

ARMOR & MOBILITY

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BG Paul A. Ostrowski

Program Executive Officer
PEO Soldier
Fort Belvoir, VA

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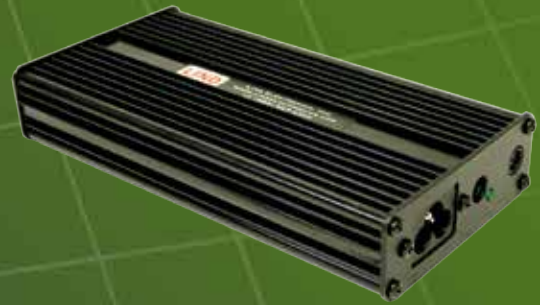
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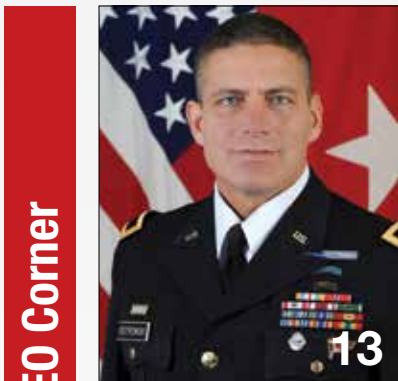
Next-level Connectivity

Improved Enhanced Position Location Reporting System (EPLRS) is being fielded to Stryker teams. A&M looks at the upgrades in real-time comms between command center and vehicle.

By Kevin Hunter

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Cover: U.S. Army soldiers aim their rifles and grenade launchers as an Apache helicopter flies overhead. (PEO Soldier)



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Insights

As another year begins, a palpable feeling of optimism abounds as Congress finally managed to reach a budget deal that will stave off \$30 billion in defense cuts over the next two years. Despite the financial melee, tens of thousands of troops remain deployed and much equipment retrograde and refit remains to be done as program officials from PEO Soldier, Fort Belvoir, VA, and Army NIE testing grounds in White Sands, N.M., continue their efforts to supply the nation's soldiers with world-class combat equipment.

The January 2014 issue of Armor & Mobility magazine offers readers an outlook for the year ahead in a reviewing some key equipment and capabilities that provide America's Army and joint warfighters the necessary firepower and situational awareness they need to dominate in battle. At the center of this is Program Executive Office (PEO) Soldier, a primary organization in the issuance of weapons and gear critical to the combat effectiveness of U.S. soldiers. In an exclusive interview with Program Executive Officer BG Paul Ostrowski, readers get a look into ongoing efforts to win the war of weight versus protection in dismounted operations, from lighter, more versatile firepower and body armor to greater modularity in essential survival equipment. In an accompanying special segment to the January issue, Project Manager Soldier Weapons provides a review of their work over the past year and their goals moving forward.

All the firepower, protective wear, and night vision in the world is rendered relatively useless without the communications capability to guide it. From a comms perspective, we look at the latest in mounted computing and connectivity increasingly available to Stryker Brigade Combat Team (SBCT) tactical ops. Additional upgrades to Enhanced Position Location Reporting System (EPLRS) digital integration and plug and play is enabling uninterrupted multi-unit information exchange in real-time.

From a platforms vantage, this issue takes readers "behind the scenes" at Army Depot Letterkenny, DoD's primary facility for light tactical ground vehicle sustainment and reset. This issue's Strategic Leader column highlights PEO Ammo, the nation's largest overseer of ammunition supply, while on testing and training fronts, we look at how the Army Test & Evaluation Center's Joint Test Element (JTE) is taking critical product testing to the "tactical edge" while Ft. Sill's Fires Center of Excellence keeps U.S. combat soldiers' aim true.

As always we look forward to your comments and thanks for the continued readership, enjoy!

Sincerely,

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ADVANCING STANDARDIZED Tactical Computing

A new capability known as the Mounted Family of Computer Systems will bring interoperability to tactical computers and improve user efficiency by allowing soldiers to better plan, monitor, and execute missions.

By Nancy Jones-Bonbrest, PEO C3T

To improve the soldier experience and drive down costs, the Army is creating a standardized family of tactical computers that are scalable and tailorable to the mission and vehicle. With a modular “build your own system” computer, users will be able to access and operate several different software applications over a single piece of computer hardware.

Ongoing Evolution

Development of the Mounted Family of Computer Systems (MFoCS) dates back to a 2011 Army directed requirement for a common computing hardware solution with the goal of converging separate computing environments onto a single architecture.

MFoCS fits in the same hardware footprint and uses the same installation kit as the existing Force XXI Battle Command Brigade and Below/Blue Force Tracking (FBCB2/BFT) and Joint Capabilities Release (JCR) systems. These technologies are the predecessors to the Joint Battle Command-Platform (JBC-P)—the Army’s new situational awareness capability planned for fielding in Fiscal Year 2014—and have been integrated on more than 120,000 platforms, reside in each tactical operations center, and are fielded to every brigade combat team within the Army. “By offering basic through advanced computing and display capabilities, we can satisfy the needs of several mission command applications while eliminating the burden of operating different computers in the same vehicle,” said Dominic Satili, deputy product manager for Blue Force Tracking (BFT), assigned to Project Manager JBC-P. “The soldier only has to learn how to operate one computer.”

Contract Awarded

Earlier this year, PM JBC-P, assigned to the Program Executive Office for Command, Control, and Communications-Tactical (PEO C3T), awarded a three-year, indefinite delivery/indefinite quantity contract for production and development of MFoCS to DRS Technologies, Inc.

The building block approach introduces three MFoCS models: basic, intermediate, and advanced. The basic configuration is a tablet, while the intermediate model adds a processing unit with a 12-, 15-, or 17-inch display.



By allowing multiple software programs to utilize a single hardware solution inside the vehicle—rather than requiring individual hardware—the Mounted Family of Computer Systems also reduces size, weight, and power demands. (DRS Technologies, Inc.)

The advanced model includes not only the tablet but also two intermediate units for a total of three work stations, making the three MFoCS models interchangeable and easily customized to fit any mission. The tablets are ruggedized and operate on a 25-foot cable, so soldiers inside a vehicle can pass the display around or even detach it and take it outside.

Designed to run JBC-P, MFoCS will also support other command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) applications.

By allowing multiple software programs to utilize a single hardware solution inside the vehicle—rather than requiring individual hardware—it also reduces size, weight, and power demands. MFoCS not only brings interoperability to tactical computers, it also reduces the cost of the basic configuration computer by as much as 36 percent and boosts its performance by more than 350 percent.

Moving forward, MFoCS will support the Mounted Computing Environment (MCE), one of six computing environments that are part of the Army-wide Common Operating Environment (COE). The COE strategy embraces a commercially-based set of standards that enable secure and interoperable applications to be rapidly developed and executed across the computing environments.

More info: peoc3t.army.mil

SWaP Meet

Army's Network Integration Evaluations Help to Reduce Size, Weight, and Power Requirements

By Amy Walker, Staff Writer, PEO C3T

As the Army strives to “do more with less,” it is leveraging Network Integration Evaluations (NIEs) to find solutions that decrease cost, size and power requirements for stationary and mobile Command Post capabilities.

“Reducing size, weight and power (SWaP) is a force multiplier that improves the efficiency and effectiveness of our forces, while reducing cost over the long term,” said Lt. Col. Carl Hollister, product manager for Command Post Systems and Integration (PdM CPS&I). “It’s good for the soldier; it’s good for the taxpayer; and it’s good for battlefield operations.”

Reducing SWaP is a continued objective in the development of today’s expeditionary Army, and NIEs provide a venue to evaluate how possible solutions could be integrated into current force operations. NIEs aim to rapidly mature and integrate the Army’s tactical communications network and accelerate and improve the way network technologies are delivered to soldiers. The semi-annual NIEs are conducted at Fort Bliss, Texas, and White Sands Missile Range, N.M., utilizing the soldiers of the 2nd Brigade, 1st Armored Division executing missions in realistic operational environments. The sixth evaluation of its kind, NIE 14.1, wrapped up in November 2013, with NIE 14.2 to be conducted this spring.

As the Army fights the ongoing battle to reduce equipment SWaP requirements, vehicle configurations evaluated at NIEs could potentially help satisfy some of these challenges. Although SWaP traditionally addresses savings inside a platform, external benefits can also be achieved by reducing unit vehicles, fuel and major equipment requirements. So shrinking SWaP has many benefits that extend far beyond that initial impact, said Gerry O’Keefe, Standardized Integrated Command Post System project lead for PdM CPS&I, which is assigned to the Army’s Project Manager for Warfighter Information Network-Tactical (WIN-T).

“For example, if you can reduce the

number of vehicles required to support a mobile command post, then there are fewer soldiers needed to drive them and smaller convoys required to move them out when the order is given, and of course less fuel is required,” O’Keefe said. “Just think about how much a gallon of diesel delivered to Afghanistan costs.” (The Army has estimated the cost of a gallon of diesel can be hundreds of dollars when shipped to soldiers in hostile areas. – A&M)

One possible solution to command post SWaP reduction is the Modular Integrated Command Post (MiCP), which was a System Under Evaluation (SUE) at the last two NIEs. SUEs are submitted by government and industry and selected to participate in the NIEs to receive full operational assessments. The intent of the process is to assess and integrate systems that meet an operational need or gap, such as SWaP reduction, primarily through soldier-led evaluations during NIE field exercises. The MiCP SUE combines the capabilities of two legacy Command Post Platforms, currently used to provide the necessary communications equipment to operate and support a tactical operations center, into just one mobile platform.

“MiCP helps the commander to be more flexible in where he can go and how quickly he can set up and establish [operations] at-the-halt by having to connect just a few cables instead of two sets of vehicles coming to the halt and setting up both of those,” said Lt.Col. Ernest Tornabell, brigade communications officer (S6) for 2/1 AD. “We’ve made it more agile.”

During the last two NIEs the MiCP solution was integrated onto a rugged and survivable MaxxPro Mine Resistant Ambush Protected (MRAP) vehicle. MiCP is geared toward the brigade combat team tactical command post (TAC) and battalion command post, where mobility and scalability are essential. It provides advanced communication through a modern suite of command, control, communications, computers, and intelligence (C4I) information



systems, networking devices and tactical radios, as well as the unique ability to generate electrical power from its own transmission.

“Instead of pulling two generators behind two command post platforms, MiCP uses On Board Vehicle Power (OBVP), which now enables us set up quicker,” Tornabell said. “Each system is up longer and we have a single shelter to go into to do that troubleshooting instead of running back and forth between the two to see how they are working.”

MiCP’s On Board Vehicle Power (OBVP) capability, which modifies a standard vehicle transmission to enable the vehicle to generate electrical power, can be integrated onto MRAPs, Strykers or Family of Medium Tactical Vehicle platforms. While the engine is running, regardless of whether the vehicle is stopped or moving, the generator spins and produces electrical power for both internal vehicle use and to power the command post. It improves power-generation efficiency, cuts fuel cost and reduces logistics and sustainment burdens in operation and maintenance. OBVP could help reduce dependency on towed generators for expeditionary missions: A large, towed generator produces 30 kilowatts of electrical power, and OBVP can be configured to produce four times that amount.

“You can export power to pretty much anything that can accept an export,” said



Integrated onto a Mine Resistant Ambush Protected vehicle, the Modular Integrated Command Post (MiCP) was a System Under Evaluation at the Network Integration Evaluation 13.2 in May 2013. The MiCP is geared to support the brigade combat team tactical command post (CP) and battalion CP, where mobility and scalability are essential. (Army)

On board vehicle power could help reduce dependency on towed generators for expeditionary missions, with some configurations producing four times the amount of power as a generator.

Capt. Jason Patterson, brigade information systems manager for 2/1 AD, who worked with the brigade's MiCP during NIE 14.1. "It's pretty resilient."

During NIE 14.2 this spring, MiCP's Modular Small Form Factor (MSFF) computing system, a modular system designed to minimize the volume of computer equipment, will be fully operational and utilized during brigade TAC operations. MSFF includes common modules that are easily removable, which facilitates timely upgrades, reduces repair time and supports both emerging technologies and standard industry systems. This type of SWaP reduction can be useful in any situation where internal vehicle space is limited and a common infrastructure is required from tactical vehicles, deployable transit cases and aircraft.

"Anything the Army can do to reduce SWaP will go a long way in bringing down costs, improving integration and reducing the burden placed on our soldiers," Hollister said. "And the NIEs are giving us an invaluable glimpse into seeing how some of these solutions could potentially work to improve battlefield operations." ■



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Next-level CONNECTIVITY

Stryker Brigade Combat Teams may soon have unfettered access to streaming voice and data from the next generation of tried and trusted Enhanced Position-Location Reporting System technology.

By Kevin Hunter, A&M Editor

In the 1980s, the Enhanced Position Location Reporting System (EPLRS) was developed to provide position-location information prior to the evolution of global positioning system (GPS) technology. Over time, the radio capability evolved as a primary data transport radio for the U.S. Army's Force XXI Battle Command, Brigade and Below (FBCB2) system, a communication platform designed for commanders to track friendly and hostile forces on the battlefield by gathering information in near real-time based on vehicle locations, hence increasing a vehicle commander's situational awareness of the combat picture. In mounted applications, EPLRS enabled vehicle crews to pass position-location information and data from vehicle to vehicle, revolutionary for their time.

To the IP Cloud

As Tactical Operations Centers grew in size and capability, enabling Mission Command through a variety of IP based applications such as email, chat, and ventrillo, so did the requirement to enable access to these applications to commanders at the company-, troop-, and battery level. In support of FBCB2 from the beginning, the question became could EPLRS radio technology be enhanced to enable Internet Protocol (IP) applications, hence acting as a single point of real-time communications and data flow between the vehicle and stationary command center, essentially



A Stryker Light Armored Vehicle navigates a muddy road during a stop at a combat outpost in Muquadiyah, Iraq. (Army)

extending the tactical Internet from the last wire terminal.

“With EPLRS, information can now bridge the gaps that used to limit continuous connectivity between network nodes on the battlefield,” said MAJ Benjamin Schneller, S6, 1/25 Stryker Brigade Combat Team. “Within the normal constraints of frequency requirements and bandwidth availability, a greater variety of both voice and visual data can be transmitted as it is happening from command post to mobile command and back, keeping operational commands up-to-the-second on the state of a constantly changing battlespace.

“By placing IP connectivity within the vehicles, joint commanders not only have access to the same information as that back at central mission command, but have so in real-time and in forward- or back response mode to address fluid changes on the battlefield,” Schneller noted.

One of the complaints of joint commanders is that they have to spend too much time in their command posts, tethered to the wire-bound devices that keep them in touch with actual changes to

the battlespace as they are happening. By bringing IP capability to EPLRS software, what was once only available in voice relay connection or digitized FBCB2-enabled message from the command center can now be accessed in dynamic voice and data as it is occurring, enabling mission commanders to command on-the-move. This access to continually-updated information from static command post to vehicles enroute to their objective and back again provides commanders with an “unblinking eye” to the changing combat landscape while they themselves are on the move at the battlefield.

Software on Steroids

EPLRS software is at the center of this latest capability evolution within the proven radio platform.

“Extended frequency now allows users to communicate across a wider cross section of the spectrum, operating from 225 to 400 MHz and 420 to 450 MHz with RT-1915 technology,” said Patrick Gibson, Program Manager, EPLRS, of Raytheon Company. “Based on authorized frequencies normally available to EPLRS users, data can now be received and



Raytheon EPLRS Radio

SBCT units are outfitting combat platforms with the enhanced EPLRS technology, with continued testing and implementation expected in 2014.

“We have roughly 21,000 EPLRS fielded to all three services,” noted Gibson. “There are about 18,000 fielded to the Army. We are pulling our oldest models (RT-1720-D) while still providing our newest radios (RT-1915).” Gibson stressed “providing” rather than “fielding” since the system is beyond the procurement and fielding phase. ■

sent more efficiently than before since greater frequency range enables alternative bandwidth access across which users can transmit information.”

EPLRS essentially pushes data across Command Posts of the Future and Tactical Ground Reporting System Net—even email—from command post over the air to the soldier with laptop connected to the EPLRS hardware. “The laptop can be used to engage in tactical applications with data that is fed directly into the computer where it was previously manually input[ted],” indicated Gibson.

“A company commander would depart from his command post and move off to a smaller [base] and various platoon locations operating in austere environments with limited network availability,” Schneller said. “He could open his laptop and, with EPLRS IP software, establish connectivity with a live command post data stream which enabled him to provide operational staff with updates based on current reports and data received in real-time from mission command.

“Prior to EPLRS capability, commanders would print out reports coming from command central, relying on those ‘static’ documents to make decisions about a fluid battlespace. Now with EPLRS, commanders can be on the move with their fielded forces and maintain the same level of awareness of changing requirements as if they were back at the mission command center,” Schneller added.

State of Fielding

Current numbers have 28,000 EPLRS radio units fielded with EPLRS software upgrades being provided by Raytheon. Army

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TESTING

to the Tactical Edge

A Conversation with an Army Testing Leader



An MRAP Cougar HE tested with landmines detonating around it. (DoD)

Lt. Col. Manuel A. Ugarte, Deputy Director – Quick Reaction Tests and Senior Operations Research Analyst, U.S. Army Joint Test Element, Army Test and Evaluation Center, Aberdeen Proving Ground, MD, regarding the benefits and challenges to joint program testing and evaluation.

Born in Puerto Rico, Lt. Col. Ugarte was commissioned as a second lieutenant in the Chemical Corps upon graduation from Norwich University's Reserve Officer Training Corps Program in May 1995. On his initial assignment to U.S. Army South in the Republic of Panama, he served as the battalion Chemical, Biological, Radiological, Nuclear and high- yield Explosives (CBRNE) officer for 1/228th Aviation Battalion, and CBRNE officer

and Support Platoon leader for 5/87th Infantry Battalion in support of various missions throughout Latin America.

Upon returning to the United States, Lt. Col. Ugarte was assigned as a CBRNE operations plans officer for the III Corps' General Staff in Fort Hood, TX. He was subsequently re-assigned to the 2nd Chemical Battalion, 13th Combat Support Command, where he served as the battalion's personnel officer (S1) and the Commander of the Headquarters and Headquarters Detachment (HHD). While commanding, he deployed the HHD as part of the 4th Infantry Division's Task Force Ironhorse to Operation Iraqi Freedom.

Lt. Col. Ugarte was designated as a Senior Operations Research Analyst

(ORSA) in 2006. As an ORSA, he has served as a combat operations analyst, study team leader and executive officer at the U.S. Army Training & Doctrine Command Analysis Center (TRAC) in Monterey, CA. While assigned to TRAC, he served as the team leader for a myriad of analysis, test, and evaluation initiatives such as: Research, Development, and Engineering Command's soldier domain technologies, human-robot interaction projects, unmanned aerial vehicles analysis, and ultimately, the clandestine tunnel interdiction effort in support of the Department of Homeland Security.

Lt. Col. Ugarte was interviewed by A&M Editor Kevin Hunter.

A&M: What is the role of the Army Joint Test Element (JTE)?

Lt. Col. Ugarte: The Army JTE, a part of the Army Test and Evaluation Command (ATEC), collaborates with the Joint Test and Evaluation (JT&E) Program Director, Operational Test and Evaluation (DOT&E) program. The JT&E Program focuses on solving challenges from the tactical to strategic level in joint military operations, providing operationally tested non-materiel solutions to emergent issues identified by the joint military community.

The Army JTE manages one of three Joint Test Units (JTUs) to support JT&E projects. Serving as an Operational Test Agency, the JTE team predominately focuses on Army priorities, but the Army JTE JTu enables ATEC to support DoD operational issues needing a joint solution. The Air Force and the JT&E Program operate the other two JTUs.

A&M: How did the program begin? How did it evolve?

Lt. Col. Ugarte: The JT&E Program was chartered in 1972 to provide quantitative information for analyses of joint military capabilities and potential options for increasing effectiveness.

The program was transferred from Under Secretary of Defense for Acquisition, Technology, and Logistics to DOT&E in December 2002. The program processes were reengineered in 2004 to improve the response time to issues in joint military operations by shortening decision cycles and project life spans, which resulted in earl[ier] product delivery. The reengineering work group struck a balance with the need for test and evaluation rigor, the program's hallmark, and delivering new products.

The program was also reengineered in 2012 due to a 43 percent budget reduction the program took in FY 13. The key issues for JT&E customers in 2012 were shorter joint test (JT) life spans, and they wanted to maintain governance, flexibility, and test and evaluation rigor. Additionally, the program director's guidance to the reengineering working group was to maximize the number of new test project opportunities, identify potential efficiencies, and keep the current Quick Reaction Test (QRT) business model intact.

A&M: What type of testing is offered? Whom does it benefit?

Lt. Col. Ugarte: We provide near-term solutions to joint, service, agency, or combatant command (COCOM) challenges. Solutions are tested and evaluated through two options: a JT option for complex issues that require up to two years of effort and a QRT option for less complex issues that can be solved in less than one year.

JT nominations are reviewed semi-annually by a board of senior military and civilian leaders who decided which nominations will conduct a six-month joint feasibility study prior



Lt. Col. Manuel A. Ugarte

to the final selection of JT. After the joint feasibility study, the board reviews the study's results to decide which studies will go ahead to conduct a JT.

The JT&E Program provides money to pay for contractor support, test-specific costs, and travel. The JT sponsor provides the operational expertise [and] standard issue equipment for use in test events. The ATEC JTE JTu provides office space with office infrastructure and technical and administrative support to the JT.

The QRT process is designed to solve emerging issues that are limited in scope within one year. These QRTs provide timely solutions and products to meet evolving operational problems. QRT nominations are evaluated and accepted three times a year. The JT&E Program provides up to \$1 million to cover the costs of test resources and contract support. The QRT sponsor is responsible for providing the operational expertise, while the participating operational test agency provides the test and evaluation expertise. The JT&E program also accepts QRT nominations for extremely urgent issues at any time for an expedite[d] review process.

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JTE developed, tested, and validated tactics, techniques, and procedures to support the ground tactical commander's use and support of military working dogs while performing counter-IED missions. (Yuma PG)

The results of JTs and QRTs are typically in the form of handbooks; concept of operations; tactics, techniques and procedures (TTPs); revisions to doctrine publications; or training inputs to joint and service schools.

A&M: How does the testing offered by JTE apply directly to servicemembers for use in training or in combat?

Lt. Col. Ugarte: The JTE's mission is focused on generating non-materiel solutions to solve emerging operational problems. Our team is formed of a mix of DoD civilian, Army, and Air Force combat arms and combat support military personnel with extensive strategic, operational, and tactical experience. We bring our collective operational expertise to address the issues selected by the JT&E Program. It

is important to note we focus on non-materiel solutions and that we are not part of the acquisition process. This means we have the autonomy and flexibility to go after tough problems without the constraints of [that] process.

Since 2003, the Army JTE has completed 17 projects and 15 handbooks provided to joint or service organizations in the form of TTPs, user checklists, standard operating procedures, and revisions to training publications that were integrated into appropriate training programs.

For example, last year we completed a project called the Joint Vehicle Protection and Survivability Systems (JVPSS) QRT. This QRT was directed to mitigate injuries crew and passengers suffered due to their unfamiliarity with the combat vehicle's safety features and survivability enhancements. This handbook was distributed widely to

units using the vehicles in combat operations; the JVPSS handbook is still requested and used in theater. We are currently working on an enhanced, interactive digital version of the JVPSS handbook, a format we envision using for future handbooks (and converting past ones into).

A&M: What is the future of the JTE and JTs/QRTs?

Lt. Col. Ugarte: The result of the October 2012 JT&E reengineering effort was to enable JTs with a "hot start" capability in order to begin their test and evaluation events and to issue non-materiel results within two years instead of the previous three-year model. We anticipate that this new process will enhance our throughput capacity and expedite delivery of our products.

There are many opportunities to expand our QRT and JT mission in the near future. Our team will continue to proactively engage our customers through a three-pronged approach: maintain our established relationships with joint agencies; expand the presence of our liaison officers at the COCOMs; and foster our new partnership with the Army Research, Development, and Engineering Command's (RDECOM) Field Assistance in Science & Technology (FAST) Directorate. Our teaming with FAST enables our collaboration with their S&T representatives at the COCOMs, which consequently strengthens our linkages to actively seek their "tip of the spear" operational challenges.

The Army JTE will continue to build on current capabilities and foster collaborative efforts with partner organizations such as RDECOM, the Army Materiel Systems Analysis Activity, and others to provide non-materiel solutions to specific Army issues that cross into the joint domain.

Our people are our most important capability; we are exploring opportunities to invest in potential collaborative efforts to use our operational expertise in support of COCOM S&T data collection efforts overseas for new initiatives.

More info: atec.army.mil

Chem-Bio Protective Wear Innovators



Tennessee Apparel Corp. (TAC), manufacturer of military garments, has been identified as the only qualified source for the procurement of chemical and biological protective garments under the

Uniform Integrated Protection Ensemble Increment 1 (UIPE I1) effort. TAC has received the production option on a \$129 million firm-fixed-price contract issued in February 2012.

The chemical and biological protective ensemble is a layered clothing system that consists of a lightweight combat uniform worn over a CB protective undergarment. W. L. Gore & Associates, a world leader in the development of high-performance protective fabrics, is the key material supplier on the contract. The GORE CHEMPAK selectively permeable fabric is used in the protective undergarment layer of the clothing system.

This clothing system provides enhanced individual protective capabilities through superior protection from warfare agents after wear, and after exposure to petroleum, oils, lubricants, and other environmental contaminants. In addition, the innovative undergarment design integrates easily with current combat gear and personal protective equipment.

More info: GoreChempak.com

New Helo Mission Planning Software

Helicopter mission planning tools to penetrate hostile airspace covered by radar threats today look at threat rings provided by the threat laydown in mission planning software and pick the most survivable route, Special Operations Command (SOCOM) officials explain.

tacticaldefensemedia.com

To fill this need, SOCOM officials are looking to enhance existing FalconView Portable Flight Planning Software (PFPS) with models to protect helicopter pilots who are penetrating deep behind enemy lines. PFPS software suite includes FalconView, Combat Flight Planning Software, Combat Weapon Delivery Software, Combat Air Drop Planning Software, and several other software packages built by different software contractors.

PFPS is an integrated suite of PC-based mission planning tools using a common graphical user interface, which can run on any Windows 2000 or XP PC. It displays standard digital maps and produces user-customizable keyboard cards, combat mission folders, and data transfers to compatible digital transfer devices.

The goal is the ability to predict when helicopters will be detected by enemy radar based on signature data, altitude, clutter, airspeed, and other factors. The product should be a PC-based, RF detection code that is capable of future product integration into PFPS.

More info: falconview.org

Study Finds That Some Body Armor Is Cooler

An independent study conducted at the University of Arkansas Human Performance Laboratory has produced data that supports claims by body armor manufacturers CORTAC of improved comfort and cooling while using the CTAV with concealable and tactical body armor. Previously, CORTAC has relied upon anecdotal evidence and testimonials from field-tests to give credibility to the CTAV's performance.

"For the past eighteen months, we have been turning skeptics into believers," said Jeremy Harrell, President of CORTAC. "The data in this study showing lower core body temperatures, lower sweat rates and lower heat storage verifies the CTAV's ability to improve the comfort of wearing body armor."

"Clinically, there was an average attenuation of body temperature rise during exercise in the heat with CTAV," said Dr. Brendon McDermott, Ph.D., ATC, Assistant Professor of Kinesiology, University of Arkansas. "The difference in body temperature was limited, but our study demonstrated that the CTAV

can help those who wear body armor or work in the heat and it does not impair thermoregulation."

The University of Arkansas modeled their study after the heat tolerance test (HTT) developed by the Israeli Defence Forces Medical Corps. The HTT is designed to detect a compromise in body temperature regulation and requires subjects to exercise in a heated chamber while wearing personal protective equipment.

Built around its patent-pending Advanced Impact Resistance and EverDry technologies, the CTAV is a thin, flexible and lightweight air-filled device that integrates with concealable and tactical body armor systems. The CTAV facilitates passive cooling, trauma attenuation and ventilation when used in conjunction with body armor systems.

More info: cortac.com

Improved Modular Tactical Holster Winners

In December 2012, the U.S. Army released a pre-solicitation for a new Improved Modular Tactical Holster (IMTH) for the M9 pistol. The concept was to look for improvements to be made to the current Army Tactical Drop-Leg Configuration Holster System for the Army M9 specification Beretta 92F/92FS pistol. The improvements sought are increased modularity, including a drop-leg configuration, that can be quickly transferred to a hip configuration as well as the capability to be worn or attached to current Modular Lightweight Load Carrying Equipment (MOLLE), load carriage equipment such as rucksacks and the Tactical Assault Panel (TAP), or on individual body armor such as the Improved Outer Tactical Vest (IOTV) or the Solder Plate Carrier System (SPCS).

Just over a year later, on December 19th, 2013, Natick announced the winners. Interestingly, the Army split the award between ADS Inc. (\$24,288,000.00) and Military Hardware, LLC (\$49,000,000.00).

According to the pre-solicitation, the overall 5-year IDIQ contract would not exceed \$49 Million and consist of 225,000 holsters.

More info: peosoldier.army.mil



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Equipping to Achieve the Decisive Edge

Brigadier General Paul A. Ostrowski graduated from the United States Military Academy in 1985. He earned an MS degree in National Resource Strategy, as part of the Industrial College of the Armed Forces from the National Defense University in June 2006. He graduated from Joint and Combined Warfighting School at the Joint Forces Staff College in 2000. Additionally, BG Ostrowski earned an MS degree in Systems Acquisition Management at the Naval Postgraduate School in 1996.

BG Ostrowski has more than twenty-five years of experience in acquisition, operational and Joint assignments. He served as Assistant Deputy for Acquisition and Systems Management, Office of the Secretary of the Army (Acquisition, Logistics, and Technology) in Washington, D.C., from September 2011-April 2012. He was the Executive Officer to the Commander, United States Special Operations Command (SOCOM), MacDill Air Force Base, FL, from May 2010-September 2011. He served as SOCOM's Director, Operational Test and Evaluation, as well as Program Executive Officer for Special Programs from June 2006-May 2010 after he was the Program Manager for Counterproliferation at SOCOM from July 2003-July 2005.

BG Ostrowski served as Legislative Fellow, as well as Project Leader, for the Rapid Equipping Force in both Washington, D.C., and during Operation Iraqi Freedom in Iraq from June 2001 to July 2003. He also served as Chief, Fort Bragg Field Operations in the Special Products Office at Fort Bragg, N.C., from July 1996-June 1998.

Brigadier General Paul A. Ostrowski's awards and decorations include the Defense Superior Service Medal, Bronze Star Medal, Defense Meritorious Service Medal (with Oak Leaf Cluster), and Meritorious Service Medal (with Oak Leaf Cluster), among others.

BG Ostrowski was interviewed by A&M Editor Kevin Hunter.



BG Paul A. Ostrowski

**Program Executive Officer
Program Executive Office-Soldier
Fort Belvoir, VA**

We collaborate with our joint partners to efficiently get the best equipment in the hands of warfighters. The Advanced and Enhanced Combat Helmets, Nett Warrior, M4A1 Carbine, M320 Grenade Launcher, Enhanced Vision Goggle, M110, Pelvic Protection System, helmet sensors, M240B, Thermal Weapons Sights, and Joint Effects Targeting System represent just a small number of the numerous joint program efforts we have established and maintained.

A&M: Please describe efforts by PEO Soldier to keep soldiers protected with less materiel bulk.

BG Ostrowski: Reducing the load on soldiers is a core goal of PEO Soldier. PEO Soldier is making strides at addressing both evolutionary and revolutionary aspects of reducing soldier load. From an evolutionary perspective, we remain in a full court press to reduce soldier weight and bulk by 10-25 percent on a variety of equipment. We and our partners in industry are constantly working on lighter, better capabilities. The new generation of Thermal Weapons Sights, for example, represents an average of 15-percent lower weight and an increase by 41 percent in range performance across all variants. The Soldier Power System has the ability to replace a variety of batteries and chargers, representing a significant weight-savings on a 72-hour mission by decreasing the number of batteries required to sustain the soldier. The Air Soldier System will represent at least a 25-percent weight savings without inhibiting the ability to integrate with the aviation platforms.

A&M: Please speak to your role as Program Executive Officer-Soldier and describe your office's mission.

BG Ostrowski: PEO Soldier is ultimately responsible for the acquisition of many of the equipment items worn or carried by the dismounted soldier. We develop, acquire, field, and sustain the best equipment available as quickly as possible so our soldiers can remain protected, lethal, and situationally aware on the battlefield. We are always looking for new innovative technologies to give our troops the decisive edge.

We ... need to look for revolutionary approaches that will achieve our goal of soldiers carrying no more than 30 percent of their body weight for our most expeditionary forces.

This said, we must do better and need to look for revolutionary approaches that will achieve our goal of soldiers carrying no more than 30 percent of their body weight for our most expeditionary of forces (Airborne and Light Infantry brigades). To achieve this, we must look for approaches that provide 24 hour/7 day-a-week guaranteed resupply in any weather condition. Solution sets include precision aerial resupply—something that is being done effectively now in Afghanistan—and robotics, which can augment light infantry formations in bearing the weight burden. By lessening soldier load and bulk, we achieve overmatch by ensuring every soldier retains the ability to carry the fight to the threat once he or she reaches the objective.

In both approaches, our goal is to work with our industry partners to develop lighter and more capable solutions. One thing is clear, we must re-invent our training to incorporate resupply into our most expeditionary of mission profiles in order for the revolutionary approaches to work. We have learned over time that soldiers will only carry less if they have 110-percent confidence that no matter what occurs over the course of the mission, they will obtain the necessary resupply to endure and push the fight. This is very much like a paratrooper who has no hesitation jumping from a perfectly good aircraft. It's the belief, the trust, that no matter what, his parachute will operate as advertised, delivering him safely to the ground.

A&M: How is PEO Soldier working with other Army and joint offices to apply lessons learned to improve readiness?

BG Ostrowski: PEO Soldier leverages soldier feedback and lessons learned to inform equipment improvements throughout the acquisition lifecycle. It is our standard practice to solicit input early and often during the developmental process. Soldiers drive our process by directly supporting Limited User Tests as well as developmental and operational tests. To affect readiness, we work closely with units and ensure New Equipment Training (NET) is executed for all soldiers. Additionally, in our sensors and lasers product line, we have initiated an Advanced NET training opportunity focused to train the unit leader on advanced weapon and sensor tactics.

PEO Soldier and the Maneuver Center of Excellence (MCoE) are teamed in actively soliciting warfighter feedback. Through MCoE's

Soldier Survey efforts and PEO Soldier's Outreach Program, we continue to find new and innovative ways to ensure feedback informs product improvement and follow-through. PEO Soldier's Program Managers (PMs) and Product Managers (PdMs) assist MCoE's Test and Evaluation Office in survey questionnaire development, including establishing learning demands and study issues and developing the survey strategy and concepts. The Soldier Survey provides feedback to MCoE organizations, PEO Soldier, our PMs/PdMs, and other Army/DoD agencies to assist in their respective missions, including system improvements, requirements and materiel development, modernization, and prioritization and funding decisions. Additionally, PEO Soldier participates in the Joint Readiness Training Center's (JRTC) Science & Technology team's "Muddy Boots" Councils and NCO training mentor focus groups conducted following each JRTC rotation. Recent outcomes from survey efforts include fielded systems like the Improved Outer Tactical Vest/Soldier Plate Carrier System, Operation Enduring Freedom Camouflage pattern, and 5.56 Enhanced Performance Round. Other examples include ongoing Army Modernization efforts like "Squad: Foundation of the Decisive Force," Ground Combat Vehicle, and Soldier Protection System. Finally, every soldier can submit feedback of suggestions anytime through "Ask the Command Sergeant Major" link on the PEO Soldier website.

When looking at the joint aspect of soldier capabilities, we work with our Special Operations Command, Marine Corps (USMC), and Air Force counterparts. We share emerging technologies, requirements, and common product lines ranging from fire resistant uniforms, body armor, and small arms to thermal optics and goggles.

We also work very closely with our partners on a variety of programs and initiatives. We participate in joint forums, including the Joint Services Small Arms Program, Cross-Service Warfighter Equipment Board, and the Joint Clothing and Textile Governance Board. We also just signed an agreement to work with the USMC on recovering battle-damaged protective equipment for forensic analysis. This kind of analysis will help us better understand the kinds of trauma that protective equipment has to endure, which will in turn help us develop the Soldier Protection System—our modular, scalable, next-generation force protection system.

A Visible Improvement



Southwest Synergistic Solutions is a San Antonio-based company that develops and manufactures lighting solutions for our warfighters. The Emergency/Triage Light combines four colors (IR/R/G/B or R/Y/G/B) into one reusable, compact illuminated signaling marker that was originally developed at the request of a Spec Ops unit to reduce the triage equipment carried by medics. Currently, medics carry four bags with different colored chemical lights to signal different triage conditions, now they can

carry one bag—which weighs less, takes up less volume, and improves their capabilities.

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More info: triagelights.com or call 956-645-5265

A&M: How is PEO Soldier working to promote partnering with industry in delivering more effective and efficient know-how to the nation's soldiers?

BG Ostrowski: PEO Soldier hosts Industry Days to acquaint industry with our goals and efforts to help generate new ideas and encourage industry in participating in our efforts. We recently held one such Industry Day with the roll out the new Soldier Protection System. This effort to provide improved and lighter personal protection involves everything from helmets and hard armor inserts to electronics and ballistic eye protection. PEO Soldier encourages the widest possible industry participation [as] competition [both lowers costs and drives innovation].

We also accept submissions for non-developmental items through the Soldier Enhancement Program (SEP). Anyone, including soldiers, industry, and civilians, can submit a product to us through our website (www.peosoldier.army.mil/SEP). If the suggestion represents a capability that soldiers need or an enhancement on an existing program, we then purchase a small number of the items for evaluation. If the item performs well in the evaluation, it's possible that it can become a fielded product. In fact, almost 30 percent of our current portfolio received SEP funding at some point in their development, so we're always looking for new possibilities to increase soldiers' effectiveness.

A&M: What are some of the key challenges you see looking ahead regarding Army ARFORGEN and DoD requirements?

BG Ostrowski: There are no specific challenges associated with our mission related to Army Force Generation (ARFORGEN) or DoD equipping requirements. The Army, of course, will have to make informed decisions regarding the commitment of resources based on strategic priorities. We will be fully prepared to support those objectives.

Our biggest concern is addressing the challenges associated with the ever-expanding mission sets our Army is being asked to do in the future. Over the last 12 years of combat, we have maintained a counterinsurgency focus—and rightfully so. However, though we must maintain focus on current operations, we must also look to what the Army will be asked to do in terms of upcoming missions. Addressing legacy and new emerging and evolving missions in areas such as counter-proliferation, humanitarian assistance/disaster relief, space, cyberspace, missile defense, etc., will continue to challenge our Army. We must address this ever-increasing mission demand by continuing to provide the nation with the Army it expects and deserves.

A&M: Feel free to discuss any other accomplishments and current/long-term objectives.

BG Ostrowski: In Fiscal Year 2013, PEO Soldier fielded 4,541,420 items to soldiers, which included weapons, integrated soldier systems, protective equipment and clothing, night vision devices, thermal weapons sights, and laser designation systems. PEO Soldier is always striving to improve soldier lethality, survivability, and ability to operate in any environment. By fielding the best equipment possible to our soldiers, we save lives and provide America's Army with the decisive edge it needs. We will continue to team with our industry partners, science and technology counterparts, and sister service material developers to ensure our soldiers have exactly what they need to execute every combat mission and get home safely to their families. ■

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Soldier Weapons Review **2013**

By Kevin Doell, Public Affairs Specialist
PM Soldier Weapons, PEO Soldier

There was significant activity on the Army small arms front in 2013. Leaders “pulled triggers” on decisions covering everything from which service rifle soldiers will carry for years to come, to new applications of remote weapon stations that make soldiers even more lethal on the battlefield. What follows are program updates provided by PEO Soldier’s Project Manager Soldier Weapons (PM SW) out of Picatinny Arsenal, N.J. PM SW leads the charge on Army small arms to ensure that soldiers on the battlefield have overmatch capabilities in individual and crew served weapons.

PRODUCT MANAGER INDIVIDUAL WEAPONS

The M4A1 Carbine Program

PM SW fielded approximately 9,000 M4A1 Carbines to the 101st Airborne Division early in the year and is in the process of procuring components that will enable the Army to convert existing M4s into M4A1s starting in the second quarter of FY 14. Compared to the M4, the M4A1 has a heavier barrel for greater barrel life, improved sustained rate of fire, fully automatic trigger and selector switch, consistent trigger pull, ambidextrous controls, and improved ergonomics. The Army is also conducting a forward rail competition that is exploring the feasibility of further improvements to zero retention.

XM25 Counter Defilade Target Engagement (CDTE)

The Army’s developmental XM25 airburst weapon system fires a high-explosive, 25mm programmable “smart” round that either airbursts above the target or point detonates out to 700 meters. The Army learned valuable lessons from several Forward Operational Assessments, including how soldiers employ the weapon in combat and design improvements for improving the weapon’s performance. The system continued through its Engineering, Manufacturing, and Development (EMD) phase in 2013. Through the EMD process, improvements have been incorporated



The upgraded M4A1 Carbine provides soldiers with full auto capability and an ambidextrous selector switch



New individual cleaning kits are designed for a single caliber and are light and compact enough to fit into a cargo pocket.



CROWS Containerized Weapon System increases options for integrated base defense in difficult to reach and remote locations.



1AD Soldiers train on M205 Lightweight Tripod with a mounted M2A1 .50 Caliber Machine Gun at Fort Bliss, TX. The M205’s lightweight pintle allows greater weapon elevation and depression than the M3’s pintle.

into the design that upgrade reliability, performance, and manufacturability of the weapon, as well as its target acquisition fire control and ammunition. In September, the engineering team assessed the system’s final design, clearing the way for formal government testing.

Improved Weapons Cleaning Kit

Soldiers know the importance of keeping their weapons clean. They also know the importance of traveling light, which is why they typically take only the cleaning kit components absolutely necessary to get the job done. Taking a “soldier knows best” approach, the Army awarded a contract last year to procure a lightweight individual kit that can fit into a cargo pocket and contains tools to clean just 5.56 mm weapon systems. In addition, each four-man fire team will receive a team kit that will contain cleaning tools for 5.56 mm, 7.62 mm, 9 mm and .45 caliber systems. The new approach provides better functionality at a savings of nearly 65 percent per squad. First delivery is expected in June 2014.

PRODUCT MANAGER CREW SERVED WEAPONS

Common Remotely Operated Weapons Station (CROWS)

The CROWS system enables Soldiers to surveil, acquire, and engage targets with an array of sensors and machine guns while inside an armored vehicle or other protected space. The system has proven to be an invaluable asset since it was first fielded in theater in 2008 under Urgent Material Release (UMR) protocols. The CROWS program is now supporting joint and non-DoD customer requirements for the Army, Navy, Air Force, and the Department of Energy.

The program continues to expand, in part, due to the ease of integrating CROWS with new applications and capabilities. One Army example is the use of CROWS in a fixed-site installation that allows soldiers to better monitor areas and target threats remotely from inside a protected structure such as a bunker that may be located far

away from the weapon station itself. Fielding teams installed more than 150 systems in the past two years to strengthen force protection at various combat outposts and forward operating bases throughout Afghanistan.

A new twist on the tower application is an urgent requirement to field a CROWS integrated within a container with a telescoping tower to provide a “Containerized Weapon System” (CWS). PM Crew Served Weapons worked with the Rapid Equipping Force and PM Close Combat Weapon Systems to integrate and field several CWS units to Afghanistan in 2013. CWS increases options for integrated base defense by providing the ability to fly in place a fully functioning, containerized CROWS system for use in difficult to reach and remote locations.

The next chapter for CROWS will unfold over the next several years as the Maneuver Support Center of Excellence’s new requirement documents are staffed, approved, and executed. The next-generation CROWS could include improvements such as increases in sensor capability for enhanced situational awareness and longer engagement stand-off. No matter what upgrades come, CROWS will continue to save lives and serve as a force multiplier that increases soldier lethality and survivability.

M205 Lightweight Tripod for Heavy Machine Guns

In November, the 1st Armored Division became the first Army Division to be fielded the new M205 tripod, which is replacing the M3 tripod for use with M2/M2A1 and MK19 machine guns. The new M205 provides a strong, stable firing platform at significantly reduced weight and represents a significant design upgrade over the M3, which was first put into service in 1934.

At 34 pounds, the M205 weighs 16 pounds less than the 50-pound M3.

The new tripod also has an integrated Traverse & Elevation (T&E) mechanism, which is similar to the T&E on the M192 lightweight ground mount. The new T&E allows faster, more accurate target engagement. Soldiers can even operate the T&E with one hand and make bold or fine adjustments. There’s also an adjustable traverse limit stop to control left and right fields of fire, which is especially effective for night-time missions. The lightweight M205 pintle also allows greater weapon elevation and depression than the M3 pintle, and the tripod has a built-in pintle storage slot to prevent loss when stowed. The Army will be replacing all M3s over the next several years with the new M205s.

COMPETITION IN THE YEAR AHEAD

Modular Handgun System

In October, the Army approved a requirement to pursue a “Modular Handgun System” (MHS) as a replacement for its 9mm M9 pistol. The requirement was built upon a document initially issued by the U.S. Air Force for joint consideration. The approval will result in a full and open competition that will begin in 2014 among commercial off-the-shelf designs. The requirement calls for the MHS to be more lethal, accurate, ergonomic, reliable, durable,



and maintainable than the M9, which has been the Army’s standard sidearm since 1986.

The modularity aspect shall permit maximum common and interchangeable parts and allow users to configure sighting, accessories, actions, and sizes to match missions. The system design will enable the user to integrate accessories such as aiming lasers, illuminators, and suppressors.

To help inform the final request for proposals from industry, the Army is undertaking a handgun cartridge study that will narrow the field of calibers ultimately considered during the competition. The Army will be sharing information and gathering critical feedback throughout multiple planned industry days so as to maximize communication between the government and industry.

2014 and Beyond

The Army has a long record of continuous improvement upon its fleet of individual and crew served weapons. Through activities such as product improvement programs, engineering change proposals, and industry competitions, the Army continues to take any and all steps necessary to ensure that its soldiers are equipped to dominate the battle space. ■

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From Shell to System

A&M asked top helmet manufacturers about their latest offerings.

Team Wendy

By Ron Szalkowski, Director of Product Development, Team Wendy



EXFIL CARBON Tactical Bump Helmet (Team Wendy)

Building on a new liner technology that was largely designed under an Army program and exploring the capabilities of new engineered thermoplastic urethane (TPU) structures, Team Wendy's EXFIL CARBON Tactical Bump Helmet was developed from the inside out. The design of the structures provides optimal response to impact, acting as a crumple zone and mitigating impact forces that can accelerate and decelerate the head. Managing these head accelerations is critical to protecting against a spectrum of head injuries, from mild Traumatic Brain Injury to skull fracture. For multiple 10 feet per second impacts across all environmental conditions, the helmet limits head acceleration to below 65 Gs on average, with no impact over 105 Gs.

Around this unique liner we developed a lightweight, high strength carbon fiber shell, and an integrated retention system using a dial adjustable Boa closure system. The Boa closure provides fast and easy fit adjustment that conforms to the shape of your head. This is especially useful when night vision devices are mounted to the helmet.

The helmet is ideal for the Special Operations community. It serves as a lightweight platform for mounting accessories including night vision devices, cameras, lights, and oxygen masks. The liner and retention technology have also been transitioned into a stand-alone ballistic helmet liner (the REVOLVE helmet liner system) and the CAM FIT retention system, which is compatible with all modern helmets.

In addition to new product offerings, in 2014 we continue to pursue advances in the understanding of brain injury, which will develop improved helmet testing methods. Current test methods focus on linear impact, but we believe the capability to mitigate both linear and rotational impact will be an important step in improving the overall protective capabilities of headborne systems.

BAE Systems

By Heather Russell, Communications Manager, Protection Systems, BAE Systems

BAE Systems and its legacy businesses have been manufacturing helmets since 1985. More than one million helmets have been fielded and are in use by the DoD. Among its newest helmets in production, BAE Systems is manufacturing the Lightweight Helmet (LWH) and the Lightweight Advanced Combat Helmet (LW ACH) for the Marine Corps and the Army, respectively.

Requirements for both the LWH and the LW ACH were released by the DoD, and they request protection against fragmentation and handgun threats coupled with lightweight solutions to replace past metallic solutions. What makes these two specific helmets unique are the strong advanced fibers and resins that contribute to providing lighter weight helmets to meet required structural and ballistic protection levels.



Lightweight Helmet (BAE Systems)

BAE Systems entered production on the USMC LWH in 2012. This helmet represents the latest model in Marine Corps helmets since the Personnel Armor System Ground Troops helmet, which was first used in combat around 1983. BAE Systems is also preparing to qualify a design and produce

the LW ACH for the U.S. Army after recently receiving an approximately \$13.2 million award. The uniqueness of the LW ACH is its ability to fulfill a requirement to decrease helmet weight by 10 percent over a similar size and cut of the current Advanced Combat Helmet, while also meeting the same levels in ballistic protection.

Revision Military

By Jennifer Zimmerman, Marketing Communications Manager, Revision Military



Batskin Helmet (Revision)

Revision is a small but rapidly growing niche player on the defense scene. In four short years, we have gone from being a leading protective eyewear company to the recognized authority in integrated head protection. Our vision: By 2020, the defense industry will largely be acquiring soldier equipment as complete and fully integrated head-to-toe systems.

The groundwork for this future is being laid now with such programs as the Special Operations Command (SOCOM) Tactical Assault Light Operator Suit (TALOS) and the Army Head, Electronics, and Upgradable Protection (HEaDS-UP) program, which both incorporate a fully integrated head sub-system. There is also PEO Soldier's recently awarded Integrated Head Protection System (IHPS) contract—a development-to-acquisition program that is refining the Army's next-generation combat helmet.

Revision Batskin technology is being evaluated as part of each of these programs. For SOCOM's high-profile TALOS, the Revision head system features a low-profile, conformal-fit helmet with a ultra-high-molecular-weight polyethylene core that's 20 percent lighter than traditional aramid shells while offering improved ballistic protection.

Fully upgradeable, the helmet serves as the foundation for incorporating other gear, such as a ballistic mandible guard. The system also includes integrated power for night vision equipment, a heads-up display component, and integrated communications gear.

For PEO Soldier's IHPS program, Revision's small arms helmet features an optimized shell design that follows the shape of a soldier's head, increasing their area of coverage and protection while reducing system weight and unneeded space. The system includes upgradeable mandible and visor protection; it also features an innovative retention and suspension system, plus modular ballistic armor plates that can be applied to the helmet's exterior for additional small arms protection.

Ceradyne

By Vasilios Brachos, Business Manager
3M Advanced Materials Division
Ceradyne, Inc., a 3M company, is an advanced materials and technology company

that combines its specific core technologies for combat protection. As the only company that has passed stringent U.S. government tests for the Enhanced Combat Helmet, which will be fielded by the U.S. Marines, Army, and Navy, our expertise brings to bear offerings of the best product to meet the requirements of the U.S. military and to protect soldiers. Ceradyne is especially competent in maximizing protection versus weight. With our capabilities, we offer lighter weight models at desired protection levels that are generally better than what is currently being used in the market today.

Continuous fiber-reinforced thermoplastic composite specific molding technology allows us to maximize the performance of materials such as ultra-high-molecular-weight polyethylene. This unique proprietary process is the innovative element behind the Enhanced Combat Helmet as well as many other lightweight helmets currently utilized by the SOF community in the U.S. and across the world.



Ultra Light Weight Ballistic Bump Helmet (Ceradyne)

Ceradyne looks to push its technology to improve performance to weight ratio while remaining flexible. Different performance-to-weight ratio solutions are needed for different operational groups. For example, a lightweight solution that meets legacy helmet ballistic protection is designed for SOF—the Ultra Light Weight Ballistic Bump Helmet—which offers NATO-accepted ballistic protection level at a size large shell weight of only 500 grams. ■

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Living in the Past and Present:

An Overview of the Fires Center of Excellence at Fort Sill

By Shirley Dismuke, Editor-in-Chief, Fires Bulletin, Fort Sill

Fort Sill, OK, was established in 1869 by Major General Phillip H. Sheridan as the westernmost Army fort of the Indian Wars. The installation is located about 190 miles northwest of Dallas, TX, and 90 miles southwest of Oklahoma City. Considered a “large” installation by Army standards, Fort Sill is 27 miles from east to west, hosting over 94,000 acres of land. It is one of the oldest and most complete Army forts still in existence as an active installation today, with 395 historic buildings—46 of which are on the National Historic Register—and three museums: the Army Field Artillery Museum, the Army Air Defense Artillery Museum, and the Fort Sill Museum.

Historic and Evolving

What began as a U.S. Army cavalry fort has seen numerous changes in both structure and purpose. In addition to the cavalry, Fort Sill has been home to units from many other branches of services, including infantry, engineer, and aviation. One of the only existing balloon hangers from World War I is intact at Fort Sill and currently houses museum artifacts and equipment. Along with Army units, Fort Sill is home for all U.S. Marine Corps’ Field Artillery training and hosts an Air Force detachment.

Historically known as the “Home of the Field Artillery,” Fort Sill was designated as the Fires Center of Excellence in 2007 when Base Realignment and Closure (BRAC) moved the U.S. Army Air Defense Artillery School there, creating a flurry of construction and growth. Although Fort Sill is a Training and Doctrine Command (TRADOC) installation, we are home to three Forces Command (FORSCOM) units: 214th and 75th Fires Brigades (FiB) and 31st Air Defense Artillery Brigade.

Our mission includes training the entire gamut of Field Artillery and Air Defense Artillery (ADA) courses; Basic Combat Training; Advanced Individual Training; and noncommissioned officer-, warrant officer-, and officer professional development courses. Also included is the relatively new, highly classified Electronic Warfare (EW) military occupational specialty, 29E, which teaches soldiers, Marines, sailors, and airmen to integrate and operate as members of the EW team. These students gain a working knowledge of electronic



fundamentals; the integration of EW into the military decision-making and targeting processes; and how to analyze the electronic order of battle, EW targeting, and assessment of results. Students’ skills are validated in scenario-based exercises, where they apply their knowledge of integrating EW across the full spectrum of military operations. All 13 and 14 series MOS classes are also taught at Fort Sill.

Readying the Artillery Arm

At any given time, Fort Sill is hosting artillery training for many NATO and allied countries including Taiwan, Singapore, Egypt, the United Arab Emirates, and many others. We also host several foreign liaison officers from a variety of countries, including Canada, Germany, Korea, Japan, the Netherlands, and the United Kingdom. The German ADA School recently moved from Fort Bliss, TX, to Fort Sill to collocate their ADA training, bringing almost 200 new residents to the community.

Within the past 24 months, Fort Sill has opened a new Patriot training facility, a joint fires and effects simulator, and an Army Reserve training facility. A new Terminal High Altitude Area Defense (THAAD) training facility is currently under construction.

Focusing on Core Skills

Budget cuts have created a shift in routine business for all branches of the military. At Fort Sill, we have chosen to use this time to focus on core skills, such as training management and individual improvement. Physical training (PT) costs nothing and is absolutely critical to a soldier’s well-being and overall mission completion. Ensuring all soldiers meet minimum PT standards—with most far exceeding standards—is something we can’t capture in dollars, yet could make the difference in winning or losing the next war. With multiple deployments behind them, our young artillery officers have spent years focusing on mission, whether the mission was patrolling streets or driving fuel trucks. Now we can focus on re-learning the core tasks of planning a training exercise, conducting and forecasting training events, and certifying the core artillery skills required of all professional artillerymen. While brain power is free, harnessing and

directing that power is time-consuming—yet neither costs a lot of money.

The best-trained soldier in the world cannot fight battles without the proper equipment. Our challenge is to use the least amount of money possible to make the most impact for the future Fires Force of 2020. We are in the process of scouring the current inventory to eliminate equipment redundancies, increase munition effectiveness, and ensure our systems properly interface with all branches services where appropriate. An example is our radar systems. We currently have six systems still in the inventory. By 2015, that will be reduced to one system, the Automated Field Artillery Tactical Data System (AFATDS).

The field artillery (FA) combat developers are in the process of digitizing the M119 howitzer. After extensive testing, culminating with two exercises by 2-2 FA in 2012, the M119A3 was fielded to the first operational units in 2013. The digitization increases accuracy and speeds employment by enabling the howitzer to accurately self-locate and constantly update its position and muzzle velocities. Following the digitization of the last howitzers, the M109A7 Paladin Integrated Management (PIM) will upgrade the Army's first digital howitzers, now nearly 20 years old, with new technology.

Precision Fires Warrior is another program that will increase the accuracy and lethality of the Field Artillery. In conjunction with the redesign of the 13F MOS, the FA will field a suite of products that

will enable forward-unit fire supporters to accurately locate targets and digitally send that information to firing units with reduced need for manual input, which has traditionally slowed the process and increased probability of human errors.

At the May 2013 Fires Seminar at Fort Sill the director of Combat Development and Integration Directorate, COL David C. Hill, discussed unified Fires mission command network Army integrated Air and Missile Defense/Integrated Battlefield Control System + Advanced Field Artillery Tactical Data system (AIAMD/IBCS + AFATDS), a concept of a single Fires network. This integration would reduce redundancy in both manpower and equipment, increase cooperation between Fires forces, and would nest perfectly under the theater joint Fires command concept. Several successful battle drills and experiments have been conducted using unmanned aerial surveillance systems. When the right people with the right training are collocated at the right place, they become a force multiplier, significantly increasing the effectiveness of all systems and assets available.

Although deeply rooted in our country's history, the Fires Center of Excellence is at the leading edge of technology and looking well into the future for the Fires Force of 2020 and beyond.

More info: sill-www.army.mil



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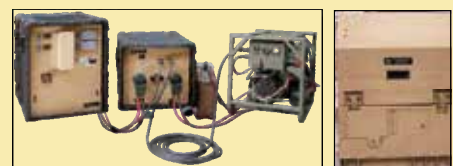
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PEO AMMO

Equipping Across Mission Life Cycle

As the single point manager for ammunition, U.S. Army Program Executive Office Ammunition oversees acquisition of all DoD conventional ammunition, a responsibility that includes integrating budgets, acquisition strategies, research and development, and life-cycle oversight of all ammunition families.

By Picatinny Public Affairs

Program Executive Office Ammunition (PEO Ammo), Picatinny Arsenal, N.J., is dedicated to the sustained success of today's Army by urgently fielding critical warfighting capabilities and providing vital training and sustainment of those products. The PEO Ammo team specializes in developing and procuring conventional and leap-ahead munitions, IED-defeat products, and towed artillery systems to increase combat power to servicemembers. Committed to providing servicemembers with the tools to defeat the enemy and execute the mission effectively, PEO Ammo employees manage a robust portfolio of more than 450 products. Many of these products—but not all—are related to various types of weapons and munitions including small-arms cartridges, grenades, artillery shells, mortars, tank rounds, and howitzers. PEO Ammo also procures these munitions for the other services that use them.

The organization, in concert with their enterprise partners at the Armament Research, Development and Engineering Center and the Joint Munitions Command, ships its products to where they are needed, trains troops how to use the equipment, sustains the systems throughout their life cycle, and disposes of them safely when they are no longer serviceable.

PEO Ammo's 380 military-, civilian-, and contractor employees are forever conscious about their critical role to provide lethal, reliable capabilities to the warfighter at great value to the taxpayer. It is vital to get troops the right product quickly and affordably. PEO Ammo military and civilian personnel continuously seek opportunities to become more efficient without compromising the safety of the men and women in uniform. For the past three years, the DoD has recognized PEO Ammo with Value Engineering Awards for cost-saving excellence. The awards represent more than \$120 million in savings.

Employees have also achieved more than \$6 billion in savings and cost avoidance through Better Buying Power (BBP) Initiatives. Launched in 2010 by the DoD, BBP encompasses a set of fundamental acquisition principles to achieve greater efficiencies through affordability, cost control, elimination of unproductive processes and bureaucracy, and promotion of competition.

Modernizing the Battlefield

The PEO Ammo team is helping to redefine how U.S. troops shape the battlefield. The organization continually develops and fields newer,

better products for military members. Among these is the M855A1 Enhanced Performance Round, fielded by PEO Ammo in 2010. The EPR, as it is also called, is a lead-free version of the M855 cartridge. It is fired from the 5.56 mm family of weapons (M4, M16, and M249) and is the newest of the small-caliber family of munitions. The M855A1 EPR uses a new bullet design that resulted in a number of significant performance enhancements over the original general purpose M855 fielded in the early 1980s. In addition to improved accuracy and higher velocity, the EPR has improved hard-target capability, more consistent soft-target performance, and a significantly increased range of these effects. The EPR allows training exercises to be conducted on ranges where lead projectiles are no longer allowed. The same technology is also being leveraged to improve 7.62 mm ammunition. Soldiers selected EPR for a 2010 Army Greatest Invention.

A program to integrate digital fire-control capability onto the M119A2 howitzer was approved in 2008 and resulted in the full materiel release of the M119A3 in March 2013. The application of a digital fire control allows the digitized M119A3 to emplace and displace faster, provide more responsive fires, and become more survivable on the battlefield. Using the software from the M777A2 155 mm howitzer maximizes commonality in operation and training while minimizing program cost, schedule, and risk.

Earlier last year, PEO Ammo began delivering troops the XM1156 Precision Guidance Kit (PGK), a new artillery technology that will keep American troops safer and reduce collateral damage in urban areas. PGK allows the current stockpile of conventional ammunition to be transformed into near-precision capability, allowing for more precise fires. It is a GPS-guidance kit that corrects the ballistic trajectory of the projectile to reduce delivery errors and improves projectile accuracy to a range-independent accuracy of less than 50 meters CEP. It is compatible with existing high-explosive, 155 mm M549A1 and M795 cannon artillery projectiles. The PGK will reduce target delivery error of conventional artillery munitions, reducing the number of projectiles required to execute a fire mission. The urgent materiel release was completed in March 2013, and PGK has been successfully used in Operation Enduring Freedom. Initial operational capability for the program of record is planned in fourth-quarter fiscal year 2014.

PEO Ammunition Project Management Offices

Project Manager Combat Ammunition Systems

Project Manager Combat Ammunition Systems (PM CAS) is responsible for equipping soldiers and Marines with cannon-launched, indirect-fire munitions and mortar weapons systems.

Organizations within PM CAS include Product Manager Excalibur, Product Manager Guided Precision Munitions & Mortar



**PEO Ammunition
BG John
McGuiness**



**DPEO Ammunition
Mr. James
Shields**

Project Manager CAS | Combat Ammunition Systems



**COL Willie
Coleman**

**Indirect Fire Munitions and
Mortar Weapon Systems**

- Product Manager Excalibur
- Product Manager Guided Precision Munitions & Mortar Systems

Chief of Staff



**Mr. Chris
Grassano**

- Systems Acquisition
- Business Management
- Human Resources
- International
- CIO
- S&T

Project Manager CCS | Close Combat Systems



**COL Richard
Hornstein**

**Networked Munitions, Force Application
Systems, Explosive Hazard, and Countermine**

- Product Manager Combat Explosive Hazard
- Product Director Area Denial
- Product Director Combat Systems
- Product Director Support Munitions

Project Manager TAS | Towed Artillery Systems



**Mr. Keith
Gooding**

Support Fires for Maneuver forces

- Product Manager M777 Lightweight Howitzer
- Product Director M119A2 Digitization

Project Director JS | Joint Services



**COL Steven
Cummings**

- Product Manager Demilitarization
- Ammunition Industrial Base
- Ammunition Logistics
- Technology and Prototyping

Project Manager MAS | Maneuver Ammunition Systems



COL Paul Hill

Direct Fire Munitions

- Product Manager Large Caliber
- Product Manager Small Caliber
- Product Director Medium Caliber
- Product Director Non-Standard Ammo

O/EDCA | Executive Director Conventional Ammunition



**CAPT Ronald
Kocher**

SMCA Assessment

Project Director JP | Joint Products



**COL Victor
Rodriguez**

- Air Force and Navy Bombs
- Navy Deck Gun Ammo
- Energetics
- CAD PAD

Systems, Conventional Ammunition Division, Technical Management Division, and Business Management Division.

Project families:

- Precision-guided munitions
- Conventional munitions
- Mortar fire control systems
- Smart munitions
- Mortar weapons systems
- Fuzes and fuze setters

Project Manager Close Combat Systems

Project Manager Close Combat Systems (PM CCS) manages and sustains programs that provide combat munitions, support munitions, and area denial capabilities. PM CCS also manages long-term acquisition and production contracts that are flexible enough to support dynamic changes in both warfighting and training requirements. They are actively pursuing technologies that will result in smaller, lighter, more lethal munitions. PM CCS's recent successes have included responding to more than 100 urgent materiel releases in support of combat operations in Iraq and Afghanistan.

Projects families:

- Networked munitions
- EOD equipment
- Demolitions
- Non-lethal systems and munitions
- Countermine
- IED defeat
- Special project

Project Manager Maneuver Ammunition Systems

The Project Manager Maneuver Ammunition Systems is responsible for the life-cycle management—including development, production, and fielding—of all Army direct-fire ammunition (except nonlethal) and for the procurement of Air Force, Navy, and Marine Corps direct-fire ammunition assigned to PEO Ammunition as the single manager for conventional ammunition executor. The PM does this through life-cycle program management of ammunition.

Project families:

- Large caliber
- Non-standard ammunition
- Medium caliber
- Small caliber

Joint Program Manager Towed Artillery Systems

PM TAS supplies the warfighter with direct-, reinforcing-, and general support towed artillery fires to maneuver forces. The organization provides direct support artillery for the Stryker and Infantry Brigade Combat Teams and replaces all current towed howitzers for the Marine Corps and Army Fires Brigade missions.

Project families:

- Towed howitzers
- Gun laying and surveying equipment
- Nonstandard howitzers
- Howitzer digitization

Project Director Joint Services

The Project Director for Joint Services (PD JS) enables the single manager of conventional ammunition (SMCA) to effectively provide ammunition and services to the joint warfighter.

Project families:

- Coordination and integration of SMCA activities, functions, processes, and operations on behalf of PEO Ammo
- Demilitarization of DoD's conventional ammunition
- Execution of SMCA industrial base functions including Army Ammunition Plant Modernization
- Providing technology solutions to improve ammunition manufacturing safety, effectiveness, quality, and cost
- Managing U.S. Army ammunition logistics research and development efforts

Project Director Joint Products

Project Director Joint Products (PD JP) executes SMCA acquisition responsibility for bombs, Navy gun ammunition, and energetics product lines for the Air Force and Navy as well as CAD/PADs for Army Aviation.

Project families:

- Penetrator bombs
- Cast ductile iron practice bombs
- General-purpose bombs
- Bomb fuzes, lugs, and fins
- 56 mm and 76 mm Navy gun ammunition
- Insensitive munitions explosives

More Info: www.pica.army.mil/peoammo

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Command Profile



A Route Clearance Vehicle moves around the one mile-long test track at Letterkenny Army Depot. (LEAD)

Readiness Through Technical Prowess

For over 70 years, Letterkenny Army Depot has proven it is flexible, ready, and relevant to meet the warfighter's needs. Whether in times of war or peace, LEAD has remained committed to meeting the fluid requirements of combatants and equipping them with the best fighting edge.

By Lindsay Bryant, Public Affairs Specialist
and Nora Zubia, Marketing Support Analyst, LEAD

On 18 December 1941, the Secretary of War issued an order to purchase the land for an ordnance depot. It was given the name Letterkenny Ordnance Depot after the township in which the land resided. Construction began in early 1942 and the first shipment of ammunition arrived on September 23, 1942. The site was selected for the depot because it was close to the eastern seaboard and Washington D.C., but far enough away to make it safe from potential enemy attacks. Railroad connections and a plentiful water supply were also available.

Letterkenny Ordnance Depot became a permanent military installation on 1 July 1954. The ordnance depot was renamed Letterkenny Army Depot (LEAD) in August 1962, and command and control of the depot fell under the U.S. Army Materiel Command.

Enabling Mission Reach

Today, LEAD has transformed into a state-of-the-art maintenance facility with many complex programs and missions. LEAD has been recognized as a leader in its core competencies throughout the DoD and in the national technology and industrial base.

The Secretary of the Army designated LEAD as the Center of Industrial and Technical Excellence for Air Defense and Tactical Missile Ground Support Equipment, Mobile Electric Power Generation Equipment, Patriot Missile Recertification, and Route Clearance

Vehicles (RCV). LEAD is also the Depot Source of Repair for Patriot Missile Systems, RCV, Mobile Kitchen Trailers, AN/TPY-2, Multiple Launch Rocket Systems (MLRS), and Sentinel Ground Support Equipment (GSE).

Letterkenny's legacy has not only made an impact on the lives of soldiers, but in its own backyard as well. The depot ranks among the largest employers in Franklin County, with over 2,500 employees fueling the region and propelling economic growth.

LEAD's mission has evolved throughout its 70-year history. LEAD's organic industrial base mission is to deliver superior maintenance, manufacturing, logistics life cycle support, and service worldwide to the joint warfighter and international partners.

Originally created to store and ship ammunition and ordnance supplies, today LEAD is known as the "missile depot." However, missile capabilities are just the beginning of the depot's full spectrum of competencies.

Major ongoing workload efforts include repair, reset and new build Patriot Missile Systems; RCV; new build, refurbishment, and reset of Force Provider equipment; reset and Build To Assemble (BTA) Aviation Ground Power Units (AGPU); repair and overhaul of forklifts and cranes; cable and harness fabrication; repair of prime movers for systems such as High Mobility Artillery Rocket System (HIMARS) and Patriot; repair and overhaul of the Shadow Unmanned Aerial System GSE; and repair and modification of Special Operations Command equipment.

Joint Service Engagement

LEAD also supports Army Force Generation, known as ARFORGEN. When the Chief of Staff of the Army initiated the Patriot missile "Grow the Army" (GTA), increasing the number of Patriot battalions from 13 to 15 and reorganizing how the battalions were aligned, the only



LEAD is the sole source for the Army's Force Provider program. This "city in a box" is a force multiplier that increases combat capabilities by providing superior living conditions for deployed soldiers.

feasible way to implement the GTA initiative for Air Defense Artillery was to rely on the Patriot recapitalization program at LEAD.

In addition to reorganizing the Patriot units, the GTA initiative authorized the repair of assets from the Patriot school house, White Sands Missile Range, excess recapitalization stores, and Patriot equipment Organizational Readiness Floats held in reserve in the event unit equipment would become non-operational, and integrated them into LEAD's GTA recapitalization program.

U.S. Army Chief Warrant Officer 3, Greg Young, 1st Battalion, 62d Air Defense Artillery at Fort Hood, Texas unit liaison, was pleased with results. "The professionalism, dedication to mission accomplishment and tenacious work ethic of the Letterkenny Army Depot DA [Department of the Army] civilians was paramount to the success of the 1-62 ADA BN [Battalion] new equipment fielding," Young said. "Without their support and expertise, this fielding would not have been possible."

Overseas Contingencies

Operational shifts within Central Command are reflected in workload and programs completed by LEAD. The new build requirements for Mine Resistant Ambush Protected Vehicles (MRAP) ceased with the drawdown in theater, while High Mobility Multipurpose Wheeled Vehicles (HMMWVs) and RCV programs that were a major production component during the war have slowed down. However, reset and conversion missions for RCV are continuing as vehicles come back from theater.

LEAD is currently supporting the Tank Automotive and Armament Command Product Manager Assured Mobility Systems, receiving containers with RCV parts from Iraq and Afghanistan. As the only depot with an organic capability to control its shipping, receiving, and storage needs, LEAD's Directorate of Supply and Transportation has accepted over 1,000 containers from Iraq alone.

Globally, the Depot's Patriot program presence remains in UAE, Qatar, Kuwait, Taiwan, and Korea. Both assembly and disassembly for the Patriot missile take place in Kuwait. The Force Provider team maintains a workforce in Bagram, Afghanistan, as well.

Foreign military sales (FMS) processes continue to provide self-sustainment defense capabilities for Iraq and Afghanistan. FMS execution continues to remain high with several new Letters of Agreement for large aviation programs around the world, air defense programs in the Middle East and Asia, and equipping programs in direct support of coalition partners' deployments in Afghanistan.

Efforts will continue to ensure our allies and coalition partners and partner nations worldwide are equipped with compatible equipment that enhances interoperability with United States forces. LEAD currently performs repair, overhaul, modification, or conversion of missile and ground support systems, including Avenger,

HAWK MLRS, Hell Fire, Patriot, TOW Bradley, TOW Cobra, Sentinel, and Stinger.

Partnering for Readiness

Public-private partnerships (P3s) are another key element. LEAD has been building P3s with private industry since 2003. Through these agreements, LEAD has been able to lower cost of products and services, sustain critical skills and capabilities, and improve operational efficiencies. After just a few years of establishing a positive reputation as a partner, in 2009 LEAD began one of their most successful partnerships with Raytheon.

Then-Director of Patriot Systems Missile Programs at Raytheon Integrated Air & Missile Defense, Michael Fletcher, expressed satisfaction in working shoulder to shoulder with the Theater Readiness Monitoring Directorate (TRMD) personnel to accomplish the critical mission in support of the Soldier. "Raytheon has been proud to be teamed with TRMD in supporting Patriot Missile Recertification, Stockpile Reliability Testing, and other maintenance activities at the Patriot Missile Facility for the U.S. Army and our FMS Patriot Partner nations at LEAD," Fletcher said. "TRMD has demonstrated outstanding performance to all of its global customers and this could not have been accomplished without the men and women who work to make this program a complete success."

The outcome of the successful relationship paved the way for additional programs to include the New Build Patriot Launcher mission. Raytheon provides the majority of the supply logistics, while LEAD provides skilled manpower and infrastructure necessary to integrate, test, paint, package, and ship Patriot Missile Launchers. LEAD met or exceeded the incremental delivery requirement by completing the initial contract for 37 assets in June 2013.

LEAD also has joined forces with other companies such as Lockheed Martin, AAI Corporation, Harris, Lechmotoren, Manitowoc Crane Group, Summa Technologies, and BAE. The depot continues to pursue positive relationships in order to expand new workload opportunities as well as provide mutual partner success, reduced cost and improved readiness.

Achievements

LEAD has repeatedly proven that it is a trusted source for meeting cost, quality, and schedule. Joint Program Manager for the MRAP Vehicle sent an urgent requirement from theater to modify MRAP All Terrain Vehicles (M-ATV). Less than two months after receiving the task, LEAD produced, crated, and shipped 3,000 M-ATV Exhaust Patch Kits on time and under budget.

The Directorate of Supply and Transportation processed and shipped all kits to OCONUS locations, meeting all required



delivery dates and became the shipping procedure standard that other installations were expected to follow.

Additionally, the RCV division successfully completed 25 Cougar to Joint Engineering Rapid Response Vehicle conversion assets in eight weeks, consisting of complete teardown, modification, and assembly. These success stories ultimately paved the way for LEAD to become the CITE for RCV.

The Letterkenny workforce was working the AGPU Service Life Extension Program (SLEP) and reset programs with positive outcomes. When the Army had an urgent need for additional assets, Letterkenny became the obvious solution. The depot bid was accepted and LEAD became the Original Equipment Manufacturer for the AGPU Build-to-Assemble E-Model.

Best practices that were learned during the SLEP and the reset program were implemented into the New Build Program to help drive down costs. LEAD continues to manufacture/reverse engineer long lead time or expensive parts not only keep costs down but to ensure continuity on the production line. New build assets are scheduled until June 2014. The estimated total cost avoidance with LEAD as the original equipment manufacturer is \$200-300,000 per asset.

LEAD is proudly the sole source for the Department of the Army for the Force Provider program. This "city in a box" is a combat multiplier used as a forward deployed system that increases combat capabilities by providing superior living conditions for deployed soldiers. A Force Provider module is capable of supporting 550 soldiers and 50 operators.

Since 2005, the amount of Force Provider workload has increased and the program has evolved into a complex operation. Initially, the program was inducted as reset work and by 2009 the Depot accepted the Force Provider New Build mission for the U.S. Army Natick Soldier Systems Center.

As a result of the additional workload the employees had to reexamine their methods. The Office of Continuous Improvement presented Lean Six Sigma (6S) training to all Force Provider employees. The employees embraced LEAD's continuous improvement principles and values. "The Force Provider 6S champions came up with suggestions which have greatly increased our productivity and safety," Supervisor Gene Kane said. And successful performance resulted in additional funding for 17 new build modules.

As evidenced by the 2009-2013 lean savings resulting in over \$88 million the workforce has found significant means to reduce cost, save space or become more efficient.

On 4 April 2013 the depot's 47th commander, Colonel Victor Hagan, hosted LEAD's ninth Shingo award ceremony to recognize manufacturing excellence within the depot's Force Provider Program. "An overflow of ideas and suggestions influenced by Lean principles resulted in savings, to include a cost avoidance of over \$17,000 in the production layout and process for generators," Hagan said. "Modifications to the pack-out process saved 414 man hours per module, totaling \$862,000 across 27 modules."

Challenges Ahead

Despite the future's uncertainty, LEAD remains dedicated to stepping up to each and every challenge. Team Letterkenny has worked diligently to provide equipment on time or ahead of schedule, develop

cost effective methods, and maximize space, time and resources as well as think environmentally friendly.

As the budget tightens, demands remain constant and program funding is uncertain the need to prove viable and remain relevant is critical. As military spending continues to reduce and as the depot's mission to support the Soldier continues to hold strong, it is imperative that LEAD continuously begs the question, 'How can we do it better? How can we do it faster? And how can we do it for less?'

Future additional workload efforts include Sentinel Radar System GSE, Terminal High Altitude Area Defense (THAAD), 6K and ATLAS Forklifts as well as HAWK for FMS.

Through employee involvement, policy alignment, partnership opportunities and resource conservation the depot is committed to finding the innovative means to thrive amidst the constraint of diminishing funds and resources.

"Letterkenny Army Depot will continue to provide support to maintain the best Army possible with the resources given," Hagan said. "While there are many things that are out of our control, we must focus on excelling in the areas that we can control. We will diligently pursue to prolong our reputation as the provider of choice." ■



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Washington, D.C.
mobilepower.dsigroup.org

Jan 28 – 29
Marine West
Camp Pendleton, CA
marinemilitaryexpos.com

Jan 28 – 29
American Energy Summit
Washington, D.C.
leadershipforum.us/energy-leadership

Jan 28 – 29
Tactical Power Sources Summit
Washington, D.C.
tacticalpowersourcessummit.com

Feb 10 – 12
SO/LIC
Washington, D.C.
ndia.org

Feb 18 – 19
Automated ISR Symp
Washington, D.C.
autoisr.dsigroup.org

Feb 19 – 21
AUSA Winter
Birmingham, AL
ausa.org

Feb 24 – 26
ARPA Energy Innovation Summit
Washington, D.C.
arpae-summit.com

March 3 – 4
Georgia Tactical Officers
Atlanta, GA
gatactical.com

March 14 – 17
Spec Ops West
San Diego, CA
specopswest.com

March 17 – 18
Joint Civil DoD CBRN Symp
Washington, D.C.
jointcbmn.dsigroup.com

March 17 – 19
Border Security Expo
Phoenix, AZ
bordersecurityexpo.com

March 18 – 19
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NDIA 2013 events attracted over 31,000 attendees from government, industry and academia.

NDIA has over 1,600 corporate members, 94,000 individual members

25th Annual SO/LIC Symposium & Exhibition - 4880
Feb 10-12, 2014 ▶ Washington, DC

Exhibit POC: Allison Hitchner
Meeting POC: Meredith Hawley

2014 Global EOD Conference & Exhibition - 4950
April 30-May 1, 2014 ▶ Ft. Walton Beach, FL

Exhibit POC: Luellen Hoffman
Meeting POC: Meredith Hawley

2014 Special Operations Forces Industry Conference - 4890

May 20-22, 2014 ▶ Tampa, FL

Exhibit POC: Luellen Hoffman
Meeting POC: Meredith Hawley

28th International Symposium on Ballistics - 4210

Sept 22-25, 2014 ▶ Atlanta, GA

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Meeting POC: Kari King

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