The Armed Forces Communications and Electronics Association (AFCEA)

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What does ATEC do for the Army?

Mission

ATEC plans, integrates, and conducts developmental testing, independent operational testing and independent evaluations and assessments to provide essential information to acquisition decision makers and commanders.

Readiness: We Work, To Ensure It Works, And Soldiers Have What They Need, When They Need It!
ATEC Locations & Composition

Full Spectrum Testing
— Only DoD organization with all phases of testing; developmental, operational & evaluation

Major Contributor
— Testing and Evaluating over 500 systems; 1100 test events working daily

Large, Complex Organization
— ~8,200 personnel (57 Ph.D.s) (28 Colonels)
— 2,400 STEM professionals (61% of the civilian workforce)
— 21 Locations, 15 States, Operating on 5.5 million acres (1/3 Army’s Land mass), Army’s only nuclear reactor
— Mostly reimbursable; competitive, efficient, operationally-focused
— Over $5.5 Billion capital investment in facilities/instrumentation

FY17 Assigned Personnel (8,225)
484 Military
3,481 Civilians
4,260 Contractors
How ATEC Tests & Evaluates the Network

- Soldiers employ warfighting systems under combat-like conditions, based on mission essential tasks.
- Enables Army modernization by determining system effectiveness, suitability, and survivability.

Key components of Operational Test and Evaluation include:
- Requirements analysis
- Detailed test planning
- Test Execution, Data Collection, and Reduction
- Independent Evaluation and Report

Two Types of Data

**Instrumented:** Data collected directly from SUTs
- Reliability, Availability, Maintainability [RAM]
- Network data flow
- Cyber and EW

**Manual:** Data and observations
- Military Data Collectors and Contractors
- TRADOC SME Observations
- Test Incident Reports
- Soldier/Units Surveys and Focus Groups

ATEC collects data and observations on the systems-under-test, and issues an independent evaluation report to inform Army Senior Leaders on production, fielding, and materiel release decisions.
1. **Halt** programs that cannot be sufficiently remedied

2. **Fix** programs required to “fight tonight”
   - Command posts → Improve survivability and mobility
   - Transport → Integrate the upper and lower tactical internet into a unified transport layer; increase survivability to Electronic Warfare/Cyber threats
   - Mission Command Application Suite → Common Operating Environment
   - Interoperability → Joint and Coalition gateways and Tactical Data Links

3. **Pivot** to a new adapt and buy approach
   - Design “future state” network to address shortfalls, counter the threat, and keep pace with technology
   - Through experimentation and demonstration, adapt and buy current available Joint/SOF and industry solutions where possible
   - Develop future solutions through RDT&E and S&T; develop new Programs of Record only to meet a unique warfighter requirements

**Requires significant change in current acquisition approach; unity of command, effective governance, an integrated body of requirements, and standards based architecture**
Future State

- Seamless end-to-end connection and pace plan
- Self-generating, self-healing, multilayered integrated network
- Unified Transport Layer → End User Device
- Unified Mission Command Suite
- Simple and Intuitive
- Available, Reliable and Resilient
- Expeditionary and Mobile
- Standards-based, protected, upgradeable
- OODA Faster than the enemy
- Network is a weapon system

Current State

- Doesn’t enable mission command
- Lacks end-to-end interoperability
- Fragmented = lack of common standards
- Complex and Fragile
- EMS Vulnerable
- Multiple identities
- Crypto mod challenges
- Software baselines = interoperability challenges

Four Lines of Effort:
- Transport
- Mission Command Suite
- Command Posts
- Interoperability

Other Critical Enabling Efforts:
- Converged Network
- Converged Identity
- Converged Data Layer (Cloud)
- Network Extension/Augmentation
- Synthetic Training Environment (STE)
Establishing a New Approach Re-Defining How We Do Business

**AMERICA’S ARMY: THE STRENGTH OF THE NATION**

**Today**

- **Governance**
  - Multiple, duplicative, & Non-integrated IT Forums
- **Requirements**
  - Not synchronized/ integrated – submitted through multiple Centers of Excellence
- **Acquisition**
  - Emphasis on develop, test, and procure through traditional POR approach
- **Innovation**
  - Limited integration with Operational Force

**Tomorrow**

- **One IT Oversight Council**
  - CIO/G-6: Lead Integrator Cross-Functional Team
- **Mission Command Network**
  - Requirement integrated by Mission Command CoE
  - “Adapt and Buy” approach
  - Leverage industry innovation
  - Joint/SOF solutions
- **Experimentation and Demonstration- DevOps Model**
  - Soldier / Leader Feedback

**Changing Army Culture**

**Governance**

- **CSA Review**
- **IDA Study**
- **DoD Testing Agencies**
- **Combat Training Centers**
- **Soldier / Leader Feedback**
- **Combat / Contingency Operations**
- **Joint Exercises**
US Army Combined Arms Center: Soldiers and Leaders – Our Asymmetric Advantage

Mission Command Network Capabilities

Future State

SOLDIERS AND LEADERS – OUR ASYMMETRIC ADVANTAGE

Expeditionary, Mobile: Home Station → Enroute → Deployed
Self-Healing, self-generating: works in all environments

Global Enterprise

Joint Information Environment

- Unified, converged Mission Command Network
- Synthetic Training Environment
- Integrated Command Posts
- Brigade HQs (Deployed)
- Battalion HQs (Deployed)
- Company (Deployed)

Common Operating Environment
(Unified suite of mission command applications)

- Joint Interoperability
- Network augmentation & extension
- Coalition Accessibility

- Works in congested, contested environments
- Leverages multiple communication paths
- Devices work anywhere, anytime
- Works in congested, contested environments
- Unified data, cloud-based

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Devices work anywhere, anytime

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Truth in Testing!

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