

Army Experimentation Campaign Plan:

Total Army and Joint Teamwork Toward a Full-Spectrum Land Force

By Vern Lowrey

General Reimer, Chief of Staff, United States Army, recently approved a new path to the future that is described as the *Army Experimentation Campaign Plan* (AECP). The AECP is a result of the Army's successful experimentation since 1993 with new ideas, technologies, equipment, and organizations as part of the Force XXI process. Results from experimentation with mechanized forces and digital technologies at Fort Hood, Texas, and the National Training Center (NTC), Fort Irwin, California, led General Reimer and Army leaders to expand experimentation efforts into other areas. These areas include light contingency forces, Strike Forces, and future Army After Next (AAN) forces. The AAN forces include Battle Forces, campaign forces, homeland defense forces, and special operations forces (SOF).

The AECP path to the future shown in Figure 1 takes the Army from the current Army of Excellence (AOE) organization through a spiral development process. Beginning with research and study, science and technology, and experimentation, the process spirals through the newly designed Army XXI Division toward AAN and its various franchise study groups. Fort Leonard Wood will lead Army

homeland defense doctrine, training, leader development, organization, materiel, and soldier (DTLOMS) developmental efforts (See article on page 38).

The three AECP experimentation axes shown in Figure 2, page 35, will guide the Army over the next 10-25 years. Mechanized and light force axes will lead to fully digitized mechanized and light corps by 2010. Current Strike Force experimentation efforts will create a deployable headquarters that can quickly assimilate Army warfighting capabilities to meet strategic and operational requirements in a theater of operations. The Army is teaming with its joint partners in the U.S. Navy, Marine Corps, and Air Force through a series of joint experiments over the next several years to develop mutually supporting technologies and organizations. Army engineers will continue to be key players in all AECP experimentation efforts. The following potential issues and initiatives will be addressed in future AECP experimentation efforts.

Mechanized Contingency Forces. An article beginning on page 40 describes lessons learned from early experimentation with mechanized forces. Experimentation continues with the 4th Infantry Division at Fort Hood, Texas

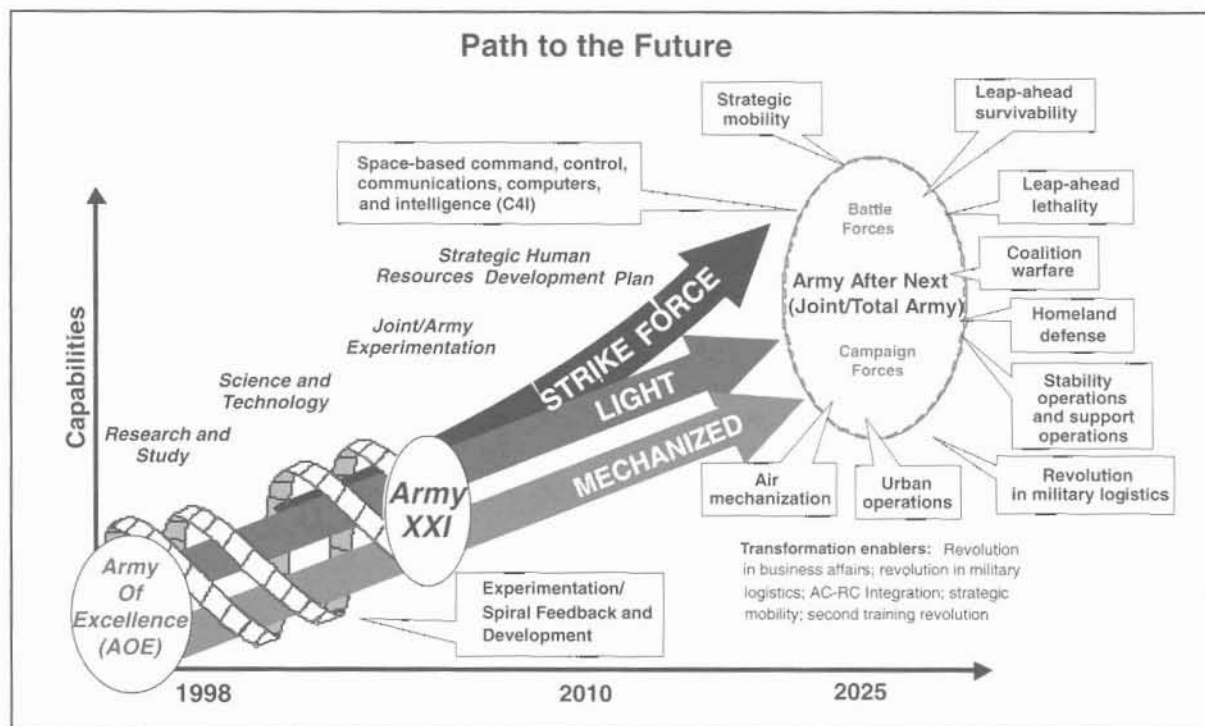
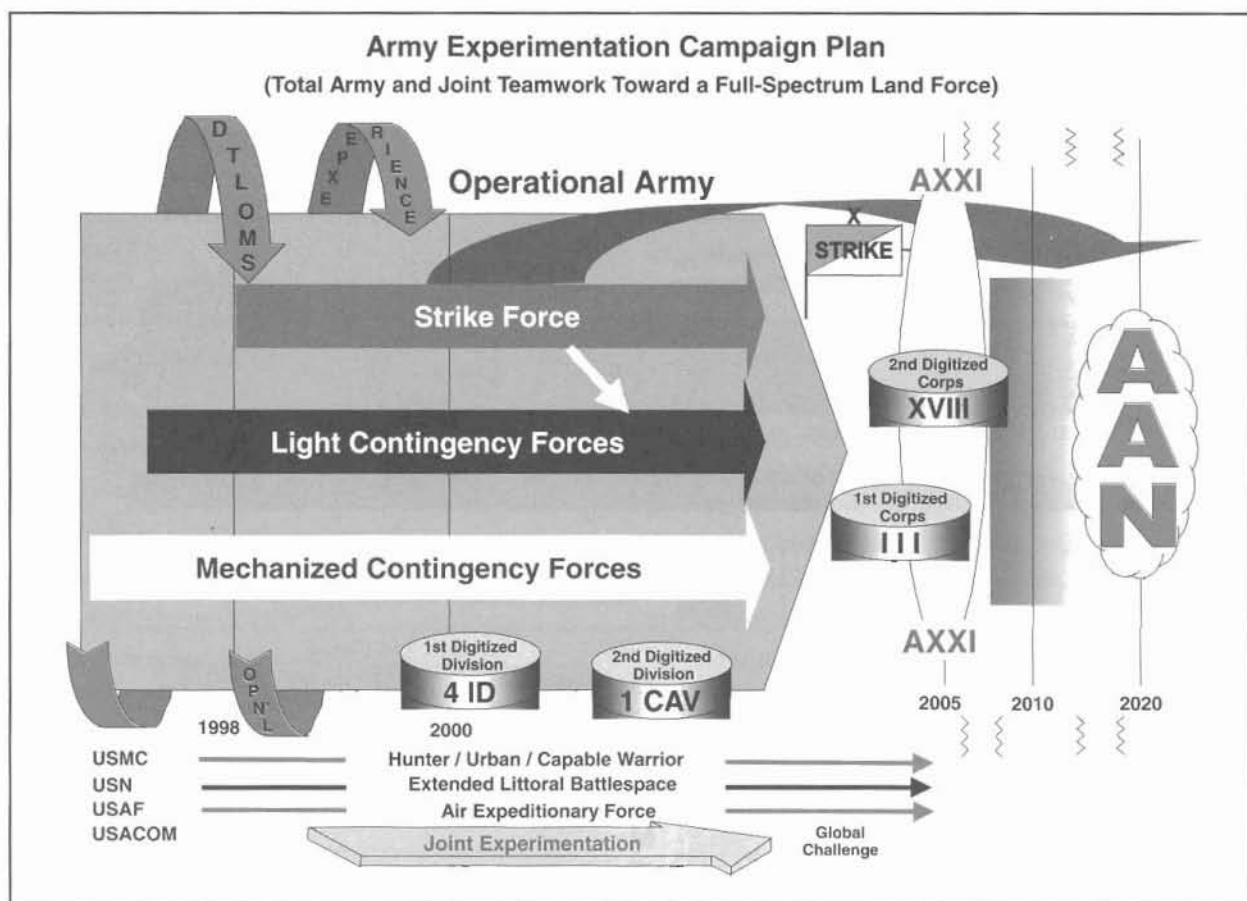


Figure 1



(Figure 3, page 36). The Army will validate the first digital division design in FY01 during division capstone exercises (DCX) at both Fort Hood and NTC. Following the DCX, the 1st Cavalry Division at Fort Hood will start digitizing its command and control capability. Ongoing hardware integration and software upgrades within the Army Battle Command System, including the Force XXI Battle Command Brigade and Below (FBCB2) platform computer system, will continue through the DCX. Training and Doctrine Command (TRADOC) is developing a Corps XXI design that will focus on the new battlefield framework of shaping, decisive, and sustainment operations. This design will replace the current Air-Land Battle framework of deep, close, and rear operations. The new Corps XXI design will be validated during a Corps advanced warfighting experiment (AWE) that will examine both heavy and light corps operations. The following are some of the engineer issues to be addressed in the mechanized contingency force experimentation axis:

- Army XXI division engineer command and control structure.
- Corps XXI engineer command and control structure.
- Joint combat engineer command and control tools.
- Army XXI division consolidated combat service support structure for engineers.

- Digital terrain data acquisition, management, dissemination, and storage.
- Engineer Bradley fighting vehicle.
- Route minefield clearance.
- Maneuver control system-engineer (MCS-E) software.

Light Contingency Forces. The Army has conducted very few experiments with light contingency forces over the past several years. That situation is changing because we will be involved with the Joint Contingency Force (JCF) AWE, which will be conducted at the Joint Readiness Training Center, Fort Polk, Louisiana, in the fall of 2000. As shown in Figure 4, page 36, the JCF AWE will showcase new war-fighting technologies and digital command and control linkages, which were developed during the Rapid Force Projection Initiative's (RFPI) advanced concepts technology demonstration (ACTD) and the ongoing Military Operations in Urbanized Terrain (MOUT) ACTD at Fort Benning, Georgia. The 10th Mountain Division from Fort Drum, New York, will be the JCF AWE experimental force. The XVIII Airborne Corps headquarters, Fort Bragg, North Carolina, will serve as the joint task force headquarters for the AWE. The United States Atlantic Command (USACOM) will serve as the overall joint experimentation headquarters for the AWE. The Marine Corps will participate through ongoing Urban Warrior experimentation that will continue through the JCF

Mechanized Contingency Forces

GOAL: Field modernized doctrine, organization, materiel and leader development for this mechanized contingency force. The force will have enhanced deployability, survivability, lethality, mobility, and sustainability.

Experimentation Model: Task Force XXI and DAWE **Experimentation Forces:** 4th ID and III Corps

EXPERIMENTS:

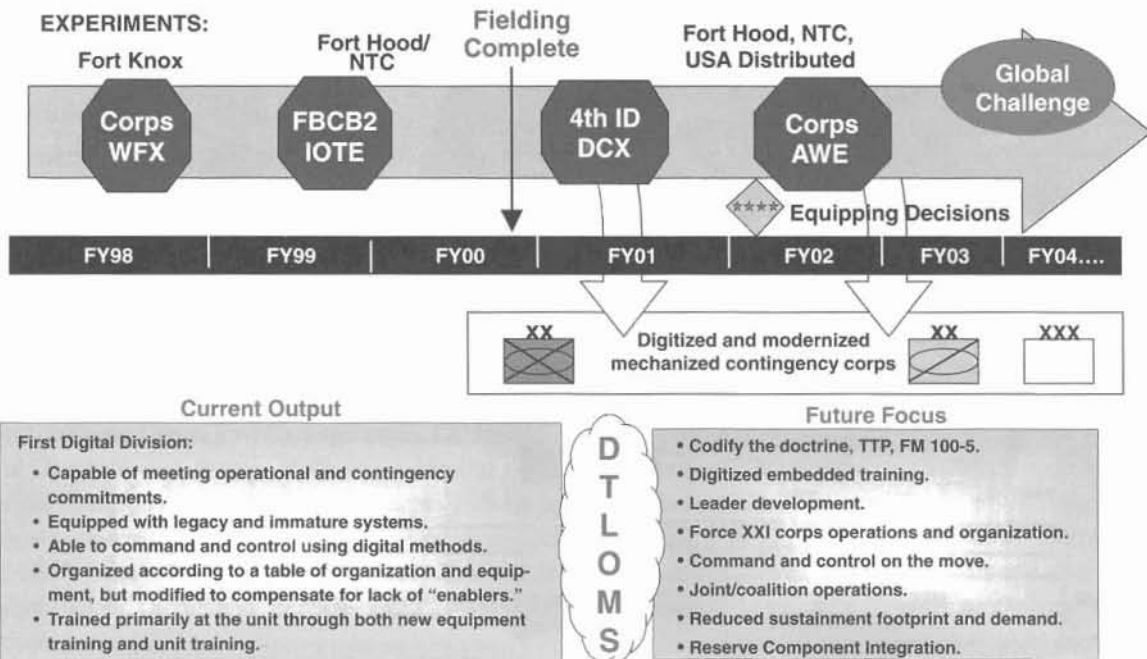


Figure 3

Light Contingency Forces

GOAL: Enhance the lethality, survivability and interoperability of contingency forces. Provide situational awareness to light forces comparable to that provided to mechanized forces.

Experimentation Model: Task Force XXI AWE **Experimentation Forces:** 18th ABN Corps, 10th Mountain Division, and special operations forces

Experiments:

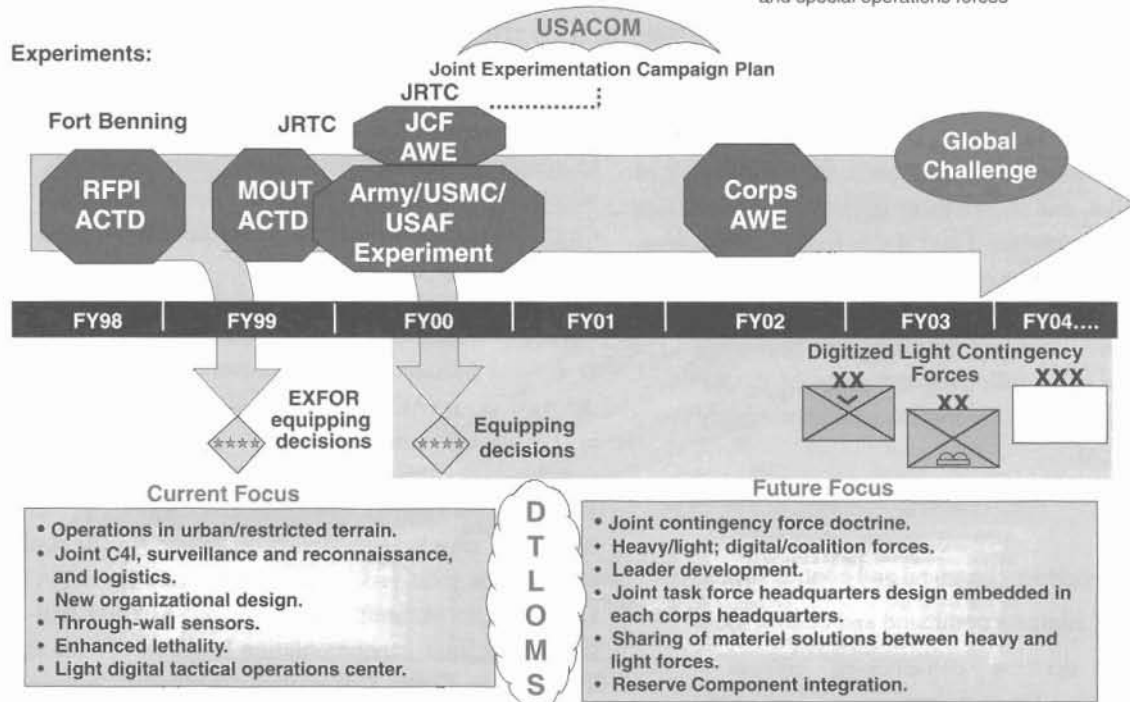


Figure 4

AWE. The Air Force also will participate as part of their Air Expeditionary Force experimentation process. A newly formed Strike Force headquarters will be evaluated during the JCF AWE. Results from the JCF AWE will be used to assess needed changes in light contingency forces and to identify issues for the follow-on Corps AWE. The following are some of the Army engineer issues to be addressed in the experimentation axis for light contingency forces:

- Rapid airfield construction.
- Digital terrain data acquisition, management, dissemination, and storage, especially in urban environments.
- Urban obstacle and rubble removal.
- Subterranean robotic reconnaissance.
- Advanced technologies for the demolition of buildings and walls.
- Digital command and control of engineers.
- Tactics, techniques, and procedures for the acquisition and operation of contingency engineer equipment.

Strike Forces. Strike Forces are part of the AECF to prepare combat and combat support organizations for future multifunctional operations. They will be part of a rapidly

deployable, flexible, and adaptive early-entry force (Figure 5). The evolving Strike Force structure is intended to complement current light and heavy force capabilities. Strike Forces will serve as a bridge between the physical agility of Army XXI and the mental agility inherent in the Army After Next. Initial experimentation efforts will focus on the design and operations of the Strike Force headquarters being developed at Fort Polk, Louisiana. The following are some of the engineer issues to be addressed as part of Strike Force experimentation efforts:

- Engineer command and control requirements associated with the combat support node of the Strike Force headquarters.
- Digital terrain data acquisition, management, dissemination, and storage for Strike Forces.
- Requirements for a high-speed engineer vehicle as a possible complement or replacement for the small emplacement excavator (SEE).
- Engineer robotic applications.
- Capability of the deployable universal combat earth-mover (DEUCE) to support more than light forces (see article, page 32).
- Lightweight bridging.

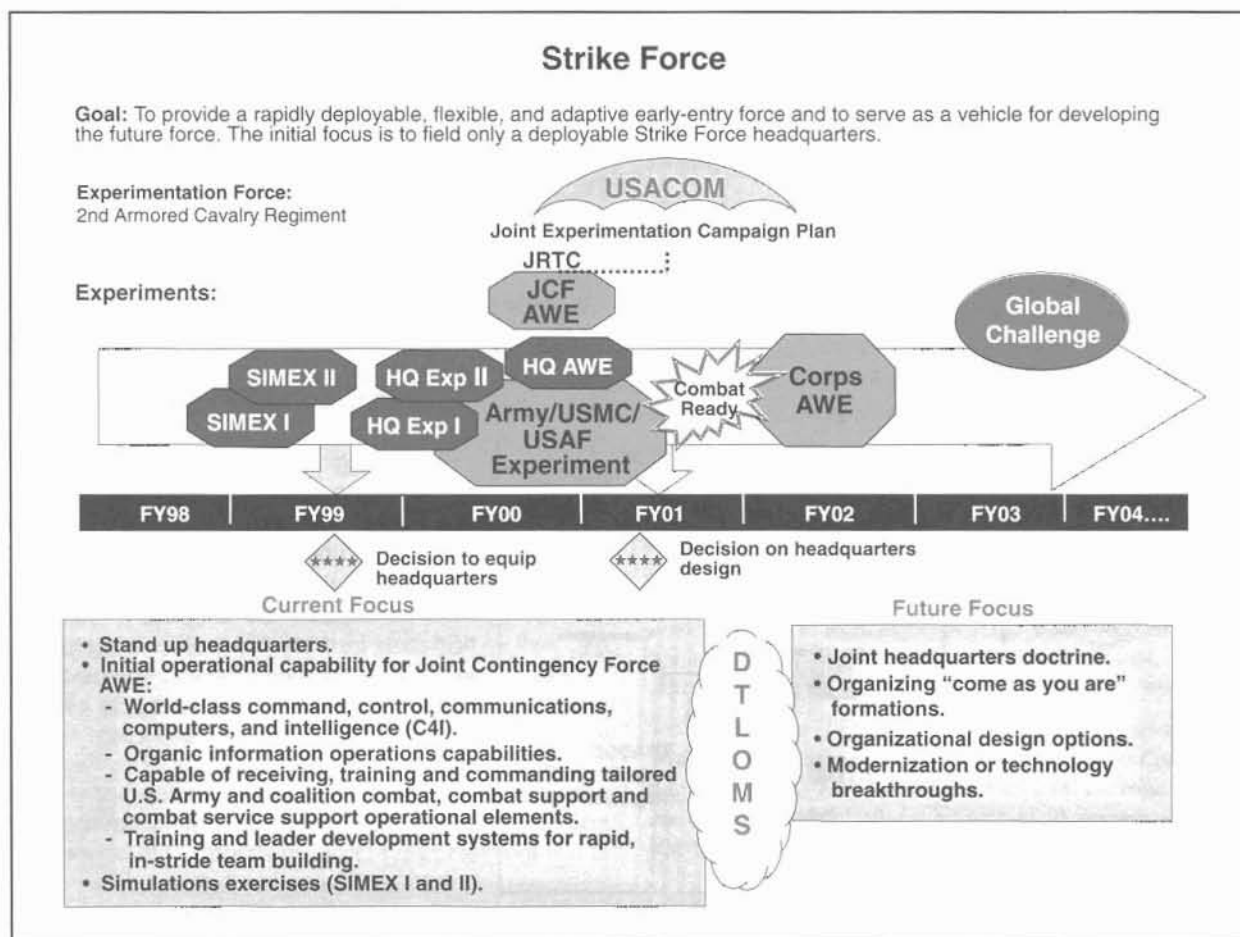


Figure 5

Homeland Defense. Army leaders are defining this new mission area. Homeland defense encompasses many areas, including disaster relief, protecting the nation's infrastructure against weapons of mass destruction and terrorism, and vulnerability assessment tools. Fort Leonard Wood will become the Army's Center of Excellence for Homeland Defense on 1 October 1999, when the Maneuver Support Center officially stands up. The Maneuver Support Battle Lab has several ongoing engineer-related experiments that may become part of the homeland defense mission:

- Mine detection using chemical signature technologies.
- Evaluation of joint vulnerability assessment tools.
- Evaluation of an antiterrorism planning tool for blast effects.

- Force protection of logistics bases.

The Maneuver Support Battle Lab is charged with integrating all engineer experimentation activities associated with AECP. We continually seek new thoughts and ideas from field personnel related to AECP and homeland defense missions. For additional information or to pass on ideas, please call Colonel Greg Bean or Vern Lowrey at DSN 676-4082 or commercial (573) 563-4082. Our fax number is (573) 563-4083. E-mail addresses are beang@wood.army.mil or lowreyv@wood.army.mil.



Mr. Lowrey is the technical director of the Maneuver Support Battle Lab at Fort Leonard Wood.

Engineer Contributions to Army After Next

By Lieutenant Colonel James Vosler

Knowledge, speed, and power are broad capabilities that will form the foundation of the Army After Next (AAN) in 2025. The Chief of Staff, United States Army, established the AAN project in February 1996 "...to assist our leadership in developing a vision of future Army requirements." The project's mission is to conduct broad studies of warfare out to the year 2025. These studies will frame issues vital to the development of the U.S. Army after 2010 and identify alternatives for senior Army leaders to integrate into TRADOC's combat development programs (see figure).

U.S. Army Engineer School personnel are actively engaged in the AAN project and participate in TRADOC-sponsored war games, technology seminars, and integrated idea teams that occur throughout the year. This year's AAN project will culminate with TRADOC's third annual report to the Chief of Staff of the Army in December 1999.

The AAN project's main effort each year concentrates on a spring war game at Carlisle Barracks, Pennsylvania. The game this year will examine asymmetric threats by opposing forces, which include weapons of mass destruction, information warfare, and operations within complex and urban terrain. Other war games planned for this year will examine implications resulting from the spring war game across the Army DTLOMS (doctrine, training, leader development, organization, materiel, and soldiers) imperatives. During the last week in April, the Engineer School will provide personnel to support both the blue and red commanders in chief at Carlisle Barracks to specifically address engineer issues.

Integrated idea teams bring together technical and military art experts to examine, refine, and provide insight into AAN FY99 concepts, capabilities, notional systems, and enabling technologies. This year Engineer School personnel participated in urban, hybrid, and C4I (command, control, communications, computers, and intelligence) integrated idea teams. Engineers are making significant contributions regarding the development of future force mixes and materiel requirements by participating in these events.

Although the year 2025 is far beyond most of our horizons, the Engineer School's participation in the AAN project will ensure that engineers remain relevant into the next century. Our efforts today will play a large role in shaping the Army of tomorrow.

Lieutenant Colonel Vosler is the strategic planner for the U.S. Army Engineer School and Fort Leonard Wood.

