

Defense AT&L Interviews

Army Brig. Gen. James R. Moran, Program Executive Officer Soldier

On June 7, 2002, Claude Bolton, assistant secretary of the Army for acquisition, logistics, and technology, activated Program Executive Office (PEO) Soldier at Fort Belvoir, Va., < <https://peosoldier.army.mil> > . Team Soldier's mission focuses directly on the soldier as the central component of the Army's most important weapon system. PEO Soldier has the responsibility to develop, field, and sustain virtually everything a soldier wears, carries, or operates. Using the concept of "Soldier as a System," PEO Soldier is saving warfighters' lives, improving their quality of life, and increasing their combat effectiveness.

Viewing the individual warfighter as the nexus of a weapon system contrasts with the Army's traditional focus on equipment and armaments. Such a focus often resulted in equipment that was not integrated. The Army recognized a need to create a single entity that would lead the transformation of the soldier to the "Soldier as a System."

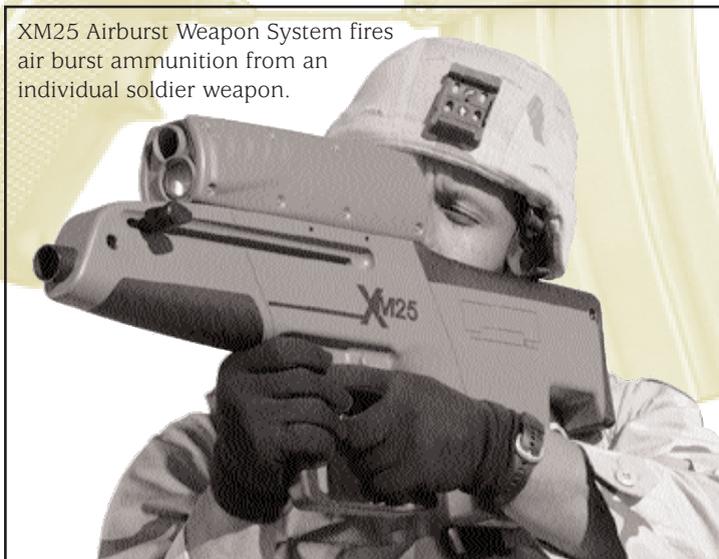
Army Brig. Gen. James R. Moran serves as the office's program executive officer. Stating that soldiers have always been the centerpiece of the U.S. Army, Moran gives the mission of PEO Soldier as making the Soldier as a System a reality. *Defense AT&L Magazine* interviewed Moran on the successes and future goals of PEO Soldier.

Q *You've been quoted as saying "the soldier is the most deployed weapon system in the Army ... yet until recently, the focus of change has been on equipment and armaments, not on the individual who wields them." What has influenced the change in the cultural climate to shift the focus to the individual soldier?*

A As project manager Abrams, I had one operational requirements document (ORD) to procure the Abrams tank. When I became PEO Soldier, we had over 300 ORDs. If I had procured the Abrams, for example, as we have traditionally procured equipment for the soldier, the track pads on the Abrams would have had their own ORD and would have been procured separately. The soldier is our Army's most fundamental weapon, but we haven't viewed him or her as a weapons system. The Army's recognition of the soldier as the central component of a weapons system has fundamentally changed the way we develop requirements and procure weapons and equipment.

Q *The U.S. Army's rapid fielding initiative (RFI) is intended to respond quickly to current needs for individual soldier equipment requirements and to provide soldiers engaged in or preparing for real-world operations with state-of-the-art individual weapons, clothing, and equipment. Last year, for example, RFI was used to equip soldiers from the 82d Airborne Division based on lessons learned from operations in Afghanistan. Has RFI earned a good track record? Have results been measurably better than previous turnaround times for procuring such items?*

XM25 Airburst Weapon System fires air burst ammunition from an individual soldier weapon.

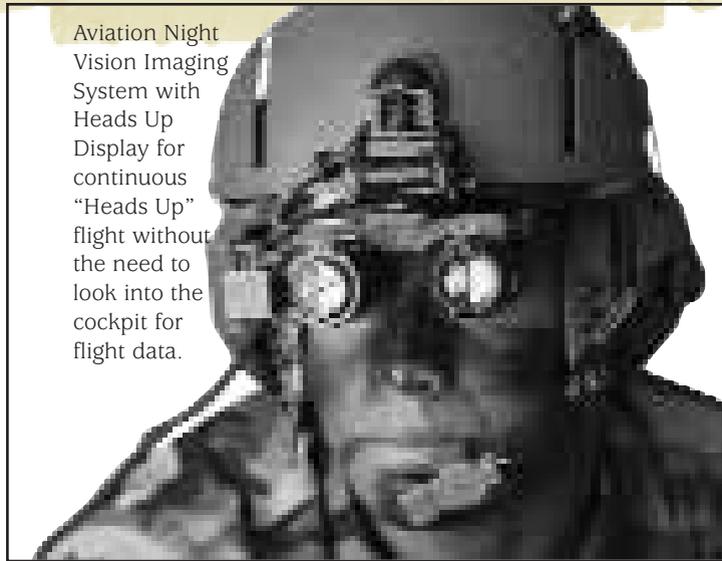


XM307 Advanced Crew Served Weapon provides soldiers the ability to defeat exposed and defiladed personnel targets as well as lightly armored targets



A RFI provides soldiers with the most up-to-date equipment in the categories of force protection/mobility, lethality, soldier mission-essential equipment, and individual weapons/optics. Currently the RFI list numbers 54 equipment and clothing items. The task of fielding RFI to our soldiers is a tremendous undertaking. A brigade combat team (BCT)'s worth of equipment requires over 70 463L pallets and requires the equivalent of four C17s to transport. In fiscal year 2003, we fielded eight BCTs in total. In the last 90 days alone, we fielded eight BCTs—or over

Aviation Night Vision Imaging System with Heads Up Display for continuous "Heads Up" flight without the need to look into the cockpit for flight data.



CROWS (common remotely operated weapon station) allows under armor/remote operation of the suite of weapons.



26,000 soldiers—on our way to fielding approximately 120,000 soldiers this fiscal year. RFI has been very successful in responding quickly to real-world, individual soldier equipment requirements and has greatly streamlined new or improved equipment acquisition processes that previously took months or years. Using a variety of in-

novative methods, such as working with existing contractors to refine equipment or purchasing, and adapting commercial off-the-shelf (COTS) items, RFI has reduced some acquisition cycles to weeks or even days.

Q *One difference in the RFI process has been going to the field and asking warfighters directly what they require to operate effectively. Using this direct input, RFI is able to provide needed equipment in dramatically less time. How significant has the direct input from the field proved? In terms of the helpfulness of the input, are the results quantifiable yet?*

A Input from the field is very helpful. We have sent teams to the field to ask soldiers, commanders, and non-commissioned officers in units such as the 10th Mountain Division, 82d Airborne Division, and the 101st Airborne Division (AASLT) what equipment is needed. Team Soldier invited then Sergeant Major of the Army Jack L. Tilley and other CSMs to a conference at Fort Belvoir, and we engaged in very meaningful discussion on what equipment soldiers need. We receive input from the soldiers and proponent schools that allows us to develop an optimized list that is then taken to Training & Doctrine Command (TRADOC) and Headquarters Department of the Army (HQDA). Quantifiably, what units purchase supports operational needs and dictates what is developed and what is included in the next generation weapons systems. PEO Soldier not only supports those needs near term through RFI, but also facilitates long-term support for future soldier items.

Q *Project Manager Soldier Warrior supports soldiers through the acquisition of all warrior systems. Its systems include the Air Warrior, heralded as the first fully integrated system for Army aircrews and noted for being more comfortable and convenient than other uniforms. The helmet contains an enhanced face shield and earpiece for communication; the suit contains a flotation collar, signal radio, flares, and soft body armor. An extraction restraint allows the soldier to be airlifted alone or with another person without the need of a harness. A cooling unit that can cool to 62 degrees is included along with a water carrier. The Land Warrior is anticipated to provide infantry soldiers with a similar fully integrated system shortly. What has been the reaction to these new systems? How has the new focus of PEO Soldier shaped the development and procurement of such a system?*

A Initial training and aircraft kit installations are under way for full Air Warrior fielding later this fiscal year, and pre-production clothing and individual equipment were introduced to members of the 101st Aviation Brigade in

PEO Soldier—Championing the

About PEO Soldier

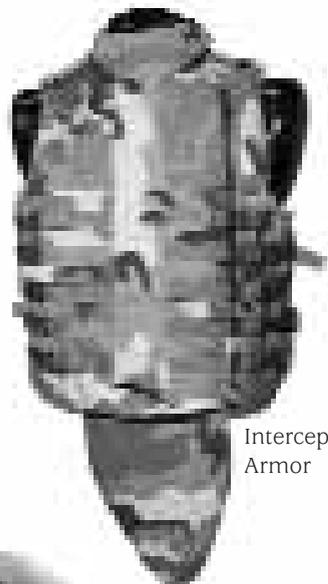
PEO Soldier integrates 346 Acquisition Category (ACAT) I, II, and III programs, enabling the soldier to dominate the full spectrum of peace and war, now and in the future.

These Soldier Systems fall under the purview of three project managers: *Project Manager Soldier Warrior*, *Project Manager Soldier Equipment*, and *Project Manager Soldier Weapons*.

PROJECT MANAGER SOLDIER WEAPONS



XM307 25mm Advanced Crew Served Machine Gun



Interceptor Body Armor

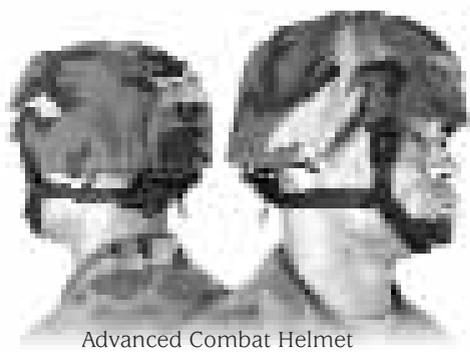


Air Warrior

Project Manager Soldier Weapons supports soldiers through the development and production of current and future weapon systems, ammunition, and associated target acquisition/fire control products. The next generation of weapons includes: XM25 25mm Airburst Weapon System, XM8 Lightweight Carbine, XM307 Advanced Crew Served Weapon, and the XM312 .50 Caliber Machine Gun. Two product managers support Project Manager Soldier Weapons: *Product Manager Crew Served Weapons Programs* and *Product Manager Individual Weapons Programs*.



XM8 Carbine Compact Configuration



Advanced Combat Helmet



Joint Service Lightweight Integrated Suit Technology (JLIST)

Project Manager Soldier Warrior supports soldiers through the acquisition of all warrior systems. Two product managers support Project Manager Soldier Warrior: *Product Manager Air Warrior* and *Product Manager Land Warrior*. Both provide significant improvements—in the air or on the ground—in four strategic areas: soldier lethality, survivability, mobility, and sustainment.



XM312 Lightweight .50 Caliber Machine Gun

Warfighting Needs of the Soldier



Land Warrior with
XM8 Carbine



Advanced Tactical
Parachute System



M9 Pistol

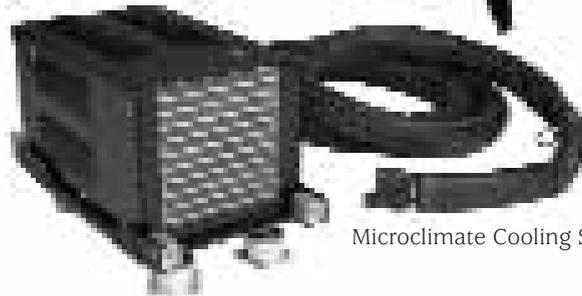
Commander's
Digital Assistant



Intermediate Cold/Wet, Marine Corps Hot
Weather, and Air Force Desert Flyer Boots



SRU-37/P One Man Life Raft and
Container



Microclimate Cooling System

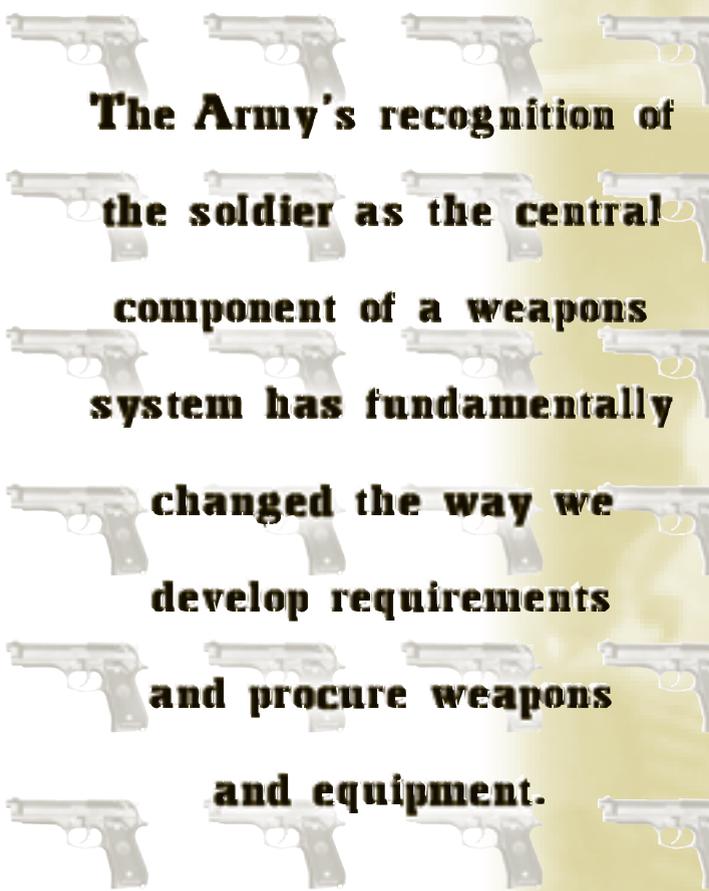


Sniper Accessory Kit

- Wind meter
- Improved Cleaning Kit
- Polarized Filter
- Improved Bipod
- Buttstock Cheek Pack
- Marksman Data Book
- Weapon Drag Bag
- Ammo Pouch
- Ballistic Calculator

Project Manager Soldier Equipment provides advanced technologies to allow the dismounted soldier to "own the night," as well as man-portable laser technologies for illuminating, pointing, range-finding, and designating targets. Supports soldiers in operational environments and improves their lethality, survivability, situational awareness, health, safety, mobility, and sustainability by providing state of the art equipment. Two product managers support Project Manager Soldier Equipment: *Product Manager Sensors and Lasers Programs* and *Product Manager Clothing and Individual Equipment Programs*.





The Army's recognition of the soldier as the central component of a weapons system has fundamentally changed the way we develop requirements and procure weapons and equipment.

Iraq last fall. Soldiers fitted with Air Warrior equipment and with recent combat experience have provided positive feedback that Air Warrior is the solution to several current equipment shortcomings, notably that the new equipment is lighter, fits better, and allows greater freedom of movement.

The Land Warrior system has been tested and evaluated by soldiers in several situations, including rigorous squad- and platoon-level exercises and warfighting experiments. Feedback and lessons learned have been incorporated into Land Warrior system design. Because of a very successful advanced warfighting experiment in September 2000, several system improvements were accomplished, including component location on the soldier, improved daylight video sight, and a weapons user interface system control device. The Land Warrior program uses spiral development to incorporate soldier feedback and the latest technologies into the Land Warrior system. The spiral development approach enables the product manager to design a little, build a little, and test a little with lower cost and risk. Those technologies deemed ready are then incorporated into the system design.

Q *Project Manager Soldier Equipment has fielded some of the most advanced night-vision and laser technologies available. What innovations have been procured for the soldier, and what new technologies are in the near future?*

A Product Manager Sensors and Lasers has accelerated the development and fielding of an integrated man-portable laser designating and range-finding system as well as hand-held and weapons-mounted forward-looking infrared (second generation FLIR) systems. These systems include the lightweight laser designator rangefinder (LLDR) and the thermal weapons sight (TWS). We have procured the latest generation III image intensification (I2) technology in goggles, monacles, and weapon sights for use by our soldiers and aviators.

The future for night vision systems is fused image technology, and Product Manager Sensors and Lasers is accelerating the development of the enhanced night vision goggles that fuse second generation FLIR and I2 images to give the soldier better situational awareness in day, night, and obscured conditions. We are working with the night vision labs and the Special Operations Command to develop fused weapon sights and sense through the wall technology for the individual soldier. We are developing a weapon-mounted multiple laser system integrating a solid state laser rangefinder; visible and IR pointers; IR illuminator; multiple integrated laser engagement system (MILES)-like training capability; connectivity to various global positioning satellite (GPS) systems; and wearable computers for squad level target laser range finding and pointing. Finally, Product Manager Sensors and Lasers is developing an ultra-lightweight laser designator to reduce the weight of a designating module to less than five pounds.

Q *The new interceptor body armor procured by Product Manager Clothing and Individual Equipment has been so well received by soldiers that copycat industries have sprung up trying to sell imitations to consumers with currently deployed family members. How is PEO Soldier managing demand and quality control on this valuable piece of equipment?*

A Interceptor body armor (IBA) consists of an outer tactical vest (OTV) and a set of small arms protective inserts (SAPI). The OTV protects against fragmentation and up to 9mm ball ammunition. The addition of SAPI plates increases protection up to 7.62mm ball ammunition. All SAPI plates procured by the Army meet stringent qualification standards that have been adopted for use by the National Institute of Justice (NIJ). Each lot of ballistic plates delivered to the Army is tested by an independent NIJ-certified laboratory. In this way, the Army ensures that each IBA meets or exceeds the protection requirements for our soldiers.

Yes, it's possible to find and purchase body armor on the Internet. A typical search engine yields thousands of hits on the query "interceptor body armor"; however, this

doesn't mean that any of these products meet the ballistic and weight requirements of the U.S. Army. PEO Soldier has conducted and continues to conduct market surveys. All recent contacts with vendors claiming to have plates available for our soldiers found they were attempting to obtain them from the existing Army sources for resale, or they were making false claims and did not have the machinery or necessary raw materials to produce plates that meet ballistic protection requirements.

Q *The stated mission of Project Manager Soldier Weapons is to provide "individual and crew-served weapon systems with decisive overmatch capability by dramatically increasing lethality and range at lower weight." How are new weapons systems improved over previous incarnations?*

A New developments in technology have allowed Project Manager Soldier Weapons to design and develop weapons that provide increased modularity, lethality, reliability, maintainability, and sustainability. For example, the XM8 lightweight modular carbine system represents the state-of-the-art in assault rifles. A unique feature of the XM8 modular system is the ability to easily and quickly reconfigure the weapon from one variant to the other to meet changing mission requirements. This modularity includes interchangeable assembly groups such as the barrel, handguard, lower receiver, buttstock modules, and sighting system. The XM25 air burst weapon system will provide individual soldiers with precision airburst capability. The XM25 incorporates a target acquisition fire control that integrates thermal optics, powered direct view optics, laser range finder, compass, fuse setter, ballistic processor, and internal display.

Q *The PEO Soldier Web site currently invites U.S. soldiers to give input, through a survey, on a design and color scheme for the next Army Class A uniform. The Army Knowledge Online Web site also invites discussion and collaboration from the end user concerning the advantages and disadvantages of various pieces of equipment. What kinds of responses does your office receive through such surveys? What other types of outreach programs are in place to generate direct feedback from the soldier?*

A Through Army Knowledge Online and the Project Manager Soldier Equipment Web site, we receive general clothing and equipment inquiries, detailed or specific suggestions to improve current equipment, and drawings of prospective new equipment. In addition, we often receive actual product items proposed to be issued or made available to soldiers. The Soldier Enhancement Program (SEP) is a vehicle by which soldiers and others may recommend COTS items for procurement.

Brigadier General James R. Moran, USA

Brig. Gen. James R. Moran assumed his new position as Program Executive Officer Soldier, Fort Belvoir, Va., on June 7, 2002.

Moran was born in Hopewell, Va. After graduation from the United States Military Academy at West Point, he was commissioned as a second lieutenant and awarded a bachelor of science degree. He holds a master's degree in mechanical engineering from the Air Force Institute of Technology and a master's in national resource strategy. Moran's military education includes completion of the Material Acquisition Management Course; the United States Army Command and General Staff College; Defense Systems Management College, Program Management Course; and the Industrial College of the Armed Forces.

Moran's assignments include commandant DAU/Defense Systems Management College; project manager Abrams Tank System; product manager for both the Army Tactical Operation Center Program and the Extended Air Defense Command and Control System; Department of the Army system coordinator for national missile defense; space systems engineer in the USA Space Command; staff officer in combat developments at the Ordnance Center and School; and exchange officer in the United States/German Scientist and Engineer Exchange Program at the IABG Armor Test Center. He has also served as a company commander in the 1st Cavalry Division.

Moran has received the Defense Meritorious Service Medal; Legion of Merit; Meritorious Service Medal with two oak leaf clusters; the Army Commendation Medal with four oak leaf clusters; the United States and German Army Parachute Badges; the United States Air Force Space Badge; and the Army Staff Identification Badge.

Q *Hundreds of thousands of pieces of equipment have reportedly been sent to U.S. soldiers deployed in both Iraq and Afghanistan to use and field-test, including the M107 long-range sniper rifle, the common remotely operated weapon station (CROWS), and the M4 carbine (modular). How is feedback collected from the soldiers? What are the criteria in determining what new pieces will be sent to troops in the field for testing?*



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A Often the most immediate and valuable feedback is received during new equipment training (NET) when civilians and soldiers take weapons and equipment into the field to train and gather input. Daily training sessions in such an environment provide frank and unbiased feedback that is documented and consolidated upon the team's return. In addition, PEO Soldier personnel routinely visit both theaters to gather feedback on systems and talk to the soldiers using them.

Determination of the new pieces to be sent for testing to troops in the field is initially based on the operational need of a particular unit. An operational need statement (ONS), is established and submitted through the unit's command chain to HQDA for approval. PEO Soldier works to ensure that all systems sent for testing in theater are sufficiently mature and safe.

Q *In the first Gulf War, GPS systems were almost unheard of; now GPS devices are commonplace in training and on deployments. What are some other significant high-tech devices being fielded for the warfighter by PEO Soldier?*

A High-tech systems fielded for the soldier include optics for the M4 carbine and the M107 .50 caliber long range sniper rifle. The M107 was introduced in the first Gulf War but was used only by Marines and Special Operations forces. It is now a standard sniper system for the Army and is used for long-range target engagement for both

anti-materiel and anti-personnel targets. Its effective range is between 1,600 and 2,000 meters, which provides greater lethality and probability of kill.

CROWS mounts onto a variety of vehicle platforms, including the high mobility multipurpose wheeled vehicle (HMMWV), providing soldiers with the capability to acquire and engage targets on the move, while protected by the vehicle. It supports the MK19 grenade machine gun, Cal. 50 M2 machine gun, M249 semi-automatic weapon, and M240B machine gun. It includes two axis-stabilized mounts, a sensor suite, and fire control software, allowing on-the-move target acquisition and first-burst target engagement.

Product Manager Air Warrior has provided such high-tech devices (in this case for helicopter crews) as the electronic data manager, which interfaces with blue force tracking to provide a GPS moving map combined with two-way situational awareness display up front in the cockpit for the first time. The system will allow rapid in-flight mission planning or changes and bring a low-cost, lightweight, portable digital flight management system to our non-digitized aircraft until the fielding of future, more capable platforms. The Air Warrior Microclimate Cooling System (MCS) will allow air crewmembers to don full survival and protective equipment, including chemical protective equipment if necessary, and perform their mission in hot environments. A wireless intercom system is being developed that will free the UH-60 and CH-47 aft crewmembers from the operational and safety restrictions of a tethered cord and has great potential for use by other platforms.

Project Manager Soldier Warrior has also provided the commander's digital assistant (CDA) to infantry units in handheld and tablet forms for evaluations during Operation Iraqi Freedom. The CDAs have been providing the leaders of both the second and third brigades of the 82d Airborne Division with improved situational awareness, enabling leaders to share combat data using digital messages, perform command and control functions, develop mission plans, and keep track of unit personnel (blue force tracking). We also distributed multiband inter/intra team radios (MBITRs) to improve infantry unit communications at squad/platoon level.

It's interesting that high-tech solutions are often required to satisfy the most basic soldier needs. I'd like to point out that although high-tech is aggressively pursued as a materiel solution, many solutions to what the soldier needs and wants would be considered low tech—such solutions as the ability to reduce the weight of what a soldier must carry, the ability to keep him or her hydrated, solutions to keep the soldier warm and dry at night so sleep is most beneficial.

Q

If technology is a driving force behind equipping the U.S. soldier with the latest pieces of equipment, how does PEO Soldier anticipate obsolescence and system compatibilities when testing new equipment?

A

We anticipate obsolescence and system compatibilities (interoperability) during the initial development phase of acquisition. Our approach to mitigating the impact of early obsolescence in high-tech equipment is to use the fundamental management processes that provide our soldiers with a quality product on schedule and an evolutionary (incremental) approach, and to ensure that both we and our industry partners follow disciplined development processes and use meaningful metrics to measure our progress. All this results in realistic expectations and a product available sooner and at a lower cost. Wherever possible, we adapt commercially available products. As newer, better products are made available, we insert that technology into our basic equipment because we have designed it that way—as a system.

As for system compatibility, that is one of the very reasons this PEO came into being. It is one of our core tenets since PEO Soldier manages virtually everything worn, carried, or operated by the soldier.

Q

How will the SEP provide enhancements and new systems to the soldier more rapidly? How will you collect and evaluate input to this process from all areas?

A

The goal of SEP is to improve lethality, survivability, command and control, mobility, and sustainability for all soldiers. Its mission is to identify and evaluate commercially available individual weapons, munitions, optics, combat clothing, individual equipment, water supply, shelters, and communication and navigational aids that can be adopted and provided to soldiers in three years or less.

PEO Soldier and TRADOC System Manager (TSM) Soldier are charged with managing the SEP program for the Army. The program solicits suggestions annually from individual soldiers, field commanders, industry, and combat and materiel developers worldwide. Each year SEP receives and reviews nearly 125 proposals for suitable solutions to keep up with ever-changing technologies and new and improved ways to equip and maintain our forces. “New start” proposals that match up with user deficiencies are presented at the annual PEO/TRADOC SEP review and compete for funding in the upcoming fiscal year. Those proposals selected and funded are taken through a series of steps to buy or produce an item, evaluate, conduct field-testing, standardize, and issue it to the field. Examples of recent SEP programs are the close quarters battle

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kit and the integrated laser/white light pointer (ILWLP). The close quarters battle kit consists of such items as weapons camouflage, shoot-around corners prism, and ambidextrous controls that will increase soldiers’ lethality and survivability. The ILWLP addresses the need by combat and combat support soldiers for a single integrated device to acquire and engage targets with the M9/M11 pistol on the battlefield and in close-quarters combat engagements during limited visibility conditions or in total darkness.

Q

General Moran, you have taken on this job at a time when the United States is at war and the nation collectively feels a heightened sense of obligation to our soldiers. How has that affected your organization—and you personally?

A

The great men and women of Team Soldier realize that what we do touches the lives of soldiers each day. We all take this very seriously, especially when we hear stories of soldiers’ lives being saved with our equipment. We are committed to saving warfighters’ lives, improving their quality of life, and increasing their combat effectiveness.