

U.S. ARMY PROGRAM EXECUTIVE OFFICE
FOR SIMULATION, TRAINING AND INSTRUMENTATION



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Publisher's Note

KMI Media Group, publisher of Military Training Technology, produced the 2008 PEO STRI Program Guide. The magazine, which publishes six-times per year, reports on a wide range of training, simulation and education issues. The Rockville, MD, company also publishes Military Medical Technology, Special Operations Technology, Military Geospatial Technology, Military Logistics Forum, Military Advanced Education, and Military Information Technology. Content of this catalog was compiled by PEO STRI Public Affairs. This catalog was designed by PEO STRI Graphics Department. Copyright 2008.

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KMI Media Group
1300 Piccard Drive
Suite 200
Rockville, MD 20850
Telephone: (301) 926-5090
Fax: (301) 926-5091
Website: www.mt2-kmi.com

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Contact Information

Program Executive Officer

Dr. James Blake
407-384-3502

Deputy Program Executive Officer

Col. Kevin Dietrick
407-384-3524

Business Operations Executive

Mr. Rob Reyenga
407-384-3505

Customer Support Executive

Mr. Pete Marion
407-384-3799

Project Support Executive

Ms. Traci Jones
407-384-3770

Project Manager Combined Arms Tactical Trainers (PM CATT)

Col. Craig Langhauser
407-384-3601

Project Manager Constructive Simulation (PM ConSim)

Col. Ken Wheeler
407-384-3651

Program Manager Field Operations (PM Field OPS)

Mr. Russ McBride
407-384-3723

Project Manager Future Force (Simulation) (PM FF(S))

Col. Chris Oliver
407-384-3560

Project Manager Instrumentation, Targets and Threat Simulators (PM ITTS)

Col. David Lockhart
407-384-5250

Project Manager Training Devices (PM TRADE)

Col. Fred Mullins
407-384-5200

Principal Assistant Responsible for Contracting (PARC)

Mr. Kim Denver
407-384-8818



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Mission

To provide responsive interoperable simulation, training, and testing solutions and acquisition services for the Warfighters and the nation.

Vision

The Center of Acquisition Excellence providing simulation, training and testing solutions for the nation.

Motto

Putting the power of simulation into the hands of the Warfighters.

Focus

- ☆ Provide simulation, training and testing products and services.
- ☆ Expand beyond the traditional products and services.
- ☆ Provide an integrated and interoperable infrastructure.
- ☆ Shape a world-class workforce with acquisition, functional and leadership skills.
- ☆ Provide a full range of contracting and acquisition services for effective, efficient and responsive life-cycle management.
- ☆ Implement U.S. Army policy for acquisition of system training devices.

Public Affairs Office
407-384-5224



Industry Customer Contact
407-384-3773



General Information
407-384-3500



JAMES T. BLAKE, PH.D.

Program Executive Officer
U.S. Army Program Executive
Office for Simulation, Training
and Instrumentation

PEO STRI: Strengthening a Nation at War

The strength of the nation resides in our Soldiers, Sailors, Airmen, and Marines. It is our duty to ensure these Warfighters maintain their prominence as the strongest force in the world by equipping them with unsurpassed modeling, simulation, testing and training devices.

For those of us who acquire training and testing enablers, we will remain relentless in meeting the urgent needs of our customers—U.S. Soldiers and all American and allied armed forces alike—by providing them the best possible solutions. By standing up an Army Center for Acquisition Excellence, PEO STRI is achieving a higher level of service to the nation's men and women in uniform.

We must persist in our transfor-

mation toward a fully integrated Live, Virtual and Constructive environment so that our Warfighters are afforded the highest fidelity training.

In meeting the demands of our uniformed service members, we also see an immense value in collaborating, coordinating and cooperating with the joint community, our industry partners and academia. Shared education and experience fosters expertise, and we use that expertise to provide unrivaled modeling, simulation and instrumentation products and services to support our customers.

In the next several pages you will find many examples of PEO STRI's steadfast dedication to our nation's greatest strength: our Warfighters. Mission First, People Always! Army Strong.





CREDIT: U.S. ARMY PHOTO/DOUG SCHAUB

A Soldier treats the mannequin's tension pneumothorax, or collapsed lung, through a needle decompression at a recent training exercise intended to prepare students for basic combat medical care. This instruction is part of PEO STRI's MSTC program.

Medical Simulations Prepare Warfighters to Rescue Comrades in the Combat Zone

Darkness and smoky fog amplify the flashing lights and obscure the sight of screaming bodies scattered on the ground. A Soldier goes in to assess the severity of the attack. He crawls on the floor to evaluate the condition of each casualty while trying to ignore the chaotic combat conditions that surround him.

He checks the vital signs of the first victim who appears lifeless. As instructed, he moves on to the next casualty. He checks her viability and proceeds to treat her severed leg. Like he was trained, he stopped the bleeding by properly tighten-

ing the tourniquet and likely saved her life.

It looks like combat. It smells like combat. It sounds like combat. And for all intents and purposes, it is a war zone... only simulated.

These combat casualty care instruction facilities, known as the Medical Simulation Training Centers (MSTC), are the U.S. Army's standardized medical training program. MSTCs are intended to reduce the died-of-wounds rate on the battlefield by providing Soldiers with the skills to save wounded Warfighters in combat.

Through this instruction, Soldiers learn

how to treat the three most preventable combat deaths: a collapsed lung, a blocked airway and blood loss.

Students can also practice intubations, tracheotomies, delivering babies, inserting catheters, applying splints, treating chest wounds and inserting IVs.

In addition, the instructor can alter how the mannequin reacts to treatment. For instance, the mannequin can have an allergic reaction to a certain medication.

Nearly all Soldiers undergo this training before they deploy to Iraq or Afghanistan because the combat arms Warfighter is



CREDIT: U.S. ARMY PHOTO/DOUG SCHAUB

Soldiers learn how to perform a tracheal intubation for a casualty with a blocked airway.

usually the first responder since he or she is there at the point of injury. As a result, it is very important for non-medical Soldiers to learn these lifesaving methods.

Soldiers are evaluated on a computer that monitors the mannequins' condition.

Since the mannequins are physiologically based, their survivability is dependent upon what the Soldier does or does not do.

If a student fails to administer proper care, the simulator will deteriorate and shut-down. Conversely, the student can

also experience what happens when they successfully treat the simulator and the mannequin's conditions improve.

The Soldier's actions are monitored and recorded in the master patient monitoring station. Students undergoing this training do not interact with the instructors because they have been taught all that they need to know in basic combat care. At this point, they are validating their abilities.

If the simulator "dies," the Soldier is retrained and reassessed.

Soldiers who have trained on the human-patient simulators said they feel they are learning critical skills that will increase survivability on the battlefield.

PEO STRI has fielded 15 of the 18 MSTCs to domestic and worldwide locations; the remaining three will be fielded this year. One MSTC resides in theater and a deployable site can be used for contingency operations. An additional 18 sites are expected to be fielded over the next seven years. ■

Soldiers at the NTC to Train in Largest Simulated City, PEO STRI Supports After Action Review Instrumentation Efforts

Soldiers at the National Training Center at Fort Irwin, Calif., are set to receive the largest Military Operations on Urban Terrain (MOUT) site in the Army. This type of instruction prepares Soldiers to defeat enemies intermingled with noncombatants in an urbanized environment.

The U.S. Army PEO STRI is responsible for instrumenting the facility with video capabilities to include internal and external cameras, microphones and battlefield effects.

"MOUT video instrumentation allows the units to capture their actions and conduct more immediate and effective After-Action Reviews (AAR) while the unit is still occupying the training site," said Lt. Col. Jack Emerson, PEO STRI's product manager digitized training.



CREDIT: U.S. ARMY PHOTO/JOHN WAGSTAFFE

In October 2007, the U.S. Army Corps of Engineers finished construction on the \$12 million phase one of the Military Operations Urban Terrain training site at the National Training Center. PEO STRI is instrumenting the facility with video technology for after-action review capabilities.



CREDIT: U.S. ARMY PHOTO/DOUG SCHAUB

During HEAT training, Soldiers not only learn how to egress from an overturned Humvee, but also practice getting a weighted mannequin out of the vehicle to simulate removing a casualty. The device prepares Soldiers for what to expect in the event of a rollover.

Simulated Humvee Rotates to Train Proper Vehicle Egress Techniques

“Rollover, Rollover, Rollover!” scream the Soldiers inside a tumbling Humvee designed to train them how to egress from a overturned vehicle.

The device, dubbed the Humvee Egress Assistance Trainer, or HEAT, represents the Army’s first standardized trainer of this kind.

“HEAT provides Soldiers with the ability to conduct realistic and relevant training related to the M1114 up-armored Humvee,” said Lt. Col. Scott Pulford, PEO STRI product manager for ground combat tactical trainers. “It gives Soldiers confidence in their seat restraint systems and equipment, and demonstrates the importance of vehicle load plans and securing all on-board equipment to prevent injury during rollovers.”

In response to an Operational Needs

Statement from the U.S. Army Forces Command, PEO STRI rapidly produced the training device to properly instruct Soldiers how to safely get out of an upturned vehicle.

The HEAT is capable of rotating and stopping in various positions making it the only Army training device that allows Soldiers to practice a variety of egress techniques at different angles.

It provides Soldiers with the familiarity of how it feels when a vehicle is on the verge of rolling over and what precautions to take to brace their bodies. Furthermore, it instructs them on what to do once the Humvee has rolled—how to properly egress and help other Soldiers, especially the injured, get out as well.

If a gunner is in the hatch, Soldiers are responsible for pulling him or her back into the

Humvee when the rollover is about to occur. Since the gunner is in the most vulnerable position in the vehicle, the gunner’s cage allows him or her to be trained to respond effectively.

“Soldiers, including the gunner, will be properly trained to open safety restraints and they will learn how to exit the vehicle through doors in a variety of rotated positions,” Lt. Col. Pulford said.

Once the vehicle comes to a complete stop, Soldiers are instructed to assess their situation and report to the leader.

Then, they must place their arm above their head firmly fixed against the roof of the vehicle to brace the weight of their body. At that time, the Soldier reaches across his or her body with the free arm and unbuckles the seatbelt.

“Really, the first task is to gain orientation [when you are upside down] and identify any



CREDIT: U.S. ARMY PHOTO/DOUG SCHAUB

HEAT training gives Soldiers assurance in their seatbelt and also stresses the importance of utilizing the safety restraint system within the vehicle.

Soldiers having issues removing their seatbelts,” Lt. Col. Pulford said. The Soldiers then identify the easiest and quickest means of escape.

External door locks allow the instructor to simulate obstructed doors, which causes trainees to think about actions to take if they

face a blocked door in an actual rollover.

As soon as an exit is identified, the Soldiers are instructed to yell: “Right rear door open!” Each Soldier exits the Humvee, establishes security and administers first aid if needed.

“We need to make sure that a Soldier knows what it feels like to rollover in the event

of an actual occurrence. A Soldier needs to know how to egress from a fully rolled over vehicle,” Lt. Col. Pulford stated.

To date, thousands of Soldiers have already trained on PEO STRI’s first generation of HEAT.

Currently, 53 systems have been fielded to stateside and worldwide locations. An additional 32 HEAT trainers are scheduled to be fielded starting in April and the Army National Guard is set to receive 12 more devices as well.

PEO STRI worked in collaboration with the U.S. Army Tank Automotive Research Development and Engineering Center and Red River Army Depot for their support in engineering and manufacturing capabilities respectively. Project Manager for Light Tactical Vehicles is the customer who came to PEO STRI with a requirement and the resources to execute a standard solution.

“The team has taken lessons from systems designed and built in theater, as well as other locations to create a ‘best of breed’ design that satisfies all of the user’s requirements,” Lt. Col. Pulford said. ■

“Having the capability to conduct immediate AARs allows the unit leaders and observer controllers the opportunity to critique the team’s short comings and re-train those actions to achieve the desired training objective before deploying,” Emerson added.

The first phase of the MOUT site, otherwise known as the National Urban Warfare Complex, was completed last October. PEO STRI’s instrumentation was emplaced after the construction was finished. For the remainder of the four phases, PEO STRI is working with the Army Corps of Engineers to plan ahead for the AAR.

“Early identification of the power and data requirements for the MOUT instrumentation while the Corps of Engineers is planning the construction and designing the blueprints makes eventual completion more efficient and cost effective,” Emerson said.

More specifically, the placement of universal outlets and internal wall wiring has been planned for in building the second phase. “This prevents later rework, like delving into



CREDIT: U.S. ARMY PHOTO/SGT. CHRIS JONES

Soldiers with 2nd Battalion, 107th Cavalry Regiment, Ohio National Guard, practice cordon and search drills at the MOUT facility.

completed walls and the interior to install the infrastructure, to support the video instrumentation,” Emerson explained.

In addition to PEO STRI’s involvement with this facility, the organization fielded 14

MOUTs and nine Mobile MOUTs last fiscal year. Since the program’s inception in 2003, the Mobile MOUT has been fielded to 41 locations to support Army, Marine Corps, Air Force and Homeland Security training. ■

The New Age of Language Translation

The current fight has greatly changed the way U.S. forces are trained. Whether it is IED detection and defeat or MRAP driver training, the U.S. Soldiers are undergoing instruction they have never experienced before.

For language and cultural training, this phenomenon is no different. Due to the nature of urban combat, Soldiers regularly interact with the Iraqi people and often without the support of a translator.

In response, PEO STRI fielded a device, the Vcommunicator, that allows Soldiers to effectively engage with the local Iraqi and Afghani populations.

PEO STRI saw the importance of quickly acquiring and fielding this device as the Army is currently experiencing a severe shortage of human translators in theater. For that reason, PEO STRI expedited the acquisition process to get the Vcommunicator into the hands of the 1st Brigade Combat Team at Fort Drum, N.Y.,

and the 4th Brigade Combat Team at Fort Polk, La., faster.

In fact, Soldiers from the 10th Mountain Division are currently using this state-of-the-art language and cultural handheld-translator in Iraq and Afghanistan. Considering the majority of the generation of Soldiers deployed to theater,

the Apple iPod-based translator is not only easy to use, but also a trendy way to translate.

The device provides Soldiers with the ability converse in Arabic, Kurdish, Pashtu and Dari languages while mimicking the correct cultural mannerisms. To do this, the Vcommunicator shows realistic, virtual characters that can lip-sync the spoken language while displaying culturally appropriate gestures.

The Soldiers can use the Vcommunicator either for training during downtime or during a mission. The Soldier can select a message on the device and the iPod, equipped with a speaker, will amplify that command. Soldiers can select from a laundry list of orders associated with interrogations, vehicle checkpoints and raids, for example.

One of the Soldiers assigned to PEO STRI, Sgt. Dennis Godfrey, got the chance to experience the Army's newest language and cultural training tool.

"In an ideal situation, everyone would have an interpreter; but with that not always being possible, the Vcommunicator will help fill the gap," Godfrey said. "Soldiers will now be able to get their point across easier and be able to ask simple yes and no questions. I think the Vcommunicator will definitely help Soldiers communicate better with non-English speaking people in the absence of an interpreter."

Before Godfrey got to test out the new technology, the Vcommunicator was field tested by the 10th Mountain Division's 1st Brigade Combat Team at the Joint Readiness Training Center at Fort Polk, La.

The device received positive feedback in which one of the sergeants from the 1st Brigade Combat Team said it was incredibly easy to use and puts the "friend in user-friendly." He also said that he was able to use the device with no training or reference to a user's manual. ■



CREDIT: U.S. ARMY PHOTO/DOUG SCHAUB

A Soldier recently trained with the device at Fort Campbell, Ky.



CREDIT: U.S. ARMY PHOTO/DOUG SCHAUB

PEO STRI recently fielded a tool that will help Soldiers effectively communicate in Iraq and Afghanistan when translators are not available. The Soldiers can use the device in two different ways. They can either utilize the technology to learn the languages themselves or directly show the animated avatar to the local population.



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STOC II Positions PEO STRI to Train U.S. Armed Forces More Effectively, Efficiently

The Simulation and Training Omnibus Contract (STOC II), scheduled for award this fall, marks an important milestone for the U.S. Army as it will provide Warfighters with the next-generation of simulation and training devices to meet the challenges of the joint operational environment. According to PEO STRI acquisition center officials, the contract will also facilitate the Army's transformation toward a fully interoperable training environment.

The deal is slated to be the second largest contract awarded by the agency. With the award potentially valued at \$11 billion over a 10-year period, this comes in just under the \$11.2 billion Warfighter Field Operations Customer Support contract.

The omnibus contracting vehicle is a set of multiple-award indefinite delivery, indefinite quantity contracts to provide troops with simulation, training and instrumentation products and services beginning with concept development and continuing through life-cycle support.

Thomas Bunch, PEO STRI contract specialist, explained the significance of award-

ing STOC II to multiple prime contractors: "It's good because not only does it sustain the industry base, but it also allows the PEO more choices to satisfy the customers' needs."

In other words, the contract will establish a set of pre-qualified contractors. When PEO STRI receives a requirement for a product or service, they will turn to the predetermined industry base that is situated to meet the customer's needs in a highly expeditious manner.

The contractors can consolidate efforts to offer a "best-of-breed" solution. They can also solicit work to companies not on the STOC II contract. Teams, therefore, are assembled on an order-by-order basis and come together at the delivery and task order level.

Contractors not awarded the STOC II contract can still do business with PEO STRI. "STOC II is anticipated to be the main, but not only, contracting vehicle," Bunch said. "It is our hope that the prime contractors team up with other companies, STOC or not, to provide our customers with the best possible solution." ■

U.S. Army PEO STRI Upcoming Events

- ☆ **Defense Modeling and Simulation Conference**
March 10 - 14 — Orlando, Fla.
- ☆ **Army Aviation Association of America Convention**
April 6 - 9 — Washington, D.C.
- ☆ **International Training Exhibition and Conference**
June 10 - 12 — Stockholm, Sweden
- ☆ **Training, Simulation and Industry Symposium**
June 16 - 18 — Orlando, Fla.
- ☆ **National Guard Association of the U.S. Conference**
Sept. 20 - 22 — Baltimore, Md.
- ☆ **Association of the U.S. Army Annual Meeting**
Oct. 6 - 8 — Washington, D.C.
- ☆ **Interservice/Industry Training, Simulation and Education Conference**
Dec. 1 - 4 — Orlando, Fla.

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PROGRAM EXECUTIVE OFFICE FOR SIMULATION,
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**12350 RESEARCH PARKWAY
ORLANDO, FL 32826-3276**

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