THE EFFICIENCIES OF TEAMWORK

by Kristen A. McCullough

THE BENEFITS OF HEAT

The HMMWV Egress Assistance Trainer (HEAT), pictured here, teaches Soldiers how to quickly and safely exit an overturned vehicle. Using the same construct and design platform as the HEAT, the MRAP Egress Assistance Trainer teaches Soldiers how to properly exit a rolled-over MRAP vehicle. Since April 2010, all warfighters, civilians, contractors, and foreign nationals have been required to train on the egress trainer before deploying to theater. (U.S. Army photo courtesy of Program Executive Office Simulation, Training and Instrumentation (PEO STRI).)

Even before organizations across the Army and DOD were asked to "do more without more," the U.S. Army Program Executive Office Simulation, Training, and Instrumentation (PEO STRI) was realizing savings through a simple yet multifaceted concept: teamwork.

"As you know, the Army is a 'we' organization, not a 'me' organization. PEO STRI is one element of the Army team working to ensure that our military is the best-trained fighting force in the world," said Dr. James Blake, the Program Executive Officer.

Working with other Army elements and with other military services toward a common goal has produced fiscal efficiencies through reduced manpower, elimination of duplicative efforts, and subsequent lower costs, Blake said. Different approaches to teamwork yield different benefits, yet all can lead to high-quality products for warfighters at demonstrably lower costs than if the products had been undertaken by PEO STRI alone.

ONE DESIGN, MANY USES

PEO STRI's Egress Assistance Trainer programs are key examples.

When PEO STRI received an Operational Needs Statement in July 2006 to procure a training device that could limit injuries sustained during vehicular rollovers, a joint effort was launched to rapidly develop the High-Mobility Multipurpose Wheeled Vehicle (HMMWV) Egress Assistance Trainer (HEAT), which instructs Soldiers in how to get out safely from an overturned vehicle. PEO STRI worked with PEO Combat Support and Combat Service Support, with engineering assistance from the U.S. Army Research, Development, and Engineering Command's Tank Automotive Research, Development, and Engineering Center, and manufacturing capability at Red River Army Depot, TX. As a result, the HEAT was developed in five months. It was deployed around the globe, including locations in the theaters of operation, by September 2007.

Using the construct and design premise for the HEAT, PEO STRI soon thereafter developed the Mine Resistant Ambush Protected (MRAP) Egress Assistance Trainer (MET) to teach Soldiers how to properly exit a rolled-over MRAP vehicle.

"By adding the design capabilities of the eight different MRAP vehicle cabs to the already proven HEAT system, the team provided a training capability in nine short months from concept development to the first fielding location at Camp Buehring, Kuwait," said Frank Schlemmer, Project Director for the HEAT and MET devices.

The HMMWV and MRAP egress trainers, both of which are Army solutions for Army problems, train not only Soldiers, but also warfighters from the other services who are getting ready to deploy to the combat zone.

"A U.S. Central Command message from April 17, 2010, requires all troops, civilians, contractors, and foreign nationals that are required to ride in an MRAP vehicle to go through the training drills on the MET," Schlemmer noted. In November, the trainers at Camp Buehring alone trained 100,000 service members before they deployed to Iraq. To date, each of the military services has MET devices. The Army has 47; the Air Force, 20; the Marine Corps, 18; and the Navy, 10.

"We know we are not in this alone. Just like our Soldiers are working hand in hand with their fellow Marines, Sailors, and Airmen in Iraq and Afghanistan, we in the simulation and training community—military, contractors, and academia alike—are one force supporting the strongest armed forces in the world," Blake said.

INDUSTRY PARTNERS

PEO STRI also works closely with those in the modeling and simulation industry to provide warfighters with the best possible training, in this era of budgetary constraints. Although government-industry

WORKING WITH OTHER ARMY ELEMENTS AND WITH OTHER MILITARY SERVICES TOWARD A COMMON GOAL HAS PRODUCED FISCAL EFFICIENCIES THROUGH REDUCED MANPOWER, ELIMINATION OF DUPLICATIVE EFFORTS, AND SUBSEQUENT LOWER COSTS.

SHARED TRAINING

Soldiers use PEO STRI's Intelligence Electronic Warfare Tactical Proficiency Trainer to practice their tactical questioning skills. The Department of Homeland Security (DHS) also uses this system to hone its law enforcement students' interviewing skills. By using PEO STRI's technology, DHS has saved time and money; the saved resources were used to create new scenarios to train Army and law enforcement personnel. (U.S. Army photos courtesy of PEO STRI.)

partnerships are not an efficiency in and of themselves, they have proven to be a wise way to do business.

For instance, PEO STRI, working with its industry partners, enhanced the Common Driver Trainer program to include the MRAP All-Terrain Vehicle (M-ATV). With guidance from the Department of the Army and expertise from industry, PEO STRI was able to field M-ATV driver trainers quickly and affordably. The M-ATV variant for the Common Driver Trainer allows Soldiers to drive these vehicles before they get to Afghanistan in hazardous driving conditions, such as narrow roadways and inclement weather.

"The M-ATV Common Driver Trainer was tasked to PEO STRI June 26, 2009, and we fielded the first system November 19, 2009," said Project Director MAJ Cassandra Forrester, noting that the turnaround from receiving the requirement to getting the trainer into the hands of the warfighter was a mere 147 days.

PEO STRI looks at the Common Driver Trainer program as a prime example of efficiency. Using common components, the simulator can be adapted to teach Soldiers how to drive Strykers, tanks, MRAPs, and other vehicles.

"The cost avoidance yielded by using the existing Common Driver Trainer design is valued at approximately $24.3 million," Forrester said.

Additionally, PEO STRI recently integrated the geo-specific terrain database for Afghanistan into the Common Driver Trainer program. Because of these efforts, Soldiers can virtually "drive" on actual streets in Afghanistan. Similarly, PEO STRI added the Afghanistan database to other simulators, such as the Close Combat Tactical Trainer, Call for Fire Trainer, Advanced Gunnery Training System, Common Driver Trainer, and Aviation Combined Arms Tactical Trainer, thereby allowing Soldiers to virtually train in their actual assigned deployment locations. The imagery adds significantly to the fidelity of the training, at less expense than if the technology had not been reused.

GEOGRAPHIC EFFICIENCY

The ease with which PEO STRI collaborates with other organizations can often be attributed to its location in central Florida, a mecca for military modeling and simulation. As part of "Team Orlando," PEO STRI sits alongside all of the military services' primary simulation and training providers, academic institutions that focus on simulation, and industry partners that provide expertise to the military and universities.

PEO STRI LOOKS AT THE COMMON DRIVER TRAINER PROGRAM AS A PRIME EXAMPLE OF EFFICIENCY. USING COMMON COMPONENTS, THE SIMULATOR CAN BE ADAPTED TO TEACH SOLDIERS HOW TO DRIVE STRYKERS, TANKS, MRAPS, AND OTHER VEHICLES.

This collaborative spirit dates to 1950, when the Army and Navy simulation components signed an agreement to work in partnership on training and simulation systems for service members. The signing of the document launched a lasting training partnership that is the longest-known standing agreement between any of the U.S. military services.

The strong relationship among the services continues to yield fiscal efficiencies. For example, PEO STRI signed an agreement with the Marine Corps' Program Manager Training Systems to work together on live training systems. When the Marine Corps saw that nearly 80 percent of its requirements were already being met by the Army through the Homestation Instrumentation Training System program, program managers piggybacked onto the Army's capability to get that training into the hands of Marines more quickly and save program dollars.

"The Marine Corps' estimated cost and schedule for building a new alternative system would be approximately $19 million and nine years," said Michael Dillon, the PEO STRI Project Director for the effort. The Marine Corps' actual cost of leveraging the Army's 80-percent solution was $8 million, and the time spent from concept development to fielding was two years. Because of the time and money saved, the Marine Corps reimbursed the Army $300,000.

AGENCY COLLABORATION

Collaboration also produces interagency efficiencies. The U.S. Department of Homeland Security uses PEO STRI's Intelligence Electronic Warfare Tactical Proficiency Trainer to help law enforcement students with their interviewing skills. The technology reuse reduces the cost compared with a new but similar technology, as well as the high cost of hiring instructors and role players.

"The Department of Homeland Security realized cost benefits by reducing the number of instructor hours because the system is made available to students in a self-operated mode for after-hour use," said Rick Jimenez, Lead Engineer for the system. "Students practice basic interviewing skills in a virtual environment, which prepares them for a more productive engagement in front of live role players, thereby reducing the number of role-player hours required for training."

Using the savings from leveraging an existing contract and training capabilities, PEO STRI and the Department of Homeland Security generated scenarios and content for the system.

"The effort resulted in a quicker, more affordable production of training capabilities for our non-DOD customer," Jimenez noted. It also led to the creation of scenarios that are of use to Soldiers and "greatly enhanced the original product at a significantly reduced—and shared—cost."

Although partnership and teamwork do have their challenges—such as the time it takes to coordinate efforts, concerns about control, and the uncertainty at times that each party will uphold its end of the bargain—PEO STRI senior leaders and program managers agree that the rewards greatly outweigh the trials.

"When meeting the demands of our uniformed service members, we see an immense value in collaborating, coordinating, and cooperating with the joint community, our industry partners, and academia," Blake concluded. "Shared education and experience fosters expertise, and we use that expertise to provide efficiencies in the products and services we provide to our customers."

KRISTEN A. MCCULLOUGH is the PEO STRI Public Affairs Officer. She holds a B.S. in communication and political science from the University of Miami and an M.S. in political science from the University of Central Florida.