

STRICOM



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U.S. Army
Simulation, Training and
Instrumentation Command

1 October 1994

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Commanding General
U.S. Army Simulation, Training and Instrumentation Command
BRIGADIER GENERAL JOHN F. MICHITSCH

Brigadier General John F. Michitsch assumed command of the U.S. Army Simulation, Training and Instrumentation Command on 26 April 1993.

Brigadier General Michitsch, a native of Plainview, New York, graduated from the University of Dayton in 1965 with a Bachelor of Arts in Foreign Literature and has a Masters Degree in Foreign Literature from Case Western Reserve University. His military education includes attendance at the Field Artillery Officer Basic and Advanced Courses, the Command and General Staff College, and the Industrial College of the Armed Forces. He also completed the Program for Senior Officials in National Security at Harvard University in 1988.



Brigadier General Michitsch has held numerous command and staff positions throughout his military career. He was an assistant S-3 in the Artillery Combat Leader Battalion at Fort Sill, Oklahoma; Battalion Adjutant and Headquarters Service Battery Commander with the 6th Battalion, 11th Field Artillery in the Republic of Vietnam; Assistant Professor of Military Science at the University of Dayton; Assistant S-3 with the 3rd Armored Division Artillery in Hanau; Alpha Battery Commander and S-3 of the 2d Battalion, 6th Field Artillery; SGS and Research and Development Coordinator at the U.S. Army Tank Automotive Command in Warren, Michigan; Operations Officer in the Technical Inspector Division of the Department of the Army Inspector General at the Pentagon; Chief Tactical Wheeled Vehicle Division and Associate Director, Tank Automotive Command, Warren, Michigan; Battalion Commander, 1st Battalion, 15th Field Artillery at Camp Stanley, Korea; Staff Officer, Ground Combat Systems Division, Officer of the Deputy Chief of Staff, Research, Development and Acquisition at the Pentagon; Military Assistant and Executive Officer for the Deputy Under Secretary of Defense for Strategic and Theater Nuclear Forces; DIVARTY Commander, 3rd Armored Division Artillery; and the Chief of Staff and Deputy Commander of the 7th Army Training Command in Grafenwoehr, Germany. His combat experience includes staff and command in Vietnam, and DIVARTY command in Operation Desert Shield/Desert Storm.

His military awards include the Defense Superior Service Medal; the Legion of Merit, 1st Oak Leaf Cluster; the Bronze Star Medal, 2d Oak Leaf Cluster; the Meritorious Service Medal, 5th Oak Leaf Cluster; the Air Medal with Numeral 5; the Army Commendation Medal, 3rd Oak Leaf Cluster; the Vietnamese Cross of Gallantry; and the Department of the Army and Secretary of Defense Staff Identification Badges.

General Michitsch and his wife, Sherry, have two children, a son, John, and a daughter, Liesl.

**Deputy to the Commander
U.S. Army Simulation, Training and Instrumentation Command**

JAMES M. SKURKA

James M. Skurka became Deputy to the Commander of the U.S. Army Simulation, Training and Instrumentation Command in May 1993.

He came to STRICOM from U.S. Army Communications-Electronics Command, Fort Monmouth, New Jersey, where he was Director of the C3I Logistics and Readiness Center from November 1987. Prior to his assignment, he served as the Assistant Deputy for Procurement and Readiness, CECOM.

He was awarded a Bachelor of Science degree in Electrical Engineering from Newark College of Engineering and has earned his Master of Science degree from Georgia Institute of Technology as well as a Master of Business Administration degree from New York University.

Mr. Skurka has held increasingly responsible positions in the U.S. Army Materiel Command, culminating in his present assignment. He served as project engineer and team leader in the Production Engineering Directorate of the Army Electronics Command involved in the acquisition, production and logistics support of various airborne communications and electronics items. He was a system engineer and later Chief of the Program Management Division at the Army's Project Manager for Training Devices, Orlando, Florida from 1977 to 1979.

Following that assignment, he returned to Fort Monmouth and served as a Branch Chief in the Engineering Directorate responsible for production management of night vision electronic sensor programs. Mr. Skurka also served as Assistant Deputy for Procurement and Readiness where he oversaw CECOM's procurement, logistics and readiness mission.

Mr. Skurka was conferred the rank of Meritorious Executive in the Senior Executive Service by President Bush in 1991. He received a National Science Foundation fellowship to Georgia Tech and membership in Tau Beta Pi and Eta Kappa Nu engineering honor societies.

He was born in Hazelton, Pennsylvania and is married to the former Laura Mazzella. They have a daughter, Lisa and a son, James, Jr.



Chief of Staff
U.S. Army Simulation, Training and Instrumentation Command

COLONEL JAMES C. KING

Colonel James C. King was born in Old Hickory, TN, on 7 Sep 43. He graduated from the University of South Carolina at Columbia in 1966, receiving a Bachelor of Science Degree in Business Administration. After graduation, he attended OCS and received a commission as a second lieutenant, Quartermaster Corps, in April 1967.

Upon completion of OCS, he was assigned as the S3, 530th Supply and Service Battalion, 12th Support Brigade, Fort Bragg, NC. In 1968, he was assigned to the Republic of Vietnam, MACV, IVth Corps Tactical zone. After a one year tour in Vietnam, Colonel King was assigned to Carlisle Barracks, PA, as the U.S. Army Garrison Assistant S1 and subsequently was selected to be the Aide-de-Camp to the Commandant, U.S. Army War College. While at Carlisle, Colonel King completed his Masters Degree in Business Administration at the University of Shippensburg, PA.



He was reassigned to Vietnam in 1972 for a second tour. There he served as the Chief of Plans and Policy Branch, Headquarters Support Troop Command, United States Army Vietnam. In 1973, he attended his branch Advanced Course at Fort Lee, VA, and upon completion was assigned as the Field Service Officer, 593d Support Group, Fort Lewis, WA. While assigned at Fort Lewis, he commanded the 543d Heavy Material Supply Company for 18 months with subsequent assignments as the Supply Officer, Material Officer, and Executive Officer, 80th Ordnance Battalion.

In 1978, Colonel King attended CGSC at Fort Leavenworth, Kansas. Upon completion of CGSC, he was assigned as the Logistics Operations Officer, DCSLOG USAREUR. While at DCSLOG USAREUR, he received subsequent assignments as Senior Exercise Plans Officer and Chief, Operations Branch. In 1980, he was assigned to Fort Knox, Kentucky, as the Chief of Maintenance, DIO and as the Installation Maintenance Officer, United States Army Armor Center. In 1984, he was assigned to the 24th Infantry Division, Fort Stewart, Georgia, where he commanded the 24th Supply and Transportation Battalion, and the First Forward Support Battalion. After battalion command, he was selected to attend the United States Army War College Class of 1987. Following graduation, Colonel King returned to the 24th Infantry Division and served for two years as the Division G-4. He was selected for colonel-level command and assumed command of the 24th Infantry Division Support Command in June 1989 and deployed the command to Saudi Arabia and Iraq during Operation Desert Shield and Desert Storm.

After command, Colonel King was assigned to the Center for Strategic Leadership at the United States Army War College. In July 1993, he was selected by the Commandant to be the 40th Secretary of the United States Army War College. Currently, Colonel King is serving as the first chief of staff for the United States Army Simulation, Training and Instrumentation Command.

Colonel King's awards include the Legion of Merit with oak leaf cluster, Bronze Star Medal with three oak leaf clusters, Meritorious Service Medal with three oak leaf clusters, Air Medal, ARCOM with two oak leaf clusters, AAM, the Southwest Asia Campaign Medal and the Vietnam Campaign Medal with seven campaigns.

Colonel King and his wife, Janet, have three children: Carrie, a junior at the University of Georgia, Matthew, a freshman at the University of Central Florida and Andrew, a sophomore, at Oviedo High School.

STRICOM TODAY

Activated in August 1992, the Simulation, Training and Instrumentation Command (STRICOM) provides training and test simulation, simulators, target and instrumentation products and services which are used to develop and sustain warfighting skills for America's Army.

STRICOM's mission includes the creation of a synthetic environment to evaluate concepts and support requirements definition, to support materiel development, test and evaluation, and to integrate the DIS synthetic environment in support of the **Louisiana Maneuvers (LAM), Battle Labs and Research, Development and Engineering Centers.**

Responsibilities include the cradle to grave life cycle acquisition beginning with technology based programs and following through with each phase of the acquisition process through support and disposal.

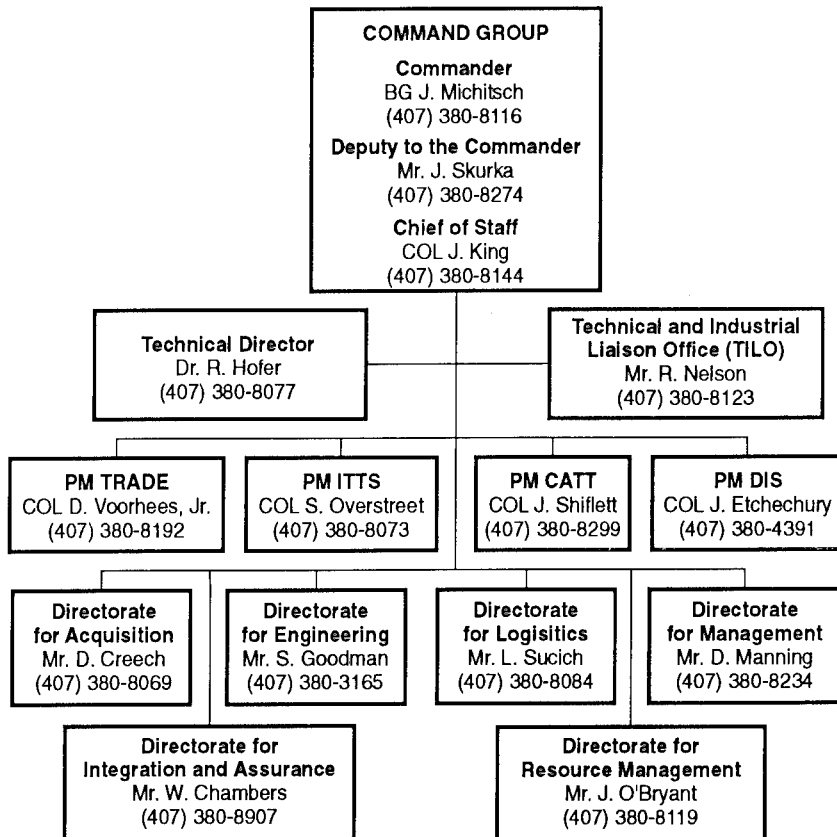
STRICOM is a leader in acquisition reform promoting "concept to production" techniques which save the Army time and money. One acquisition initiative is the DoD acquisition pilot program: **Fire Support Combined Arms Tactical Trainer (FSCATT).** This program will become a model in "acquisition reform."

Our vision is to be recognized and sought out as the world leader in simulation, training and test technologies and systems, instrumentation and synthetic environments and consistently excel at adapting to our external and internal customers' needs and meeting their expectations at a competitive cost.

ALL BUT WAR IS SIMULATIONS

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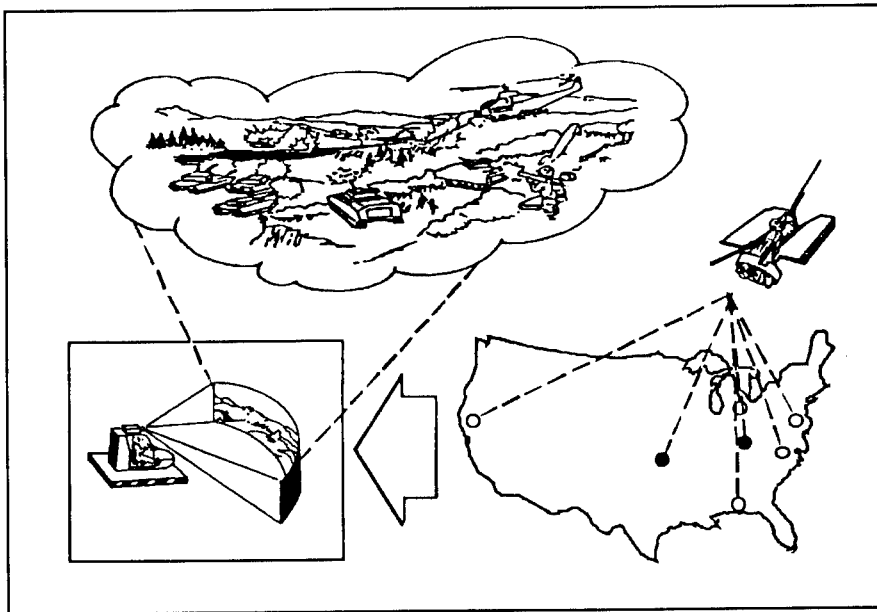
*Per Carl Drushell
STRICOM
DSN 960-4348*



MISSION

- Technology base for simulation and training
- Acquire:
 - Training devices/simulators/simulations
 - Instrumentation
 - Targets
 - Threat simulators
- Life cycle sustainment support of fielded products
- DoD focal point for Distributed Interactive Simulation (DIS) environment and Aggregate Level Simulation Protocol (ALSP)
- Operate aerial and ground targets for test and training
- Quality support to the soldier

BATTLEFIELD DISTRIBUTED SIMULATION - DEVELOPMENTAL (BDS-D)



The **Battlefield Distributed Simulation-Developmental (BDS-D)** system serves as the showcase for the Army's distributed interactive simulation capability linking government, university, and industry sites in an accredited, real-time, warfighter-in-the-loop simulation of the joint and combined battlefield. It will support materiel development, combat development, and operational testing by providing a cost effective alternative to proof-of-principle demonstrations, field tests, and operational evaluations in all phases of force development. The program approach addresses interoperability of systems including simulations for command and control, simulators for weapon systems, actual operational systems, and Computer Generated Forces (CGF). An open system design architecture, with a common set of protocols and standards to achieve interoperability of simulations, will be the keystone of the program development. The BDS-D will also provide a mechanism to continue research and development of networked distributed simulations and simulators for use in supporting contingency planning; in developing and testing doctrine and organization; in training and leadership development; in development of materiel concepts and requirements; and in designing field tests.

TECHNOLOGY BASE PROGRAM

STRICOM has the responsibility for maintaining a technology base for simulation, training devices and instrumentation (both test and training). Coordinated efforts with the Navy, Marine Corps, and Air Force develop sources of technology while avoiding duplication of effort and maximizing the use of resources available in laboratories of other government agencies, universities, and private industry.

STRICOM utilizes a **Broad Agency Announcement (BAA)** to communicate with industry and academia the specific technology areas of interest. The BAA lists the global areas of interest, allowing the technology developer to address the specific approach. Research areas presently included in BAA are provided below:

- **Networked Battlefield Distributed Simulation Technology** – Supporting interactive networked simulators to train combined arms forces and provide for test and evaluation of future weapons systems, tactics and doctrine.
- **Computer Generated Forces (CGF)** – Developing and demonstrating methods and computational approaches to efficiently portray and reconfigure critical behaviors and essential characteristics of intelligent semi-automated forces for distributed interactive simulations.
- **Combat Training Centers/Tactical Engagement Simulation (CTC/TES) Technology** – Investigating potential solutions to meet future TES requirements for the next generation of weapon systems with extended engagement ranges, adverse weather operations and smart munitions.
- **General Linkage of Simulations/Simulators** – Developing and demonstrating capabilities to link interactive simulations with other simulations and simulators to allow individuals and combat teams/units to prepare for warfighting by participating in simulated combined arms battles.
- **Speech Recognition and Speech Synthesis Technology** – Critical to the human-computer interaction in DIS, is the integration of speech recognition and speech synthesis capabilities into semi-automated forces. Required capabilities include large vocabulary with high perplexity, continuous speech, spontaneous speech, speaker independent recognition, robustness to background noise, and real-time. This technology is required to be utilized in numerous applications such as Distributed Interactive Simulation (DIS), WARSIM 2000, and Combined Arms Tactical Trainer (CATT)/Close Combat Tactical Trainer (CCTT).
- **Dismounted Infantry Integration** – Create a multi-sensory real-time simulation of the battlefield that immerses the individual soldier in three-dimensional geographical space utilizing virtual reality (head-mounted stereoscopic displays, 3-D audio systems position tracking devices, and innovative input devices such as instrumented gloves). Networked virtual reality devices will integrate individual soldiers into distributed interactive simulation synthetic environments.

The present BAA is being expanded to include testing instrumentation technology areas of interest. Interested researchers are encouraged to obtain copies of the BAA from STRICOM, AMSTI-EC (Mr. Carl Driskell), 12350 Research Parkway, Orlando, FL 32826-3276.

CONTRACTOR LOGISTICS SUPPORT

STRICOM is the central manager for **Contractor Logistic Support (CLS)** for all AMC supported **Training Devices, Simulators and Simulations (TDSS)**. CLS is defined as "The planned life cycle use of a contractor to provide all logistics services necessary to keep the equipment operational. Under the CLS concept, logistics services include engineering services, configuration management, technical data management, supply, new equipment training and all maintenance." This initial concept has been expanded to include, as required, such services as operators, instructors, role players, facilities management and movement of devices to meet the needs of the user in the field or school.

CLS of TDSS is moving towards a turnkey operation, such as exists with the **Simulation Network (SIMNET)** and the **Area Weapons Scoring System (AWSS)**. In both cases, the users are only required to schedule and attend training. With SIMNET, the contractor manages and maintains the building, conducts briefings and tours, operates and controls the exercise, maintains the equipment, and even provides the enemy. For AWSS, a mobile system, the contractor transports, sets up, operates, scores, maintains, and stores the systems.

Currently, there are more than sixty (60) different TDSS, ranging in quantities of one (1) **Signal Intelligence/Electronic Warfare Equipment Operator Simulator (SEOS)** to one hundred thousand (100,000) **Multiple Integrated Laser Engagement Systems (MILES)** under six CLS contracts. Twenty-one (21) other unique TDSS, that are in development or production, will be added to existing contracts over the next five years.

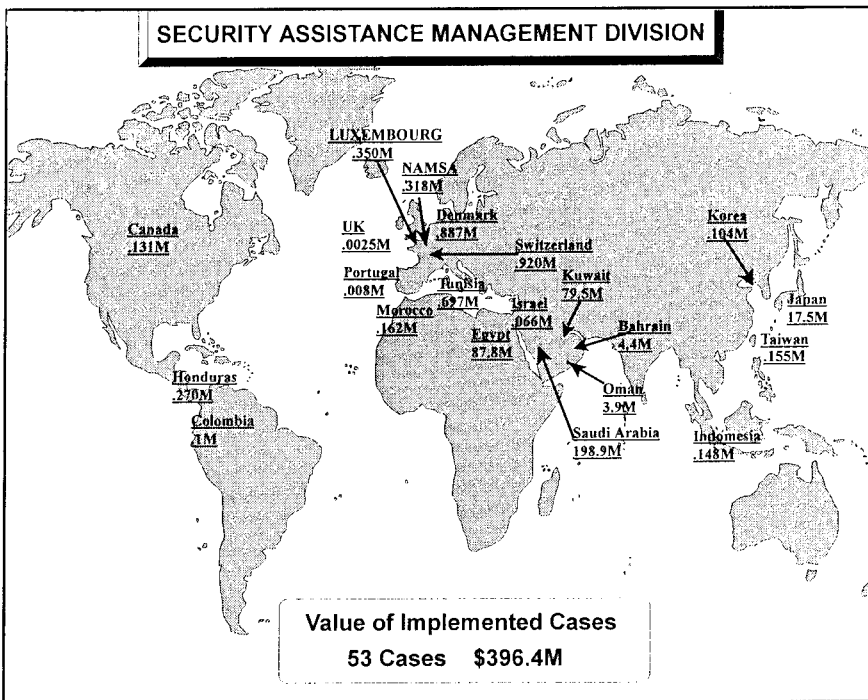
The consolidation goal is to reduce the CLS contracts into four major umbrella contracts supporting all TDSS worldwide. The devices are grouped into the following families:

- Battlefield Mobility/Target Acquisition
- Tactical Engagement and Ranges
- Command/Control/Communications and Signal Intelligence
- Gunnery and Maintenance

These four families are currently in existence, and have saved the government significant resources in both manpower and funds.

FOREIGN MILITARY SALES

STRICOM has experienced rapid growth during the last 3 years in foreign sales of many proven training systems and devices. In addition, foreign governments are showing interest in systems currently in development, which will employ the latest technology and operate in a combined arms environment. The business forecast for STRICOM projects continued growth in training device sales as well as potential growth in threat simulators and targets.



COUNTRIES SUPPORTED - ACTIVE CASES

BAHRAIN: Unit Conduct of Fire Trainer (UCOFT), Weaponner and Precision Gunnery Training System (TOW) - PGTS.

CANADA: JANUS

DENMARK: Stinger Fly to Buy (FTB) Services, Radio Controlled Miniature Aerial Targets (RCMAT)

EGYPT: M1A1/M60A3 Tank Maintenance Trainers and Videodisc Gunnery Simulator (VIGS), AH-64 Combat Mission Simulator (CMS), M1A1 Tank Conduct of Fire Trainers (UCOFT), Thermal Targets & M60 Tank M34 Driver Trainers.

ISRAEL: Multiple Integrated Laser Engagement System (MILES)

ITALY: Small Arms Trainers (RIFLE)

INDONESIA: Multiple Integrated Laser Engagement System (MILES)

JAPAN: STINGER Fly to Buy (FTB) Services, Hawk Lot Acceptance Test Services, PATRIOT Annual Service Practice, HAWK Annual Service Practice

JORDAN: MQM-107 Flight Services

KOREA: Corps Battle Simulation (CBS), MQM-107 Targets, Ballistic Aerial Targets System (BATS).

KUWAIT: Platoon Conduct of Fire Trainers (PCOFT), Multiple Integrated Laser Engagement System (MILES), Precision Range Integrated Maneuver Exercise (PRIME), Maintenance Trainers, Computer Based Training System (CBTS), Tank Driver Trainer, Tank Weapon Gunnery Simulation Systems (TWGSS), Brigade/Battalion Battle Simulation (BBS) and Patriot Targets.

MOROCCO: Ballistic Aerial Targets System (BATS)

NATO: M60A1/3 Videodisc Gunnery Simulator (VIGS) and Maintenance Panel Trainer

OMAN: M60A3 Tank Videodisc Gunnery Simulator (VIGS), M60A3 Maintenance Trainers and Unit Conduct of Fire Trainer (UCOFT)

PORTUGAL: STINGER Fly to Buy (FTB) Services

SAUDI ARABIA: Light Armor Vehicle (LAV) Devices: PGTS (TOW), Videodisc Gunnery Simulator (VIGS), and Multiple Integrated Laser Engagement System (MILES). M60A3 Tank Devices: Maintenance Trainer, Thermal Targets and Videodisc Gunnery Simulators (VIGS), UH-60 Desert Hawk Flight Simulator. M1A2 Tank Devices: Platoon Conduct of Fire Trainers (PCOFT), Unit Conduct of Fire Trainer (UCOFT), Maintenance Trainers, Videodisc Gunnery Simulator (VIGS), Tank Driver Trainers, Computer Based Trainers and MILES. M2 Bradley Unit/Mobile Conduct of Fire Trainers (U/MCOFTS), M2 Bradley MILES, M2 Bradley Maintenance Trainers and Patriot Targets.

SWITZERLAND: STINGER Fly to Buy (FTB) Services

TAIWAN: Ballistic Aerial Targets (BATS)

TUNISIA: GUARDFIST II and M60A3 Tank Videodisc Gunnery Simulator

UNITED KINGDOM: Contractor Logistics Support (CLS) Services

Project Manager, Combined Arms Tactical Trainer

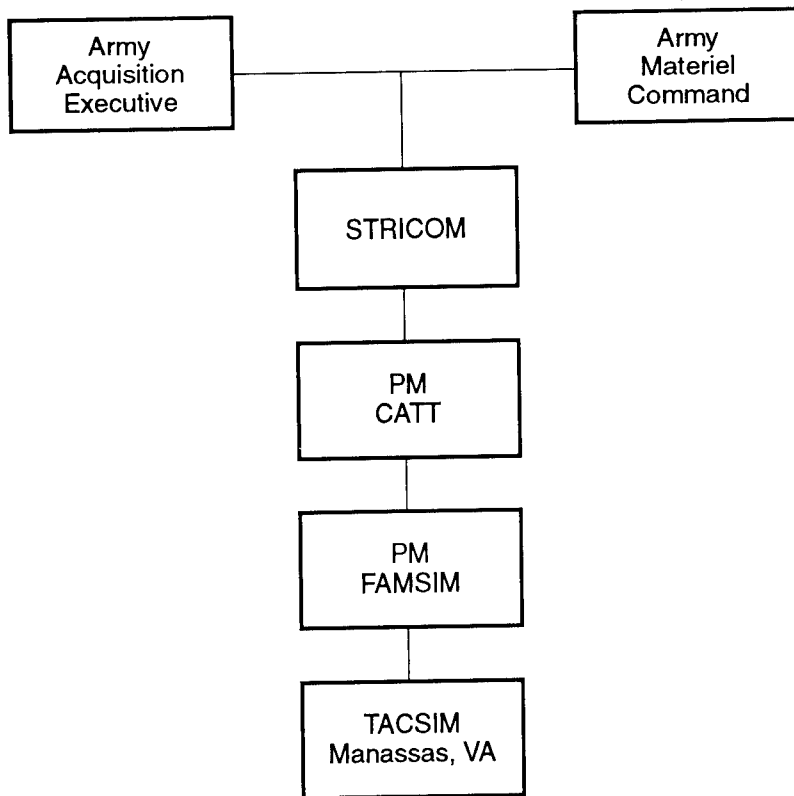
COLONEL JAMES E. SHIFLETT



Colonel Jim Shiflett was born in Montgomery, Alabama, March 1, 1947. He obtained a Bachelor of Arts degree in Economics from Auburn University, graduating in 1969 as a distinguished military graduate with honors. Subsequently, he was commissioned into the Army as a Second Lieutenant, completed the Armor Officer's Basic Course, and was assigned to the 3rd Battalion, 33rd Armor, 3rd Armored Division, West Germany; initially serving as a tank platoon leader, company executive officer, and company commander.

COL Shiflett served in a variety of command and staff positions. His assignments include serving as the M60A3 test project officer on the Armor and Engineer Board, XM1 Program Management Office, 3rd Battalion, 63rd Armor as the Executive Officer and Division Deputy Inspector General 3rd Infantry Division, Chief of the Land Battle Test Bed, SIMNET Project Officer, Commander of the 1st Battalion 81st Armor Regiment, SIMNET Program Manager at DARPA, and most recently as the Technical Director for the Defense Modeling and Simulation Office. During this time, COL Shiflett also completed the Armor Officer's Advanced Course, the Command and General Staff College. He attended the Industrial College of the Armed Forces, and obtained a Master of Science degree in Industrial Management from Georgia Institute of Technology.

COL Shiflett is currently serving as the Project Manager for Combined Arms Tactical Trainer. His awards and decorations include the Defense Superior Service Medal, the Meritorious Service Medal with Oak Leaf Cluster, the Army Commendation Medal with Oak Leaf Cluster, and the Army Achievement Medal with Oak Leaf Cluster.



MISSION

- Develop and field networked simulators for training collective battlefield tasks
- Develop and field commander and staff "war game" simulations

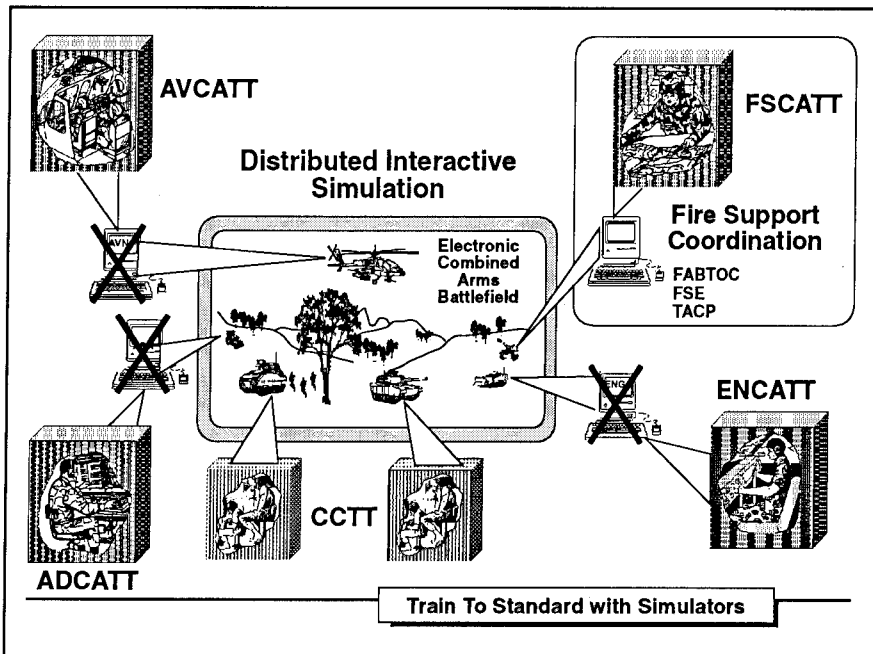
PROJECT MANAGER FOR COMBINED ARMS TACTICAL TRAINER (PM CATT)

The Project Manager for Combined Arms Tactical Trainer is responsible for the development and acquisition of simulators and simulations under the **Combined Arms Tactical Trainer (CATT)** umbrella and the **Family of Simulations (FAMSIM)**.

COMBINED ARMS TACTICAL TRAINER (CATT)

CATT is a group of fully interactive networked simulators and command, control and communications work stations, replicating the vehicles and weapons systems of a company/team and its supporting combat, combat support, and combat service support elements, operating on a simulated real-time battlefield.

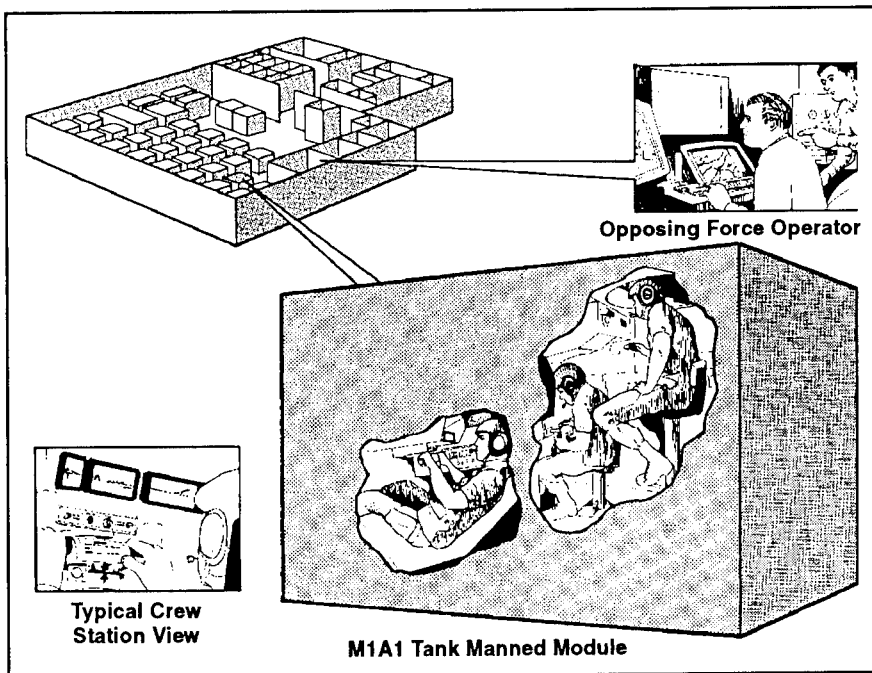
The initial CATT effort is the **Close Combat Tactical Trainer (CCTT)**. Follow-on programs include **Aviation Combined Arms Tactical Trainer (AVCATT)**, **Air Defense Combined Arms Tactical Trainer (ADCATT)**, **Engineer Combined Arms Tactical Trainer (ENCATT)** and **Fire Support Combined Arms Tactical Trainer (FSCATT)** Phase 2.



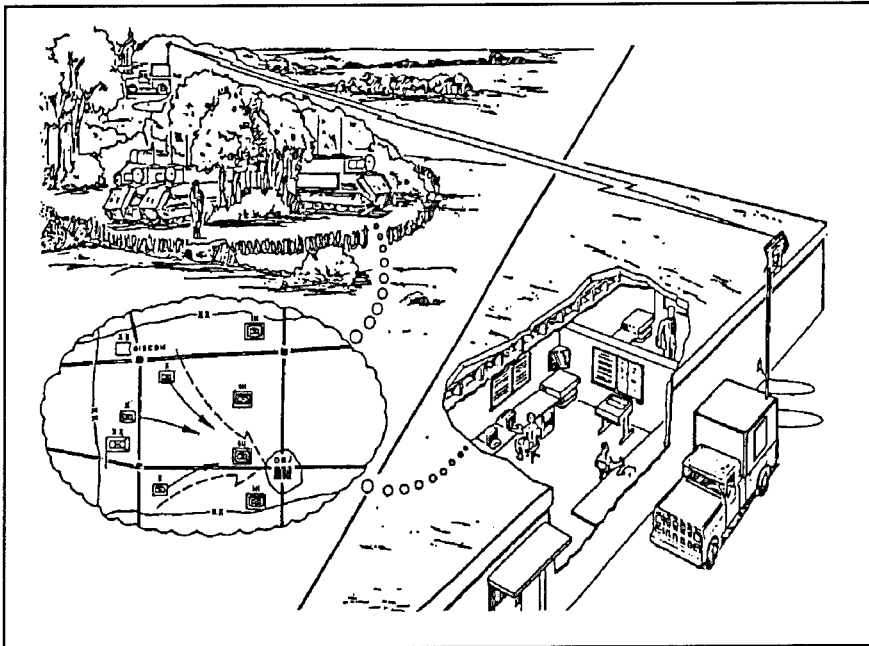
CLOSE COMBAT TACTICAL TRAINER (CCTT)

CCTT includes

- Networked man-in-the-loop modules
- Distributed processing
- Visual based battlefield
- Combined arms/collective training
- Force-on-force free play simulation
- Comprehensive after action review
- Fixed site and mobile versions



PRODUCT MANAGER, FAMILY OF SIMULATIONS (PM FAMSIM)

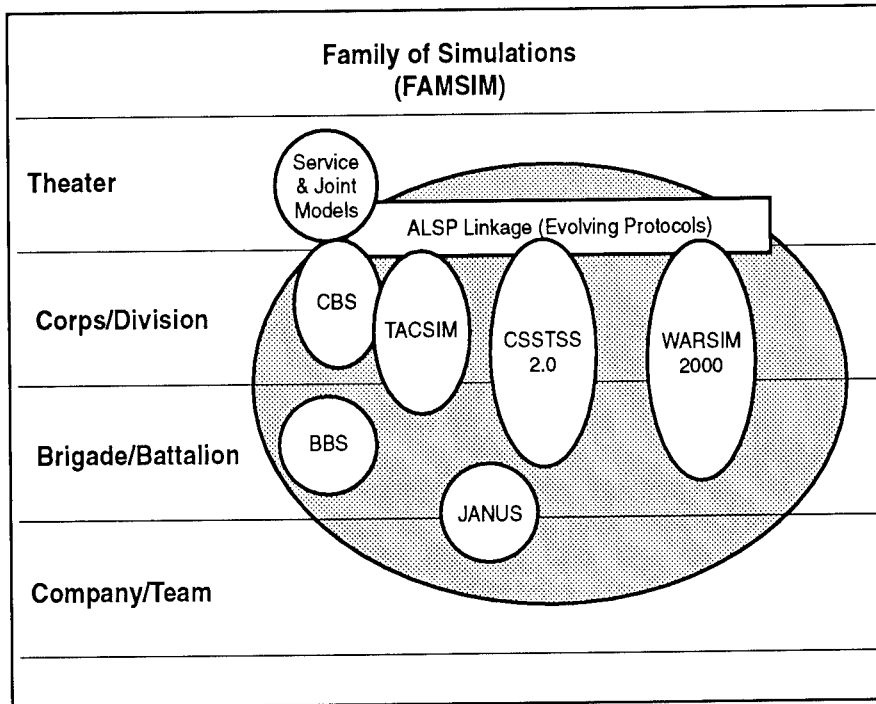


The PM FAMSIM is responsible for all combined arms simulations and computer simulations under the **Family of Simulation (FAMSIM)** umbrella. FAMSIM systems support Command and Control Training from platoon through theater level.

Corps Battle Simulation (CBS), **Brigade/Battalion Battle Simulation (BBS)** and **Combat Service Support Training Simulation System (CSSTSS)** provide man-in-the-loop command and control training for commanders and their staffs in a realistic stress filled environment. An additional simulation, **JANUS**, provides the opportunity for company/team leaders to exercise fighting skills of their platoon leaders in a computer driven environment.

Warfighters' Simulation (WARSIM) 2000 – the Army's next generation battle simulation – is a major simulation effort managed by PM FAMSIM. WARSIM 2000 will utilize state-of-the-art software design and architecture, provide functionality scaleable to the training audience, reduce training overhead, and be capable of interface with virtual and live simulations.

PM FAMSIM also manages a field office responsible for Tactical Simulation (TACSIM) program efforts. TACSIM is a system that provides an interactive computer-based simulation to support the Intelligence training audience. The primary objective of the TACSIM project is to ensure the existence of a common intelligence sensor simulation for 1) stimulating all Army systems requiring raw data from U.S. reconnaissance assets, 2) training intelligence staffs and analysts from division through theater levels with realistic sensor output, and 3) supporting DoD special studies/projects.



PM FAMSIM also serves as the Department of Defense Executive Agent for Aggregate Level Simulation Protocol (ALSP) development efforts. ALSP provides a protocol-based initiative for constructive simulations which model units at the "aggregate" level. ALSP provides a mechanism for operation of Army, Air Force, Navy, Marine Corps and joint models on a common battlefield.

**Project Manager,
Distributed Interactive Simulation
COLONEL JAMES ETCHECHURY**

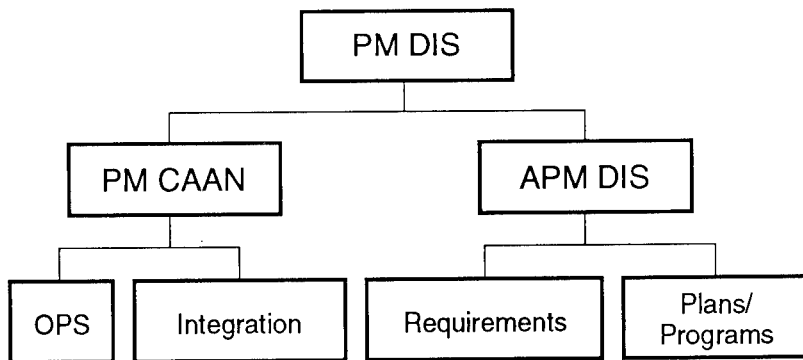
Colonel Jim Etchechury was born in Bakersfield, California. He graduated from the United States Military Academy and was commissioned a second lieutenant of Armor in 1970.



Colonel Etchechury has served in a variety of command and materiel development positions in the Army, Navy, and Joint Staff. His assignments include: Command and staff positions in Armor battalions in Europe and CONUS; Physicist, Pershing PMO; R&D Coordinator, USA Missile Laboratory; Plans Team Chief, Operations Group, NTC; Operations Officer (S-3), 1st Battalion, 73d Armor; Test Operations Director, USN SPAWAR; Commander, 1st Battalion, 63d Armor; and Weapons Systems Evaluator, Joint Staff (J8).

Colonel Etchechury has completed the Armor Officer's Advanced Course, the Command and General Staff College, the Program Management Course, and the Industrial College of the Armed Forces. He was awarded the Master of Science degree in Engineering Physics by the Naval Postgraduate School.

His awards and decorations include the Legion of Merit, the Defense Meritorious Service Medal, the Meritorious Service Medal, and the Army Commendation Medal.



MISSION

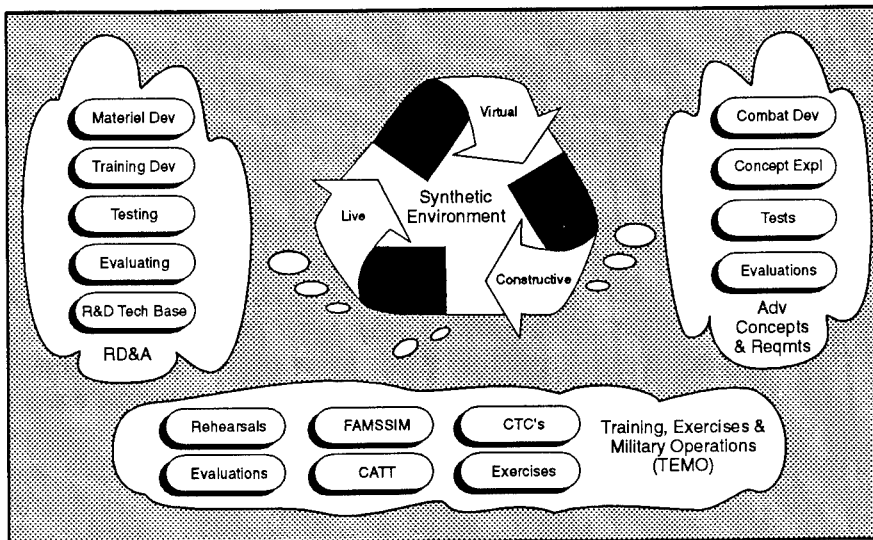
- Perform as technical manager for Distributed Interactive Simulation (DIS)
 - Army mission
 - Serve as DoD lead
 - Establish modernization plan and funding program
 - Conduct coordination with functional managers and users
 - In partnership with TRADOC, develop strategy for future DIS application for the Army of 2003
- Plan for the resource modernization of the total, integrated Synthetic Environment
- Plan for and educate the Army and other Services, academia, and industry across all DIS fronts!
- Integrate Army's effort to ensure emerging technologies are strategized to support future training, operations, and RD&A within the synthetic environment.
- Serve as the single Army agency responsible to ensure that all Army users (RD&A, Training, Military Operations, LAM, Battle Labs) are incorporated into the modeling and simulation modernization effort to electronically link the entire synthetic environment spectrum supporting all missions.

The **Project Manager, Distributed Interactive Simulation (PM DIS)** duties include development and supervision of the Modernization Program of the DIS synthetic environment. PM DIS is responsible for planning, coordinating, and controlling the concept formulation, design, development, customer interface, and initial sustainment of those elements which together are called the Synthetic Environment. Explicit in this modernization is developing and managing the funding documents by which this modernization is possible. Included are networked combined arms simulators (Virtual Simulation), analytic models and/or war games (Constructive Simulation) and instrumented ranges and field exercises (Live Simulation). The PM provides coordination, and support to the materiel development and acquisition activities of the PMs CATT, TRADE and ITTS of STRICOM, as well as mapping out the future technical vision for the DIS domains of Training, Military Operations and Research, Development and Acquisition (which includes the Test and Evaluation sub-domain). The PM assures the cost effective integration of maturing technologies from the various users of Distributed Integration of maturing technologies from the various users of Distributed Interactive Simulation, such as the ATDs, Battlelabs, LAM and system PM/PEOs as well as research and development system actions of CATT and FAMSIM programs.

The **Product Manager, Combined Arms Assessment Network (PM CAAN)** manages the scheduling and utilization of the **Combined Arms Assessment Network (CAAN)**. This responsibility includes the management of both the technical improvements and the operational applications at the Army's core DIS facilities, as well as acting as the single point of contact for coordinating Battle Lab, RDEC, and other customer requirements. PM CAAN is responsible for the integration of LAMTF and Battle Lab acquisition and R&D, and the use of simulation activities in combat development, materiel development, training development and test and evaluation. PM CAAN is also responsible for the management and execution of customer experiments within the CAAN. A major part of this responsibility is the management of customer needs – this includes education of the user community, translating their needs into functional and technical requirements, and leveraging these efforts in the DIS Modernization process.

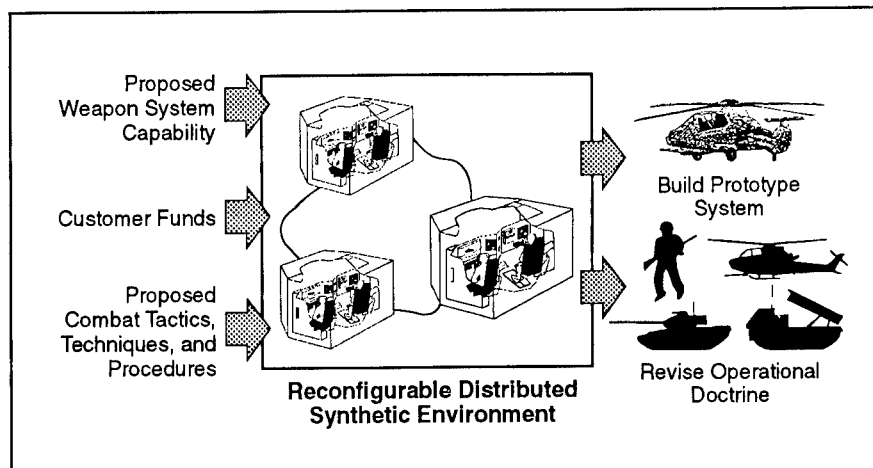
BUILDING, TESTING, BUYING, FIGHTING DIS SYNTHETIC ENVIRONMENT

A time and space coherent representation of a battlefield environment measured in terms of human perception and behavior of those interacting in the environment.



SIMULATE BEFORE AND DURING . . .

The Army's networked simulation laboratory used to evaluate new concepts with the warfighter-in-the-loop.



**Project Manager, Instrumentation, Targets and
Threat Simulators**

COLONEL STEPHEN S. OVERSTREET

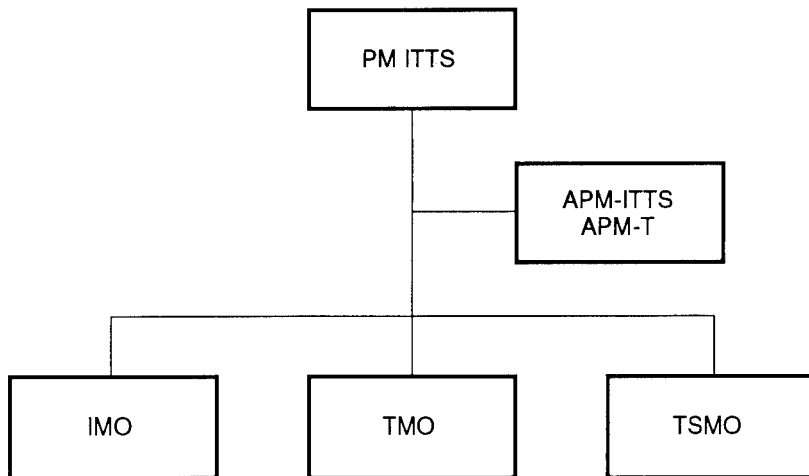
Colonel Stephen S. Overstreet was commissioned a second lieutenant of Armor after graduating from the U.S. Military Academy in 1969.

Colonel Overstreet has held a variety of Command, Staff, and Program Management positions.

He came to STRICOM from the Army Tank-Automotive Command where he served as Chief, Command Assessment Division and as Chief, Advanced Systems Development Division. Between 1988 and 1991, he served as Product Manager, Combined Arms Training Systems under PM TRADE and as Manager of the Project Office for the Combined Arms Assessment Network (PO CAAN). He is currently the Project Manager, Instrumentation, Targets and Threat Simulators (PM ITTS).



He is a graduate of the Armed Forces Staff College. Colonel Overstreet holds a Bachelor of Science degree from the U.S. Military Academy and a Masters of Business Administration from Long Island University.



MISSION

- Manage the research, development, design, acquisition, fielding, modification, and capability accounting of major instrumentation, targets and threat simulators required for technical and operational test and evaluation for the United States Army.
- Operate and maintain targets for test and training.

MAJOR PM ITTS INITIATIVES

- Provide discipline to the acquisition of ITTS
- Support Validation and Accreditation of Targets and Threat Simulators
- Exploit the synergism among Instrumentation, Targets and Threat Simulators
- Execute the Long Range Planning System (LRPS) for Instrumentation, Targets and Threat Simulators
- Support Tri-Service T&E Reliance Process
- Support leveraging of T&E and training technology/resources
- Support augmentation of Distributive Interactive Simulation (DIS) with the T&E community

PM ITTS is structured with 3 management offices that function as project managers. Additionally, PM ITTS is responsible for the augmentation of Distributive Interactive Simulation (DIS) with ITTS programs, management of validation for targets and threat simulators, ITTS long range planning and management of the Army Test Facilities register (TEST FACS).

The **Instrumentation Management Office (IMO)** is responsible for the development and acquisition of major instrumentation for the Army's developmental and operational test ranges. Major instrumentation is generally defined as those efforts that are not system specific, may have joint applications, have high visibility or a large dollar value (generally a total acquisition cost in excess of \$5M). Additionally, manages efforts funded by **Central Test and Evaluation Investment Program (CTEIP)** and the **Resource Enhancement Program (REP)**.

The **Targets Management Office (TMO)** is located at Redstone Arsenal, Alabama. This office is responsible for the management of aerial and ground target development, operation and maintenance in support of Army test and evaluation (T&E) and training. TMO also manages foreign materiel in support of testing.

The **Threat Simulator Management Office (TSMO)** located at Redstone Arsenal, Alabama, develops and fields realistic threat environments for developmental and operational test and evaluation of Army tactical systems, and when practical, training of Army and other service forces.

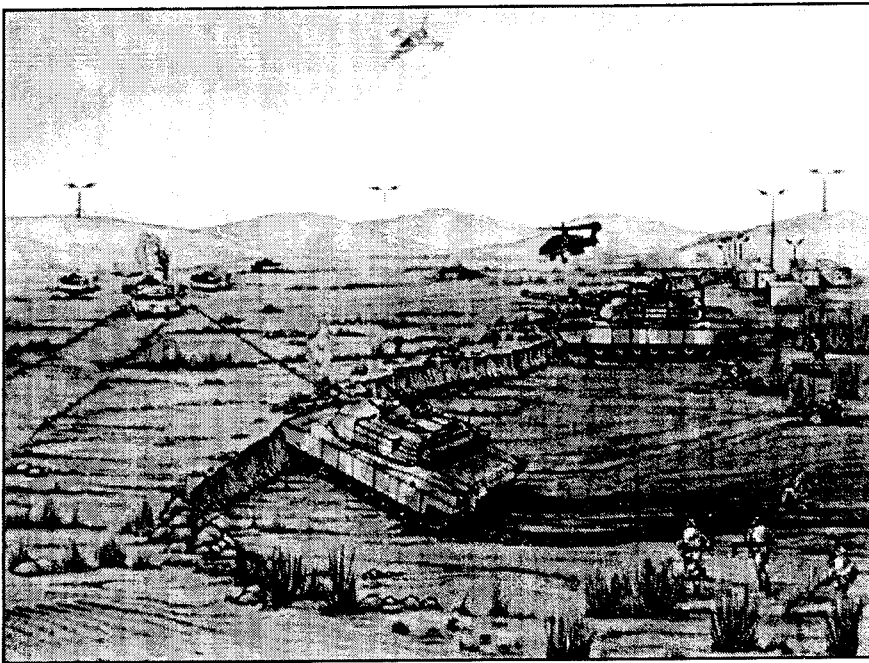
HIGHLIGHTS OF ITTS PROJECTS

INSTRUMENTATION

Army Major Instrumentation efforts are directed to ensure that the Army and DoD have the capability to test and evaluate complex high technology weapon systems. As new technologies are developed and integrated into weapon systems, new and innovative methods of test and evaluation must be available in advance of the weapon systems to be tested. Testing requirements are shifting away from weapon specific instrumentation and moving toward advanced generic capabilities that have application to whole families of systems. Perhaps the greatest challenge will be the efficient and cost effective use of test resources, ranges, test weapons, instrumentation, simulation and personnel. One goal of the Army instrumentation effort is to develop and maintain the capability to test and evaluate the next generation and future generations of weapons systems to assure that impartial, unbiased evaluations are conducted to support Army developmental, and operational testing and training. In addition, several efforts are underway to link line testing with virtual and constructive testing via a Virtual Proving Ground.

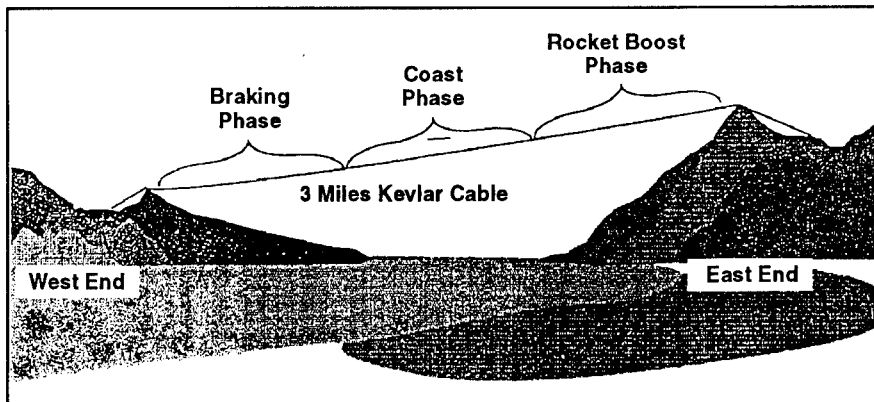
The **Fire Support Automated Test System (FSATS)**, used in support of technical and operational testing, simultaneously monitors many communication networks to reduce and integrate resulting data into a single analysis database. The system consists of large (mobile, truck mounted) and small (portable) nodes. The FSATS was originally designed to support **Advanced Field Artillery Tactical Data System (AFATDS)** testing; however, efforts are underway to broaden the customer base in testing of all field artillery systems, and potential training applications. The IOC is 2QFY95.

Mobile Automated Instrumentation Suite (MAIS) will be a fully mobile instrumentation system that is capable of monitoring a combined arms force structure composed of aviation, infantry, field artillery, air defense artillery and combat support elements up to a total of 1,830 players. It will interface with existing and emerging weapon systems, provide Time/Space/Position Information (TSPI) for all units and perform Real-Time Casualty Assessment (RTCA) for direct/indirect fires and area effects weapons. MAIS is currently in Engineering Manufacturing Development and has a projected initial operational capability (IOC) of second quarter 1997. MAIS is projected to be DIS compatible in the future.



AERIAL CABLE TEST CAPABILITY

In June 1994, PM ITTS successfully fielded the Aerial Cable Test Capability at the White Sands Missile Range, New Mexico. It provides a unique test capability for performing live fire weapons tests in support of development and operational testing. The facility consists of a 3 mile long 2.5" Kevlar diameter cable suspended from 50 to 1,000 feet above the ground between two mountain peaks. In the near term, the cable will handle targets up to 6,000 pounds and be capable of speeds up to 250 knots with a planned long term projection of being able to handle 20,000 pound targets. This project was designed, developed and built as an in-house government effort and is currently available for test support.

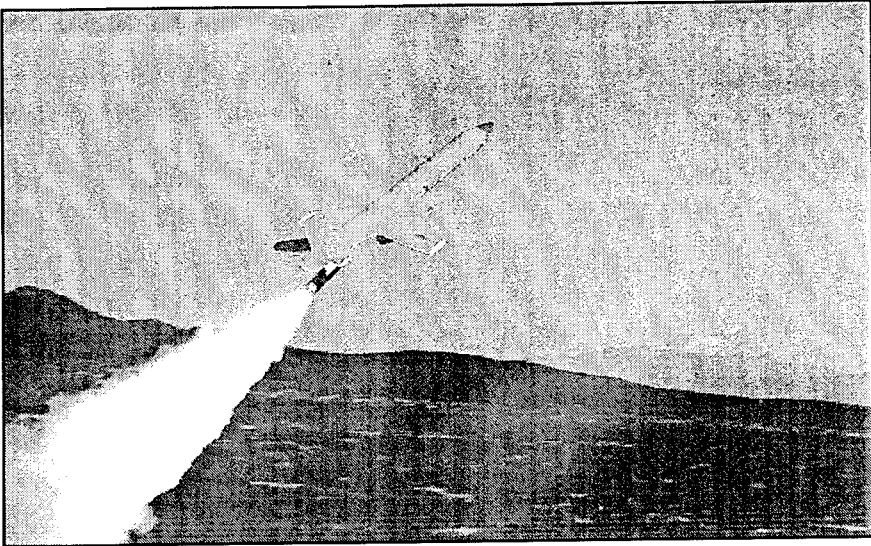


TARGETS

Economically affordable, expendable devices designed to represent as closely as practical the aerial and ground threat. Targets are for tracking and live fire missions in support of weapon system testing and troop training exercises and are designed to be engaged and possibly destroyed. Devices may be required to simulate all or selected threat system signatures and physical characteristics.

AERIAL TARGETS

Fixed wing systems encompass a family of vehicles that cover a range of capabilities from medium to high speed, on-the-deck to medium altitude flight, and maneuvers representative of threat aircraft. These include the Variable Speed Training Target (MQM-107E) which is used in Army air defense training and missile systems development, quality assurance, and lot acceptance tests.



GROUND TARGETS

The new generation of ground-to-ground and air-to-ground weapons which employ intelligent seekers require ground targets which have visual, infrared, and radar signatures that replicate the threat. The T&E requirement for stressing these weapons requires that ground targets look and perform equivalent to the threat. The TMO manages the development, prototype fabrication, and validation of ground targets to meet these requirements. It is also responsible for the centralized management and control of foreign assets which have been released for use in T&E.



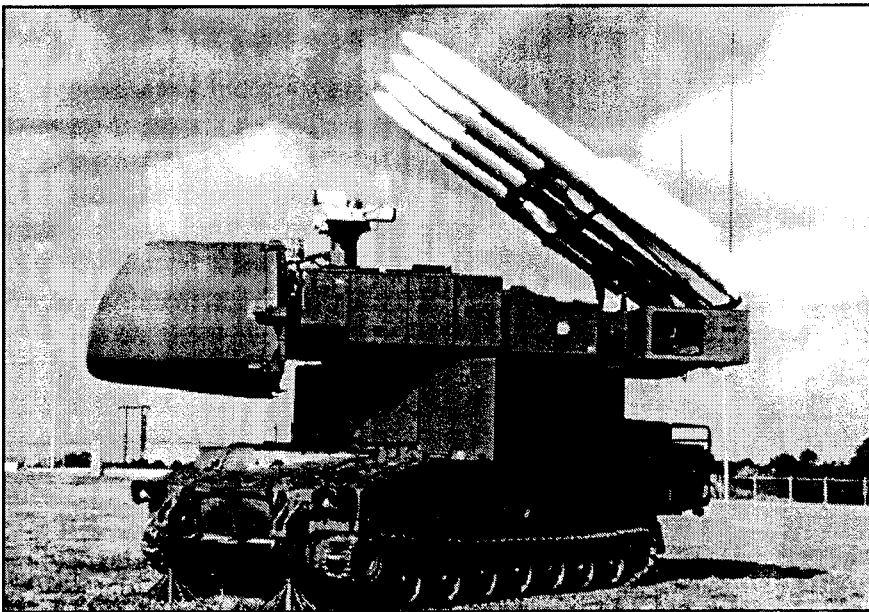
THREAT SIMULATORS

The objective of the Threat Simulator Program is to develop and field a capability to represent a realistic threat environment for developmental and operational testing of Army tactical systems, and when practical, training of Army and other Service forces via simulators, simulations, or actual threat equipment.

The XM-11S, developed by PM-ITTTS, U.S. Army Simulation, Training and Instrumentation Command (STRICOM), is used for:

- Test and Evaluation of Electronic Warfare Equipment
- Development of Electronic Combat Tactics
- Training of Aircrews in Electronic Warfare

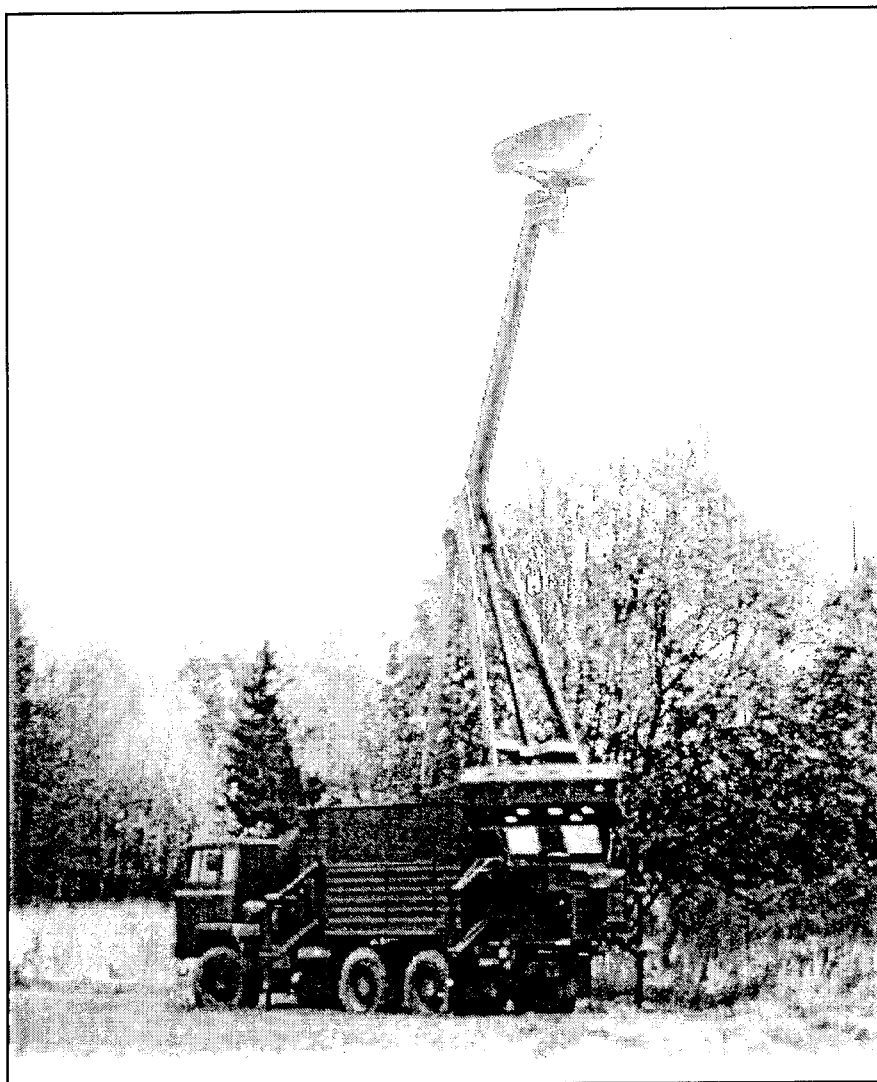
The XM-11S simulates a threat Surface-to-Air Missile and Radar System. The XM-11S provides air defense for low to medium altitude targets. It has the capability to search, acquire, and track targets. There are currently two systems fielded.



The Target Acquisition Radar (TAR) is a threat simulator based on the purchase of a Non-Developmental Item (NDI) which integrates battlefield acquisition data and command, control, and communications (C3) capabilities.

This system is the first acquisition by the Army Threat Simulator program of a confirmed Rest-of-World (ROW) threat which has capabilities for short range tactical battlefield scenarios primarily affecting Army aviation.

The fielding of this capability within the tactical forces structure represents a significant force multiplier to correctly mirror threat effectiveness in a battle environment.



**Project Manager,
Training Devices**

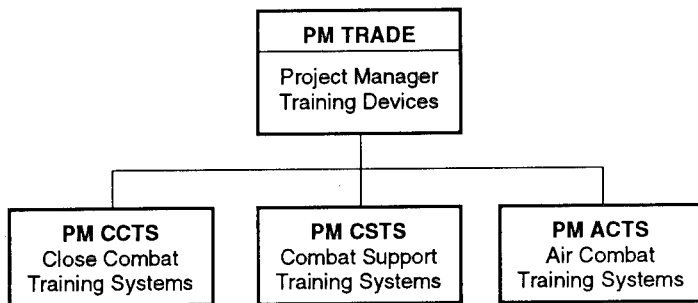
COLONEL DELLOYD VORHEES, JR.



Colonel DeLloyd Voorhees, Jr. was commissioned a Second Lieutenant of Infantry after graduation from Officer Candidate School in October 1969. After an initial assignment with the 10th Special Forces Group, he was assigned to Vietnam where he served as an Advisor to a Regional Forces Battalion, then Aide-de-Camp to the Corps Commander. Following Vietnam, he held command and staff positions in both Light and Mechanized Infantry Battalions at Fort Benning, Georgia and

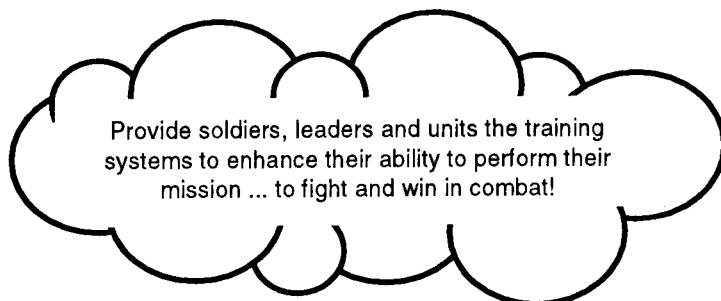
Goeppingen, Germany. In 1980 he was assigned to Fort Leavenworth, Kansas where he began his materiel acquisition experience as a combat developer, trainer and prototype team chief for the Army Training Battle Simulation System (ARTBASS). Subsequently, he served as R&D Coordinator, Executive Officer, and Product Manager for Ballistic Missile Defense (BMD) Space Payloads, U.S. Army Strategic Defense Command and Product Manager, Combined Arms Training Systems, PM TRADE, Orlando, Florida. Colonel Voorhees, a member of the Army Acquisition Corps, holds a Bachelor of Arts Degree in Political Science from Columbus College, and a Master of Science in Systems Management from the University of Southern California. He is also a graduate of the Army War College.

His awards and decorations include the Bronze Star, Meritorious Service Medal, with two Oak Leaf Clusters, Air Medal, First through Fifth Award, Army Commendation Medal, Combat Infantry's Badge, Parachute Wings, Ranger Tab and Special Forces Tab.



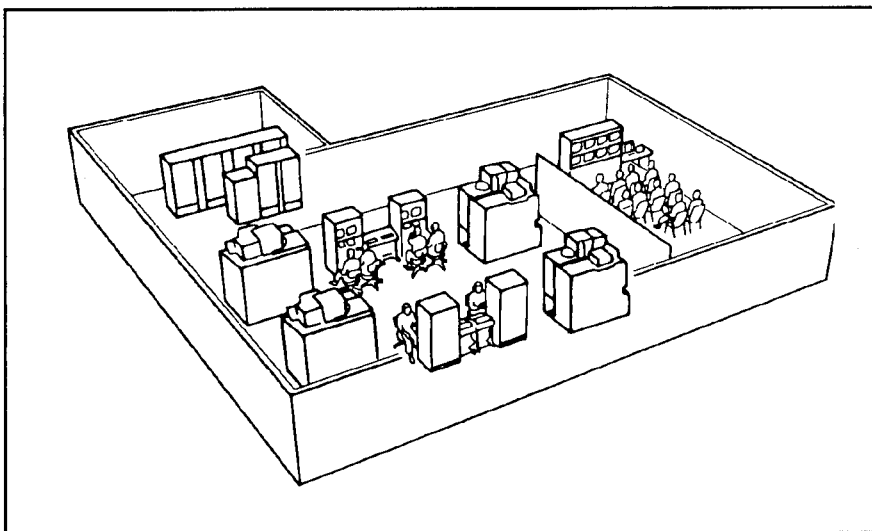
MISSION

- Develop and field assigned system and non-system training devices and simulators and synthetic flight training systems for the U.S. Army
- AMC executive agent for combat training center instrumentation and system acquisition
- Direct the activities of three assigned product managers
- Acquire assigned training devices and simulators for allies . . . foreign military sales



PRODUCT MANAGER, CLOSE COMBAT TRAINING SYSTEMS (PM CCTS)

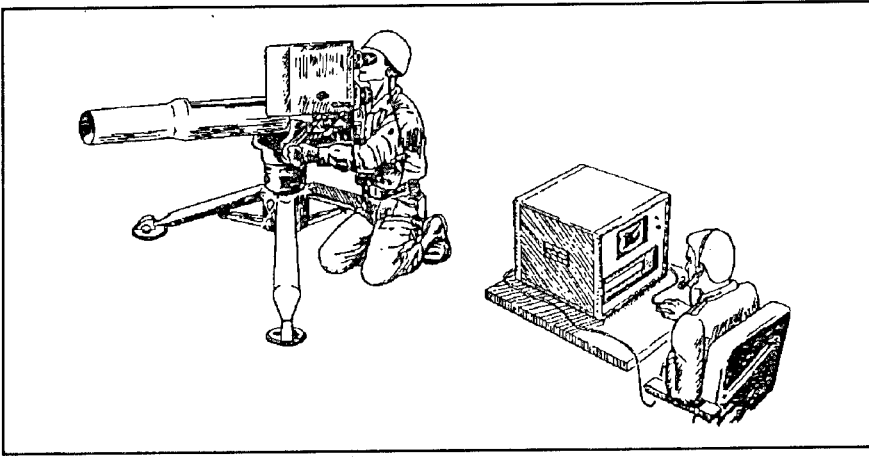
The PM CCTS is responsible for Infantry, Armor, Combat Engineer, and Special Operations Forces Non-System and System Training Devices. Responsibilities are primarily aligned with the Program Executive Offices for **Armored Systems Modernization (ASM)**, and Tactical Missiles. Programs include the Advanced Gunnery Training System, Precision Laser Gunnery and Missile Training Devices, Maintenance Trainers, Tank Driver Trainers, Videodisc-Based Gunnery Training Devices, National Guard Armor and Infantry training systems, Thru-Sight Video Systems, and the integrated training system development for future Armored Systems. PM CCTS provides support to numerous System Project Managers including PM ABRAMS, Bradley, Javelin and TOW. PM TOW is now called Close Combat Anti-Armor Weapon System (CCAWS). PM CCTS also manages numerous foreign military sales cases.



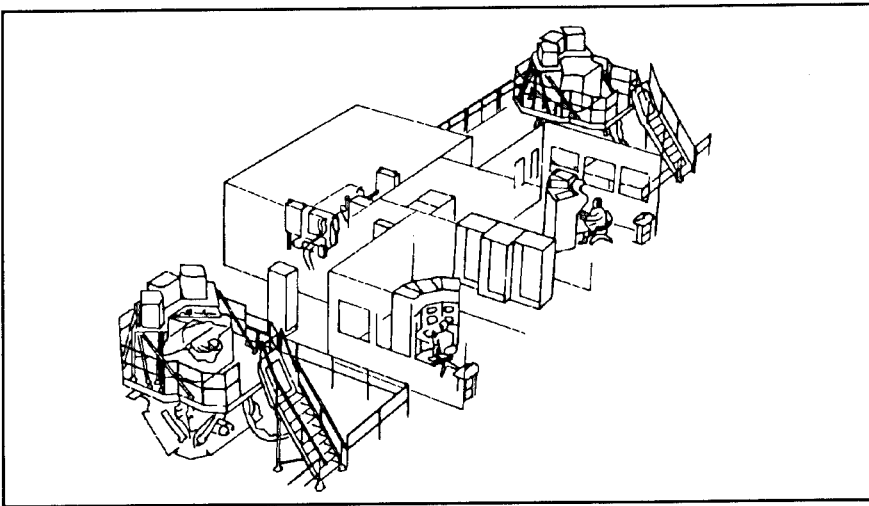
PLATOON GUNNERY TRAINER (PGT)

The PGT provides gunnery training to tank commanders and gunners with advanced graphics, a COFT/PGT matrix, and networking for collective training at section and platoon level.

CLOSE COMBAT TRAINING DEVICES



The Precision Gunnery Training System trains TOW and DRAGON gunners at home station, on ranges, or in tactical exercises. The Gunnery Trainer consists of an instructor station and a student station for the TOW or DRAGON and employs videodisc imagery. The Field Tactical Trainer is laser based and MILES compatible.

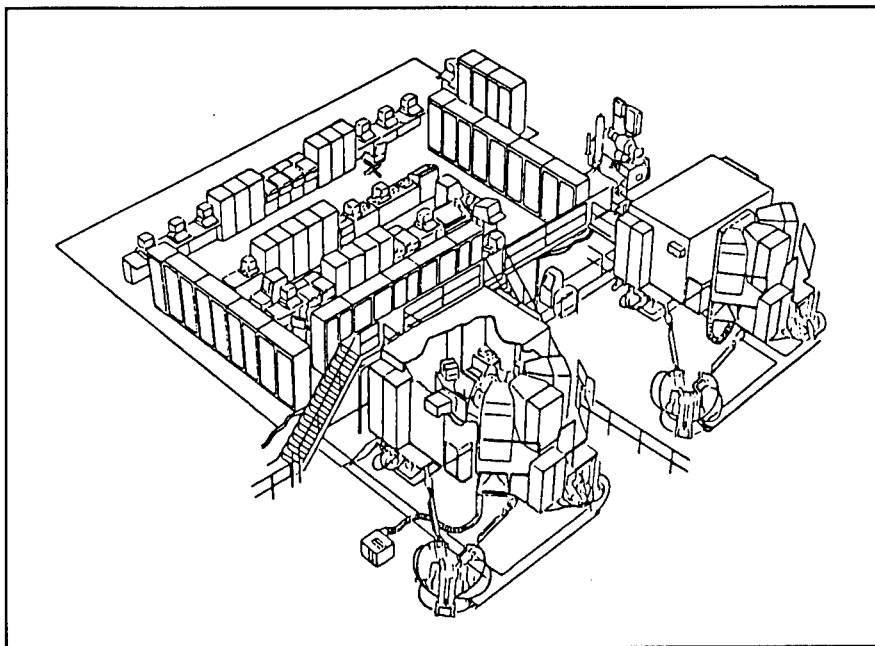


The M1 Tank Driver Trainer consists of two driver stations; visual, aural/audio, computer integrated motion systems; and an instructor/operator station. A real-time color Computer Image Generation (CIG) subsystem provides visual scenes to the driver through the periscope or on a screen for out-of-hatch training. A tank driver can experience different weather, soil and road conditions.

PRODUCT MANAGER, AIR COMBAT TRAINING SYSTEMS (PM ACTS)

PM ACTS is responsible for all Synthetic Flight Training System simulators, along with all assigned system/non-system Aviation and Air Defense Training Aids Devices/Simulators and Simulations (TADSS). Responsibilities are primarily aligned with the Program Executive Offices for Air Defense, Aviation and Ballistic Missile Defense Organization. Projects include a family of flight simulators for the Army's UH-1, AH-1, CH-47, OH-58, UH 60, MH-60, MH-47 and AH-64 helicopters. These simulators allow aviators to experience the sensation of flight in a training environment for a fraction of the cost of actual flight. Other programs include the **Air Ground Engagement System II (AGES II)**, the **Stinger Troop Proficiency Trainer (STPT)**, the **Data Automated Tower Simulator (DATS)** and aviation maintenance trainers.

AH-64 COMBAT MISSION SIMULATORS



UH-1 FLIGHT SIMULATOR (UH1FS) BOI:22. The Army's first flight simulator. Provides safe and realistic pilot training in instrument flight, cockpit procedures and emergency conditions distributed worldwide.

CH-47 FLIGHT SIMULATOR (CH47FS) BOI:6. The Army's first visual simulator. Provides training in normal and emergency cockpit procedures, aircraft control, pinnacle and load operations.

AH-1 FLIGHT AND WEAPONS SIMULATOR (AH1FWS) BOI:9. Provides training in cockpit procedures, normal operating flight procedures, emergency procedures, and gunnery techniques including delivery of TOW missiles.

UH-60 FLIGHT SIMULATOR (UH60FS) BOI:18. Provides training in cockpit procedures, normal operating procedures, emergency procedures, and tactical operations in an interactive threat environment.

AH-64 COMBAT MISSION SIMULATOR (AH-64CMS) BOI:10. Provides training in flight and weapons delivery, emergency procedures, and sensor system operations. Permits the learning of tactical decision-making skills in an interactive high threat environment.

UH-60 DESERT HAWK FLIGHT SIMULATOR (DHFS) BOI:1. Foreign Military Sales case to the Royal Saudi Arabian Land Forces Army Aviation Corps.

MH-60/MH-47 SPECIAL OPERATIONS COMBAT MISSION SIMULATOR (SOACMS) BOI:1. Provides training in low level, long and medium range for the Army's Special Operations Forces.

AIR GROUND ENGAGEMENT SYSTEM II (AGES II). An enhanced version of the Multiple Integrated Laser Engagement System (MILES) for the AH-64, OH-58D, UH-60, CH-47D and the Ground Vehicle Laser Locator Designator (G/VLLD). Simulates weapon system capabilities in force-on-force training exercises.

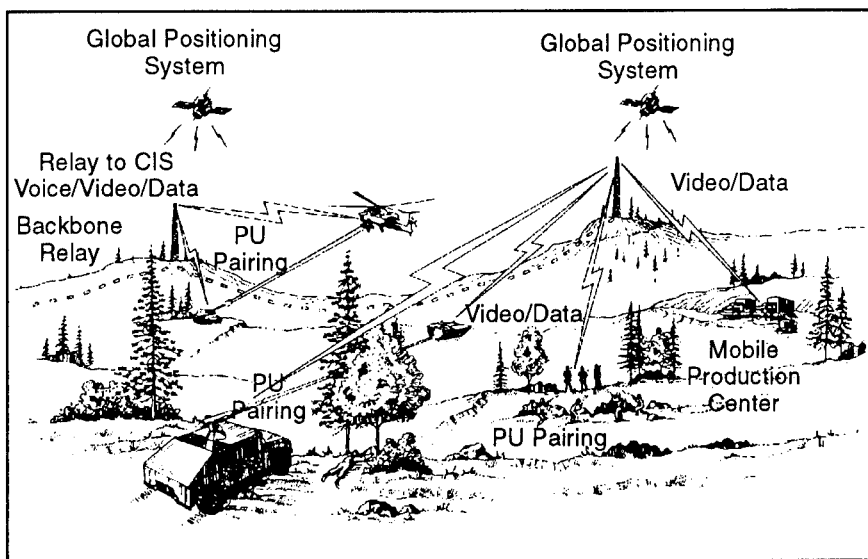
STINGER TROOP PROFICIENCY TRAINER. A real-time, interactive training system that incorporates high resolution computer generated visual imagery, aural, and tactile cues to provide realistic troop training.

DATA AUTOMATED TOWER SIMULATOR. An Air Traffic Control Tower Simulator features a computer generated environment, realistic tower configuration, and realistic aircraft reaction to controller trainee commands.

PRODUCT MANAGER, COMBAT SUPPORT TRAINING SYSTEMS (PM CSTS)

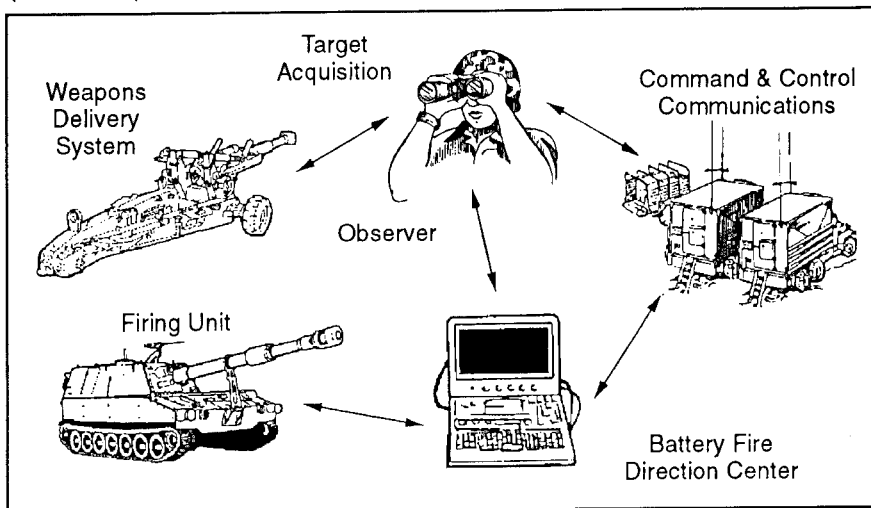
PM CSTS is responsible for the system and non-system devices in support of Intelligence and Electronic Warfare, Communications and Field Artillery; the three Combat Training Centers; and tactical engagement simulations. Programs include: **Simulated Area Weapons Effects/Multiple Integrated Laser Engagement System II (SAWE/MILES II)**, **MILES 2000**, **Joint Readiness Training Center Instrumentation System (JRJC-IS)**, **Range Data Measurement System (RDMS)**, **Intelligence/Electronic Warfare Tactical Proficiency Trainer (IEWTPT)**, **Defense Satellite Communication System (DSCS) Trainers**, **Field Artillery Trainers (GUARDFIST II)**, and the **Fire Support Combined Arms Tactical Trainer (FSCATT)**.

JOINT READINESS TRAINING CENTER INSTRUMENTATION SYSTEM (JRJC-IS)



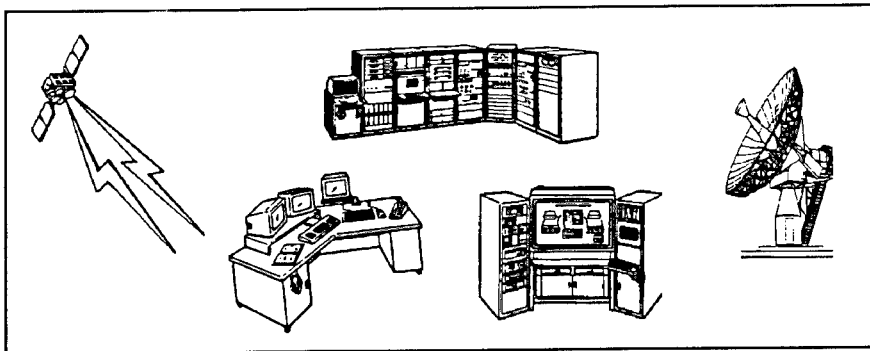
JRJC-IS provides a computer based, information gathering system to the Joint Readiness Training Center at Fort Polk, Louisiana. Data received from real-time casualty assessment and individual and unit position location is used by JRJC personnel to control the exercise as well as to build a detailed after action review and take home package for the training unit. Using the JRJC-IS, JRJC will provide Light Infantry and Special Operations Units a world class training experience well into the future.

FIRE SUPPORT COMBINED ARMS TACTICAL TRAINER (FSCATT)



The FSCATT will provide initial and sustainment training for the entire gunnery team. It will integrate tactical equipment and simulated howitzer devices in a closed loop network and create a battery-level command and control tactical trainer.

DSCS



DEFENSE SATELLITE COMMUNICATIONS SYSTEM (DSCS) TRAINING DEVICES

The DSCS family of training devices provides operator and maintenance training, as well as fundamental principles of satellite communications, for the Defense Satellite Communications System's ground terminals. There are five training suites associated with the family, one each replicating a particular DSCS ground terminal plus one for the principles training.

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NOTES:

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