ATEC

U.S. ARMY TEST AND EVALUATION COMMAND

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Introduction

Army Testing and Evaluation:
"Does it work…How do I know?"

The U.S. Army Test and Evaluation Command (ATEC), headquartered in Alexandria, Virginia, is the only organization within the Department of Defense to provide full spectrum testing by overseeing both developmental and operational testing as well as evaluation of the test data.

Throughout recent years, ATEC has placed an increasing emphasis on conducting developmental and operational testing simultaneously, to become even more value-added to today's war effort by saving time in providing test data and analysis to senior decision makers, without sacrificing quality of methodology.

Our number one priority is near term support to Soldiers on the combat line. As we move into tomorrow, we will also continue our work in accelerating the Army's Transformation through evolving test methodologies for future weaponry and technology, and especially in testing and evaluating the wide range of the Army's Future Combat Systems in direct support of future force objectives.

MG Roger A. Nadeau, CG, ATEC

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History

On Nov. 18, 1998, the Vice Chief of Staff of the Army approved consolidation of developmental and operational testing. That decision led to the redesignation, on Oct. 1, 1999, of the Operational Test and Evaluation Command (OPTEC) to the Army Test and Evaluation Command (ATEC).

Central to the consolidation was ATEC assuming overall responsibility for all Army developmental and operational testing. The Test and Evaluation Command (TECOM) became a major subordinate command of ATEC and was redesignated the U.S. Army Developmental Test Command (DTC), with DTC headquarters remaining at Aberdeen Proving Ground, Md. Also, the Test and Experimentation Command (TEXCOM) was redesignated the U.S. Army Operational Test Command (OTC), with OTC headquarters remaining at Fort Hood, Texas. The third ATEC subordinate command that was redesignated encompassed both the Operational Evaluation Command and the Evaluation Analysis Center, which were combined to form the new U.S. Army Evaluation Center (AEC), completing the earlier decision to move developmental and operational evaluation into a single, integrated command.

Under the consolidation, ATEC also received responsibility for installation management of White Sands Missile Range, N. M.; Dugway Proving Ground, Utah; and Yuma Proving Ground, Ariz. On Oct. 1, 2002, the respective Installation Management Activity regional office assumed that responsibility.

ATEC also took command of Aberdeen Test Center (ATC) at Aberdeen Proving Ground, Md.; Redstone Technical Test Center (RTTC) at Redstone Arsenal, Ala.; Aviation Technical Test Center (ATTC) at Fort Rucker, Ala.; Electronic Proving Ground (EPG), Fort Huachuca, Ariz.; Cold Regions Test Center (CRTC), at Fort Greely, Alaska; and the Tropic Regions Test Center (TRTC), headquartered at Yuma Proving Ground, Ariz., with testing in Hawaii and other locations.

In ongoing support of today's Warfighters, ATEC has created the Joint Experimental Range Complex (JERC) within the Yuma Proving Ground, AZ. This test site provides terrain and geographical features that resemble Iraq in climate and built-up areas and serves as an excellent means of testing Improvised Explosive Devices (IED) counter measures in typical Iraqi urban environment. In addition, ATEC has established a consolidated Counter-IED Directorate within the Army Evaluation Center (AEC) resourced to quickly plan, coordinate and execute direct test and evaluation support to ensure that the Counter-IED weapons, systems and technology meet Warfighters' ever-evolving needs in Iraq and Afghanistan.

Mission

Facilitate equipment procurement/fielding decisions through testing and analysis to ensure our Army's Warfighters have the right capabilities for success across the entire spectrum of operations.

Conduct rapid testing in direct support of the Global War on Terror Warfighter, providing capabilities and limitations analyses of weapon systems to enable employment decisions for rapid fielding to the Combat Soldier.

Vision

Remain the Nation's preeminent Test and Evaluation Command with a world-class, highly professional military and civilian work force that focuses on the acquisition of capabilities supporting Warfighters engaged in support of the Global War on Terrorism and traditional acquisition. Also serve as the Army's "Strategic Mirror" ensuring the Army fields capabilities to our Soldiers as quickly as possible without rushing to failure.

Crest

The grid lines represent scientific method and verification in the testing programs conducted by the Command. Black and silver denote the precision and clarity required in carrying out these programs. The wreath stands for high ideals. The balance scale denotes objectivity and represents the testing and evaluation mission of the Command. Blue stands for truth, and gold for excellence.

Patch

The Command's mission, to seek truth through testing and experimentation, is symbolized by the triangle, or fulcrum, balancing a bar and sun. The bar and triangle represent a scale; the sun signifies the search for knowledge, enlightenment and high ideals. Yellow indicates the precious metal gold and represents "the worth of quality assurance of tested products." Dark blue alludes to the sky and space, suggesting the possibilities and discoveries of the future. The red sword characterizes the individual Soldier, whose combat preparedness is aided by the data and information products the organization provides. The white expresses the Command's search for the truth and sterling quality of the products produced.

ATEC's Wide Range of Customers

- The American Soldier
- Congress
- Chief of Staff and Vice Chief of Staff, U.S. Army
- Joint Chiefs of Staff
- Army Deputy Chief of Staff for Operations and Planning
- Assistant Secretary of the Army for Acquisition, Logistics and Technology
- Program Executive Officer or Program Manager
- Director of Operational Test and Evaluation
- Under Secretary of Defense for Acquisition, Technology and Logistics
- Director of Information Systems for Command, Control, Communications and Computers
- Training and Doctrine Command
- Army Materiel Command
- U.S. Navy
- U.S. Air Force
- U.S. Marine Corps
- Missile Defense Agency
- Deputy Under Secretary of the Army for Operations Research
- Defense Threat Reduction Agency
- Allied Foreign Countries
- Commercial Developers and Academia
- Manufacturers

Organization

The U.S. Army Test and Evaluation Command (ATEC) was established Oct. 1, 1999, by the Vice Chief of Staff with the primary function of ensuring that our Soldiers go to war with weapons that work. ATEC has overall responsibility for all Army developmental and operational testing, operating from three fully integrated major subordinate commands: the U.S. Army Developmental Test Command (DTC), U.S. Army Operational Test Command (OTC); and the U.S. Army Evaluation Center (AEC).

ABNSOTD	Airborne and Special Operations Test Directorate
ADATD	Air Defense Artillery Test Directorate
AEC	Army Evaluation Center
AMSCA	ATEC Mission Support Contracting Activity
ATC	Aberdeen Test Center
ATEC	Army Test and Evaluation Command
ATTC	Aviation Technical Test Center
AVED	Aviation Evaluation Directorate
AVTD	Aviation Test Directorate
BMDED	Ballistic Missile Defense Evaluation Directorate
C3ED	Command, Control and Communications Evaluation Directorate
CCED	Close Combat Evaluation Directorate
CIED	Counter-IED Directorate
CRTC	Cold Regions Test Center
CSED	Combat Support Evaluation Directorate
DPG	Dugway Proving Ground
DTC	Developmental Test Command
ECSTD	Engineer and Combat Support Test Directorate
EPG	Electronic Proving Ground
FFED	Future Force Evaluation Directorate
FFTD	Future Force Test Directorate
FOA	Forward Operational Assessment
FSTD	Fire Support Test Directorate
HQ	Headquarters
IED	Intelligence Evaluation Directorate
IEWTD	Intelligence and Electronic Warfare Test Directorate
ILSED	Integrated Logistics Support Evaluation Directorate
NFED	Net Fires Evaluation Directorate
OTC	Operational Test Command
RMED	Reliability and Maintainability Evaluation Directorate
RTTC	Redstone Technical Test Center
SED	Survivability Evaluation Directorate
TRTC	Tropic Regions Test Center
TSED	Technical Support Evaluation Directorate
TTD	Transformation Technology Directorate
WSMR	White Sands Missile Range
YPG	Yuma Proving Ground

ATEC Liaison Officers

As part of our early involvement initiative, ATEC reaches out to acquisition organizations through Liaison Officers. ATEC Liaison Officers establish an important link with external agencies such as Program Executive Offices (PEOs), Program Managers (PMs), Training Doctrine Command (TRADOC) and rapid acquisition organizations. Liaison Officers are embedded within these agencies to ensure information exchange remains constant throughout the lifecycle—from requirements documentation through the Test and Evaluation (T&E) process and beyond. Early involvement with Liaison Officers translates directly into cost savings by avoiding the rising cost of change within the system design lifecycle.

Mission

ATEC provides an experienced T&E Liaison Officers to:

- Provide early involvement and facilitate a direct communication link between ATEC and TRADOC/PEO.
- Provide advice and assistance in developing T&E strategies.
- Coordinate a T&E cost estimating process between ATEC and PEO/PMs, and ensure adequate funding is budgeted for T&E in the Program Objective Memorandum (POM).
- Provide assistance in resolving conflicts on T&E program-related matters.
- Improve PEO/PM understanding of ATEC's mission and understanding of the ATEC System Team (AST) member mission.
- Work with ATEC/PM Integrated Product Teams (IPTs) to improve T&E planning, execution and evaluation.

ATEC Liaison Offices (LNOs)

LNO Branch Chief	(703) 681-8353

TRADOC

UAMBL LNO, Fort Knox, Ky.	(502) 624-4782 (502) 624-2189
CAC LNO, Fort Leavenworth, Kan.	(913) 684-4280
CASCOM LNO, Fort Lee, Va.	(804) 734-1135
Infantry Support Cell, Fort Benning, Ga.	(706) 545-7952 DSN: 835-7952
TRADOC HQ LNO, Fort Monroe, Va.	(757) 788-3056

Program Executive Offices (PEOs)

PEO Ammo LNO, Picatinny Arsenal, N.J.	(973) 724-0521
PEO AVN LNO, Redstone Arsenal, Ala.	(256) 876-6413
PEO C3T, Fort Monmouth, N.J.	(732) 427-4251
PEO CS&CSS LNO, Warren, Mich.	(586) 574-5275
PEO CBD LNO, Falls Church, Va.	(703) 681-6444
PEO EIS LNO, Fort Belvoir, Va.	(703) 806-3662
PEO GCS LNO, Warren, Mich.	(586) 574-6769
PEO IEW&S LNO, Fort Monmouth, N.J.	(732) 427-0054
PEO Soldier LNO, Fort Belvoir, Va.	(732) 704-1297
PEO STRI LNO, Orlando, Fla.	(407) 384-5353
PEO Missiles and Space LNO, Redstone Arsenal, Ala.	(256) 876-6413
JIEDDO, Alexandria, Va.	(703) 601-7463
NTC, Fort Irwin, Calif.	(760) 380-8256 DSN: 470-8256
Rapid Equipping Force (REF) Fort Belvoir, Va.	(703) 704-4244 DSN: 654-4244 (703) 704-2319 DSN: 654-2319

Army Test and Evaluation Command Support to the Warfighter

Forward Operational Assessment Teams Assess Systems in Theater

ATEC Forward Operational Assessment (FOA) teams, under the direct command of the Operational Test Command, Fort Hood, Texas, began deploying in 2003 in support of the Global War on Terrorism (GWOT). They began embedding with units in Iraq, Afghanistan and Kuwait in January 2005 to collect data on critical systems being used by the Warfighters. This includes off-the-shelf and future force technology equipment. Soldiers in theater share their personal experiences with operating systems on the battlefield with the FOA teams.

The FOA teams rotate every six months and have a two-part mission that combines their roles as both testers and liaisons for Soldiers and the institutional Army. They conduct interviews with Soldiers and leaders in theater to gather data on how selected systems or equipment are performing in that environment. The other part of the mission is to inform Soldiers and leaders about materiel capabilities and limitations, as a result of testing in the continental United States (CONUS).

Some of the systems that will be assessed by the current FOA team include:

- Command Post of the Future.
- Common Missile Warning System.
- Counter-Rockets, Artillery and Mortars.
- Biometric Information System for Access.
- Unmanned Aerial Systems.
- Improved Vehicle Armor Kits.
- Mine Rollers.
- GryoCam on the RG31
- RAID—Rapid Aerosat Initial Deployment
- Boomerang
- DVE—Driver's Vision Enhancer
- QuickCam
- RCCE Vehicle
- SaaS—Soldier as a System

The Joint Unmanned System Common Control Advanced Concept Technology Demonstration can help control unmanned technology such as this PacBot, controlled by a 184th Explosive Ordnance Disposal technician in Baghdad, Iraq. (U.S. Army photo)

ATEC FOA teams are embedded with units in Iraq and Afghanistan. (U.S. Army photo)

Developmental Testing

U.S. Army Developmental Test Command

Aberdeen Proving Ground, Maryland

Supporting Soldiers Through Rigorous, Realistic Testing

Who We Are

- Army's premier developmental tester.
- Department of Defense's (DoD's) largest, most diverse array of testing capabilities.
- Nine subordinate test centers providing the full spectrum of arctic, tropic, desert and other environments under natural or precisely controlled conditions:
  - Aberdeen Test Center (ATC), Aberdeen Proving Ground, Md.
  - Aviation Technical Test Center (ATTC), Fort Rucker, Ala.
  - Cold Regions Test Center (CRTC), Fort Greely, Alaska.
  - Electronic Proving Ground (EPG), Fort Huachuca, Ariz.
  - Redstone Technical Test Center (RTTC), Redstone Arsenal, Ala.
  - Tropic Regions Test Center (TRTC), Schofield Barracks, Hawaii, and Panama.
  - West Desert Test Center (WDTC), Dugway Proving Ground, Utah.
  - White Sands Test Center (WSTC), White Sands Missile Range, N.M.
  - Yuma Test Center (YTC), Yuma Proving Ground, Ariz.

What We Do

- Provide a full range of technical support, including:
  - Conducting test planning, execution and reporting.
  - Collecting unbiased test data on the technical feasibility of early concepts.
  - Collecting data to assess technical risks during system development.
  - Evaluating the safety of Army systems and conducting performance testing.
  - Maturing designs to lower technical risks.
  - Validating manufacturers' design and performance at both the system and component level.
- Support developmental, rapid initiatives, production and live-fire tests.
- Develop and procure new test technology, test instrumentation and selected models and simulation.
- Conduct Distributed Test Events to support the future force.
- Test across the full spectrum of physical and electromagnetic environments.
- Provide technical expertise to DoD organizations; other federal agencies; local, state and foreign governments; academia; and private industry.
- Support development of acquisition strategy, statement of work, performance specification, and test and simulation execution strategy.
- Test equipment and systems under a variety of conditions and possible uses to ensure the safety of Soldiers and operators from earliest training and testing through fielding.
- Fully engaged in the Global War on Terrorism (GWOT) from in-theater support to development of armor protection and Counter-Improvised Explosive Device (C-IED) solutions to testing.

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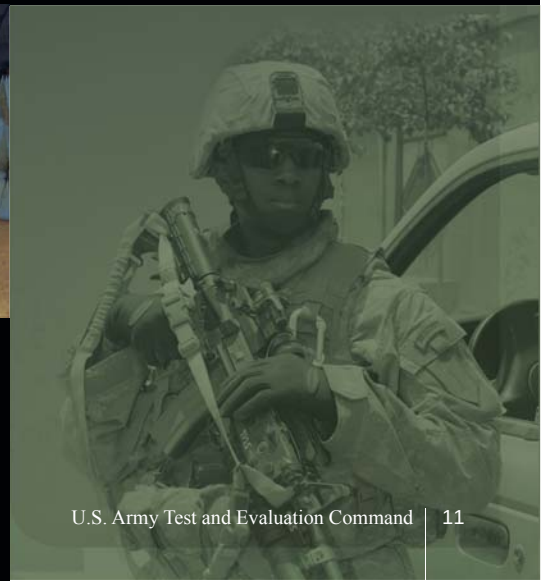
At Fort Knox, Ky., an MH-60M Blackhawk in a hover fires MK66 rockets as a part of the engine response testing conducted by the Aviation Technical Test Center. (Photo by Paul Reynolds)

At the Redstone Technical Test Center, a High Mobility Multi-purpose Wheeled Vehicle (HMMWV) undergoes testing in a chamber designed to shield the vehicle and its electronic systems from outside electromagnetic interference during testing. (Photo courtesy of RTTC)



The Developmental Test Command Supports Teams in Combat Theater to Improve the Effectiveness and Survivability of Soldier Systems

Responding to the unique stresses that combat operations in Iraq and Afghanistan were putting on military vehicles, weapon systems and equipment, ATEC fundamentally changed the way it supports Soldiers. By sending testers and evaluators to the combat theater, ATEC personnel see first-hand the way equipment is being deployed and its performance against emerging threats, allowing them to quickly seek solutions to new vulnerabilities.

As early as 2003, ATEC sent personnel into theater to collect performance data from Army systems. DTC became heavily involved when it sent a team of engineers to Kuwait to install instrumentation, similar in concept to the flight data recorders used by airlines, into three types of vehicles that were heavily used in the combat theater. The team comprised members from DTC's headquarters, ATC and the command's Yuma Proving Ground (YPG). Data collected gave testers a clear picture of how vehicles were being used. This allowed them to design tests to mirror that use, illuminate potential problems and develop maintenance procedures to deal with those issues.

Since then, ATEC has sent several operational assessment teams to the combat theater for varying lengths of time in support of its Forward Operational Assessment (FOA) program. Both Soldiers and civilians from ATEC and its subordinate organizations have been assigned to these FOA teams.

As the threat from Improvised Explosive Devices (IEDs) emerged, DTC sent staff to the combat theater to help the Army find ways to prevent the catastrophic vehicle damage and casualties. FOA teams have continued to focus on force protection systems such as IED countermeasures and armor packages for light tactical wheeled vehicles. DTC has played a pivotal role in testing these systems at its test centers as well as assigning FOA team members in Iraq to support operational assessments of possible solutions. Input from its FOA team members has enabled DTC to keep pace with the evolving threats in the combat theater and to adjust test programs at its test centers to reflect the reality on the ground.

Data from FOA teams also is a key consideration because ATC tests a variety of Mine Resistant Ambush Protected (MRAP) vehicles, a high-priority acquisition program for both the Army and the U.S. Marine Corps. These vehicles are designed to fill the gap between the High Mobility Multi-purpose Wheeled Vehicle (HMMWV) being used today in Iraq and Afghanistan, and the Army's future tactical wheeled vehicle designed to replace the HMMWV.

DTC testers also are contributing to the survivability of aircraft in the combat theater. Experimental test pilots from DTC's Aviation Technical Test Center (ATTC) have deployed to both Afghanistan and Iraq, where they have not only gathered information from other pilots in theater but also flown combat missions with the units they were supporting. Like DTC's other test centers, ATTC stays in constant contact with its FOA team members in theater to get a clear picture of the threats and to determine how to test against those threats. With new systems being pushed to the field in record time, ATTC experimental test pilots deployed to the combat theater also have provided instruction on weapon system use to achieve optimum effectiveness.

It is safe to assume, as this nation's war on terrorism evolves, that ATEC and DTC will continue to deploy to rapidly assist and support Soldiers in their fight.

Unmanned robotic systems undergo testing in the deep snows of Fort Greely, Alaska, at CRTC. CRTC is the Army's premier site for frigid-weather testing. (Photo courtesy of CRTC)

A Chinook helicopter equipped with the Aviation Technical Test Center's Helicopter Icing Spray System (HISS), at left, provides a controlled environment for testing the de-icing capabilities of aircraft. (Photo by Paul Reynolds)

High-speed photography captures the trajectory of a projectile fired by a Bradley Fighting Vehicle on one of the Aberdeen Test Center's ranges at Aberdeen Proving Ground, Md. (Photo courtesy of ATC)

Aberdeen Test Center

Aberdeen Proving Ground, Maryland

One of the Department of Defense's Most Diverse Test Facilities

Who We Are

- A Major Range and Test Facility Base (MRTFB) whose primary mission is to support DoD test and evaluation requirements.
- The Army's Center of Excellence for congressionally mandated live-fire vulnerability and lethality testing.
- The DoD's lead test center for automotive, direct-fire, non-lethal weapons, unmanned ground vehicles, littoral warfare, Soldier systems, transportability and engineering equipment testing.
- An accredited federal laboratory and leading center for technology transfer and dual-use partnerships with industry, academia and other DoD components.
- A center that supports testing worldwide using extensive mobile instrumentation, satellite communications and leading-edge technologies.

What We Do

- Conduct 80 percent of the Army's automotive testing.
- Conduct live-fire vulnerability and lethality testing.
- Test military firepower systems, including guns and munitions (direct fire and small arms).
- Test Soldier systems and support equipment.
- Provide data to support safety releases and confirmations so that Soldiers can safely use systems.
- Perform testing for federal, state and local governments; academia; private industry; and foreign governments.
- Conduct test and evaluation on rapid materiel equipping initiatives in support of the Global War on Terrorism (GWOT).

Major Programs

- Automotive and ballistic testing of Mine Resistant Ambush Protected (MRAP) systems.
- Expedient armor and up-armor kit testing for light, medium and heavy tactical vehicles.
- Automotive and ballistic testing of Stryker variants and the Mobile Gun System (MGS).
- Improvised Explosive Device (IED) and Explosively Formed Penetrator survivability testing.
- Area mine clearance systems.
- Armor plate acceptance testing.
- Large-caliber ammunition lot acceptance testing.
- Homeland security.
- Modeling and simulation capabilities to support Future Combat Systems (FCS).
- System-of-systems distributed test events and experimentation.
- Soldiers' personal protective systems.

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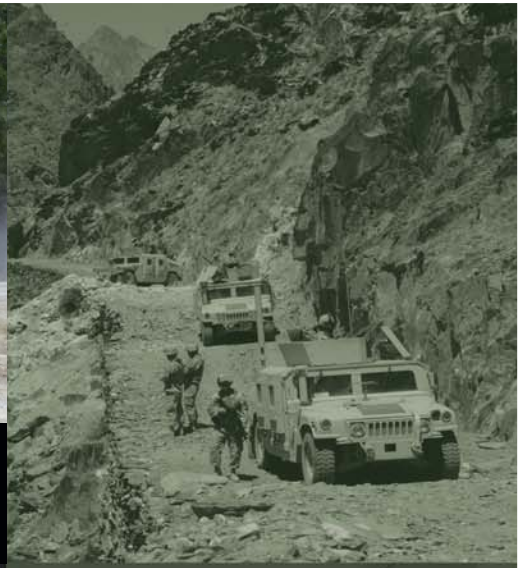
A Category II Mine Resistant Ambush Protected (MRAP) vehicle runs a test course at Aberdeen Test Center's Perryman Test Area during the automotive performance test. (U.S. Army photo)



Aberdeen Test Center personnel conduct stationary firing tests of the Stryker Mobile Gun System (MGS) in support of the 4th Stryker Brigade Combat Team deployment. (U.S. Army photo)

Aviation Technical Test Center

Fort Rucker and Redstone Arsenal, Alabama

Aviation Testing for the 21st Century

Who We Are

- A cadre of military and civilian experimental test pilots, flight test engineers and technicians who conduct developmental testing of manned and unmanned aircraft and aviation systems.
- A center of Army aviation expertise whose test facilities provide more than 220,000 square feet of workspace at both Cairns Army Airfield at Fort Rucker and Redstone Army Airfield at Redstone Arsenal, Ala., for modification, maintenance, modeling and support of test systems.
- The premier Army agency for testing military aircraft throughout the acquisition, modernization and sustainment lifecycle—in support of America's Warfighters.

What We Do

- Conduct airworthiness qualifications of Army aircraft.
- Test the flight performance of aviation systems.
- Test aircraft handling qualities.
- Test the integration of aviation systems into aircraft.
- Test for human factors engineering and system safety.
- Test digital communications systems.
- Test aircraft handling under icing and rain conditions.
- Conduct aircraft modifications and maintenance.
- Instrument aircraft.
- Collect and process test data.
- Conduct test-flight simulations.
- Conduct flight-test engineering.

Major Programs

- Multi-Aircraft Common Missile Warning System (CMWS) airworthiness and system performance testing.
- U/MH-60M Blackhawk airworthiness.
- CH-47F Chinook airworthiness.
- YRH-70A Armed Reconnaissance Helicopter airworthiness testing.
- Joint Cargo Aircraft.
- AH-64D Longbow Apache modernization.
- Unmanned Aerial Systems.
- LUH (UH-72A) testing.
- OH-58D performance testing.

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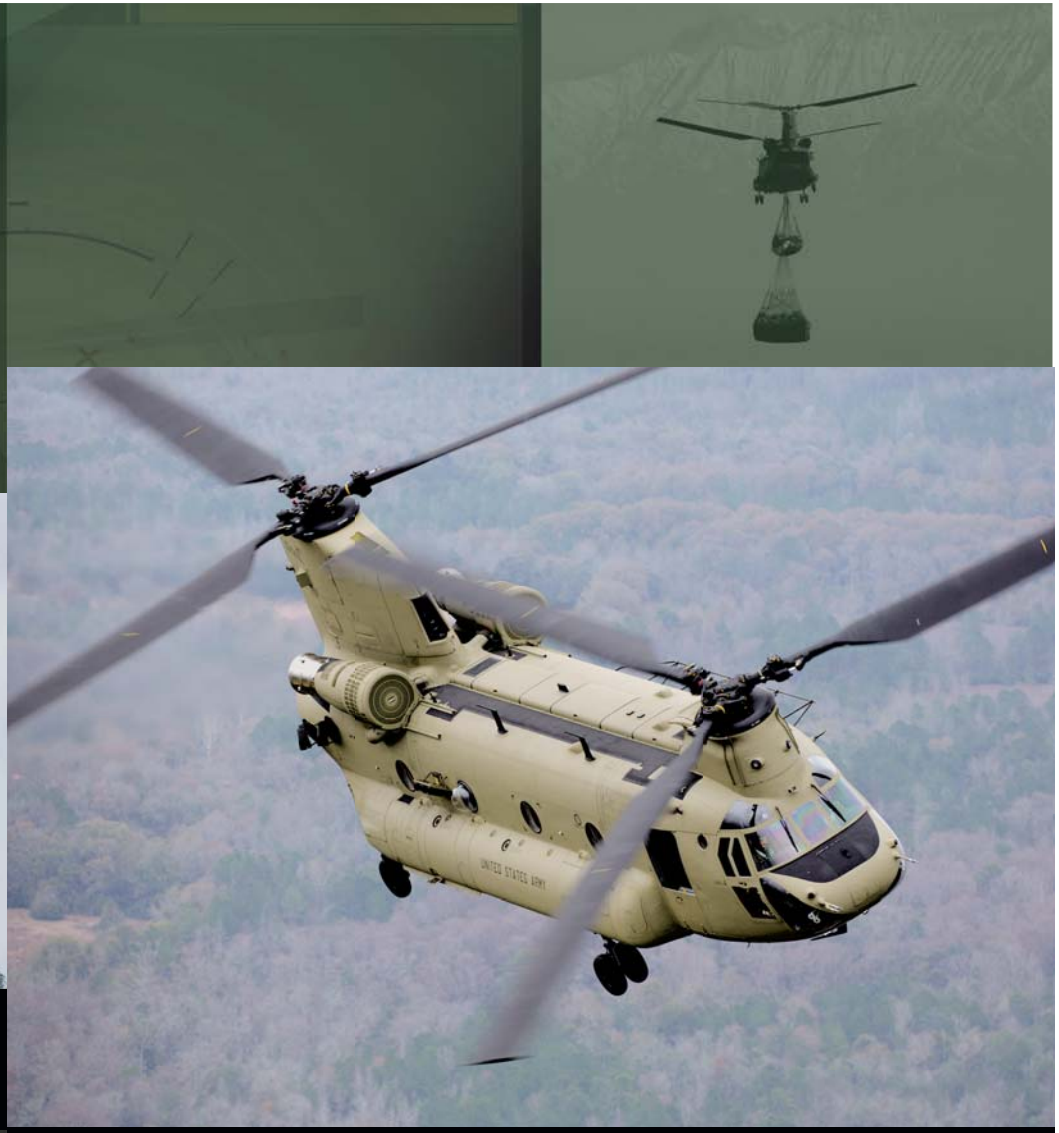
A UH-72A Lakota carrying a "Bambi Bucket," an aerial firefighting tool, undergoes testing by the Aviation Technical Test Center. (Photo by Paul Reynolds)



Experimental test pilots from the Aviation Technical Test Center test the CH-47F Chinook Improved Cargo Helicopter in flight. (Photo by Paul Reynolds)

Cold Regions Test Center

Fort Greely, Alaska

The Department of Defense's Natural Cold Environment Tester

Who We Are

- A subordinate command of Yuma Proving Ground.
- Department of Defense's (DoD) premier tester for cold, winter, mountain and northern environmental warfare, with long-standing expertise in cold-weather testing and more than 670,000 acres of impact area and maneuver space.
- A test environment combining the varied and synergistic effects of terrain, temperature, wind and snow over a large area.
- Owner of a state-of-the-art test track and mobility testing complex with skid pad and test slopes, including the capability to produce large-scale ice and snow fields.
- Site of an 800-foot Unmanned Aerial System landing strip located within 30 kilometers of Afghanistan-like mountains reaching 13,000 feet.
- Designated user of airspace over the test ranges at Donnelly Training Area of Fort Greely, Alaska.

What We Do

- Test military tracked and wheeled vehicles.
- Test manned and unmanned ground vehicles and aerial systems.
- Test weapon systems and munitions (direct and indirect fire), and small arms.
- Test Soldier systems and support equipment.
- Test Soldier clothing and equipment.
- Test brake, suspension, traction and handling (for commercial customers).
- Partner with other test centers in a cooperative effort to develop standardized unmanned vehicle testing procedures in preparation for Future Combat Systems (FCS).
- Provide access to assault strips, drop zones and a Military Operations in Urban Terrain (MOUT) site.
- Provide experimentation sites and standardized test protocols for unmanned systems development.

Major Programs

- All Stryker configurations, most recently the Nuclear, Biological and Chemical Reconnaissance Vehicle (NBCRV) and Mobile Gun System (MGS).
- Support for fielding of Strykers to U.S. Army Alaska through cold-weather testing and interaction with Stryker Brigade Combat Team Soldiers.
- Testing of indirect fire weapons such as Excalibur, Guided Multiple Launch Rocket System and Stryker Mortar Carrier-B.
- Support for operational tests and joint service tests such as the U.S. Marine Corps (USMC) Expeditionary Fighting Vehicle (EFV) and USMC Lightweight Supply Replenishment Vehicle (LSRV).
- Cold-weather testing of the Spider and Selectable Lightweight Attack Munition (SLAM) systems.

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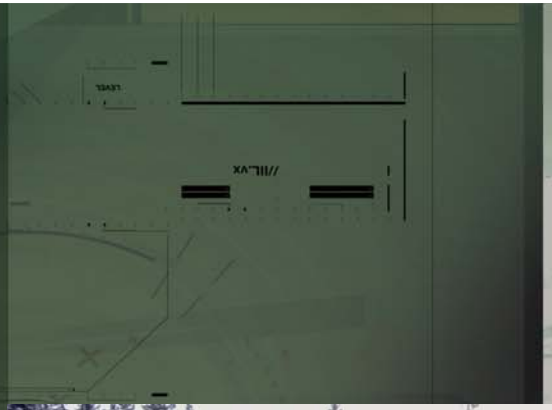
A Nuclear, Biological and Chemical Reconnaissance Vehicle (NBCRV) variant of the Stryker descends toward Bolio Lake on a dirt road during winter testing at the Cold Regions Test Center in Alaska. (Photo courtesy of CRTC)



A Nuclear, Biological and Chemical Reconnaissance Vehicle (NBCRV) variant of the Stryker undergoes performance testing under extreme cold weather conditions at the Cold Regions Test Center in Alaska. (Photo courtesy of CRTC)

Dugway Proving Ground and West Desert Test Center

Dugway, Utah

The Nation's Chemical and Biological Defense Proving Ground

Who We Are

- Department of Defense (DoD) lead tester for:
  - United States and allied Chemical and Biological (CB) defense equipment.
  - Nuclear, Biological and Chemical (NBC) contamination survivability of defense materiel.
- Program Manager for Army research development test and evaluation meteorology.
- DoD Major Range and Test Facility Base whose test facilities and ranges comprise approximately 900,000 acres. Dugway Proving Ground (DPG) and Utah Test and Training Range maintain a team relationship to serve customers and to use the many resources available.

What We Do

- Conduct CB collective and individual protection, detection, contamination avoidance and decontamination testing for joint services, Combatant Commands and other agencies.
- Support the CB weapons conventions.
- Manage the development of CB defense models and validation tests.
- Act as the primary CB defense test center under the Reliance program.
- Host full-scale field exercises that enable emergency response organizations to validate their tactics, techniques and procedures for use during CB weapons incidents.
- Provide test and training ranges with nine drop zones, 91 artillery firing points and four major impact areas (231,000 acres).
- Maintain capability to handle all Army and Air Force aircraft with a fully lighted 7,000-foot runway and 9,158 square miles of restricted airspace.
- Determine the reliability and survivability of all types of military equipment in a CB environment.

Major Programs

- Chemical:
  - Stryker Nuclear, Biological and Chemical Reconnaissance Vehicle (NBCRV).
  - Joint Service Lightweight Suit Technology.
  - Joint Protective Aircrew Ensemble.
  - Joint Service Chemical Environmental Survivability Mask.
  - Joint Service Family of Decontamination Systems.
  - Joint Service Lightweight Standoff Chemical Agent Detector.
  - Joint Chemical Agent Detector.
  - Artemis Technology Demonstration.
  - Future Combat Systems (FCS).
- Biological:
  - Joint Biological Point Detection System.
  - Joint Biological Agent Identification and Detection System.
  - Joint Biological Standoff Detection System.
  - Critical Reagent Program.
  - Whole System Live Agent Test.
  - Support of Federal Bureau of Investigation (FBI) and Environmental Protection Agency (EPA) regarding anthrax investigation and decontamination.
  - Department of Homeland Security (DHS) support for Centers for Disease Control and National Institute for Occupational Safety and Health pathogen sampling.
- Meteorological:
  - Joint Science and Technology Office Sensor Data Fusion Program.
  - Four-Dimensional Weather System Development.
  - Defense Threat Reduction Agency Modeling Program.
  - Defense Advanced Research Projects Agency Pentagon Shield.

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A technician from the Optics Branch at Dugway Proving Ground's West Desert Test Center sets up for a 160mm mortar shoot using a Hadland high-speed still camera and a Phantom high-speed video camera. (Photo by Al Vogel)

A tester at the West Desert Test Center at Dugway Proving Ground, Utah, prepares for a horizontal vibration test of the M98/M99 anti-riot grenade in a conditioning chamber whose temperature is -50 degrees Fahrenheit. The munitions were vibrated to mimic conditions they might find in a long journey over rough terrain. (Photo by Al Vogel)

Electronic Proving Ground

Fort Huachuca, Arizona

The Army's Center of Expertise for Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) and Networks Testing

Who We Are

- Developmental Test Command's (DTC's) network and C4ISR tester at Fort Huachuca, providing test support for a full range of C4ISR systems, system of systems and networks.
- Electromagnetically quiet ranges, controlled environment for open air testing.
- A cost reimbursable, government test range with extensive laboratory facilities, controlled air space and test sites.
- Test ranges and air space that total approximately 70,000 acres at Fort Huachuca, 23,000 acres at Wilcox Dry Lake and more than 100,000 acres at Gila Bend; additional acreage can be coordinated to accommodate tests requiring additional acreage.
- Experts in testing distributed networks and in system-of-systems testing.
- DTC's Information Assurance (IA) tester and the Army's TEMPEST tester.
- ATEC's lead for the U.S. Department of Homeland Security's (DHS') Secure Border Initiative.
- Flight test facility for unmanned and micro aerial vehicles.

What We Do

- Plan and conduct technical tests to determine capability, limitations and vulnerabilities of complex electronic equipment and systems, including:
  - Command and control.
  - Communications.
  - Computers.
  - Surveillance and reconnaissance.
  - Intelligence and electronic warfare.
  - Global positioning and navigation.
  - The Global Information Grid.
- Conduct electromagnetic effects testing of electronics, C4ISR, networks and information processing systems.
  - Conduct Electromagnetic Interference (EMI) and Electromagnetic Compatibility (EMC), mutual interference, co-site interference and TEMPEST tests.
  - Conduct antenna pattern tests, mounted and unmounted, on host platforms.
- Test Unmanned Aerial Systems C4ISR payloads.
- Analyze data and the results of technical tests.
- Develop innovative advanced technology solutions via instrumentation, stimulations and simulations to enhance test planning, situational awareness, data collection and reduction, and test after-action review.
- Provide quick-reaction support to real-world missions and homeland defense.
- Provide test support to other service branches, government agencies and civilian corporations.
- Support C4ISR systems and network test aspects of commodity areas as they are tested by other DTC test centers.
- Test program management.

Major Programs

- Improvised Explosive Device (IED) electronic counter systems.
- Force XXI Battle Command Brigade-and-Below (FBCB2) and Blue Force Tracker (BFT) Joint Capabilities Release (JCR).
- Joint Tactical Radio System (JTRS).
- Stryker Family of Vehicles.
- Quick-turnaround support to Rapid Equipping Force (REF) programs.
- Prophet.
- Compass Call.
- Joint Warning and Reporting Network (JWARN).
- Global Positioning System (GPS).
- Beacon Tester.
- Land Warrior.
- Joint Network Management System (JNMS).
- The distributed network and information grid that supports Future Combat Systems (FCS).
- Army Battle Command and Enablers (ABC&E) System of Systems (SOS).
- DHS' Secure Border Initiatives.

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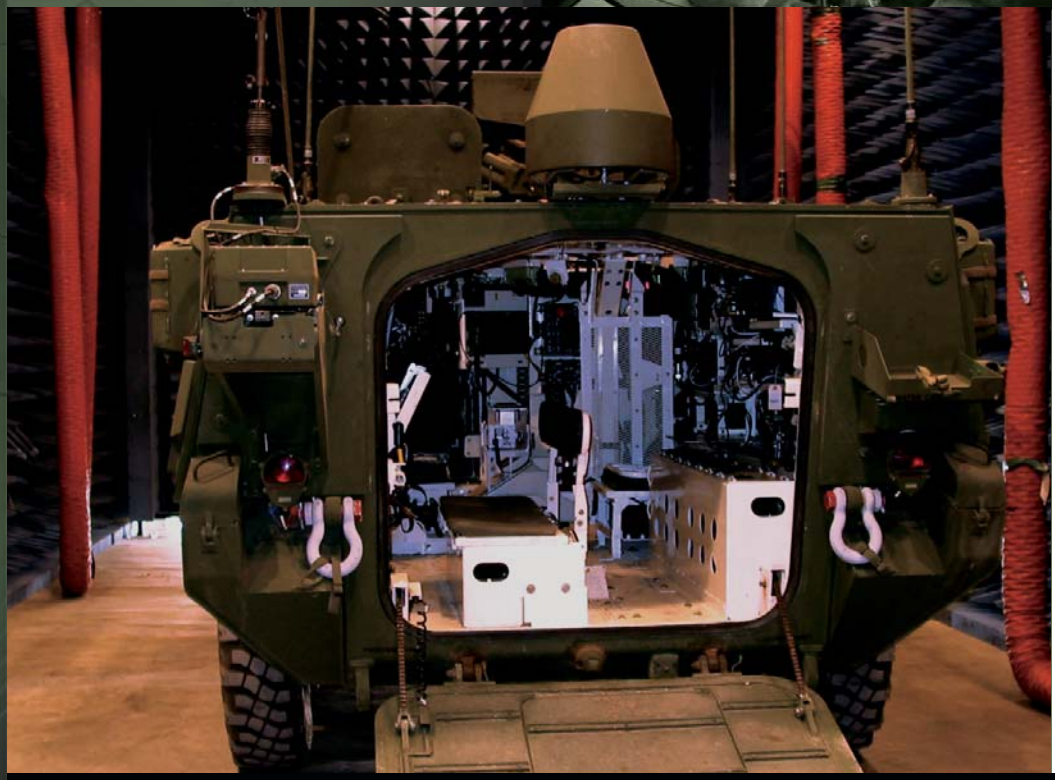

The Electronic Proving Ground at Fort Huachuca, Ariz., conducts emissions testing of the Stryker Vehicle in Chamber 4. (Photo by Johnny Douglas)

Redstone Technical Test Center

Redstone Arsenal, Alabama

An Army Leader in Aviation Components and Missile Systems Testing

Who We Are

- The Army's tester of small rockets, missiles, and weapon components and subsystems as well as unmanned and remotely operated weapon and sensor systems.
- The Army's technical testers for aviation subsystems and components.
- The Army's primary electromagnetic environmental effects tester for Army aviation systems.
- A Center of Expertise for testing the effect of lightning on explosive and hazardous materials.
- A lead developer of Distributed Testing technologies.
- The technical tester for Active Protection Systems.

What We Do

- Provide complete test capabilities for small rocket and missile systems, including flight, warhead and motor performance.
- Conduct static and dynamic testing of warheads and fuses, including urban targets.
- Perform Insensitive Munitions testing.
- Perform safety, qualification and reliability testing of Army aircraft components and systems in support of airworthiness qualification.
- Conduct environmental and electromagnetic environmental effects testing of components, subsystems and systems.
- Test sensors, seekers and designators for weapon systems and homeland defense systems.
- Conduct testing of Counter-Improvised Explosive Devices (C-IEDs) technologies, including ground and aerial intelligence, surveillance and reconnaissance sensor systems and electronic countermeasure systems.
- Test under simulated battlefield conditions that include obscurants and countermeasures.
- Test systems in natural and induced operating environments.
- Operate the Army's largest propulsion Research, Development, Test and Evaluation (RDT&E) test facility for rocket motors and rotor craft engines.
- Exploit foreign systems via Missile and Space Intelligence Center (MSIC).

Major Programs

- Hellfire/Longbow, Javelin and Tube-launched, Optically tracked, Wire-guided (TOW) missile systems.
- Patriot Missile and Terminal High Altitude Area Defense (THAAD) missile systems.
- UH-60 Blackhawk, CH-47 Chinook, OH-58 Scout/Attack and AH-64 Apache helicopters.
- Unmanned Aerial Systems (UAS) such as Shadow.
- Constant Hawk, Highlighter, Night Eagle, Aerial Reconnaissance Mult-Sensor, Eagle Eye and Engineer Reconnaissance Vehicle.
- Non-Line-of-Sight Launch System.
- High Mobility Artillery Rocket System (HIMARS) and Guided Multiple Launch Rocket System.
- Bunker Defeat Munitions and other shoulder-launched systems.

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A remote firing station at the Redstone Technical Test Center at Redstone Arsenal, Ala., launches a Javelin missile. (Photo courtesy of RTTC)

An unmanned aerial system undergoes preparation for a test by Redstone Technical Test Center personnel. (Photo courtesy of RTTC)

Tropic Regions Test Center

Panama

Giving the Department of Defense Firm Answers on Jungle Warfare

Who We Are

- A subordinate command of Yuma Proving Ground.
- Department of Defense (DoD) lead tester for materiel and systems in the tropic environment.
- Test facilities and ranges located in Hawaii and in tropic areas within Central America, with testing taking place at other tropic regions when appropriate.

What We Do

- Test all types of systems and materiel in a tropical environment to keep American armed forces prepared to fight, win and survive in any jungle environment.
- Conduct tests of Army and joint program systems in realistic tropic environments.
- Maintain an array of test areas in a variety of tropic forest, open lands and coastal environments.
- Challenge weapons and other systems with real-world tropic issues in an extremely complex test bed that cannot be duplicated in a chamber environment, including:
  - Insects.
  - Destructive fungi.
  - Bacteria.
  - Heavy rains.
  - High temperatures with high humidity levels.
- Test soldier systems in tropic environments, assessing:
  - Durability.
  - Performance.
  - Reliability.
  - Human factors.
- Conduct portability and mobility tests to evaluate tropic issues, including:
  - System ruggedness.
  - Component analysis.
  - Small team effectiveness.
  - System analysis.
- Use standardized test sites, courses and written procedures to determine system performance and reliability and interpret the results.
- Combine the realism of Operational Test principles with the control of Developmental Testing techniques to produce objective results.
- Evaluate Soldiers' system materiel through human factors engineering.
- Test Soldier system support equipment performance and reliability.
- Test environmental military technologies.
- Provide test support to other service branches.

Major Programs

- Nuclear, Biological and Chemical Reconnaissance Vehicle (NBCRV) variant of Stryker vehicle and M-56 Smoke Generation System (SGS).
- Joint Soldier system programs and chemical biological defense systems:
  - Joint Service Lightweight Integrated Suit Technology.
  - Joint Chemical Agent Detector.
  - Joint Lightweight Stand-off Chemical Agent Detector.
- Sensor and communications systems:
  - Airborne multi-sensor programs
  - Ground sensors
  - Air and ground communications systems.
- Collaborating with industry to develop tropic testing capabilities for heavy vehicles.

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A Tropic Regions Test Center employee monitors military items undergoing a long-term environmental storage test. (Photo courtesy of TRTC)

Panamanian forces use a rifle range that is part of the Tropic Regions Test Center outside of Panama City, Panama's capitol. The two nations share use of the facility. (U.S. Army photo by Chuck Wullenjohn)

White Sands Missile Range

White Sands, New Mexico

Department of Defense's Premier All Overland Test Range

Who We Are

- A joint, interagency and multi-national test range.
- The Department of Defense's (DoD's) largest all overland test range (2.2 million acres).
- The Developmental Test Command's (DTC's) Inter-Range Control Center for distributed testing.
- Manager of DoD restricted air space, with full command and control authority.
- Expert in complex and multi-mission command and control.
- Primary developmental tester of the Future Combat Systems (FCS).

What We Do

- Provide primary test support for:
  - Air and missile defense systems.
  - Aircraft systems–aircraft armaments (fixed-wing).
  - Command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR).
  - Directed energy weapons.
  - Missiles and rockets (non-aviation)–non-line-of-sight missiles.
  - System-of-systems integration.
  - Electromagnetic environmental effects, including electromagnetic interference and electromagnetic compatibility (EMI/EMC) and electromagnetic pulse.
  - Nuclear weapons effects tests.
  - Standard Operation and Maintenance Army Research and Development System (SOMARDS) Financial Information Management System (SOFIMS).
- Provide redundant test support for:
  - Missile and rocket propulsion systems.
  - Missiles and rockets (non-aviation) line of sight.
  - Electromagnetic environmental effects, including Hazards for Electromagnetic Radiation to Ordnance (HERO), Fuels (HERF), and Personnel (HERP); bonding; grounds; and Emission Control (EMCON).

Major Programs

- Multiple Launch Rocket System.
- Future Combat Systems.
- Defense Threat Reduction Agency Programs–Deeply Buried Hardened Targets.
- Army Tactical Missile System.
- High Mobility Artillery Rocket System.
- Stryker.
- M1A1 Abrams Integrated Management Tank.
- Bradley A3.
- PATRIOT Advanced Capability 3 Missile.
- Terminal High Altitude Area Defense System (THAAD).
- Non-Line-of-Sight Launch System.
- U.S. Navy Standard Missile.
- Joint Air-to-Surface Standoff Missile.
- Joint Common Missile.
- Advanced Medium Range Air-to-Air Missile.
- Joint Direct Attack Munition.
- Small Diameter Bomb.
- Unmanned Aerial Vehicles.
- Japan ChuSam.
- Japan PATRIOT.

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The Joint Direct Attack Munition, or JDAM, is one of the weapon systems tested at White Sands Missile Range that has been used in the war against terror. (Photo courtesy of WSMR)

Soldiers sit next to two small unmanned ground vehicles following the Future Combat Systems (FCS) Experiment 1.1 at the Oro Grande Base Camp near Fort Bliss, Texas. White Sands Missile Range in New Mexico has been a key player in FCS testing and experiments. (Photo courtesy of WSMR)

Yuma Proving Ground and Yuma Test Center

Yuma, Arizona

The Army's Most Extensive Weapons and Munitions Test Facility

Who We Are

- A multi-purpose proving ground that tests nearly every commodity in the Army's ground combat arsenal.
- One of the Department of Defense's (DoD's) largest landholders, with test facilities and ranges covering more than 1,300 square miles of terrain and 2,000 square miles of restricted airspace.
- The proving ground's National Counterterrorism/Counterinsurgency Integrated Test and Evaluation Center (NACCITEC), which tests hundreds of electronic countermeasures against improvised explosive devices (IEDs) each year—the number one threat to Warfighters in Iraq and Afghanistan.
- The Army's desert environment test expert, where grueling test courses and extreme temperatures combine to truly challenge equipment in realistic conditions.
- Tester of helicopter armament and targeting systems at America's most highly instrumented helicopter test facility.
- Site of excellent range facilities amid a sunny climate, adding up to almost perfect testing and training conditions.
- The Army's primary artillery and mortar tester.
- More than 200 miles of endurance test courses and extensive vehicle and equipment test facilities for tactical and armored vehicles.
- An installation with non-existent noise problems and no encroachment because of its remoteness from civilian population centers.
- The Army's management authority for all developmental testing in extreme natural environments, Yuma Proving Ground comprises three subordinate test centers: Yuma Test Center, Cold Regions Test Center and Tropic Regions Test Center.

What We Do

- A wide variety of testing that takes place on or above Yuma Test Center's expansive ranges. Test sites are connected by more than 600 miles of fiber optic cable.
- Primary tester of the following commodities:
  - Air delivery systems and airdrops.
  - Aircraft system armament and armament systems integration.
  - Engineering equipment (demolition, mine system and countermines).
  - Direct-fire systems (non-missile and rocket, and munitions performance and acceptance).
  - Electronic countermeasures.
  - Indirect-fire weapons.
  - Smoke and obscurants.
  - Unmanned Aerial Systems.
  - Extreme natural environments.
- Reinforcement capabilities:
  - Automotive and tracked and wheeled vehicles.
  - Engineering equipment (combat engineer and materiel handling equipment).
  - Unmanned ground vehicles.
  - Distributed testing (Inter-Range Control Center).
- Supplemental capabilities (S1):
  - Command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR)–C4 integration within automotive and vehicle systems and navigation systems.
  - Engineering equipment (unexploded ordnance detections systems and technology).
  - Direct-fire systems (weapon performance and fire control).
  - Air and missile defense systems.
  - Soldier systems (clothing, individual and general support equipment—tents, power generation, petroleum and water systems, compressors, pumps, welding equipment, Army medical systems, and force sustainment systems such as kitchen, latrine and laundry).
  - System-of-systems integration.
- Supplemental capabilities (S2):
  - Engineering equipment (bridging systems and watercraft and marine systems).
  - Direct-fire systems (shoulder-fired weapons, and non-missile and rockets).
  - Missiles and rockets (non-aviation line-of-sight missiles).
  - Non-lethal weapons.
  - Transportability (helicopter external airlift and lift, tiedown, and rail impact).

Major Programs

- Non-Line-of-Sight (NLOS) cannon system demonstrator, the artillery platform of the Future Combat Systems.
- The Excalibur 155mm artillery projectile, which offers precision targeting via Global Positioning System (GPS) guidance.
- Year-round large-caliber ammunition lot acceptance testing. Samples are taken from each production lot and tested to make sure that the ammunition performs to specifications before providing it to Warfighters.
- All variants of the Stryker armored vehicle have been tested since April 2002, which includes driving more than 220,000 road miles and firing more than 145,000 rounds from weapons mounted on the vehicle.
- Hundreds of Unmanned Aerial Systems (UAS) fly thousands of miles each year from the test center's six airfields.
- More than 300 Counter-Improvised Explosive Devices (C-IEDs) are tested each year in a specialized urban test facility that replicates conditions in the Middle East.
- A variety of precision-guided aerial delivery systems for precision re-supply operations.
- The Advanced Tactical Parachute System, designed to replace the commonly used T-10 parachute designed in the 1950s, has been extensively tested.
- Mine Resistant Ambush Protected (MRAP) vehicles have been extensively tested since mid-2007. The vehicles provide Soldiers with improved protection against IED attacks and ambushes.
- Thousands of personnel from more than 85 units have undergone desert training at the test center over the past year, many deploying overseas afterward.

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To test a prototype radar sensor enabling pilots to "see," a Huey helicopter creates a giant dust cloud at a sandy landing zone at Yuma Proving Ground to simulate the dusty conditions experienced by Soldiers in Iraq and Afghanistan. (U.S. Army photo)

Operational Testing

Operational Test Command

Fort Hood, Texas

Truth in Testing

Who We Are

- The Operational Test Command (OTC), the Army's independent operational tester, tests and assesses systems in a realistic operational environment using typical Soldiers to determine whether systems are effective, suitable and survivable in varying environments. OTC remains true to its ultimate customer—the American Soldier, our sons and daughters who answer the Call to Duty and serve our nation.
- The Army's independent operational tester meeting the operational test requirements of public law (Title 10, US Code, Section 139).
- Readily deployable test teams supporting the Army's Rapid Acquisition Initiatives.
- Forward Operational Assessment (FOA) teams supporting the forces in Iraq and Afghanistan.
- OTC Headquarters Command and staff, including five test directorates, four forward test directorates, and a Test and Evaluation Coordination Office (TECO) at Fort Leonard Wood, Mo.:
  - Airborne and Special Operations Test Directorate (ABNOSTD), Fort Bragg, N.C.
  - Air Defense Artillery Test Directorate (ADATD), Fort Bliss, Texas.
  - Aviation Test Directorate (AVTD), Fort Hood, Texas.
  - Close Combat Test Directorate (CCTD), Fort Hood, Texas.
  - Command, Control, Communications and Computers Test Directorate (C4TD), Fort Hood, Texas.
  - Engineer and Combat Support Test Directorate (ECSTD), Fort Hood, Texas.
  - Fire Support Test Directorate (FSTD), Fort Sill, Okla.

The Light Utility Helicopter (LUH) crew chief stands on skids of the LUH as he assists in hoisting the medic up and down the hoist in a vehicle roll over scenario near Barstow, Calif., during an Initial Operational Test. (U.S. Army photo)

Patriot Missile test fires for Post Deployment Build 6 (PDB-6) at Granjean site, Stallion Range, White Sands Missile Range New Mexico. (U.S. Army photo)

  - Future Force Test Directorate (FFTD), Fort Hood, Texas.
  - Intelligence and Electronic Warfare Test Directorate (IEWTD), Fort Huachuca, Ariz.

What We Do

- Plan, conduct and report operational tests and experiments for the Army acquisition decision-making process.
- Test and/or assess systems in a realistic operational environment using Soldiers to determine whether systems are effective, suitable and survivable.
- Capitalize on synergy with units and acquisition organizations at Fort Hood and the installations at which OTC's forward directorates and Test and Evaluation Coordination Office (TECOs) are located.
- Deploy test teams worldwide to accomplish operational testing missions at Soldier locations.
- Deploy FOA teams into combat and operational contingency theaters to collect data on weapons and systems used in the operational environment, including systems recently fielded through the Army's Rapid Acquisition Initiatives.
- Plan high-priority operational testing on the Army's Future Combat Systems (FCS).

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Airborne and Special Operations Test Directorate

Fort Bragg, North Carolina

Who We Are

- The Army's independent operational testers for airborne contingency and joint Special Operations Forces, serving the Soldier—our ultimate customer. We plan, conduct and report on the Army's airborne systems and techniques in support of the acquisition decision-making process.

What We Do

- Test every Army combat system the Soldier needs that can be transported in, airdropped from or transported outside Army or Air Force aircraft.
- Use Airborne and Special Operations Test Directorate (ABNSOTD) test paratroopers to determine any risks associated with any new aircraft, system or procedure before the use of operational paratroopers.
- Test joint service equipment and aerial methods of delivery for supporting the Global War on Terrorism (GWOT), including:
  - New parachute systems or airdrop techniques.
  - Air delivery of new or modified combat equipment.
  - Individual weapons or equipment.
  - Equipment used by other government agencies.
- Conduct airdrop certification for delivering equipment loads and personnel to combat zones, including:
  - Internal loads using fixed-wing aircraft and helicopters.
  - External loads using helicopters.
  - Static line parachute procedures.
  - Military free-fall parachute procedures.
  - New cargo delivery techniques and equipment.
- Record data on the aircraft, between aircraft exit and ground impact, and during post-drop operations for validating airdrop events by using state-of-the-art instrumentation such as:
  - Ground-based Video Tracking Systems.
  - Aerial photography from T-34 chase aircraft or paratrooper's helmet-mounted cameras.
  - Global Positioning System (GPS)-based instrumentation attached to jumpers and equipment loads.
  - High-speed videography and digital still photography.

Major Programs

- Initial Operational Test of the T-11 Advanced Tactical Parachute System (ATPS).
- Joint Developmental and Operational Test of the 2,400-pound Joint Precision Airdrop System (JPADS-2K).
- Joint Developmental and Operational Test of the 10,000-pound Joint Precision Airdrop System (JPADS-10K).
- Joint Developmental and Operational Test of the Future Cargo Aircraft (FCA).
- Limited User Test of the XM320 40-millimeter Grenade Launcher Module (GLM).
- Limited User Test of the Laser Target Locator Module (LTLM).
- Limited User Test of the Enhanced M2 Machine Gun (M2E2).
- Limited User Test of the XM-26 Modular Accessory Shotgun System (MASS).
- Customer Test for Military Free-Fall (MFF) Certification of four Advanced Combat Helmet (ACH) harness assemblies.
- Customer test of the MC-6 Canopy Release Assembly.

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The Jumpmaster/Safety pushes a 400-pound mannequin from a CASA aircraft. This prototype CASA aircraft was equipped with an electric winch instead of the standard manual winch used on other CASA aircraft. Testing was conducted to determine the usefulness of using the electric winch to retrieve a towed mannequin (equipped as a mockup Static Line jumper). (U.S. Army photo)

A static line jumper descends to the drop zone using a T-11 Advanced Tactical Parachute System (ATPS). This parachute is being tested to determine if the development of advanced technologies will improve performance of the personnel parachute during mass tactical airborne assault operations. (U.S. Army photo)

Air Defense Artillery Test Directorate

Fort Bliss, Texas

Who We Are

- The Army's premier air and missile defense operational tester.
- Total Combat Arms tester.

What We Do

- Plan, conduct and report on operational testing of systems from other battlefield functional areas (BFA) (close combat and engineering and combat services).
- Deploy test teams worldwide to accomplish test missions at the customer's locations.
- Conduct Rapid Acquisition Initiative (RAI) programs in support of the Global War on Terrorism (GWOT).
- Conduct initial operational tests for major Air Defense Artillery (ADA) systems.
- Conduct limited user tests for ADA and other BFA requirements.
- Conduct customer tests.
- Perform joint system-of-systems testing.
- Support Operational Test Command's (OTC's) Forward Operational Assessments with experienced, capable personnel in operational testing.
- Provide robust and state-of-the-art instrumentation with high-resolution global positioning system (GPS) capabilities.
- Provide a full spectrum of data reduction and analysis capabilities in support of large operational tests.

Major Programs

- Terminal High Altitude Area Defense (THAAD).
- Counter-Rocket, Artillery and Mortar (C-RAM).
- Patriot Advanced Capability 3 (PAC3) Post Deployment Build (PDB) 6.0.
- Joint Land-Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS).
- Surface-Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM).
- Medium Engagement Area Defense System (MEADS).
- Integrated Air and Missile Defense (IAMD) System of Systems.

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Patriot Radar sits atop ATOM Site, Stallion Range, White Sands Missile Range, New Mexico. (U.S. Army photo)

UH60M maneuvers with test load during sling load capabilities test. (U.S. Army photo)

Aviation Test Directorate

Fort Hood, Texas

Who We Are

- The Army Aviation Test Directorate, working closely with the U.S. Army Aviation Center, to plan, conduct and report on manned and unmanned aviation-related operational tests and field experiments.

What We Do

- Test aviation doctrine, training, organization and equipment systems to ensure that they meet Soldiers' needs in an operational environment.
- Place Soldiers and equipment under the most realistic test conditions possible that closely approximate the anticipated aviation environment.
- Test new aviation concepts, materiel and systems to consider their effects on the total force.
- Equip aviators and test equipment in theater without negatively impacting tactical missions.
- Balance support to the Warfighter with traditional acquisition efforts.

Major Programs

- Joint Protective Air Crew Ensemble (JPACE).
- Armed Reconnaissance Helicopter (ARH).
- UH-60M Blackhawk Helicopter.
- CH-47F Chinook Improved Cargo Helicopter.
- Light Utility Helicopter (LUH).
- Unmanned Aerial Systems (UAS).

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Close Combat Test Directorate
Fort Hood, Texas

Who We Are
- The test directorate for operational testing of armor and infantry systems.
- The lead test directorate for operational testing of the weapons and systems of the Army's transformation force.
- The lead test directorate for operational testing of the Stryker.

What We Do
- Conduct Independent Operational Testing for weapons, scopes, lasers, armored vehicles and future combat rifles.
- Continue to provide personnel in support of ATEC Forward Operational Assessment (FOA) mission.
- Provide rapidly deployable test teams to conduct operational assessments on systems in support of the Army's Rapid Equipment Fielding Initiative and Global War on Terrorism (GWOT).

Major Programs
- Stryker Mobile Gun System (MGS).
- Grenade Launcher Module (GLM) GLM320.
- Modular Accessory Shotgun System (MASS).
- Full-Spectrum Effects Platform (FSEP).
- Ground Handheld Optical Surveillance and Targeting (GHOST).
- Enhanced Night Vision Goggles (ENVG).
- 120mm Dismounted Mortar Fire Control System (120MM DMS FCS).
- AT4 Confined Space Tandem Warhead (AT4CS TW).
- Family of Sniper Defeat Systems (FoSDS).

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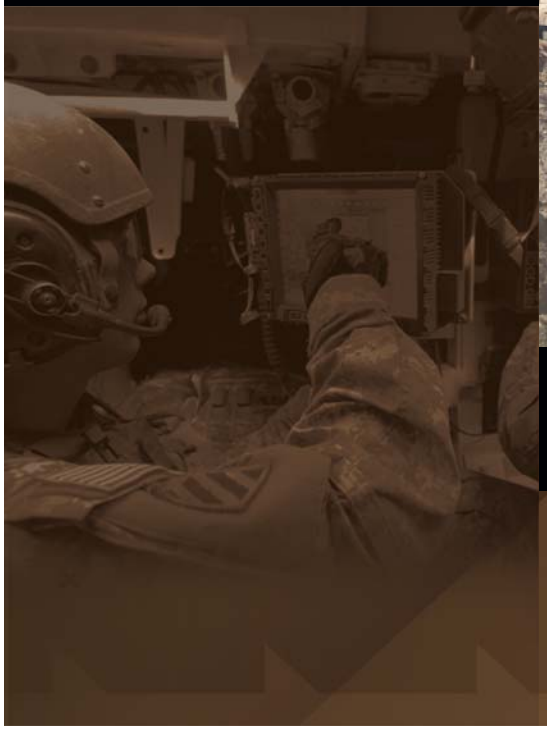
A squad leader points out the area of suppression for fire during Land Warrior Limited User Test at Fort Lewis, Washington. (U.S. Army photo)



Command, Control, Communications and Computers Test Directorate
Fort Hood, Texas

Who We Are
- Communications-Electronics Test Division.
- Computer Systems Test Division.
- Battle Command Test Division.
- Information Technology and Information Assurance Cell.

Joint Network Node-Network equipment is ready for testing during an operational test in conjunction with regular Soldier rotations at Fort Irwin, California. (U.S. Army photo)

What We Do
- Test systems that will process and transmit voice, data, messaging and video information through networks at the tactical, operational, strategic and sustaining base levels.
- Assure that information storage and transmission are secure, available and protected from hostile or accidental destruction or release.
- Lead directorate for the Army Battle Command and Enablers System of Systems (ABC&E SOS) testing.
- Conduct Forward Operational Assessments (FOAs) of Battle Command Systems.

Major Programs
- Army Battle Command and Enablers System of Systems (ABC&E SOS) testing.
- Defense Integrated Military Human Resources System (DIMHRS) Multi-Service Limited User Test (M-LUT).
- Force XXI Battle Command Brigade and Below (FBCB2) Command and Control System.
- Global Broadcast System (GBS).
- Global Command and Control System (GCCS).
- Joint Network Node–Network (JNN–N).
- Joint Tactical Radio System (JTRS).
- Warfighter Information Network–Tactical (WIN–T).

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Engineer and Combat Support Test Directorate

Fort Hood, Texas

Who We Are

- The most versatile OTC directorate, conducting operational tests in the areas of combat engineer, chemical, transportation, military police, quartermaster, ordnance and medical service.
- The Maneuver Support Division, working with the Maneuver Support Center at Fort Leonard Wood, Mo.
- The Combined Arms Support Division, working with the Combined Arms Support Command at Fort Lee, Va.
- The Test and Evaluation Coordinating Office (TECO) at Fort Leonard Wood, Mo., providing early engagement with the Maneuver Support Center through liaison and new concept experiments. TECO also conducts operational testing events in support of the National Guard Bureau and the Department of Homeland Security.

What We Do

- Design Operational Tests for Army and other armed forces customers and agencies.
- Conduct Operational Testing for a broad spectrum of Army and joint service materiel, systems and concepts.

Major Programs

- Joint programs:
  - Joint Service General Purpose Mask.
  - Joint Biological Standoff Detection System.
  - Joint Biological Point Detection System.
  - Joint Chemical Agent Detector.
  - Joint Warning and Joint Effects Module.
  - Joint Transportable Decontamination System–Small Scale.
  - Joint Biological Agent Identification and Diagnostic System.

The Stryker Nuclear Biological Chemical Reconnaissance Vehicle is on the move during the initial operational test and evaluation at West Desert Test Center, Dugway Proving Ground, Utah. (U.S. Army photo)

- Maneuver support programs:
  - Spider Networked Munitions System.
  - Stryker Nuclear, Biological and Chemical Reconnaissance Vehicle.
  - Engineer Reconnaissance Vehicle.
  - Joint Assault Bridge.
- Sustainment programs:
  - Mine-Resistant Ambush-Protected Vehicle.
  - Long-Term Armoring Strategy.
  - Mobile Integrated Remains Collection System.
  - All-Terrain Lifter-Army System.
  - Next-Generation Automatic Test System.
  - Theatre Support Vessel Transport Ships.
  - Family of Medium Tactical Vehicles–10-Ton Dump Truck.
- Homeland defense programs:
  - Weapons of Mass Destruction Civil Support Team Doctrine and Organization Validation.
  - Unified Command Suite.
  - Analytical Laboratory System.

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M109A6 Paladin Howitzer firing the 155mm Excalibur projectile at Yuma Proving Ground, Arizona. (U.S. Army photo)

Fire Support Test Directorate

Fort Sill, Oklahoma

Who We Are

- The most experienced test directorate within the OTC—testing since 1902.
- The Weapons Test Division, Automated Fire Support Test Division, and Support Division.

What We Do

- Design and conduct operational tests of field artillery systems.
- Assess rapid acquisition initiatives.
- Provide leaders and data collectors to serve on FOA teams.
- Develop and maintain fire support instrumentation.
- Represent OTC at the Fires Center of Excellence.

Major Programs

- Excalibur Precision Engagement Artillery Projectile.
- Advanced Field Artillery Tactical Data System (AFATDS).
- Guided Multiple Launch Rocket System (GMLRS) Unitary Rocket.
- Non–Line-of-Sight (NLOS)-Launch System and NLOS-Cannon.
- Extensible Command, Control, Communications, Computers and Intelligence (C4I) Instrumentation Suite (ExCIS) Fire Support Application (FSA).
- Meteorological Measuring Set (MMS)-Profiler.
- Lightweight Counter Mortar Radar (LCMR).
- Call For Fire Trainer (CFFT).
- International Artillery Systems Cooperation Activities (ASCA).

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Future Force Test Directorate
Fort Hood, Texas

Who We Are

- The Operational Test Directorate (OTC) test directorate centralizing efforts of Future Force initiatives and the proliferation of advanced warfighting experiments.
- Lead directorate for OTC support to Army transformation experiments.
- Lead directorate for Operational Testing of Future Combat Systems (FCS).

What We Do

- Support Army transformation by focusing on FCS.
- Develop testing parameters that meet the requirements of FCS complexity and reliance on a network-centric environment.
- Develop procedures for operational tests involving FCS Brigade Combat Teams.
- Support the Rapid Fielding Initiative (RFI) and Rapid Equipment Fielding (REF) programs.
- Assist other OTC test directorates in absorbing technological trends.

Major Programs

- Future Combat Systems.
- Unmanned Remote-Controlled Vehicles.

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A Forerunner High Mobility Multipurpose Wheeled Vehicle (HMMWV) negotiates a series of obstacles at one of Yuma Proving Ground's testing areas. The Forerunner HMMWV, an unmanned remote controlled vehicle, was tested by U.S. Army and U.S. Marine Corps personnel as part of the Army's RFI program. (U.S. Army photo)

Intelligence and Electronic Warfare Test Directorate
Fort Huachuca, Arizona

Who We Are

- The Army's operational test directorate that tests Intelligence, Surveillance and Reconnaissance (ISR)–Electronic Warfare (EW) and Counter-Improvised Explosive Device (CIED) systems.
- The Intelligence Systems Integration Lab (ISIL)—a facility that supports and conducts joint Command, Control, Communications and Computers (C4) ISR tests, training, experiments and other distributed activities in a secure, collaborative environment.
- The Test Division and Technical Support Division are responsible for testing signals, imagery and measurement and signature intelligence sensors, ground and airborne platforms, EW and CIED systems, biometrics systems and intelligence processing systems.

The Prophet Electronic Support (ES) system has a telescopic mast erected in a typical tactical operations mode during the Prophet Block II/III Limited User's Test at Fort Huachuca, Arizona. (U.S. Army photo)

What We Do

- Provide robust synthetic operational environments with realistic battlefield conditions to test the future ISR, CIED and EW systems.
- Conduct operational assessments at worldwide locations to support rapid acquisition initiatives, the Joint IED Defeat Organization (JIEDDO) and the Warfighter's urgent needs.
- Develop intelligence and threat modeling and simulation tools.
- Provide fully instrumented threat systems, dynamic scenarios and automated data extraction tools to measure systems under test.
- Test the operational effectiveness, performance, suitability and survivability of systems.
- Test in live, virtual and constructive environments.
- Provide test support to Intelligence and Security Command, Special Operations Command, armed forces branches, JIEDDO, National Security Agency, Department of Homeland Security and other government agencies.

Major Programs

- Distributed Common Ground System – Army (DCGS-A)
- Prophet Electronic Support/Electronic Attack (Prophet ES/EA)
- Joint Remote-Controlled Improvised Explosive Device Electronic Warfare System (JCREW)
- JIEDDO CIED Detect and Defeat systems National Polar-Orbiting Operational Environment Satellite (NPOESS)
- Integrated Broadcast Service (IBS)
- Unmanned Aerial System – Extended Range Multi-Purpose (UAS ER/MP)
- Aerial Common Sensor (ACS)

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Evaluations

U.S. Army Evaluation Center

Alexandria, Virginia
Aberdeen Proving Ground, Maryland

Understanding through Evaluation

Who We Are

- The Army's premier evaluation organization affecting all Army modernization and transformation research, development and acquisition programs, totaling approximately $6 billion.
- Four Support Staff Divisions: Operations, Resource Management, Human Resources, and Lean Six Sigma (LSS).
- A nearly 550-member civilian and military team that plans, programs, coordinates and executes integrated evaluations in 14 directorates:
  - Ballistic Missile Defense Evaluation Directorate (BMDED)—Army operational test and evaluation arm of the Ballistic Missile Defense System (BMDS) Combined Test Force (CTF), and lead service member of the BMDS Operational Test Agency Team.
  - Aviation Evaluation Directorate (AVED)—Aviation (aircraft, air traffic control, munitions and Soldier support) systems operational effectiveness, suitability and survivability
  - Close Combat Evaluation Directorate (CCED)—Infantry/Soldier systems, mounted maneuver, interim force systems and weapons/munitions programs
  - Combat Support Evaluation Directorate (CSED)—Combat Support (CS), Combat Service Support (CSS) and chemical and biological systems
  - Command, Control and Communications Evaluation Directorate (C3ED)—Army and joint command, control and communications systems
  - Net Fires Evaluation Directorate (NFED)—Army Fire Support (rockets and missiles, cannons, command and control) and Air and Missile Defense systems
  - Intelligence Evaluation Directorate (IED)—Intelligence-related acquisition programs covering national, theater, coalition and commercial space
  - Technical Support Evaluation Directorate (TSED)—Independent T&E for multi-service medical Information Technology systems, and provides technical editing, modeling, simulation, methodology, and analysis support to AEC.
  - Integrated Logistics Support (ILS) Directorate—Logistics supportability evaluation of a system and its impact on suitability, and independent logistics supportability assessments reported to the Assistant Secretary of the Army for Acquisitions, Logistics and Technology
  - Reliability and Maintainability Evaluation Directorate (RMED)—Reliability, Availability and Maintainability (RAM) system characteristics for major defense acquisition programs
  - Survivability Evaluation Directorate (SVED)—Survivability, ballistics and live fire evaluations and reports, and vulnerability and lethality of Army and designated joint systems
  - Future Force Evaluation Directorate (FFED)—Future force and Army transformation acquisition programs.
  - Counter-Improvised Explosive Device (IED) Evaluation Directorate—Evaluations on all counter-IED equipment, and is ATEC's interface with the test/user community in the counter-IED mission.
  - Joint Test Board (JTB)—Coordinates and synchronized T&E resources with Joint Improvised Explosive Device Defeat Organization (JIEDDO) Counter-IED requirements and priorities in order to ensure all systems are adequately tested and evaluated to provide information to decision makers and the Warfighter in support of the GWOT mission.

A Terminal High Altitude Area Defense System (THAAD) interceptor is undergoing testing for the Missile Defense Agency at White Sands Missile Range, N.M. THAAD is the first weapon system with capabilities specifically developed to defend against short, medium and intermediate range ballistic missiles. (U.S. Army photo)

What We Do

- Plan and conduct independent evaluations and assessments of acquisition programs.
- Develop the evaluation strategy, test design and evaluations addressing operational effectiveness, suitability and survivability.
- Conduct continuous evaluation throughout the acquisition life-cycle of systems.
- Provide evaluation information to key Department of Defense decision makers.
- Work in harmony with the materiel acquisition community to best achieve our evaluation mission.
- Provide rapid response analysis for more than 80 Rapid Equipping Force initiatives.
- Satisfy Warfighter and Global War On Terrorism (GWOT) requirements.
- Provide military utility assessments for the Warfighter's urgent needs in Iraq and Afghanistan.
- Chair 99 percent of Army Test and Evaluation Command (ATEC) ATEC System Team (AST), which guide the initial test and evaluation effort.
- Combatant Commands (COCOMs) major training exercises in assessing information assurance.

Major Test Programs

- Army Battle Command Systems (ABCS) planning.
- Ballistic Missile Defense System (BMDS) Limited Deployment Capability (LDC) assessment.
- Future Combat Systems (FCS) restructure test and evaluation plan.
- Stryker reliability and Stryker variants, including Mobile Gun System (MGS).
- Up-Armor Wheeled Vehicles.
- Counter-IED measures.

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ATEC is an organization known for its uncompromising test and evaluation standards. ATEC's culture is noted for viewing the Soldier as the ultimate customer, and ATEC strives to help its people advance and grow—personally and professionally.

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