



ENGINEERING
TOMORROW'S
MISSIONS
TOGETHER

FWDE
FORWARD ENGINEERING

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 hands-on 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, and Execution

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, 541512

CERTIFICATIONS



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

REPRESENTATIVE SEI&T EXPERIENCE

Representative experience performed by Keenan Ward prior to founding Forward Engineering LLC. This experience is presented solely as relevant principal and key-personnel experience and 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	Governed ICD baselines and requirements traceability across prime engineering teams, sub-tier suppliers, Electronic Support Measures (ESM), Electronic Warfare (EW) architecture teams, and software IPTs. Led integration of threat profiles, OFP/MDF content, RF functions, avionics, and low-observable platform interfaces from digital design through SIL/HIL verification, qualification, and flight-test readiness. Resolved cross-domain integration risks and supported PDR/CDR technical-baseline reviews.
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	AFRL research and demonstration effort	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 Integration	AFRL	Chief Engineer SEI&T Lead	Advanced research and development effort	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	U.S. Government / F-35 JPO	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	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.

HOW TO ENGAGE FORWARD ENGINEERING LLC

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.