORE COMPETENCIES

Systems Engineering, Integration & Test Execution

- Principal-led SEI&T governance and technical execution
- Integrated technical-baseline development and control
- Requirements, interface, technical risk management
- Cross-functional integration and dependency management
- Technical reviews and mission-readiness assessment

Digital Engineering & MBSE Advisory

- MBSE strategy, governance, and implementation support
- Integration of SysML architecture models
- Model-quality, consistency, and completeness assessments
- Requirements-to-model-to-verification traceability
- Digital Thread integration across modeling, simulation, and test evidence

Program Integration

- Horizontal integration across IPTs, labs and suppliers
- Vertical alignment from mission objectives-to-system Verification and Validation
- Technical, Cost, Schedule, and Performance Management
- Customer-Facing Program-Level Technical Reviews

Prototype Integration & Test Support

- SIL and HIL coordination
- Interface verification and integration-gap identification
- Test Planning, Readiness, Execution Support, and Technical Oversighting

WHY CHOOSE US

Direct Principal Accountability

Principal-led execution by a former Navy AEDO and defense-industry Chief Engineer preserves continuity from proposed workshare through technical execution and delivered results.

Independent Technical-Review Readiness

Establishes objective readiness baselines, prioritized gap registers, and execution-focused closure plans across major gate reviews (SRR, PDR, CDR, TRR, FRR, MRR PRR) to reduce the risk of gate slips and cost growth.

Digital-Baseline-to-Test Traceability

FWDE connects customer-developed requirements, models, ICDs, simulations, verification matrices, laboratory configurations, and test evidence into a traceable technical baseline that strengthens verification readiness and reduces integration disconnects.

Cross-Domain Integration-Risk Closure

FWDE identifies and closes critical integration seams across disciplines, IPTs, suppliers, laboratories, platforms, and external systems before they drive downstream cost, schedule, or performance impacts.

NAICS CODES

541330 (Primary), 541380, 541512, 541611, 541618, 541990, 611430

CERTIFICATIONS

SBA U.S. Small Business Administration — SERVICE-DISABLED VETERAN-OWNED CERTIFIED

SBA U.S. Small Business Administration — VETERAN-OWNED CERTIFIED

VETERAN-OWNED SMALL BUSINESS ENTERPRISE — VSBE PROGRAM

SMALL BUSINESS RESERVE — SBR PROGRAM

HOW FWDE STRENGTHENS PROGRAM EXECUTION

- We deliver principal-led support through focused engineering work packages.
- FWDE reduces technical risk across requirements, architecture, interfaces, and complex integration.
- We strengthen SIL/HIL, flight-test, and hardware/software integration readiness.
- FWDE accelerates capability delivery through disciplined SEI&T execution

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Key Personnel & Principal Foundation

Key Personnel and Principal (Keenan Ward) experience prior to founding Forward Engineering LLC. This experience does not constitute FWDE corporate past performance.

PROGRAM / PLATFORM	CUSTOMER	PRINCIPAL ROLE	PROGRAM CLASS	PORTFOLIO SCOPE	RELEVANT SEI&T EXPERIENCE
B-2 Spirit Defensive Management System Modernization (DMS-M)	U.S. Air Force / AFLCMC	IPT Technical Lead	ACAT ID	Not Publicly Disclosed	Led multidisciplinary Systems Engineering, Integration & Test (SEI&T) activities across prime-contractor engineering teams, sub-tier suppliers, Electronic Support Measures (ESM), Electronic Warfare (EW) architecture teams, and software Integrated Product Teams (IPTs). Governed Interface Control Document (ICD) baselines, requirements allocation, configuration management, and end-to-end technical traceability to maintain system architecture integrity and cross-domain interoperability. Directed integration of threat profiles, Operational Flight Program (OFP) and Mission Data File (MDF) content, Radio Frequency (RF) functions, avionics subsystems, and low-observable platform interfaces throughout the digital engineering lifecycle. Coordinated System Integration Laboratory (SIL) and Hardware-in-the-Loop (HIL) verification, qualification activities, and flight-test readiness and execution. Resolved complex cross-domain integration risks, synchronized hardware/software interfaces to support (PDR and CDR) to strengthen technical baseline maturity, verification readiness, and delivery of integrated, mission-ready capabilities.
B-2 Spirit Extremely High Frequency (EHF) Satellite Communications (SATCOM)	U.S. Air Force / AFLCMC	Avionic Systems Engineer Flight Test Engineer	ACAT IC	Not Publicly Disclosed	Led avionics modernization across protected EHF SATCOM, EW/defensive systems, OFP/MDF, flight management, and tactical navigation. Directed 50+ SMEs and suppliers across requirements, integration, verification, qualification, and flight-test readiness. Supported capability integration across 19 aircraft.
SSPIDR / Fort McHenry / Space Power Beaming	AFRL	IPT Lead	Prototype Demonstration	Not Publicly Disclosed	Led ACI-segment and SEI&T activities involving space-based power beaming, RF beamforming, C2, satellite and payload interfaces, requirements traceability, bus architecture, supplier evaluation, payload integration, and demonstration readiness. Advanced the concept toward an integrated, testable prototype.
Aether Spy Advanced Sensor development and Integration	AFRL	Chief Engineer SEI&T Lead	Advanced Engineering Capability Development	Not Publicly Disclosed	Led sensor architecture, platform integration, requirements decomposition, MBSE-informed analysis, interface management, supplier coordination, technical-risk reduction, SRR preparation, and verification planning. Achieved the SRR milestone and advanced the sensor concept toward flight-demonstration readiness.
F-35 Joint Strike Fighter	F-35 Joint Strike Fighter, Joint Program Office (JPO), Navy, Marine, Air Force	Program Manager Contracting Officer's Representative (COR)	ACAT ID / Major Defense Acquisition Program	$350M+ Portfolio Oversight	Directed acquisition and contractor-execution oversight across engineering, logistics, sustainment, SEI&T, technical-baseline control, deliverable evaluation, and acquisition documentation. Oversight encompassed 350+ contractor personnel across 15 sites.
T-6A/B/D Texan II Joint Primary Aircraft Training System (JPATS)	NAVAIR / AFLCMC Training Aircraft Division	Deputy Program Manager For Systems Engineering (DPMSE) Class Desk	ACAT III	$290M+ portfolio; $23M ADS-B Out effort Portfolio Oversight	Led lifecycle technical oversight across production, airworthiness, sustainment, avionics modernization, systems integration, V&V, technical-baseline control, and risk management. Scope included 100+ personnel, 294 aircraft, and 126 ground-based training systems.

Principal-Led SEI&T Advisory & Execution

Part-time senior technical leadership with accountable execution of defined SEI&T responsibilities within a prime-led program team.

Capture & Proposal Surge Support

Technical-volume development, compliance crosswalks, staffing rationale, and BOE support for defined SEI&T scope.

Focused SEI&T Work Package

Deliverable-based support addressing requirements, technical-review readiness, interfaces, integration risk, verification, or

Funded Post-Award Scale-Up

Add qualified personnel only against funded requirements and approved workshare.