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Acquisition is integral to global military operations. In this issue, learn about how the workforce coordinates with international partners, and how equipment and ammunition is effectively and efficiently transported to Soldiers across the world.

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From the Editor-in-Chief

Army acquisition is an integral part of military operations, and it doesn't stop at the edge of the Pentagon. Acquisition encompasses everything from the logistics of transporting supplies from the U.S. to forward operating bases, to foreign military sales, theater acquisition support, training with allies and ensuring that Soldiers can operate in all types of weather and terrain.

The U.S. stations military personnel in nearly 80 countries across the globe, with more than 4,790 military sites managed by the Department of Defense. Among the top 10 nations hosting the most active-duty American troops are Japan, Germany, South Korea, then Italy. These countries, along with others in the top 10, play crucial roles in housing and supporting American military personnel stationed abroad.

However, amongst those countries—and in many areas without major American military bases—Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASA(ALT)) personnel are very active. For instance, the Deputy Assistant Secretary of the Army for Defense Exports and Cooperation (DASA-DEC) is deploying personnel to several geographic combatant commands and Army service component commands, with positions filled or being filled in United States Central Command (CENTCOM), United States Southern Command and United States European Command. DASA-DEC also has positions in the Kingdom of Saudi Arabia, focusing on transforming the Ministry of Defense. ASA(ALT) supports forward operations for the warfighter, with personnel in Kuwait and Germany ensuring rapid equipment fielding and synchronization. They support missions like Operation Inherent Resolve (OIR) in CENTCOM's area of responsibility and Operation Spartan Shield (OSS) and also assist Ukraine with equipment and sustainability. Additionally, multiple program executive offices have forward-deployed personnel, including programs like the Global Enterprise Network Modernization – OCONUS, which focuses on network infrastructure modernization abroad.

As you can see, ASA(ALT) personnel are, like in the 2022 hit movie, "Everything Everywhere All at Once." But it's not all about deploying. It's about working with international partners too. In this issue, learn how the Army's Joint Program Executive Office for Armaments and Ammunition worked with international partners to develop and produce cutting-edge, small caliber ammunition in the One-Way Luminescence (OWL) program, in "Tapping Global Expertise," Page 4. Unlike the old tracer rounds burning pyrotechnic material, OWL allows only those shooting to see where the round is headed day or night. Finally, if you can't get it there, you can't use it. From generators to trailers to the next generation of armored vehicles, it is important that transportability problem items (TPIs) transport efficiently and remain functional as they deploy to the theater of operations via the Defense Transportation System. Find out how TPIs have been revised using the Middle Tier Acquisition pathway to minimize the risk of transportability-related complications in "Balancing Acquisition Risk with Deployability Reward," Page 46.

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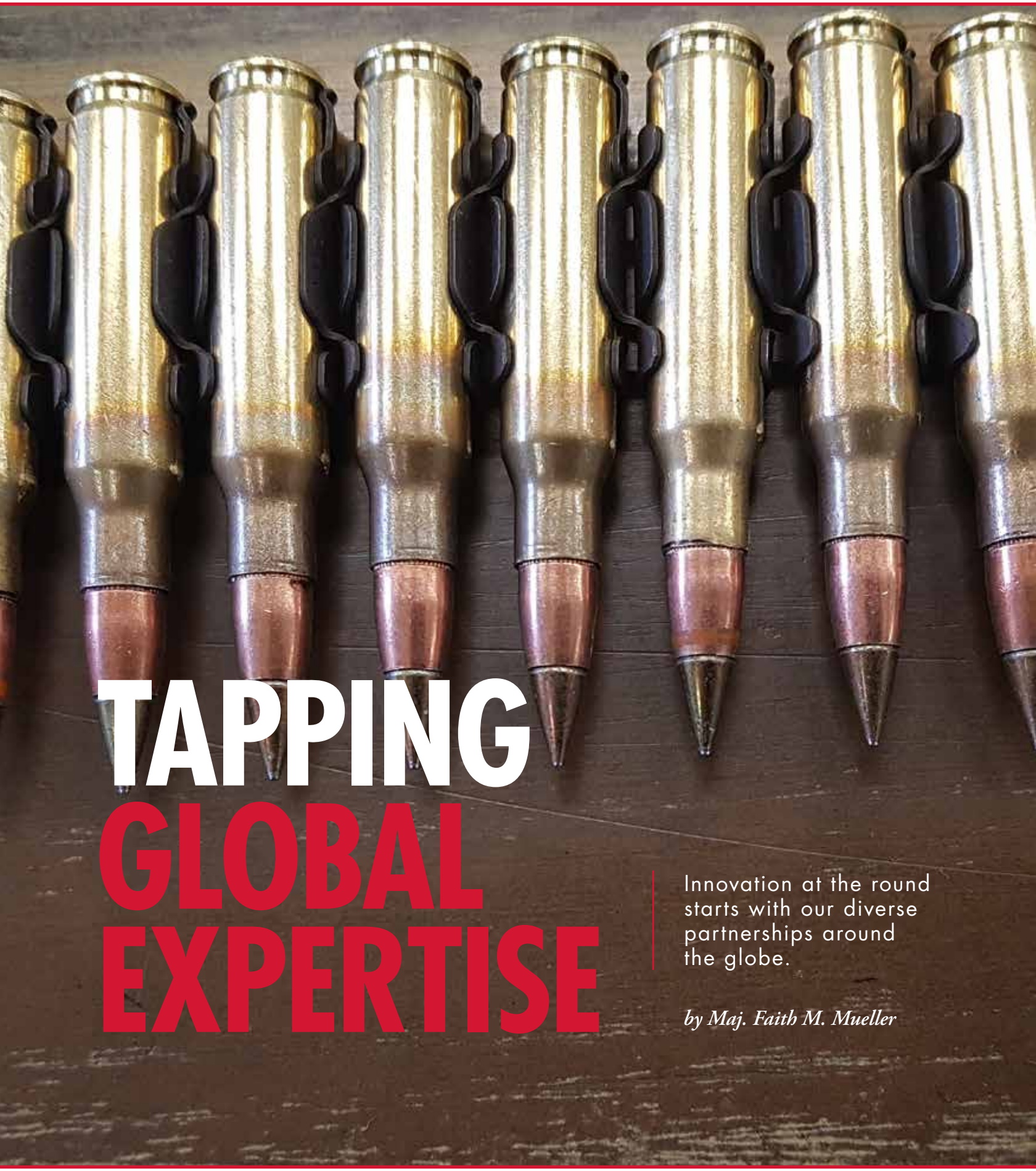
These, and many other interesting stories and information await you in this edition. Enjoy! As always, if you have a story, a story idea or comments, please contact us at **armyalt@army.mil**. We look forward to hearing from you!

FAREWELL

All good things must come to an end, and so must my time as editor-in-chief of this great publication. I have decided to retire after 14 years as the editor-in-chief. Over the years my staff and I, along with great contributors across the enterprise, have worked tirelessly to provide interesting, insightful and quality stories about Army acquisition. I want to thank the Army Acquisition Workforce, the multiple Army Acquisition Executives and my U.S. Army Acquisition Support Center directors for their contributions, leadership and direction in making Army AL&T the flagship publication that it is. It's been an honor to serve you.

Nelson McCouch III
Editor-in-Chief



TAPPING GLOBAL EXPERTISE

Innovation at the round starts with our diverse partnerships around the globe.

by Maj. Faith M. Mueller

PROTOTYPE LINEUP
Early developmental 7.62 mm OWL ammunition from Nammo, in a 4:1 configuration, paired with an M60A1, highlighting previous EMD achievements. (Photo courtesy of JPEO A&A)

The efforts to bring the best technology to the warfighter not only start at our Army research institutes but reach outside our borders to experts across the world. International industry partners play a crucial role in advancing technology through the Engineering and Manufacturing Development (EMD) phase; however, we still face logistical and communication challenges when it comes to collaborating to further develop capabilities for warfighters.

ADVANCING SMALL CALIBER AMMUNITION

For recent small caliber ammunition developments, such as One-Way Luminescence (OWL), international collaboration allowed the government technical community at the U.S. Army Combat Capabilities Development Command Armaments Center (DEVCOM-AC) to enhance capabilities to bring to the warfighter. Small arms ammunition is typically linked with tracer rounds that allow the shooter to see the trajectory of the ball rounds being fired. Product Manager for Small Caliber Ammunition (PdM SCA) under the Joint Program Executive Office for Armaments and Ammunition, along with our partners at DEVCOM-AC, began the OWL program to overcome key challenges on 5.56 mm and 7.62 mm legacy tracer ammunition.

Legacy tracer brightness and muzzle flash hindered warfighter survivability, moreover, the mismatch to the ball round link impeded adjustments during fire and poor lethality performance in comparison to the ball round the tracer is linked with.

To the counter, the OWL program aimed to achieve visibility to the friendly shooter at relevant distances, ballistic match to the ball ammunition it is linked with and similar terminal lethal effects to enhanced performance round ammunition. These goals are clear, but achieving the precise chemical mixture and manufacturing process to bring these requirements into production reality through the EMD phase proved to be a larger challenge than any one country could overcome alone.

Achieving the right ignition timing, color and intensity in the tiny cavity at the back end of a bullet in a producible design that is similar in cost to a legacy tracer, is a very hard challenge to overcome. Furthermore, the success of this program is being rapidly integrated into the new 6.8 mm Next Generation Squad Weapon ammunition. Tackling the task of implementing a newly developed process into the Next Generation ammunition quickly isn't an easy feat.

PARTNERS ACROSS BORDERS

For the OWL program, collaboration with the international community accelerated innovation and provided access to new technologies not located in the U.S. The global pool modernization and innovation has benefited the U.S. government by investing and adopting cutting-edge manufacturing processes for tracers that were available in Sweden. General Dynamics (GD)

Ordnance and Tactical Systems-Canada and Nordic Ammunition Company (Nammo), both competed with 7.62 mm OWL prototypes, creating prototype laboratories that enable quick adjustments to the OWL mix. Once adjustments were made, the companies could quickly manufacture and test prototypes on limited ballistics and OWL performance. Uniquely, at Nammo's prototype laboratory in Sweden, manufacturing and testing is all on one site allowing for flexibility and quick turns critical to the EMD phase. Leveraging competition and the iterative prototyping, PdM SCA and DEVCOM-AC established flexibility in determining the optimal OWL mix within the tracer cavity accompanied by a quick turn on testing and data exchange.

Nammo has subsidiaries in the U.S., that allows for smoother communication across international boundaries. While that adds a layer of communication, the benefits of knowledge management and engagement are heightened. Nammo brought additional cutting-edge technologies and manufacturing processes to the table that are now being incorporated into future facility designs at Lake City Army Ammunition Plant (LCAAP). Nammo was receptive to data and technical machining adjustments needed to fit the landscape of manufacturing at LCAAP established by the strong relationship built by PdM SCA and DEVCOM-AC.

In collaboration with LCAAP, PdM SCA and DEVCOM-AC took lessons learned and tactics from both GD-Canada and Nammo and incorporated them into manufacturing capabilities at LCAAP.

THE ART OF EXCHANGE: NAVIGATING CHALLENGES

Key challenges faced in international contracting and collaboration are most often felt through intellectual property and communication barriers. The technology in small-caliber ammunition may be sensitive in nature to protect our intellectual property from being seen by our adversaries. Establishing clear contracts and agreements that outline intellectual property ownership and licensing protection mitigates most intellectual property challenges. Another vehicle to help protect sensitive information when collaborating abroad has been through using non-disclosure agreements (NDAs). NDAs enable deeper conversations with international industry, mitigating some of the challenges to keep industry and U.S. government information safeguarded.

Breaking the barrier of communications is critical as international partnerships are developed. Written agreements and

SHAPING THE FUTURE

U.S. Army Soldiers conduct a Limited User Assessment for OWL in May 2024. This event was led by the Maneuver Battle Lab, Maneuver Capabilities Development and Integration Directorate. Soldiers provided key feedback on OWL tracer technology versus legacy tracers. Over two weeks Soldiers executed zeroing, qualification tables and a collective live-fire event. (Photo by the author, JPEO A&A)

contracts initially overcame these barriers, followed by regular integrated product team meetings and quarterly visits to industry by both DEVCOM-AC and PdM SCA. Establishing a clear project management structure both stateside and internationally provided clear and concise scheduling, leading to project completion within schedule.

Time zones also created a unique problem that was quickly overcome with regular communication and consistent feedback from both industry and the U.S. government, aligning both partners to promptly address any conscerns.

Further combating the logistical challenges of shipping to and from international partners brings another unique and timely task. Each industry partner and nation, including the U.S., has policies that dictate how materiel is transported, creating a long lead time. For instance, not until the team started closing out the contract did they realize remaining unused projectiles would have to be shipped by Nammo back to the U.S. This extended the period of performance by six months to simply ship the projectiles back with the proper documentation on both the U.S. and Swedish sides for export and import.

CONCLUSION

International partners are vital for development and production of cutting-edge, small-caliber ammunition. The strength of design and innovation stems from diverse expertise across the globe. This international partnership has been visible in the relationships built and grown through the OWL program. These programs recently entered Low-Rate Initial Production, and that would not have been possible without international partnerships. PdM SCA will continue to engage the global industry to leverage expertise and production that will bring the best capability for the warfighter and continue to grow the arsenal of democracy.

For more information, go to the PdM SCA webpage at ***https://jpeoaa.army.mil/Project-Offices/PM-MAS/Teams/PdM-Small-Caliber****.*

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POT OF GOLD
A peek into the factory at LCAAP in Missouri where Nammo has overseen facility designs. (Photo by Christine Paul, U.S. Army Corps of Engineers)

BRIDGING THE GAP
The first prototype printed bridge in the Americas, constructed (and reinforced) with 3D printed double-T beams made of concrete. The ability to 3D print materials on-site and on demand can reduce logistical burdens and delays to the Soldier. (Photo by Megan Kreiger, USACE-ERDC-CERL)

BUILDING IN 3D

Additive Construction program provides capabilities to 3D print concrete structures for the U.S. Army and DOD-wide.

by Rebecca Wright

The development of 3D printing has revolutionized the manufacturing industry, enabling the creation of highly customized products through rapid prototyping and allowing for more flexibility and reduced production costs across multiple industries—from the commercial sector to the Army.

In 1983, Charles "Chuck" Hull invented the first 3D printer called the SLA-1, a name derived from the term stereolithography—a 3D printing technique that hardens liquid photopolymers into hardened plastic using an ultraviolet laser. 3D printing, also referred to as additive manufacturing or rapid prototyping, is the process of creating an object, usually layer by layer, from a digitally created design.

Since it was first invented in 1983, 3D printing has come a long way—with various methods of 3D printing available (stereolithography, selective laser sintering, fused deposition modeling, etc.), an assortment of printer models offered on the market and more affordable options available. The first 3D printer cost approximately $300,000 in the early 1980s and now they are commercially available from as little as $200. There are a number of options of 3D printed materials, including plastic (the most common), metals (such as aluminum and steel), resins and carbon fiber, as well as construction materials such as wood and concrete.

Widely used across the automotive, medical, consumer and aerospace industries, 3D printers manufacture a variety of products, including parts, jewelry, home décor, medical prosthetics (like arms and legs), dental implants and more.

3D PRINTING IN THE ARMY

Over the last decade, the military began engaging in 3D printing technologies and its many applications, with early involvement beginning in 2012 and gaining more momentum in 2016. Supply chain issues, lengthy logistic processes, the inability to transport large quantities of parts or the

transport of bulky items are just a few of the challenges facing the military. The capability to 3D print could eliminate many of these obstacles.

When deploying to austere environments, Soldiers may need to set up temporary structures, either for housing or storage of military equipment, or create a location to conduct operations protected from the weather elements. The U.S. Army Corps of Engineers' Engineer Research and Development Center, Construction Engineering Research Laboratory (ERDC-CERL) realized this need for Soldiers in these types of environments with limited resources. So, ERDC-CERL launched the Additive Construction program, which provides training exercises to military members on how to operate 3D printers to print concrete buildings and other force protection structures on location using locally available materials. "Our real goal as a program is to produce expeditionary structures on demand in the field by Soldiers using locally available materials," said Megan Kreiger, research mechanical engineer with ERDC-CERL and additive construction expert for the Department of Defense. "As a program … we initially developed our own printing systems, our own material formulas, our own printing methodologies and really went through and developed this technology with the idea of eventually using it in expeditionary environments."

BEGINNING WITH THE B-HUT

One of the initial projects in the Additive Construction program was the Automated Construction of Expeditionary Structures (ACES), with the main objective to custom-build an expeditionary building on-site with a minimum number of service personnel. "The ACES project was the first project … The entire goal of that project was to see if we could do custom-designed expeditionary structures on demand in the field using locally available materials," Kreiger said.

In 2017 under the ACES project, a 512-square-foot building called a barracks hut, or B-Hut, was constructed with a printer and printing methodology developed by ERDC personnel. "That very first project was to produce what's called a B-Hut," Kreiger said. "This initial project was really where Additive Construction initiated within the Department of Defense." B-Huts are temporary housing structures built for military personnel that are typically constructed of a wood frame and plywood walls and are expected to have a short life expectancy (about five years). So, what makes the 3D printed B-Hut different aside from the way it is manufactured? It is constructed of layered concrete beads, in unique geometries, and a previously untrained team on the technology was able to print all four walls of the building in less than 48 hours. The structure was the first full-scale printed concrete building in the Americas combining traditional techniques with modern ones. After completing this first concept, the focus shifted to producing structures in short timeframes with military personnel.

In August 2018 at ERDC-CERL in Champaign, Illinois, members of the ACES team trained a group of Marine Corps members to 3D print a second 512-square-foot B-Hut, known as the "Chevron" B-hut, using a printer called ACES Lite. The ACES Lite—produced in partnership with Caterpillar under a Cooperative Research and Development Agreement and using printing methodologies developed by ERDC for the first structure—fits in a 20-foot shipping container and can be set up in less than one hour. The "Chevron" B-Hut exhibits two and a half times the strength of a straight-walled printed B-Hut due to its geometry.

After successfully printing two B-Huts at ERDC-CERL, the team took the capabilities to the field. Subsequent training exercises took place in Guam in June 2022—training a group of Marines and Navy Seabees (construction forces)—and again at Camp Atterbury, Indiana, in July through August 2023, training a group of Soldiers, Marines and Airmen. Both groups were trained on how to operate the ACES Lite printing system. Several force protection structures were printed in Guam, while at Camp Atterbury the service members printed a 512-square-foot B-Hut structure. The training that took place in Guam used only locally sourced materials. "The major advantage of the ACES printing system is that it reduces the logistical burden of transporting materials into that theater of operation; you're not having to ship conventional building materials such as wood or CMU [concrete masonry unit] blocks or any other required building materials. You're able to get the materials from local quarries, local providers or suppliers and be able to create printable mixtures in order to produce whatever type of infrastructure you need on site," Kreiger said. Most importantly, those structures printed in Guam and Camp Atterbury underwent blast and ballistic testing to help inform force protection capabilities, showing potential for future applications of the technology.

BUILDING BLOCKS

The Additive Construction program isn't stopping at the B-Hut. During another demonstration, also held at ERDC-CERL, military personnel were trained to 3D print a gap crossing. Printing the gap crossing consisted of 3D printing seven box beams—each a rectangular structure that is reinforced as you print upwards—that are then reinforced together to create a bridge over a gap.

BUILDING THE B-HUT

Military personnel received training to operate the ACES Lite printing system and completed construction of one of the first ever 3D printed concrete buildings at Camp Atterbury, Indiana, in July through August 2023 (top) and a second printed B-hut in Champaign, Illinois, in July 2018 (bottom). The concrete construction offers a B-Hut that is more structurally sound than those traditionally made from plywood. (Photos by Megan Kreiger, USACE-ERDC-CERL)

"You can make a bridge utilizing this technology. Over 30 of these [box beams] were printed over a span of three days," Kreiger said. Seven box beams were able to create a crossing over a 40-foot gap designed to carry a fully-loaded heavy expanded mobility tactical truck.

There are 3D printing abilities available also for small structures, such as Jersey barriers, small bunkers and culverts. Kreiger added that during a test event they were able to print one Jersey barrier in less than an hour and up to six Jersey barriers in approximately three hours.

The Additive Construction program currently has more than 12 printers in different stages of development—the ACES Lite is the most used and has gone through several version iterations based on feedback and field use. Kreiger emphasized the many options that the program offers such as the type of materials that can be used to mix the concrete and the type of concrete mixer used to print. "The idea is that you work with whatever military equipment is already available. So, you're not having to have some customized mixer and some customized material," Kreiger said. "You're trying to use those locally available materials and your local equipment assets in order to get the job done."

"Our real goal as a program is to produce expeditionary structures on demand in the field by Soldiers using locally available materials."

Additionally, users are not restricted by their geographic location and can choose where the 3D printing is performed, whether that is on-site or in a warehouse, and then deliver the product (whole or in sections, depending on the size). Users also have opportunities to design the size and shape of the product. "You can start getting into more exciting applications like what can you do with the exterior of an object now that you have increased complexity in design with little added cost," Kreiger said. "What do you want your buildings to look like? Now you can have improved and modern infrastructure because the printer will not care about the complexity of the design and print out exactly what the design file dictates. This extends even to internal geometries of objects as well, such as print structures with solid or zigzag infill patterns [concrete is laid down in chevron lines], and we do all of it depending on what the application is."

CONCRETE CUSTOMIZATION
Close up of the ACES Lite system printing concrete gap crossing sections. The ACES 3D print system allows the user to customize the shape, thickness and patterns of what they need. (Photo by Jared Eastman, USACE-ERDC)

WORK SMARTER, NOT HARDER

A major benefit of additive construction is that it reduces both time and the number of military personnel compared to conventional construction. It is a well-known fact that conventional construction requires a substantial amount of physical labor. It also requires specialized skills, and not all military personnel may have the necessary training. "Really where the limitations came in is when people are producing structures in expeditionary environments,

they're often in harsh and austere conditions. They have personnel, but they're limited if people are not devoted to construction; then that's taking up their time that they could be doing other activities," Kreiger said.

She explained that military personnel who are provided with the proper 3D printing tools to build structures (whether temporary or semi-permanent) can do so with limited manpower. She described that, depending on which printing system is used, a crew between two to eight personnel working in rotation can 3D print and construct an entire 512-square-foot building in 24 to 48 hours, stating that the most labor-intensive part of the process is mixing the concrete. "It's a much better environment for people in construction to be able to produce structures with limited physical activity," Kreiger said. "Basically, the only physical activity aside from the mixing is laying reinforcement."

On top of reducing the amount of physical labor needed for construction, the use of concrete materials instead of plywood enhances the structural integrity of the building. Concrete structures are more resilient in extreme weather conditions and can offer better protection from potential enemy attacks. And since the buildings can be designed to suit a unit's needs, military personnel can tailor the size and shape of the building, modify the thickness of the walls, customize reinforcement, add insulation and more.

CONCLUSION

Additive construction can streamline construction operations, improve efficiency, reduce the logistical burden, reduce material costs and lessen the physical burden of manual labor on military personnel. "The idea is, let's make construction easier and reduce the amount of manpower and overall labor, all while using locally available materials," Kreiger said. "People are not physically worn out in the same way that you would be if you were constructing a building using conventional methods." By constructing buildings and other structures using 3D printing methods and reducing the amount of physical labor needed, military personnel can save both time and energy to focus on other responsibilities in expeditionary environments.

The use of 3D printing in the military is still a work in progress; and the Additive Construction program is continuing with improvements to benefit the warfighter. Kreiger explained that she would like to see the program expand, aiming to provide military units with better access to 3D printing equipment and thoroughly train in its operation at the various engineer service schools.

"What I want to see going forward is this technology to be used for applications that truly benefit the warfighter. Not just doing demonstrations or small prints, but ones that provide a lot of military utility that improve their basic day-to-day activities and make it easier for them to be in more expeditionary environments," Kreiger said. "My priority right now is to ensure that proper development of this technology as it transitions into the hands of the users and military personnel that'll be taking this forward into the field as a new capability. So, a lot of what we're trying to work on is getting printing systems stationed with different units for them to be able to operate independently from any of the engineers or researchers that do this as a day job and get them to start incorporating it into their normal activities."

For more information, go to ***https://www.erdc.usace.army.mil/Locations/CERL****.*

REBECCA WRIGHT is a writer and editor with Army AL&T and the U.S. Army Acquisition Support Center at Fort Belvoir, Virginia. She has more than 15 years of experience writing and editing for DOD and the U.S. Department of Justice.

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JUST KEEP MOVING

What's that saying—when one lab door closes, another one opens? Such was Briana Kenerson's experience. In late 2019, staff reductions at the U.S. Army Research Institute for Infectious Diseases threatened to bring her work there to an end. But before that could happen, she was contacted by a recruiter who offered her a position with the Joint Project Manager (JPM) for CBRN Medical within the Joint Program Executive Office for Chemical, Biological, Radiological and Nuclear Defense (JPEO-CBRND).

"I didn't know anything about the work or what a bioengineer does. It sounded intimidating to me," she said. "However, when I spoke to the site lead, she talked me off the ledge and encouraged me to join."

Things ramped up quickly. Kenerson was only in the organization for six months before she was assigned to support JPEO-CBRND's Joint Assisted Acquisition (JA2) for COVID-19 test kit efforts. JA2 organized and led the acquisition efforts for DOD's assisted acquisition teams to procure and deliver medical countermeasures needed worldwide to combat the pandemic and to stand up a domestic medical countermeasure supply chain to protect the U.S. in the event of future public health emergencies. Overall, the JA2 team helped procure more than 2 billion vaccines and 1 billion test kits.

The JA2 COVID work provided "amazing experiences in terms of what I was able to do and accomplish," Kenerson said, including the opportunity to brief senior leadership at the U.S. Department of Health and Human Services. She has also briefed Jason Roos, the former joint program executive officer for JPEO-CBRND, other senior leaders and White House staffers. "I remember speaking to my manager afterward and I was absolutely star-struck at the names that I had the privilege to be on the call with. It really shows that our work is important and relevant."

After the JA2 work was completed in 2022, Kenerson returned to JPM CBRN Medical and has been there ever since. She manages new start portfolio programs for the Reactivating Nerve Agent Treatment System (RNATS) and the Consolidated Nerve Agent Treatment System (CNATS)—"products that have the potential to save lives in case of a nerve agent attack," she said.

"I enjoy the fast pace of the work, and there aren't many boundaries in my current role," she added. "The number of people I get to speak with and the operations tempo where I get to do something different every day—it's impossible to get bored."

The goal of the RNATS effort is to increase survivability against chemical threats through development and delivery of U.S. Food and Drug Administration-approved medical countermeasures. The CNATS program aims to increase survivability by delivering a medical countermeasure that integrates multiple therapeutics in a modernized multidrug auto-injector, providing greater defense against chemical warfare nerve agent threats without adding to the warfighter's load.

UP AND OVER
Kenerson, shown here in August 2018, has competed in equestrian events for most of her life. (Photo courtesy of Briana Kenerson)

One of her favorite parts of her work is collaboration. "I enjoy working with industry and interagency partners within DOD and greatly appreciate establishing connections with those organizations," said Kenerson. "I also enjoy visiting our industry partners and getting the chance to view and discuss their capabilities for the warfighter."

She credits mentors for playing an important role in her career advancement. "I worked closely with Patricia Alexander, program lead in the JPEO-CBRND Office of the Chief Engineer, when I first came to the organization and she helped me with my career development. She showed me what I needed to know, and I got to work at a very senior level in terms of my responsibilities. She's become a good friend to me now." Kenerson's boss, Col. Owen Roberts, who leads JPM CBRN Medical's Chemical Defense Pharmaceuticals team, "is always asking about what we want to do with our lives, personally and professionally, and he's pushed me to reach my goals and shaped my career. I appreciate him for that," she added.

She'd advise younger members of the acquisition workforce to follow a similar path. "Try and find a good mentor. And if you think you have a good one, keep them. Never burn bridges and be a go-getter! You need to like what you do for work, or at least enjoy the challenge."

Kenerson has her sights set on a leadership position, "and the training coordinator will tell you I'm always trying to take a new class and working to expand and challenge myself with new opportunities, courses and learning. The experience I'm getting is invaluable," she said. Her list of recent programs includes the Civilian Education System Advanced course, a postgraduate program at Tufts University in clinical drug development and the Program Management Professional course.

"There are constantly opportunities coming across my radar and I'm always thinking about whether they're the right ones for me," Kenerson said. "[Col.] Roberts reminds me that I cannot do everything at once and that I've got time to do what I want to in my career. I'm now thinking about when the right time for me would be and for the programs that I manage. So I will keep strategizing about when I can participate in the right opportunities for me and my career."

When she's not at her desk, you'll find Kenerson at a horse jumping competition, either as a competitor or announcer, or working out at an Orange Theory gym. "I like the community that both activities provide and the connection I have with my horse when I'm riding," she said. "Being in the barn with my horse—that's where I can get away from everything."

Movement is important, personally and professionally, she added. "Over the course of your career, you're bound to have a challenging job assignment or work relationship, but that doesn't need to define you or your career. You just have to keep moving forward and find what really suits you. I feel as though I've finally found that in my current role and it makes all the difference."

—SUSAN L. FOLLETT

LIVE ACTION
Soldiers train with synthetic Claymore mine, mortar, grenade and Stinger weapons systems to determine if they accurately portray a live-fire weapon during an operational demonstration of the STE LTS at the Joint Readiness Training Center, Fort Johnson, Louisiana in January 2024. (Photo by Ariana Aubuchon, PEO STRI)

REALITY CHECK

Haptics improvements to Army simulation training makes virtual environments feel more realistic.

by Cheryl Marino

Simulation doesn't replace live training, but with enhancements to its digital programs, along with haptics improvements, the Army will soon be able to augment existing programs and replicate weapons like direct fire, counter-defilade and directed energy that, until now, couldn't be replicated through simulation. Making interactions with virtual environments or digital devices feels more realistic and tactile.

Haptics is the use of technology to simulate the sense of touch by applying forces, vibrations or motions to the user via wearable suits or devices (i.e., gloves, vests, watches). While it is not currently used in live force-on-force training—a training method that combines live action with virtual and constructive training—it will be used going forward to bridge the gap between virtual training and real-world experiences. The result is a safer, more effective and more cost-efficient way to prepare Soldiers for various operational scenarios, and this technology is particularly valuable in effectively addressing modern military challenges—from urban warfare to cyber-defense training.

"Haptic technology in combination with immersive VR/AR [virtual reality and augmented reality] technologies and artificial intelligence [AI] form a critical architecture element within emerging Army training systems," said Chief Technology Officer Marwane Bahbaz, Program Executive Office for Simulation, Training and Instrumentation (PEO STRI). "And simulations using virtual reality and haptic capabilities drastically increase immersion and improve retention and learning in training exercises." This means that Soldiers can safely and effectively practice high-risk or complex scenarios like piloting a plane or handling dangerous machinery with more confidence and less risk than in real life.

He explained that haptics "increases combat realism in the collective training environment because it induces combat stress to Soldiers, ensuring that the execution of the mission, the decision-making process and the overall combined arms tasks are validated." Inducing combat stress in the training environment mimics the emotions and fatigue Soldiers could face when engaged in combat so they are better able to anticipate these sensations in the peer threat environment.

The Synthetic Training Environment Live Training System (STE LTS), which uses virtual technology to simulate combat environments for Soldiers, is advancing haptic technology with environmental hardening (increasing resistance to stress or threats) to enhance training resilience and cost efficiency and continues to monitor and invest in evolving haptic innovations.

SYNTHETIC TRAINING ENVIRONMENT

In 2017, the Army began developing the Synthetic Training Environment (STE) with the goal of achieving initial operational capability by 2021 and full operational capability (a highly realistic and immersive training environment) by 2023. Some features are currently being used for training, while the full system is still under development and deployment.

The STE integrates virtual reality and augmented reality to create immersive, realistic training scenarios across multiple domains—land, sea, air, space and cyber. By enhancing training with VR and AR, Soldiers can experience complex, large-scale environments and situations that are difficult or impossible to replicate in live training, improving readiness, decision-making and coordination in a cost-effective manner.

"The vision of the Army's Synthetic Training Environment is to revolutionize Army training by merging live, virtual, constructive [LVC] and gaming platforms into an interoperable training experience that provides real-life immersion for combat training," said Bahbaz. The blending of these domains enables decentralized training, reduces wear on tactical equipment and provides additional tools to enhance training effectiveness. This provides significant value for brigade and company-level training, benefiting forward observers (fire support specialists, artillery observers) and mortarmen crews.

PEO STRI's Project Manager Training Devices (PM TRADE) has developed instrumented mortars capable of engaging targets across the LVC spectrum, Bahbaz explained, including live instrumented Soldiers, the virtual Training Simulation Software (TSS) Soldier and constructive simulation-generated entities. Using an immersive VR headset, the forward observer can visualize the entire battlefield in real-time, seeing LVC entities in their exact locations. The device provides a fully virtualized view of the battlefield, using high-resolution, three-dimensional terrain models that are updated in real time—allowing the forward observer to pan and zoom the digital battlefield, provide targeting information and call in indirect fire on targets across the LVC spectrum. This capability, he said, allows for a highly realistic and dynamic training environment and can be used to supplement training when live personnel or vehicle platforms are unavailable.

These haptic technologies are currently in the prototyping phase, where performance and effectiveness is evaluated in a live training environment through the use of Soldier touch points conducted throughout a wide range of locations, including Fort Cavazos, Fort Benning, Fort Irwin, Fort Bragg, Fort Wainwright and Fort Polk. Bahbaz noted that, as a result of the PEO STRI touch points, PM TRADE received both positive and constructive feedback from Soldiers, which was critical in informing requirements and design improvements.

Bahbaz anticipates that these capabilities will be procured in fiscal year 2025 and fielded, starting in fiscal year 2026, to the Combat Training Center sites. This will begin with the Joint Readiness Training Center at Fort Johnson, Louisiana, then the National Training Center at Fort Irwin, California, followed by the Joint Multination Readiness Center in Hohenfels, Germany.

HALF PAST HAPTICS
This wrist-worn device provides Soldiers with situational awareness, biometric data and a real-time casualty assessment during training. Such improvements in haptics will help to provide a more realistic training environment and bridge the gap between virtual training and real-world experiences. (Photo courtesy of PEO STRI)

PM TRADE will start fielding with the indirect fire mortar and artillery training systems, he said, followed by shoulder-launched munitions and others, mainly because they enhance realism by providing tactile feedback for recoil, loading and firing, which helps develop muscle memory and operational skills.

LIVE TRAINING

For the next generation of dismounted Tactical Engagement Simulation Systems (TESS)— designed for infantry or ground-based personnel to simulate real-world combat scenarios without live ammunition—PEO STRI is prototyping haptic alerts to the Soldiers for firing, near miss, wound assessments and suppression.

"Where the Army is, the Army trains. As haptic-enabled TESS is deployed, the Army will use globally as needed."

"The current Live Tactical Engagement Simulation Systems use audio alters for near miss and assessment, which also provides an alert to nearby opposing Soldiers," said Mark Dasher, product lead for STE LTS. "Use of haptics will provide a silent alert when battlefield effects occur. Additionally, tactical haptics will introduce new training capabilities such as loading 'training round' into a 155 mm howitzer."

During live force-on-force training, the integration of artificial intelligence and machine learning (AI/ML) is going to be a key focus area for live prototyping efforts at many levels, Dasher said. For this training, real Soldiers, using real equipment in physical environments, engage in simulated combat against other live participants—with the addition of synthetic computer-generated elements to enhance realism and complexity. "First, we are applying AI/ML in engagements allowing proper combat techniques [e.g., target lead and site elevation]," Dasher said. This will provide real-time, data-driven feedback, as AI creates moving targets and realistic conditions, while ML adapts training to individual skill levels, analyzing performance to refine accuracy and decision-making. "We believe that AI/ML will provide a continuous evaluation of Soldier and unit actions, enabling better unit training strategies. In the future, AI/ML will support small-unit training without the need of trainers, exercise control, OPFOR [Opposing Forces] or external enablers."

STING OPERATION

The Stinger training system, which is being developed by PEO STRI as part of the STE-Live Direct Fires program, provides realistic and immersive training for Soldiers. (Photo by Ariana Aubuchon, PEO STRI)

Live training systems are utilized not just by the Army but also by other services, particularly the U.S. Marine Corps (USMC). "We work closely with PM TRASYS [Program Manager for Training Systems], our USMC counterparts in modernization efforts," Bahbaz said. "They participate in our Soldier touch points and provide valuable feedback to our team."

Bahbaz said PEO STRI has also forged a solid partnership with the Program Executive Office for Intelligence, Electronic Warfare and Sensors, Project Linchpin, the Army's first artificial intelligence pipeline to deliver AI and ML capabilities to sensors for faster and more accurate decision-making in collaboration with the STE cross-functional team.

"We have successfully released, jointly, a request for information that communicates AI needs for Army training. This is part of our STRI to efficiently accelerate AI adoption across the training portfolio and specifically in [the] STE program, starting with live." Bahbaz said he received 82 responses spanning traditional (defense-focused industries) and non-traditional (commercial business with advanced commercial technologies, particularly in the digital space) with diverse

experience, which will expand—even transform—the Defense Industrial Base. "This market research effort will shape the prototyping requirements of our modernization programs with respect to AI and data," he said.

PEO STRI, Bahbaz said, is also investing in computer vision technology as a potential replacement for lasers currently used by the Instrumentable-Multiple Integrated Laser Engagement System (I-MILES), a system that enables the Army to simulate combat and improve the realism of training.

"Object detection will enable us to simulate physics-based direct fire engagement, further increasing the realism in the live training environment," Bahbaz said, adding that recent engineering touch points have yielded promising results as haptic devices attempt to draw reaction of the forces as they maneuver in the force-on-force battle space.

At Soldier Touch Point 10 (a testing session point of refinement), he explained that two haptic devices were tested: 1) a haptic watch that also provided an electronic MILES casualty card to process and display battle damage assessment on their training system in fidelity that allows the performance of medical tasks in a combat training exercise; and 2), a haptic Small Arms Protective Insert replacement, a type of body armor that provides a tactile feedback sensation when impacted by a bullet, allowing the wearer to perceive a hit without feeling the full force.

Bahbaz said PEO STRI is experimenting with these haptic wearables to introduce the effects of explosions that are also integrated with mixed-reality devices and to increase the fidelity of interactions between live participants and synthetic entities in live exercises.

REAL-WORLD BENEFITS
A Soldier from the 1st Battalion, 509th Infantry Regiment, takes part in an operational demonstration of the STE LTS, designed and fielded by PEO STRI, at the Joint Readiness Training Center at Fort Johnson, Louisiana. STE LTS allows Soldiers to take part in more reps and sets than they would with live fire, while reducing training costs and improving safety. (Photo by Ariana Aubuchon, PEO STRI)

A "STAGES IN STAGES" APPROACH

Bahbaz said there are two live training modern products that will include a "stages in stages" approach, meaning phased in as technology matures and is validated. These two products are the Indirect Fire and Guide System (i.e., Stinger Trainer), with the first increment production planned to begin in fiscal year 2025 and fielding in fiscal year 2027, and the Direct Fire System with haptic and AI-enabled system, which is currently in the prototyping stage and scheduled for production in fiscal year 2027 and fielding in fiscal year 2028-29.

The Stinger Training System provides realistic and immersive training for military personnel, enabling them to effectively operate and maintain the Stinger missile system in a variety of combat scenarios and to simulate the complexities of real-world engagements. This allows users to develop the skills and confidence needed to accurately detect, track and engage enemy aircraft, while minimizing the risks and costs associated with live-fire training.

The system requires the gunner to perform all tasks involved in Stinger operation and target engagement. The life-sized Stinger trainer connects to range instrumentation, delivering realistic training without firing projectiles and can interrogate instrumented aircraft utilizing a simulated Identification Friend or Foe (IFF), replicating the dimensions, weight and firing sequence of a real Stinger weapon system.

A direct fire system with haptic and AI-enabled capabilities is a training platform designed to simulate a realistic use of the weapon in the force-on-force environment. According to Bahbaz, these systems leverage haptics to provide physical feedback, such as recoil, vibrations and resistance, replicating the sensations of real-world weapon handling. At the same time, AI introduces adaptive elements to the training or operational environment, like intelligent target behaviors, real-time performance analysis and scenario adjustments.

For example, a rifle or machine gun training simulator equipped with haptics will simulate the weapons recoil and resistance while engaging AI-controlled targets that react unpredictably to the Soldier's kinetic actions and reinforce rapid decision-making. The system, Bahbaz said, will provide feedback on accuracy, reaction time and situational awareness, adapting the scenarios' difficulty as the training environment changes.

These systems utilize AI to simulate lively scenarios like engaging aerial or ground threats, adapting to trainee performance and providing detailed feedback on decision-making and accuracy. Haptics enhancements also add a layer of physical realism by replicating sensations like weapon recoil, weight and control resistance, helping users develop muscle memory and familiarity with equipment. Together, these technologies ensure comprehensive preparation by addressing both the cognitive and physical aspects of weapon operation in a safe, controlled environment.

GOING GLOBAL

U.S. simulation training is conducted globally to enhance interoperability with allied forces, improve mission readiness and adapt to region-specific challenges. These exercises allow multinational forces to train together using advanced technologies, fostering seamless collaboration in joint operations. Simulation training is also cost effective and safer compared to live exercises, enabling realistic practice without the logistical complexities or risks. By deploying this training worldwide, the U.S. not only prepares for diverse operational scenarios but also demonstrates leadership in cutting-edge military technology.

"PM TRADE provides training capability for home station, Combat Training Centers and for use during deployments. Where the Army is, the Army trains. As haptic-enabled TESS is deployed, the Army will use globally as needed," Dasher said.

"These improvements can be used by our multination partners," Bahbaz noted. "In fact, we collaborate closely with our Five Eyes [Oversight and Review Council composed of intelligence oversight, review and security entities of Australia, Canada, New Zealand, the United Kingdom and the United States] on several live training technologies. They are well informed of the core design of training capabilities and have various engagements [where] we exchange our lessons learned to ensure interoperability."

CONCLUSION

Improving haptics within the STE offers significant benefits for enhancing the Army's training capabilities. These advancements create a more immersive and realistic training experience by bridging the gap between virtual scenarios and visual sensations. Wearables enable real-time biometric feedback, which can improve training effectiveness by monitoring Soldier performance, stress levels and physical conditions. Enhanced haptics deliver tactile and force feedback, allowing Soldiers to experience the sensations of weapon recoil, environmental resistance and physical impacts while fostering muscle memory and situational awareness. By integrating these technologies, the STE not only better replicates real-world conditions but also reduces the logistical burden and cost of live training exercises. This comprehensive approach ensures that Soldiers are better prepared for operational challenges, leading to improved readiness, adaptability and mission success.

"A critical resource is time for units to train, especially at the lower level (e.g., squad or platoon). Through the insertion of new technology, STE LTS is creating training devices that are both easy to use and realistic," Dasher said. "The benefit of these enhancements and new additions is allowing units to do realistic training, anywhere and at any time."

For more information, go to ***www.peostri.army.mil****.*

CHERYL MARINO provides contract support to the U.S. Army Acquisition Support Center at Fort Belvoir, Virginia, as a writer and editor for Army AL&T magazine and TMGL, LLC. Prior to USAASC, she served as a technical report editor at the Combat Capabilities Development Command Center at Picatinny Arsenal for five years. She holds a B.A. in communications from Seton Hall University and has more than 25 years of writing and editing experience in both the government and private sectors.

ALL ROADS LEAD TO SUSTAINMENT

U.S. Army Medical Logistics Command is improving warfighter readiness by ensuring that sustainment planning is part of the acquisition process.

by Leigh Anne Alexander

For many U.S. Army weapon systems, sustainment planning is inherent in the acquisition and development process. When the Army builds a new weapons system, for example, program managers collect data during testing and evaluation to understand the system's maintainability and reliability. They use this information to calculate future sustainment needs. They know how much power or fuel the system needs. They estimate what repair parts it will require over its life cycle and then source those parts. They project when the system will need major overhauls.

For many years, medical materiel, known as Class VIII materiel, functioned differently. In part, this variation was because most medical devices used by the operational Army were developed by private industry for use in hospitals. In Operation Enduring Freedom and Operation Allies Welcome, the U.S. had air superiority and evacuated injured warfighters within 60 minutes. Research suggests that this "Golden Hour" can result in an impressive survivability rate of over 90% for victims of warfare and trauma. With air superiority, the medical commodity was able to overcome challenges typically encountered on the battlefield.

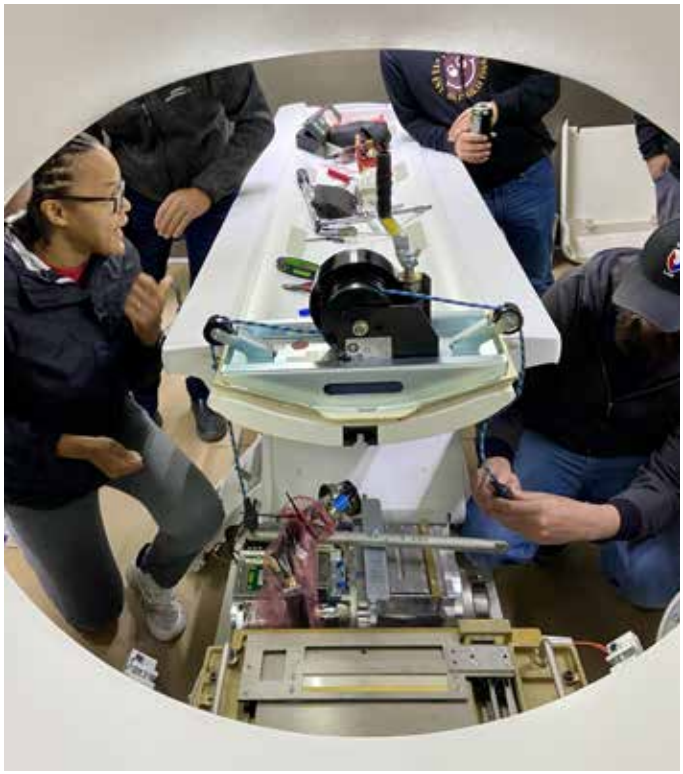
The Golden Hour will be impossible in a contested environment with limited air and ground evacuation and congested logistics. The wounded won't be able to get out, and new equipment and resupply will not be able to get in using tactics from the last conflict.

MEDICAL READINESS
A Soldier conducts maintenance on a ventilator at the Medical Equipment Concentration Site for the 88th Readiness Division in Ogden, Utah, during the COVID-19 response effort in April 2020. (Photo by Sgt. Jeremiah Woods, 358th Public Affairs Detachment)

To accomplish our mission in future fights, medical logistics will need to be integrated into the Army sustainment enterprise and sustainment integrated into all medical acquisition programs.

Since its activation in 2019, U.S. Army Medical Logistics Command (AMLC) has been focused on ensuring that operational medical capabilities are sustainable for Soldiers and the joint force. As the Army's Life Cycle Management Command for medical materiel, AMLC's focus is to integrate sustainment considerations from the start of the acquisition process.

To lead this change, AMLC's Integrated Logistics Support Center (ILSC)'s acquisition professionals are working in collaboration with materiel developers to bring key sustainment considerations, including centralized supply chain, materiel management and catalog standardization, into every stage of the acquisition process.



LEARNING ABOUT CT
Members of AMLC's Logistics Assistance Program provide training on a computed tomography, or CT, machine during a site visit to the U.S. Army Medical Materiel Agency's Medical Maintenance Operations Division at Tracy, California. (Photo courtesy of Logistics Assistance Program, AMLC)

CENTRALIZED MATERIEL MANAGEMENT

The current military medical supply chain relies heavily on a global "just-in-time" manufacturing, inventory and distribution process. Surges in demand or disruptions caused by natural disasters or global conflict can have catastrophic impacts on turnaround time, especially because many pharmaceuticals and medical devices are manufactured in other countries.

From an acquisition standpoint, that is why cataloging and sourcing—a function of the acquisition life cycle—and supply chain management become very complex. The Army doesn't produce its own medical equipment and supplies. Therefore, the Army does not control defense contractor production lines.

Instead, AMLC partners with a global commercial industry including hundreds, if not thousands, of vendors, each of which has its own cycles of product development and business-driven change. The Army isn't the only—or largest—customer for these high-demand medical devices and supplies.

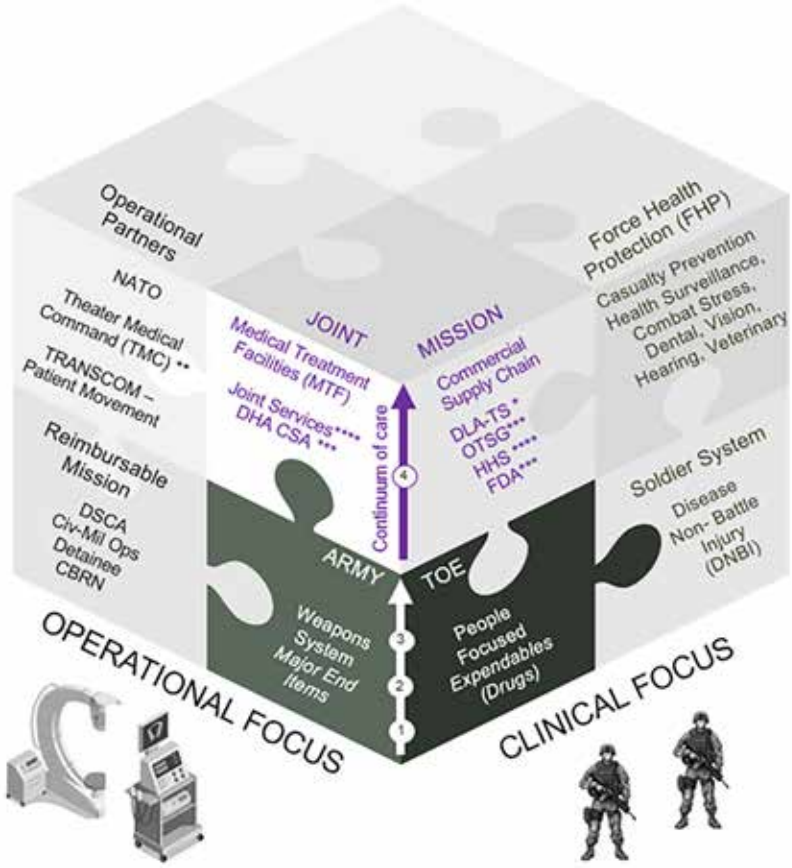
To ensure the Army has the resources it needs, the AMLC's ILSC is focused on centralized materiel management—a function most ILSCs are responsible for within their respective commodity. However, historically, the approach to medical materiel management varied by region and operational theater and relied heavily on commercially available products. The outcome of this approach was varied silos of supply.

To break down these silos and increase asset visibility across the force, the ILSC has been supporting an Army initiative called Medical Logistics in Campaigning (MiC). MiC is a combined effort of 16 different agencies working to streamline and integrate medical logistics processes into the wider Army sustainment enterprise, so that the Army can quickly transition from peacetime to a wartime operational environment.

MiC aims to simplify and standardize the medical supply catalog and integrate medical materiel into the Army's systems of record, aligning with other commodities. The ILSC is enabling this integration by compiling and analyzing data to ensure supply and demand for medical materiel is captured and tracked within Army systems to allow commanders at echelon to make data-driven decisions about their medical readiness.

SUPPLY CHAIN RESILIENCE

When the Army must transition from competition to crisis, AMLC must be prepared to mitigate risk, especially if supply chains are contested or otherwise disrupted. AMLC must



ACRONYMS

CBRN: Chemical Biological Radiological Nuclear

DHA CSA: Defense Security Cooperation Agency

DLA-TS: Defense Logistics Agency – Troop Support

DSCA: Defense Security Cooperation Agency

HHS: Health and Human Services

NATO: North Atlantic Treaty Organization

OTSG: Office of the Surgeon General

TRANSCOM: Transportation Command

BALANCING OPERATIONAL AND CLINICAL SUPPORT

The AMLC's ILSC has a multi-faceted role in health care delivery, focusing on both the operational and clinical aspects of medical logistics support for Soldiers, their families and retirees. (Graphic by Katie Ellis-Warfield and Leigh Anne Alexander, AMLC)

understand what Soldiers will need, when they will need it and the prioritization of limited resources.

To be successful, AMLC must integrate with the joint force and the Defense Logistics Agency to generate a common operating picture of global supply chain risk and proactively prioritize investments for surge capacity requirements.

AMLC must be proactive to ensure global sourcing and distribution strategies. One key element is maximizing partnerships with allied nations and their corresponding health care systems. By adding rigor to our requirements and maximizing interoperability as part of the acquisition process, the Army can increase responsiveness to the warfighter and provide better supply chain resilience.

PREDICTIVE LOGISTICS

Data is a precious commodity to all classes of supply, including medical. Other Army commodities have embraced predictive logistics, and medical is now doing the same.

Predictive logistics is the use of data analysis, machine learning and statistical algorithms to forecast future supply chain requirements, identify potential disruptions and optimize resource allocation.

AMLC must consider data requirements as part of the acquisition process. By curating medical materiel management processes and data to incorporate advanced analytics and predictive logistics, AMLC's ILSC will be able to anticipate needs and mitigate risk in real time while streamlining our technology-enabled operations—all in lockstep with goals and strategies set forth by the U.S. Army Materiel Command.

While AMLC's use of data science is just in the beginning stages, the ILSC is

HANDS-ON TRAINING
A trainer with AMLC's Logistics Assistance Program provides hands-on training to a Soldier at the U.S. Army Medical Materiel Agency's Medical Maintenance Operations Division at Hill Air Force Base, Utah. (Photo courtesy of the Logistics Assistance Program, AMLC)

building the groundwork. This means working to integrate data from disparate sources, ensuring data security and privacy and overcoming cultural barriers to adoption. Predictive logistics will be the key that unlocks AMLC's ability to enhance readiness, improve supply chain resilience and reduce overall costs as the Army prepares to fight and win future conflicts.

A CASE STUDY

The COVID-19 global pandemic tested our medical logistics capabilities and underscored the power of information. During the pandemic, many medical devices and supplies were in high demand, resulting in shortages. The initial pandemic response faced challenges to scale up manufacturing and deter counterfeit materiel. The demand on critical medical supplies extended far beyond just government agencies, forcing some health care providers to compete for limited resources.

These experiences showed the Army why asset visibility and supply integration are so critical to the mission. During a large-scale combat operation, the Army will likely face similar challenges in predicting where supplies will be needed and how to prioritize limited resources.

CONCLUSION

Every other Army weapon system is centered around deployable hardware or equipment. For medical, AMLC must also consider the well-being of the Army's most valuable commodity—our Soldiers. Health care on the battlefield starts with medical logistics, but the medical materiel demand extends to brick-and-mortar DOD and Department of Veterans Affairs medical treatment facilities.

The Army's system of health is built on a foundation of acquisition decisions that must include the full life cycle—from development through sustainment. All roads lead to sustainment.

For more information about AMLC's ILSC and its worldwide support mission, go to ***https://www.amlc.army.mil/ILSC****.*

LEIGH ANNE ALEXANDER is the director of the Integrated Logistics Support Center at AMLC, the Army's Life Cycle Management Command for medical materiel. She holds an MBA and an M.S. in biotechnology, both from the University of Maryland, University College. She holds a B.A. in chemistry and a B.A. in American studies, both from Lafeyette College. Before joining AMLC, she served in project management and acquisition roles under the U.S. Army Medical Research and Development Command and Joint Program Executive Office for Chemical, Biological, Radiological and Nuclear Defense Medical Countermeasures Systems.

UNDERGOING DIVESTMENT
EMARSS is currently undergoing divestment from the PEO IEW&S portfolio since early 2023. (Photo courtesy of PEO IEW&S)

SEPARATION FROM SERVICE

What happens after Army equipment and systems become obsolete.

by Megan Clark

Acquisition is a team sport, and according to Julie Isaac, project director for sensors-aerial intelligence (PD SAI) under the Program Executive Office for Intelligence, Electronic Warfare and Sensors (PEO IEW&S), divestments are no different when it comes to the Army's process of removing equipment from the field.

Equipment divestment, or "divestiture," is the process of removing excess and obsolete systems and equipment and either redistributing them to other government organizations, destroying them or, in some cases, donating them to museums.

The divestiture of legacy equipment is critical to ensure the goal of modernizing capabilities while supporting operational readiness. As technology evolves, it is important to transition from legacy systems to advanced solutions that meet today's mission requirements.

Every government organization has its own unique processes for handling the acquisition timeline. Whether it's a vehicle, rifle or plane, or an intelligence, surveillance and reconnaissance (ISR) system, there is a specific approach to handling each. PEO IEW&S is no different, according to Darrel Fleetwood, division chief of product support management for PEO IEW&S.

"It really depends on if the program is considered a Major Capability Acquisition (MCA) pathway or a Quick Reaction Capability (QRC)," he said. "MCA systems are standardized and can [often] be reutilized before we make the decision to completely destroy it and remove it from the government supply chain."

The MCA pathway follows the typical acquisition process, meaning it has an approved authorization and a capability development document, or authorization documentation, showing that it is needed.

Once these MCA programs have received authorization and completed research, development, testing and evaluation, they will go to Soldiers in need of those capabilities. After a system has been out in the field for a while, it can be modified to ensure it remains relevant and usable for Soldiers, which is part of the sustainment process.

After sustainment, once the decision has been made to divest, the Army will begin a reutilization process, if possible.

In contrast to the MCA, which is a program that goes through the "typical" program of record acquisition process, a QRC is a program that comes out of an urgent need for a specific capability. A QRC is built and then fielded in real-time, which is not part of the standard supply chain, Fleetwood said. Given the nature of the organization's mission to deliver capabilities quickly through affordable and adaptable programs that pace threats, PEO IEW&S deals with a lot of QRCs.

"Wherever the fight may be, we're supposed to—based on policy and process—utilize that equipment but treat it as almost a prototype," he explained. "[A unit will] use it for the fight in theater or any operation, but once they are done with it, they are supposed to destroy that system."

Fleetwood emphasized that QRC systems are different from traditional acquisition systems in that they are not meant to be reutilized and should not be redistributed to other organizations or industry.

"For PEO IEW&S, we follow a structured approach when supporting divestiture efforts made by HQDA [Headquarters, Department of the Army] or recommended by the program office," Fleetwood said. "While the ultimate execution of divestiture falls under the Defense Logistics Agency (DLA) through the Defense Reutilization and Marketing Office (DRMO) process, our role involves ensuring equipment is prepared and transferred to DLA appropriately. The DRMO process includes reutilization checks within the Department of Defense and other government agencies, with DOD components given the first opportunity to utilize this equipment."

The decision to divest equipment ultimately comes from the HQDA level rather than the program office level.

"I've seen instances in the past where a program office makes a decision to divest and execute the divestment of legacy systems because they have a modernized version of that capability already in the field with Soldiers," Fleetwood explained. "We must understand that, as developers, we do not have that authority without

LIFE CYCLE AT A GLANCE
The life cycle of a military system is complex, but with a distinct beginning and end. (Graphic by Justin Rakowski, PEO IEW&S)

HQDA. This is a collaborative decision to ensure alignment across stakeholders."

Additionally, Fleetwood continued, before a system is divested, there must be confirmation that the capability has a viable alternative to ensure no gaps in mission needs.

THE IEW&S DIVESTMENT APPROACH

In some cases, HQDA may decide to divest a system based on its strategic planning and assessments of duplicate or redundant capabilities within the field. These decisions are outside the scope of program offices and reflect broader Army priorities. However, when PEO IEW&S offers a system for divestment, we ensure thorough checks are performed to verify that:

- The system is no longer actively supporting operations.
- The Life Cycle Cost code properly reflects the system's status as obsolete or unsupported.
- Army Futures Command's Capability Optimization and Reallocation Analysis data ensures the Line Item Number of newer capabilities are reflected in the capability development document or the capability production document.
- Coordination is made with the Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology so that office can support this request for divestment once it enters the Divest Army Requirements Oversight Council.
- Systems reflect on the Master Divestiture List prior to executing divestment.

Our process ensures that divestment decisions are responsible, data-driven and aligned with modernization priorities. By following these steps, we contribute to the Army's efforts to maintain operational effectiveness while transitioning to advanced capabilities.

DIVESTING EMARSS AND BEYOND

The Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) is one example of an IEW&S system currently in divestment within the PD SAI portfolio.

EMARSS's flexibility, endurance, sensor capabilities, communications architecture and processing, exploitation and dissemination abilities provide rapid prompting (or cross-cueing) of multiple on-board sensors. This enables timely target confirmation and positive identification of mobile, fleeting targets in direct support of brigade combat team operations, as well as providing general support to higher echelon and coalition forces across the full range of military operations.

The first of 25 Medium Altitude Reconnaissance and Surveillance Systems (MARSS) came online in the early 2000s as QRCs supporting U.S. Southern Command. PD SAI built out these aircraft to support aerial ISR missions around the world. The MARSS system changed several times over its 20 years of service, but its primary role in the Army remained the same.

While it was heavily utilized in Operations Enduring Freedom and Iraqi Freedom, mission needs changed over time and the Army's pivot away from counter-insurgency operations brought on new priorities. The Army began removing MARSS/EMARSS from the field in early 2023 and PD SAI introduced the High Accuracy Detection and Exploitation System to its portfolio.

According to Isaac, from the PD SAI perspective, the goal is to finish divesting EMARSS (which is the enhanced, final version of the MARSS system) in fiscal year 2025. Fleetwood said that from beginning to end, divestment can take anywhere from three to 18 months, sometimes longer.

"It'll take around six weeks to physically remove the sensors and systems and then sell or destroy the aircraft," Isaac said. "Some of the administrative processes are executed by other agencies and those processes may take longer."

Once EMARSS is fully divested, it is removed from each military unit's Modified Table of Organization and Equipment, the Line Item Number (which is unique to every system in the military) is categorized as obsolete and the National Stock Number is categorized as obsolete for all four variants.

Some assets of EMARSS will be provided to Project Lead Multidomain Sensing System within PD SAI and some will be provided to other Army organizations or services.

"Although EMARSS is being divested, the MARSS Program Office has been proactive in repurposing divestment assets internally at PD SAI, as well as externally," Isaac said. "Significant cost avoidance will be realized due to MARSS' concerted effort to reutilize divested technology that was successfully proven and used to conduct intelligence, surveillance and reconnaissance missions."

If a product or system is set to be sold to an outside organization, such as the public or industry, it must be "demilitarized."

CROSS-CUEING CAPABILITIES
The EMARSS's unique capabilities provide rapid prompting (or cross-cueing) of multiple on-board sensors to enable timely target confirmation and positive identification of mobile, fleeting targets in direct support of brigade combat team operations. (Photo courtesy of PEO IEW&S)

"If no one within the military can use an asset anymore, we will demilitarize it," Fleetwood said. "That way, it can be sold to the public. We try to look at other agencies first that may want our capabilities before we get to the de-mil portion of divestment."

There is a lot of interest among external agencies and industry for acquiring divested capabilities from PEO IEW&S, Fleetwood said, and sometimes other program offices will reach out on their own to see if they can use a divested product.

"They may want our capabilities before we sell," he said. "Some program offices will reach out to individuals to see if they want a product. It depends on the system."

Fleetwood said that his biggest goal with divestitures is to make sure an office is not "wasting something that could actually be used again by another agency."

CONCLUSION

For Fleetwood, the bottom line with divestiture is that there are multiple layers to the process.

It's a full-time job to deal in divestments, Fleetwood emphasized, and many commands will have a specialized team specifically dedicated to the process to be as efficient and effective as possible.

Fleetwood believes in not wasting money, especially taxpayer dollars. He said if someone else can further develop a capability or utilize a capability in a new way, especially if the unit it belongs to originally doesn't need it any longer, it is worth saving the government funding and pass the system along.

"Divestment does not mean 'destroyed,' " he said. "Divestment means [we have no use for] a system or product, but someone else could reutilize that capability."

For more information, contact Darrell Fleetwood at ***darrell.j.fleetwood.civ@army.mil****.*

MEGAN CLARK is a public affairs specialist contractor for PEO IEW&S. She has a B.S. in English composition from Towson University.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RESPECT THE BALANCE OF THE EIGHTS

DANIELLE GAINEY

COMMAND/ORGANIZATION: U.S. Army Contracting Command – Rock Island

TITLE: Supervisory contract specialist – branch chief

YEARS OF SERVICE IN WORKFORCE: 15

DAWIA CERTIFICATIONS: Contracting professional

EDUCATION: MBA and B.A. in management, St. Ambrose University

AWARDS: U.S. Army Materiel Command Top Employee of the Quarter, fiscal year 2023

Logistics services are vital for Soldier readiness and effectiveness in mission execution. As a branch chief at the U.S. Army Contracting Command – Rock Island, Danielle Gainey oversees the procurement of many of these high-visibility services to ensure that Soldiers have the equipment and base life support they need.

"I am proud to contribute to the quality of life that our Soldiers experience while they are deployed in support of our freedoms," Gainey said. The services that her teams support are critical to base life support services in numerous combatant commands, including U.S. Northern Command, U.S. European Command, U.S. Indo-Pacific Command and U.S. Central Command. "These services ensure that our deployed Soldiers can focus on fighting our nation's wars," she added.

Gainey's teams also oversee the transportation, supply and logistics of the Army Prepositioned Stock (APS) program, which strategically prepositions equipment worldwide to reduce deployment response times. "The APS mission ensures that Soldiers have the equipment they need when they need it in order to respond to our nation's wars." Together, she said, "these missions are the lifeblood of our deployed Soldiers, and I am immensely proud of what my teams do to ensure their success."

For Gainey, life is all about balance. "We work on balance in the gym for our fitness, and we also have to work on balance in our life. If you think about your day, there are 24 hours available to be used. You should sleep for eight of those hours, ideally; you should work for eight of those hours; and the remaining eight hours should be spent on what you value most, what brings you joy and what helps you grow as an individual." Gainey refers to that approach as the "balance of the eights," and encourages everyone she works with to apply it to their own lives. "There will be times when you have to give or take, but the key is the overall balance being in check. We can't be our best if we are off-balance."

Gainey joined the Army Acquisition Workforce in 2011 as a contract specialist supporting the Joint Manufacturing and Technology Center at the Rock Island Arsenal. "To be honest, I didn't know much about the position," she said. "A mentor of mine said that it would be a secure job because the government always has to buy things. It was quickly apparent that Army procurements are very interesting and no two days are alike." One day she may be called to assist with a rogue wave in the Pacific that has compromised communications with U.S. allies; the next day, she might be discussing a capability that a contractor has to assist in repairing equipment to ramp up support to Eastern Europe. "As a person who is creative outside of work, I enjoy being presented with challenges and asked to craft solutions that are inventive," she said.

"We can't be our best if we are off-balance."

QUEEN OF THE HOUSEHOLD
Zoe, Gainey's 15-year-old Maine Coon mix, is "the queen of our household." (Photo courtesy of Danielle Gainey)

Gainey said expanding her procurement knowledge with various Army commands has been invaluable and has given her a wider view of the Army's mission. "I have served on so many diverse teams and procured numerous supplies, services, construction and architect-engineering services. All of that has provided me with a broad perspective of just how vast the Army's procurement mission really is."

As she became more interested in leadership roles, Gainey was selected to participate in the U.S. Army Corps of Engineers' Supervisory Leadership Development Program. The program includes 10 new supervisors within the agency and focuses on collaboration and communication skills that are critical for successful leadership. "I was able to develop phenomenal professional relationships with nine of my peers, who were experiencing all of the same 'firsts' as a supervisor that I was."

Gainey also completed the Acquisition Leadership Challenge Program (ALCP) Level II earlier this year. It was very eye-opening to see holistically how she views herself, she noted, versus how her peers view her.

Before that, she completed ALCP Level I, Civilian Education System Basic and Advanced, and was surprised with the results. "I expected to see myself the same or similar as my leadership viewed me," she said. "I also expected that I would be challenged most in the area of conflict management. But it was clear, through my 360 assessment [administered through the Campbells Leadership Index], that my leadership views me much more positively than I view myself—I am truly my own worst critic."

As a result of these courses, Gainey said she now applies the technique of constructively sharing with others how she views them. "It's a skill that feels very uncomfortable at first, but the more you do it, the more natural it becomes," she said. If she's attending a collaborative meeting and a colleague speaks up on a confrontational matter, she does her best to reach out to that colleague afterward to let them know she recognized that speaking up may have felt uncomfortable, but by doing so, they demonstrated the Army value of personal courage or commanded respect through the tone of their voice. "This gives my colleagues insight into how they are viewed by others and can allow them to learn more about themselves."

Through ALCP, Gainey noted, she gained insight into how she performs as a leader and how she can best support the Army's missions. "I would recommend this course to every single colleague I can," Gainey said. "I think anyone can benefit from it, no matter where they are in their career or where they want to go. It is a great starting point."

Gainey's professional development also includes participation in her agency's formal mentoring program, where she coaches, mentors and guides her own teams as well as others who have worked for her in the past. "We all benefit from hearing about others' experiences, even if we don't think we will," she said. "I love engaging with my colleagues."

That goes for her out-of-work activities as well. "I have a love for helping others, and I do it in many ways within my community," Gainey said. She is a "huge supporter" of a local dog rescue, Ruff Life Dog Rescue of Illowa, in Davenport, Iowa, and has fostered dogs in her home for several years. Now that her pet roster is full at her house, she supports their fundraisers as much as she can. Additionally, she hosts a monthly get-together with friends, where they prepare and freeze meals. "I also enjoy gardening with my friends and sharing the 'fruits of our labor' with others."

—CHERYL MARINO

EYE ON THE PRIZE

Delaney Smith, Deep Breathe manager of data science and research, and Rob Arntfield, M.D., Deep Breathe founder and CEO, show off the Canadian company's first-place award from the xTechInternational 2024 competition. (Photo courtesy of Deep Breathe)

THE DIVERSIFICATION OF ARMY INNOVATION

The Army's tech pursuit goes global with xTech prize competitions.

by Anna Volkwine

Technology is advancing at a global scale, and the U.S. is no longer the sole leader in defense innovation. More than ever, the U.S. needs its allies and partners to help push the cutting edge of innovation and maintain a competitive technological advantage against adversaries.

In 2024, the Defense Innovation Board (DIB) recommended that the DOD strengthen national security through international engagement. In its publication, "Optimizing Innovation Cooperation with Allies and Partners," the DIB emphasized that integrating allies and partners is crucial for global stability. These collaborations can enhance collective strengths and ensure that the U.S. and allied warfighters have the necessary capabilities for a spectrum of conflict scenarios.

The Army xTech Program, led by the assistant secretary of the Army for acquisition, logistics and technology (ASA(ALT)), utilizes a prize competition model to foster collaboration between the Army and nontraditional innovators. XTech competitions offer non-dilutive cash prizes, along with feedback, mentorship and networking opportunities with Army customers. Since its inception in 2018, xTech has launched nearly 40 competitions.

While these competitions primarily focus on U.S.-based nontraditional innovators, xTech also fosters collaboration with international innovators through a successful global competition series launched in 2021.

Through its international tech-discovery competition series, the program addresses a critical barrier highlighted by the DIB, which is that "key allies and partners are kept at bay and lack formal pathways toward integration with U.S. capabilities."

"Our international alliances are bound by a common interest in national security and bolstered by shared innovation," said Chris Manning, deputy assistant secretary of the Army for research and technology (DASA(R&T)). "By tapping into unique capabilities and leveraging global partnerships through xTech's international competitions, the Army develops solutions to some of our most pressing challenges and helps ensure a secure future for the U.S. and our allies."

THE INTERNATIONAL PRIZE

The xTech Program's international competitions offer a platform for global innovators to share defense-capable technologies with DOD. The series, which began in 2021 with the xTechGlobal AI (artificial intelligence) Challenge, promotes joint innovation and research and development (R&D) between the Army and top technology innovators from partner nations, enhancing U.S. defense capabilities.

Between 2022 and 2024, xTech launched and concluded three more international competitions that focused on various technology areas ranging from AI, advanced manufacturing and materials, power and energy, synthetic bio and quantum. These four competitions have collectively offered over $1.7 million in cash prizes, giving international innovators the financial support needed to develop their solutions alongside U.S. partners.

Many international entities also gain opportunities for follow-on agreements through networking and connections made during the competitions, such as the Foreign Technology Assessment Support (FTAS) program and Cooperative Research and Development Agreements (CRADAs).

The international competitions offer finalists another xTech staple—the Accelerator Program. This cohort-based program provides mentorship, networking and business development opportunities. The accelerators are tailored to offer meaningful resources to innovators who face unique challenges when working with DOD, including limited familiarity with the DOD acquisition process. These resources empower international innovators to

TEAMING UP FOR XTECH

The U.S. Army xTech team, joined by members of ASA(ALT), AFC, DEVCOM, ONR-G and other government agencies, hosted the xTechInternational Advanced Manufacturing and Materials competition during the summer of 2023 in London, England. (Photo courtesy of the U.S. Army xTech Program)

make important connections that advance solutions toward Army transition and commercialization.

Over the course of these competitions, nearly 350 international, small- and medium-sized businesses and academic and research institutions from almost 50 countries, have submitted eligible proposals, with 45 finalists participating in the Accelerator Program. This demonstrates the diversity and breadth of innovators who can secure a technological advantage for the U.S. and its allies.

PARTNER PERSPECTIVES

In conjunction with ASA(ALT), the competitions feature tri-service partnerships with established defense organizations, including the Army Futures Command (AFC) Forward Elements; U.S. Army Combat Capabilities Development Command (DEVCOM) within AFC; the U.S. Office of Naval Research Global (ONR-G); and the Air Force Research Laboratory's AFWERX program. These organizations collaborate with xTech to plan and identify focus areas, while supplying expert evaluators to review proposals from across the globe.

According to Matt Willis, Ph.D., director of Army Innovation Programs, including xTech and the Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) Programs, tri-service partnerships are crucial because modern conflicts increasingly require integrated technologies to address complex global threats. By pooling defense resources through xTech, the Army can enhance its global presence and deterrence capabilities to keep threats at bay. "The combined expertise and critical feedback from tri-service partners help international innovators, who are often unfamiliar with U.S. military acquisitions, understand how their solutions fit into a comprehensive defense strategy," Willis said. "This strategy spans the joint force and military allies, accelerating innovation into trusted hands."

The AFC Forward Elements, which include DEVCOM Americas, DEVCOM Atlantic and DEVCOM Pacific, have partnered with xTech since the inaugural xTechGlobal AI Challenge. Spread across these respective regions, the AFC Forward Elements' mission is to identify and implement international technologies that meet Army and DOD requirements and facilitate the transition of these technologies to allied nations.

Tom Mulkern, former deputy director of AFC Forward Element-Atlantic, has supported xTech's international competitions from the beginning. Now working as the director of International Science and Technology (S&T) Programs for DASA(R&T), Mulkern notes that the Army has not always effectively engaged with international innovators. XTech's global initiative changes this dynamic by casting a wide net across allied countries to gather ideas. "The Army and DOD need international partners because the U.S. no longer corners the market on S&T expertise," Mulkern said. "We need to leverage our allies and build upon the strengths of the U.S. and our allies to counter adversaries. XTech's international competitions are a way to engage with these innovators."

By expanding its outreach to the international market, the Army not only boosts the chances of discovering new technologies for the U.S. military but also strengthens the defense capabilities of our allies. This proactive approach is crucial for ensuring that cutting-edge technologies stay in friendly hands and out of adversaries' reach.

AFC Forward Element-Americas, headquartered in Santiago, Chile, also supports xTech's international competitions. The Americas element explores collaborative opportunities with non-U.S. innovators that can close mission gaps for the Army in North, Central and South America. In this expansive coverage area, AFC Americas leverages xTech to close the geographic span and increase touch points with non-U.S. technology disrupters.

Harry DuRette, deputy director of AFC Forward Element-Americas, has advocated for Latin American businesses to bring their innovative strengths and applied science to the Army via xTech. DuRette noted that many of the vendors are educated in the U.S. and therefore have an inherent understanding of American science and business processes. "The Latin American S&T landscape tends to be focused on specific challenges, many of which are relevant to Army modernization priorities," DuRette said. "The key is making these businesses aware that collaborative opportunities exist within the Army. XTech has been a critical connector for AFC Americas to bring more innovators to the Army table."

Col. Charles Seaberry, director of AFC Forward Element-Atlantic, was recently introduced to xTech through the xTechInternational 2024 competition. In his role, Seaberry oversees a global organization, including DEVCOM Atlantic, that identifies R&D collaborations in Europe, Africa and the Middle East to advance DOD capabilities. At the finals event in Madrid, Spain, in August 2024, Seaberry was impressed with the technology readiness levels (TRLs) of many finalists, noting that some demonstrated advancements nearing transition to Soldiers' kits.

XTech brings together a large range of technologies outside of the U.S. that are

FIRST IN FINALS

Deep Breathe accepts the first-place award for the xTechInternational 2024 competition at the finals event in Madrid, Spain. From left is Matt Willis, Ph.D., director of Army Innovation Programs and Army SBIR|STTR Programs; Rob Arntfield, M.D., Deep Breathe founder and CEO; Delaney Smith, Deep Breathe manager of data science and research; Col. Charles Seaberry, director of AFC Atlantic; Lt. Col. Erik Quiralte, director of International Technology Center (ITC)-France, AFC Atlantic Forward Element; and Paul Sparks, Ph.D., technical director of ITC, AFC Atlantic Forward Element. (Photo courtesy of Deep Breathe)

critical to the DOD. Over the course of the 2024 international competition, Seaberry observed solutions across a spectrum of TRLs that align with current priorities, such as AI for decision-making and autonomy; quantum technologies for sensing and secure communication; additive manufacturing for operational efficiency; and sustainable energy solutions. "XTech is more than an innovation discovery platform; it is a catalyst for cultivating a robust ecosystem of entrepreneurship," Seaberry said. "Through this initiative, the Army connects with international innovators at the forefront of transformative technology, laying the groundwork for future capabilities that may fundamentally shift the defense landscape."

CRITICAL SUCCESSES

Bearing out Seaberry's sentiment, xTech has already helped the international S&T community maximize connections and align solutions at the Army's point of need. Magnus Metal Ltd., based out of Tzora, Israel, won first place in xTechInternational Advanced Manufacturing and Materials in 2023. The small business is now leveraging relationships made during the competition to integrate its automated, additive manufacturing technology with the Army.

In August 2024, Magnus Metal Ltd. received $150,000 through the FTAS program, which funds technology assessments on novel, foreign technologies that could support Army modernization efforts. According to Ardy Johnson, Magnus Metal Ltd., vice president and general manager of U.S. operations, the award resulted from an introduction made via xTech during the finals event in London. Johnson believes that the xTech win not only facilitated an invaluable Army connection but also expedited the FTAS application and approval process in less than one year following the competition.

By pooling defense resources through xTech, the Army can enhance its global presence and deterrence capabilities to keep threats at bay.

Now the small business is producing regular deliverables for the Army as part of an ongoing assessment of the technology tailored to the Army's specific requirements. Magnus Metal Ltd. is working toward enabling the Army's eventual purchase and installation of a Magnus machine to support strategic manufacturing needs through digital casting, with the company providing a support team and regular system upgrades to the Army. In addition, Johnson shared that Magnus Metal Ltd. is making progress in the U.S. commercial market. The company has received $80 million in venture capital investments via Series B funding, which is for companies that have demonstrated market viability and require additional capital to scale solutions. Magnus Metal Ltd. is also kicking off plans to open a U.S.-based office soon.

Meanwhile, Deep Breathe, a medical technology company based in Ontario, Canada, won first place at xTechInternational 2024, earning over $100,000 in cash prizes for its portable, AI-driven ultrasound software that can accurately interpret the results of lung ultrasounds for Soldiers in the field. Founder and CEO Rob Arntfield, M.D., shared that his company entered the competition without prior DOD exposure; before xTech, its technology was primarily geared toward the civilian healthcare category. However, the competition revealed significant interest by the DOD in Deep Breathe's capabilities and boosted the company's confidence in applying to other military programs.

Soon after xTechInternational 2024, Deep Breathe connected with Special Operations Forces (SOF) at Fort Bragg, North Carolina, and received a CRADA for ongoing R&D to tailor their solution for the unique needs of the SOF community. The company is also partnering with ONR-G to evaluate its solution for the Marine Corps at Camp Lejeune, North Carolina. "We wouldn't have been knocking on any of these doors if it weren't for xTech's introductions and support," Arntfield said. He noted that the Accelerator Program was particularly helpful in navigating the complexities of working with DOD for foreign companies.

Deep Breathe and Magnus Metal exemplify the impact of xTech's international reach, but they are just the beginning when it comes to defense-ready technologies spanning allied nations. The successes across the U.S. and globally are numerous, with more to come as new international competitions are launched.

CONCLUSION

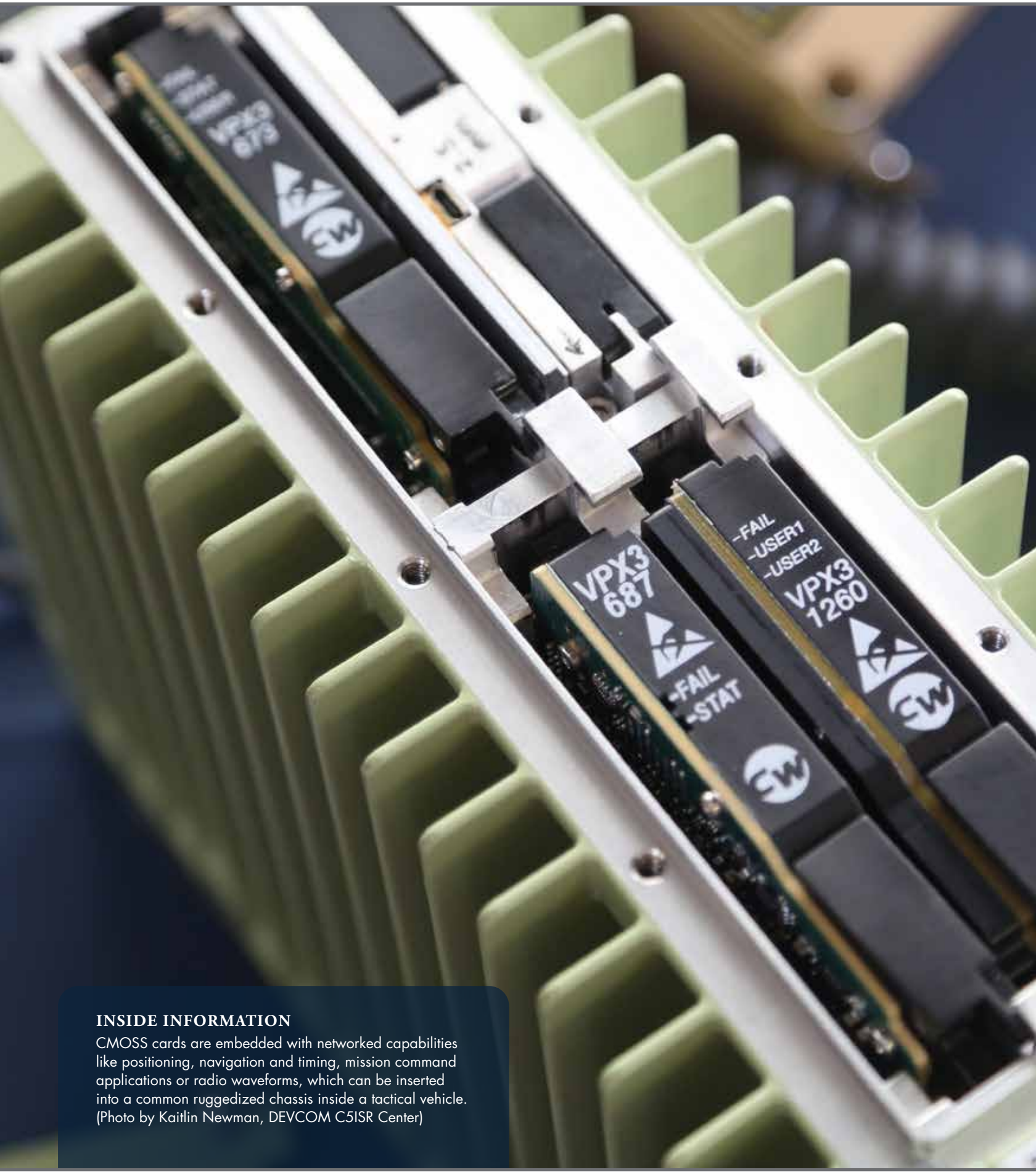
The DIB's study highlights the crucial role of international alliances, warning that "failure to fully integrate and collaborate with allies and partners will inhibit our ability to innovate, deter threats and win conflicts." XTech's global efforts continue to thrive, with more competitions in the works to drive innovation beyond U.S. borders.

Aligning with the DIB's sentiment, the Army's xTech Program must fully integrate and collaborate. The international competition series demonstrates the DOD's ability to strengthen its power through global strategic alliances. As the program's international presence evolves, the horizon promises even greater opportunities to showcase new solutions and shape the future of defense innovation.

"XTech's international competitions are a prime example of how the Army is working to promote innovation and collaboration across the global technology community," Mulkern said. "With the launch of new competitions in 2025, the program will continue to establish requisite trust between the Army and international partners."

For more information on the Army xTech Program's current and upcoming competitions, go to ***www.xtech.army.mil****.*

ANNA VOLKWINE provides contractor support to Army Innovation Programs for Booz Allen Hamilton. She holds a B.A. in strategic communications from Mount St. Mary's University.



INSIDE INFORMATION

CMOSS cards are embedded with networked capabilities like positioning, navigation and timing, mission command applications or radio waveforms, which can be inserted into a common ruggedized chassis inside a tactical vehicle. (Photo by Kaitlin Newman, DEVCOM C5ISR Center)

THE RIGHT BALANCE

Effectively negotiating intellectual property in Army contracting.

by Allison Weissert

The partnership between the Army and industry is vital to the ecosystem that advances mission success now, and in the future. Industry provides solutions that the Army procures, develops and fields. The challenge that exists is industry wants to protect their investments and keep their intellectual property (IP), while the government wants to avoid paying for IP it doesn't need or licensing after they have already paid for, or invested in, the development of the property in the first place. Both parties have a vested interest in negotiating for the proper level of rights to technical data and IP.

The acquisition of technological solutions, and the services required to sustain those products, is one of the most important issues facing both the government and private industry. While industry needs to maintain its stake in its own investments, the government purchases products that may need customization, development and sustainment within a limited budget.

Therefore, negotiating IP, including data rights, in government contracting is critical to achieving the right balance of retaining what the government requires to develop and field capabilities within budget.

It is also important to understand the regulations in government contracting that primarily deal with IP. They are clauses found within the Federal Acquisition Regulations (FAR) and the Defense Federal Acquisition Regulations Supplement (DFARS). Specifically, the following:

- **FAR 52.227-14** Rights in Data-General: This clause governs the rights to technical data and computer software developed or delivered under a government contract. It outlines the government's right to use, reproduce and disclose data, which can include modifications or improvements made by the government.
- **DFARS 252.227-7013** Rights in Technical Data—Noncommercial Items: This clause applies to contracts involving technical data that is not commercially available. Under this clause, the government can acquire unlimited rights, government purpose rights or limited rights, depending on the funding source and type of data.
- **DFARS 252.227-7014** Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation: For technology firms dealing with custom software development, this clause outlines the government's rights to use, modify and distribute software.
- **FAR 52.227-11** Patent Rights—Ownership by the Contractor: This clause allows contractors to retain title to any invention developed during the contract, provided the government gets a non-exclusive, royalty-free license to use the invention.

Program Executive Office for Intelligence, Electronic Warfare and Sensors (PEO IEW&S) is a complex portfolio of software and hardware systems designed to deliver advanced technologies that give Soldiers

UNDERSTANDING THE TERMINOLOGY

To understand the complexities of this issue, it's important to define the terminology involved in IP and data rights.

- **IP** describes information, products or services that are protected by law as intangible property, including data (e.g., technical data and computer software), technical know-how, inventions, creative works of expression and trade names.
- **Data rights** is a shorthand way to refer to the government's license rights in two major categories of valuable IP: technical data and computer software.
- **IP deliverables** are products or services (including information products and services) that are required to be delivered or provided to the U.S. government by contract or other legal instrument and that include or embody IP (e.g., technical data and computer software).
- **IP rights** are the legal rights governing IP, including ownership, as well as the license or other authorization required to engage in activities with IP (e.g., make, use, sell, import, reproduce, distribute, modify, release, disclose, perform, display or prepare derivative works of IP).
- **Commercial computer software** means software developed or regularly used for non-governmental purposes that has been sold, leased or licensed to the public or has been (or will be) offered for sale, lease or license to the public.
- **Noncommercial computer software**, also known as "other than commercial computer software," means software that does not qualify as commercial computer software under the definition of "commercial computer software" listed above.
- **Technical data** means recorded information of a scientific or technical nature (including computer software documentation), regardless of the form or method of the recording. The term does not include computer software or data; financial, administrative, cost, pricing or management information; or any other information incidental to contract administration.
- **Computer software** means computer programs, source code, source code listings, object code listings, design details, algorithms, processes, flow charts, formulae and related material that would enable the software to be reproduced, recreated or recompiled. Computer software does not include computer databases or computer software documentation.
- **Computer software documentation** includes owner's manuals, user's manuals, installation instructions, operating instructions and other similar items, regardless of storage medium, that explain the capabilities of the computer software or provide instructions for using the software. Computer software documentation rights are considered to fall under technical data, rather than computer software.

THE RIGHT STUFF

TLS BCT systems provide situational awareness in multidomain operations. TLS BCT implements CMOSS to assert satisfactory rights to the systems and fully understand all associated data rights of the hardware and software throughout the continuous prototyping effort. (Photo courtesy of PM EW&C)

a decisive edge to pace and outpace the threat of enemies. To meet customers' needs, PEO IEW&S relies on the innovation of industry to deliver sensors intelligence, electronic warfare and cyber solutions that provide command or decision-makers the best information possible to achieve strategic initiatives.

The PEO IEW&S Contracting Division has paid particular attention to IP and data rights, as they have important implications to several products within the PEO's portfolio. The division leverages the expertise of the Intellectual Property Law Division, Army Materiel Command Legal Center to review contract strategy and language as it refers to IP. Since PEO IEW&S is an organization that provides broad capabilities in a multidomain, cross-functional environment, the additional aspect of global partnerships must be considered. Foreign governments may not have the IP laws that are necessary for working with U.S. vendors. For example, vendors and customers must follow DOD Instruction 5230.24 for Distribution Statements on DOD Technical Information and DOD Directive 5230.25 for the Export Administration Regulations and the International Traffic in Arms Regulations.

HOW IP AND DATA RIGHTS ARE HANDLED

The mission of Project Manager Intelligence Systems and Analytics (PM IS&A) is to develop and field modernized intelligence systems that enable situational understanding on the battlefield. A key program the organization is responsible for is the Tactical Intelligence Targeting Access Node (TITAN), which is an artificial intelligence (AI)–enabled ground station currently in the rapid prototyping phase. It will receive sensor data from space, high altitude, aerial and terrestrial layer sensors to provide actionable targeting information in support of multidomain operations, Joint All-Domain Operations and Long-Range Precision Fires providing multidomain deep sensing, analysis and processing, exploitation and dissemination.

The PEO IEW&S Contracting Division has paid particular attention to IP and data rights, as they have important implications to several products within the PEO's portfolio.

IP and data rights are a critical component of any program, and TITAN is no different. TITAN was pursued as a competitive effort leveraging an Other Transaction Agreement, and IP and data rights were considerations in evaluating proposals and prototypes during the competitive phases. Working with commercial and nontraditional vendors can necessitate different perspectives on IP. PM IS&A has been working with its contracts teams, legal teams and industry to define the appropriate IP rights for TITAN, while mandating modular and open system architecture approaches to allow for future integration of third-party components and extension of TITAN.

The TITAN prototypes include commercial-off-the-shelf, open source, developmental and government-off-the-shelf software and hardware components. PM IS&A will monitor and manage data, data rights and licensing of all products included in the TITAN baseline throughout the system life cycle to assess the effectiveness of the IP, data rights and Modular Open Systems Approach (MOSA) strategies and continue applying the lessons learned across the TITAN program and overall PM IS&A portfolio.

SOLID SELECTION
TITAN was selected by OASA(ALT) as the Army's NDAA 2024 Section 808 Pilot, which focused on the IP and data rights as it relates to OMIT data. (Photo courtesy of PM IS&A)

TITAN was selected by the Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology (OASA(ALT)) as the Army's National Defense Authorization Act (NDAA) 2024 Section 808 pilot, which focused on the IP and data rights as it relates to operations, maintenance, installation and training (OMIT) data. The Section 808 pilot is a congressional mandate that establishes a program for the use of innovative IP strategies that meet specific criteria described to acquire the necessary technical data rights required for the operation, maintenance, installation and training for the designated programs. With organic (unit personnel) operation and maintenance being one of the desired characteristics for TITAN, strategies associated with obtaining the appropriate OMIT data are important to achieving those objectives. This becomes a bigger focus as the TITAN program transitions from prototyping into production, which is scheduled to occur in fiscal year 2026.

The PEO IEW&S Integration Directorate assists project managers in leveraging the MOSA and ensures that this requirement is included in their acquisition artifacts. MOSA is an integrated business and technical strategy to achieve competitive and affordable acquisition and sustainment over the system life cycle. It applies a system architecture that allows major system components at the appropriate level to be incrementally added, removed or replaced throughout the life cycle of a major system platform to afford opportunities for enhanced competition and innovation. This requires these components to work together, despite coming

from different industry or government solutions. The Integration Directorate assists in defining the necessary open interfaces and standards for a program to ensure that industry can retain the ownership of the IP it is concerned about while maintaining exposure to the necessary parts hardware and software that the programs need visibility into. MOSA implementation is required under DOD regulations and is key to avoiding vendor lock scenarios.

MOSA is a key initiative throughout the portfolio, to include Project Manager Electronic Warfare and Cyber (PM EW&C). PM EW&C's mission is to develop and field integrated capabilities for spectrum warfare. Their Terrestrial Layer System – Echelons Above Brigade (TLS EAB) and Terrestrial Layer System – Brigade Combat Team (TLS BCT) systems provide situational awareness in multidomain operations. By implementing the C5ISR/Electronic Warfare Modular Open Suite of Standard (CMOSS) into the prototyping efforts of both TLS BCT and TLS EAB from their inception, the government has been able to assert satisfactory rights to the systems and fully understand all associated data rights of the hardware and software throughout the continuous prototyping effort.

Project Manager for Position, Navigation, Timing (PNT) provides mounted and dismounted solutions that enable assured PNT for multidomain operations in denied or contested environments. NorthStar will be the next-generation mounted assured PNT capability. NorthStar is intended to leverage a government-designed and -owned architecture at the center of its capability. The MOSA requirement will ensure the system is upgradable and affordable to overmatch present and future threats. The IP and data rights strategy here is to mandate that architecture at the center of the system so that, going forward, a new vendor can enter the program without IP and data rights considerations.

STRATEGIES FOR SUCCESSFUL NEGOTIATION

Because of the complexities of managing IP, each DOD program must have a detailed IP strategy. This strategy should identify and manage all IP-related matters, such as technical data, computer software deliverables, patented technologies and license rights, from the inception of a program and keep it updated throughout the entire product life cycle. This IP strategy is included in the acquisition documentation, statement of work and acquisition strategy.

Important steps must be taken when developing the statements within contracts regarding IP, including data rights. For starters, contract managers must be clear and understand what is necessary in the inception phase of a product life cycle. A program manager also needs to be prepared to monitor the contract and product throughout its life cycle, as different phases of the life cycle require different approaches. A product in sustainment may require different technical data versus a product in development, for example, and foreign partner use and global implications must be considered as well.

PEO IEW&S pays particular attention to the acquisition processes for all products within the portfolio and the implications of a thoughtful and robust plan for IP strategies. "Through diligent adherence to contracting regulations, leveraging organizational expertise, applying adaptable, negotiable strategies, developing the acquisition workforce and continuous monitoring of the portfolio, PEO IEW&S can retain the right levels of IP as necessary, while providing superior products to customers within budget," said Nicholaus Saacks, deputy program executive officer for IEW&S. "The good news story is that we can avoid being locked into 15-year contracts with a singular vendor while allowing for competition within the community. PEO IEW&S is committed to a proactive, nuanced and deliberate approach to navigating the complexities of IP in its contracting efforts."

CONCLUSION

For fiscal year 2025, the trend of rapid advancements in technology, including AI, continues. IP laws continue to evolve, budgets continue to shrink and vendors want to protect their investments. Managing IP and its costs will continue to be a consideration for acquisition professionals to navigate well into the future.

For more information, go to ***https://peoiews.army.mil/****.*

ALLISON WEISSERT is a public affairs specialist for PEO IEW&S. She previously worked at the National Security Agency for eight years. She holds a B.S. in marketing from West Chester University.

MOVING ALONG
A Family of Medium Tactical Vehicles with shelters are loaded and chained to railcars at Fort McCoy, Wisconsin. The DPE teams ensure large systems can be secured to transportation assets and can deploy efficiently and safely. (Photo by Scott T. Sturkol, Fort McCoy Public Affairs Office)

BALANCING ACQUISITION RISK WITH DEPLOYABILITY REWARD

Challenges of maintaining deployability of systems with Middle Tier Acquisition.

by Wendy Long and Michael Bartosiak

Imagine you are assigned to be a program manager to field a new bulldozer for the Army. There are several commercial vendors that produce existing bulldozers that will meet the required performance criteria; therefore, a Middle Tier Acquisition (MTA) strategy is employed to develop and test the bulldozers in five years or less. After the performance testing is complete, the bulldozer that best meets the performance criteria is selected and low-rate initial production begins. Transportability testing was not assessed in the performance testing and is conducted as part of the production verification testing. The bulldozer is equipped with tiedown provisions—hard points used to chain the bulldozer down for transport when loaded on trailers, railcars, vessels and aircraft. During the pull testing of the tiedown provisions on the bulldozer, not only do the tiedown provisions deform, but the main chassis that the provisions are attached to also show evidence of deformation. This could render the bulldozer as not mission capable when deployed, assuming it doesn't break loose during transport to the theater of operation. Working with the vendor to fix the issue, it is estimated that the cost to fix the future production bulldozers—along with retrofitting the bulldozers that have already been manufactured—will result in receiving only 60% of the required bulldozers with a two-year fielding delay based on the current contract. Any program manager would want to avoid this hypothetical scenario.

The engineers and transportation specialists with the Deployability Engineering (DPE) branch of the Military Surface Deployment Distribution Command Transportation

Engineering Agency (SDDCTEA) have been working to avoid this scenario, and other ones like it, from becoming reality. The DPE branch is a small team that provides transportability engineering expertise to program offices and materiel developers throughout the development and testing of large and heavy systems. Transportability engineering is the process of identifying and measuring limiting constraints, characteristics and environments of transportation systems. The DPE team ensures any system that can be directly secured to various transportation assets can deploy efficiently and safely through the Defense Transportation System.

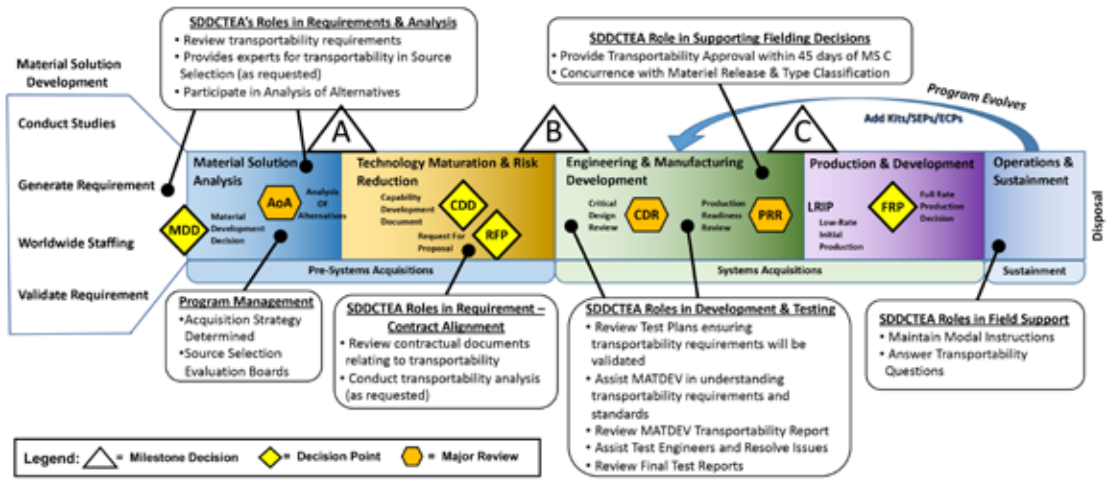
Wheeled or tracked systems, heavy systems or large systems that cannot be cargo inside 20-foot ISO containers are defined as transportability problem items (TPIs) in Military Standard (MIL-STD)-1366 E, "Interface Standard for Transportability Criteria." This standard defines the capabilities and limitations to move TPIs through the Defense Transportation System. Material developers rely on this standard to design systems that can be deployed in their required transport modes. Transportability engineering and the work of SDDCTEA enables a key component of the National Defense Strategy that requires the United States to deploy forces at the time and place of our choosing.

Army Regulation (AR) 70-47, "Engineering for Transportability Program," defines the role of transportability engineering in the acquisition and development of TPIs within the traditional acquisition strategy that is referred to as the Major Capability Acquisition (MCA) pathway. This regulation outlines how SDDCTEA, program managers and materiel developers work together to produce transportable designs. Figure 1 shows the various collaboration that occurs throughout every phase of the MCA acquisition life cycle. The most consequential of these interactions is the transportability approval that SDDCTEA generates after the completion of successful transportability testing, which is required by the program to enter a fielding decision (Milestone C). Because of this collaboration throughout the acquisition life cycle, programs using AR 70-47 and the MCA pathway have been able to avoid the unfortunate consequences illustrated by the previously referenced bulldozer example.

TRANSPORTABILITY AND DEPLOYABILITY CHALLENGE

With the need to increase competition and field mature systems quickly to keep up with fast-paced technological advances and the progress of our adversaries, the MTA strategy was developed and is defined in the Department of Defense Instruction 5000.80, "Operation of the Middle Tier of Acquisition." Figure 2 outlines how these programs interact with the MCA pathway. While the MTA pathway allows faster system development and fielding over the MCA pathway, the increased flexibility left the sequencing of transportability testing and

FIGURE 1



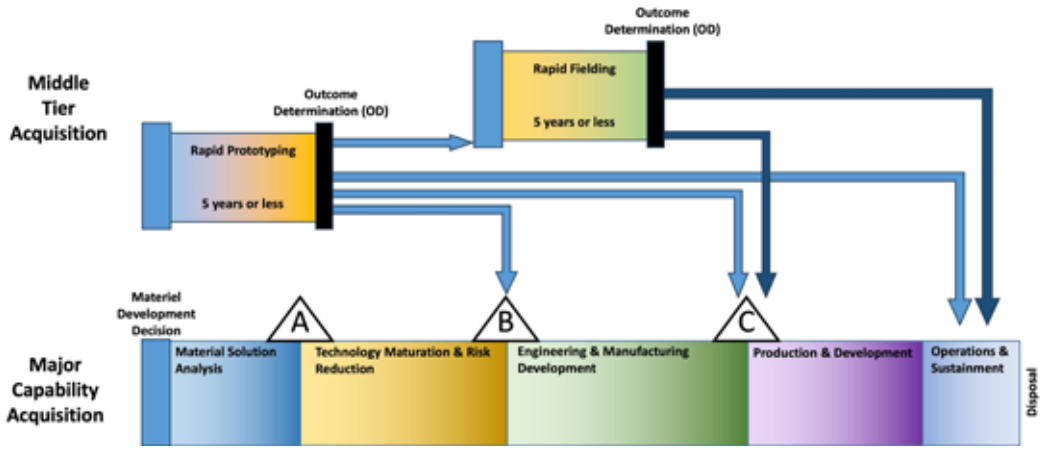
ENSURING TRANSPORTABLE DESIGN

Through the MCA pathway, SDDCTEA has input into the development of TPI requirements, review and support of development and testing and provides transportability guidance supporting deployments once in operation. (Graphic by Michael Bartosiak, SDDCTEA)

analysis undefined. As a result, the DPE team revised AR 70-47 in March 2024 to clarify the role of transportability engineering, testing and transportability approval for transportability problem items using MTA. These revisions underscore the importance of incorporating transportability analysis and testing early in the acquisition process and not just at or after outcome determination. This early collaboration minimizes the risk that transportability related complications will occur during production and initial fielding, when system modifications can be particularly expensive and time consuming.

Now included in AR 70-47 for MTA programs, the materiel developer (vendor) transportability report and the planned testing are reviewed early in the acquisition execution phase. Using the bulldozer example, the transportability reports from each bulldozer vendor would be reviewed and commented on by the DPE team. A key part of transportability is the design and location of the tiedown provisions on the bulldozer which are defined in MIL-STD-209, "Interface Standard for Lifting and Tiedown Provisions." The DPE team at SDDCTEA can ensure the materiel developers understand the transportability

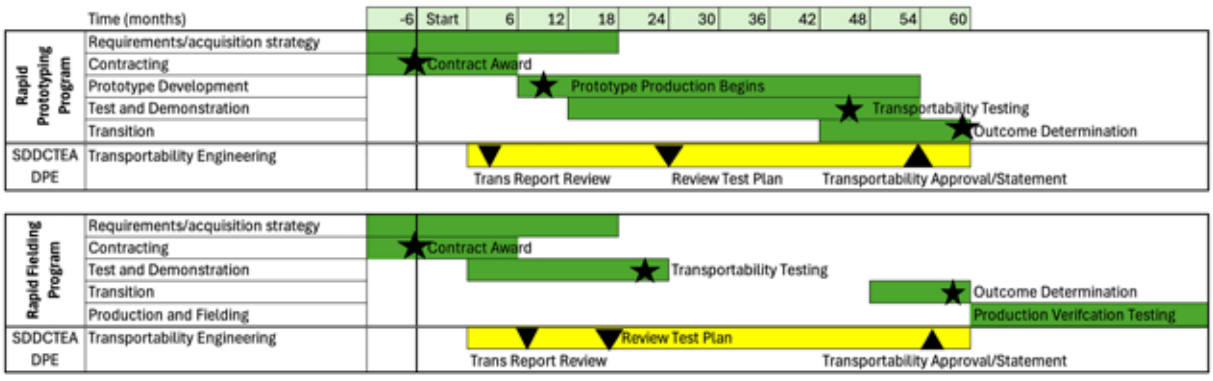
FIGURE 2



KEEPING THINGS MOVING

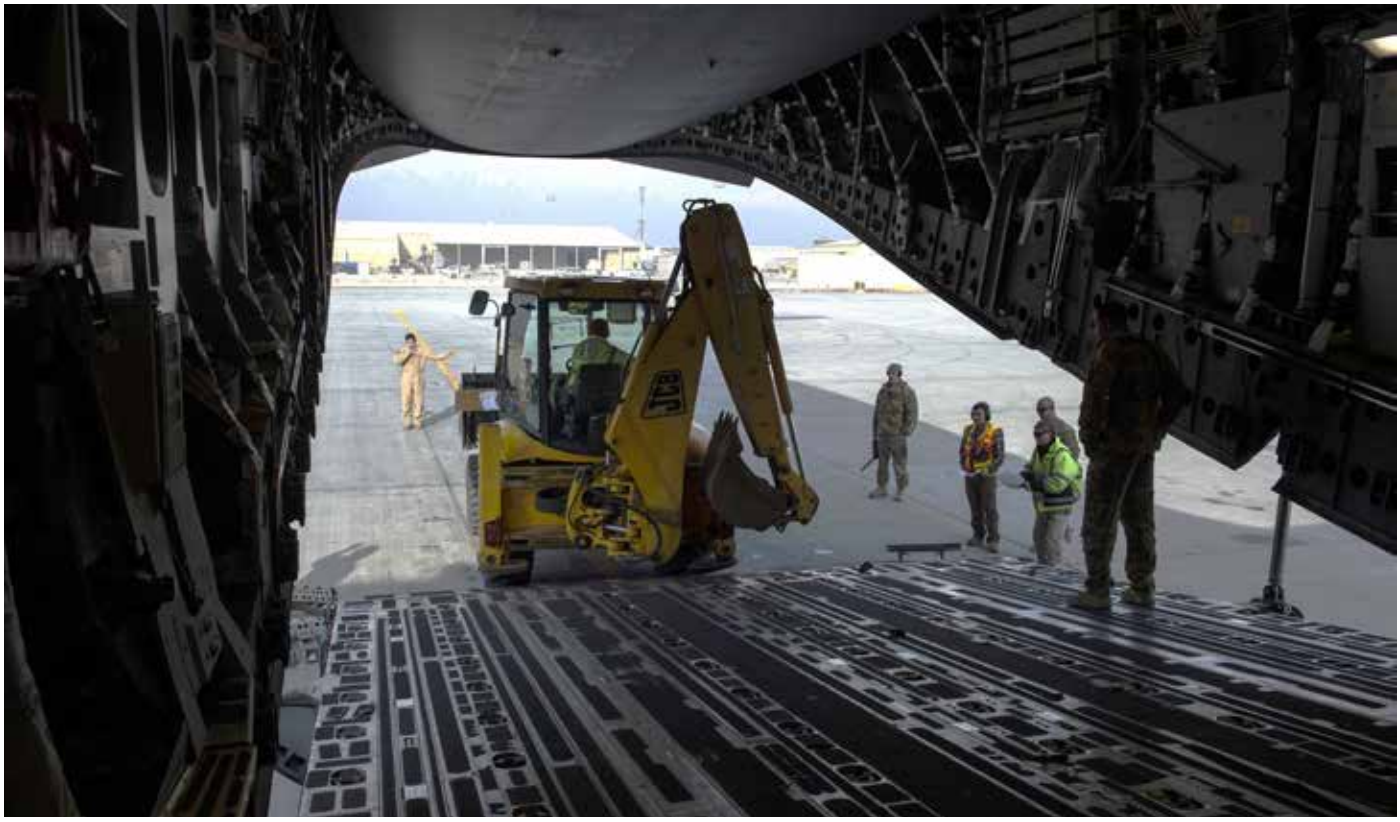
TPIs that are developed using the MTA strategy can enter back into the MCA pathway either at Milestone B, Milestone C or directly into Operations and Sustainment. (Graphic by Michael Bartosiak, SDDCTEA)

FIGURE 3



MITIGATING RISK

Updates to AR 70-47 can help mitigate transportability design risk. SDDCTEA reviews the materiel developer transportability reports and testing to provide decision-makers a transportability approval or statement to consider the transportability of the designs in the outcome determination decision. (Graphic by Wendy Long, SDDCTEA)



IN TRANSIT
A bulldozer is loaded inside of a C-17 Globemaster III in Afghanistan in support of Operation Resolute Support, Jan. 13, 2016. (Photo by Staff Sgt. Corey Hook, U.S. Air Forces Central)

requirements and military standards and ensure their securement tiedown plans are realistic. If not, changes to the design can be made prior to production or testing. Design changes this early in the development phase are less costly and there is little schedule risk to production.

It is common for commercial systems adapted for a military application to not have lift and tiedown provisions that are properly located and sufficiently strong to support multimodal military deployments. This means a bulldozer could be secured on a railcar, lashed down to a ship or secured inside an aircraft over many deployments over its lifetime. Multimodal deployments require the tiedown provisions on the bulldozer to be placed and sized so that different strength and number of chains can be applied at different angles depending on the transport mode. Commercial items are not usually designed with multimodal movements in mind. A commercial bulldozer typically will be equipped with tiedown provisions accommodating only highway movement on a lowboy trailer. The movement of a bulldozer on a railcar or secured inside an aircraft requires more chains to secure it for those transport modes. This is just one example of how designing for transportability for multiple transport modes is not always intuitive.

BALANCING AGILE ACQUISITION WITH TRANSPORTABILITY REQUIREMENTS

Another key addition into AR 70-47 is that SDDCTEA provides formal transportability engineering input into the MTA outcome determination. SDDCTEA accomplishes this by evaluating the system versus its transportability requirements based upon the materiel developer transportability report and the results of any transportability testing that occurred prior to the outcome determination. When multiple vendors develop systems or prototypes, SDDCTEA will issue a transportability statement or approval specific to each vendor's proposed solution to support the outcome determination. Before the recent changes in AR 70-47, the transportability of the designs was not formally considered at outcome determination. Informing the program office of the ability to

TPI RESOURCES

The DPE team provides transportability engineering expertise to program offices and materiel developers to aid in developing systems that meet their transportability and deployability requirements. SDDCTEA maintains a series of modal instructions for lift and tiedown of TPIs. These modal instructions are a field reference used at home stations, railheads and ports to help make deployments successful. They are available on our website at **https://www.sddc.army.mil/sites/TEA/Functions/Deployability/TransportabilityEngineering/Pages/default.aspx.**

meet the transportability requirements for each design is now conducted whether an MTA rapid prototyping or rapid fielding is used, as depicted in Figure 3.

If the testing conducted before the outcome determination is successful, covers all the validation required and is done on a system that is production representative, a full transportability approval could be achieved and issued by SDDCTEA. If all the transportability testing is not successful, does not cover all the requirements or the system design is still not final, SDDCTEA will issue a transportability statement for the outcome determination that will clearly communicate any transportability issues that need to be resolved in the final design before entering production.

CONCLUSION

The goal of the revised guidance in AR 70-47 is to decrease the chances of requiring design changes later in production. In the case of the Army bulldozer, if the failed pull test results were observed before outcome determination, SDDCTEA would generate a transportability statement that identified that as a serious issue. The program office would have this information and consider it before selecting a vendor design to continue into production after outcome determination. If that design was selected because it performed best overall, the program manager and the vendor would know before going into production that the design needs to change and might slow down or halt production until that issue is resolved. Alternatively, outcome determination could result in selecting a bulldozer that did not have problems with the tiedown provisions and avoid any redesign for transportability issues.

While it is necessary to invoke adaptive acquisition strategies like MTA to stay ahead of our adversaries, it does little good to develop a new military vehicle or weapon system quickly that cannot be transported and deployed as required. Incorporating design for transportability earlier into the process is critical for MTA programs to be successful for systems classified as TPIs. Changes to AR 70-47 help mitigate risks and ensure that systems are capable of rapid deployment and strategic mobility.

For more information about SDDCTEA services, email ***usarmy.scott.sddc.mbx.tea-dpe@mail.mil****.*

WENDY LONG is a transportability engineer with the SDDCTEA at Scott Air Force Base, Illinois. Her prior roles include materials testing at the Army Engineering Research and Development Center and heavy civil construction management for the 375th Civil Engineer Squadron. She holds an M.S. in civil engineering from Mississippi State University and a B.S. in civil engineering from Iowa State University.

MICHAEL BARTOSIAK is the chief of Deployability Engineering with the SDDCTEA at Scott Air Force Base, Illinois. He has over 26 years of transportability engineering experience between SDDCTEA and his engineering role for the U.S. Army Defense Ammunition Center in McAlester, Oklahoma. He holds a B.S. in mechanical engineering from the University of Florida.

CHERE BENSON

COMMAND/ORGANIZATION: U.S. Army Contracting Command – Aberdeen Proving Ground, Division B, Branch D

TITLE: Contract specialist

YEARS OF SERVICE IN WORKFORCE: 14

DAWIA CERTIFICATIONS: Contracting professional

EDUCATION: M.S. in management science and B.S. in business administration and management, University of Maryland University College

AWARDS: Special Act of Service Award (2023); Recognition from the Integrated Logistics Support Center, Director of the U.S. Army Communications-Electronics Command (2022, 2020); Civilian Service Commendation Medal (2021); Recognition from the Deputy Executive Director of the Software Engineering Center (2020)

A+ FOR ADAPTABILITY

Throughout her career as a contract specialist, Chere Benson has encountered numerous challenges, navigating significant organizational changes and complex negotiations. Similarly, in her personal life, she's faced unexpected obstacles and transitions that demanded flexibility and resilience. But she's rolled with each challenge and learned some pretty amazing lessons along the way.

"The most important lesson I've learned throughout my career, both on and off the job, is the paramount importance of adaptability," she said. "Whether navigating significant organizational changes as a contract specialist or handling unexpected personal life transitions, adaptability has been indispensable."

In her role as a contract specialist at the U.S. Army Contracting Command – Aberdeen Proving Ground (ACC-APG), Benson manages the entire life cycle of various contracts for the Army—drafting, negotiating and administering contracts to ensure they meet the Army's stringent requirements with efficiency and effectiveness.

"My work requires a keen attention to detail, a strong adherence to regulatory standards and the ability to manage contract modifications and amendments as needed," Benson said. "The essence of my role supports our Soldiers directly by ensuring they have the necessary equipment, supplies and services to perform their duties safely and successfully."

In addition to supporting Soldiers, Benson said the greatest satisfaction in her role within the Army Acquisition Workforce is the sense of purpose it provides.

"Knowing that my work contributes significantly to the broader mission of the Army and supports the men and women who protect our nation is both an honor and a powerful motivator," she said. "This connection not only enhances my professional endeavors but also deepens my commitment to excellence and service in every contract I oversee."

Benson said she frequently faces scenarios that require swift adaptation, such as new regulatory landscapes, evolving project requirements or unexpected negotiation outcomes. "Embracing adaptability allows me to remain effective and efficient in these situations,

"The essence of my role supports our Soldiers directly by ensuring they have the necessary equipment, supplies and services to perform their duties safely and successfully."

ensuring I can meet and often exceed the expectations set for my role." She applies this lesson by staying open to new ideas and approaches, actively seeking continuous learning opportunities and being prepared to shift strategies as needed.

Benson noted that early in her career, her division chief encouraged her to explore the acquisition path, which she pursued and secured a position as a management and program assistant in the Program Executive Office for Command, Control and Communications – Tactical (PEO C3T) Readiness Management Division. The role presented an opportunity to build foundational knowledge and experience vital for advancing within the contracting sphere.

"My initial foray into the acquisition field was as a volunteer contracting officer representative within the same division. This role afforded me the chance to work closely with the ACC-APG contracting officer and specialist on a variety of PEO C3T contracts. It provided me with a profound understanding of contract administration and confirmed my interest in furthering a career in contracting. The dynamic nature of the work, coupled with the direct impact on supporting Soldiers by ensuring they received essential equipment and services, was particularly compelling," she said. "This experience catalyzed my transition to a contract specialist, a role that fully embraced my skills in problem-solving and desire for a challenging, impactful career within the federal government."

In 2022, Benson completed the Emerging Leader Courses, which was a significant milestone in her professional development within the Army Acquisition Workforce. Throughout the year, these courses provided her with a series of invaluable lessons and experiences that have profoundly impacted her professional growth, she said.

"The personalized one-on-one coaching sessions were particularly transformative and deepened my understanding of my own capabilities and contributions to the organization. This enhanced self-awareness instilled a robust confidence, encouraging me to pursue higher-level opportunities and embrace the role of mentor for my colleagues and junior specialists," Benson said. "These courses not only sharpened my leadership skills but also prepared me for my next career goal—becoming a contracting officer."

With newfound confidence, Benson took on a high-dollar value contract in 2023. The role involved the navigation of complex contracting activities and challenges, significantly preparing her for future responsibilities as a contracting officer.

"The skills, confidence and insights I gained have made me a more effective leader and a proactive member of the Army Acquisition Workforce," she said. "The courses not only offer practical skills but also provide strategic career insights that are crucial for long-term success."

Benson said that after her division was disbanded and team members were reallocated across various divisions, she emphasized to junior colleagues the importance of resilience and adaptability. "This significant organizational change presented challenges in maintaining morale and productivity. I encouraged them to remain focused and steadfast in pursuing their career objectives, despite the uncertainties and disruptions they faced."

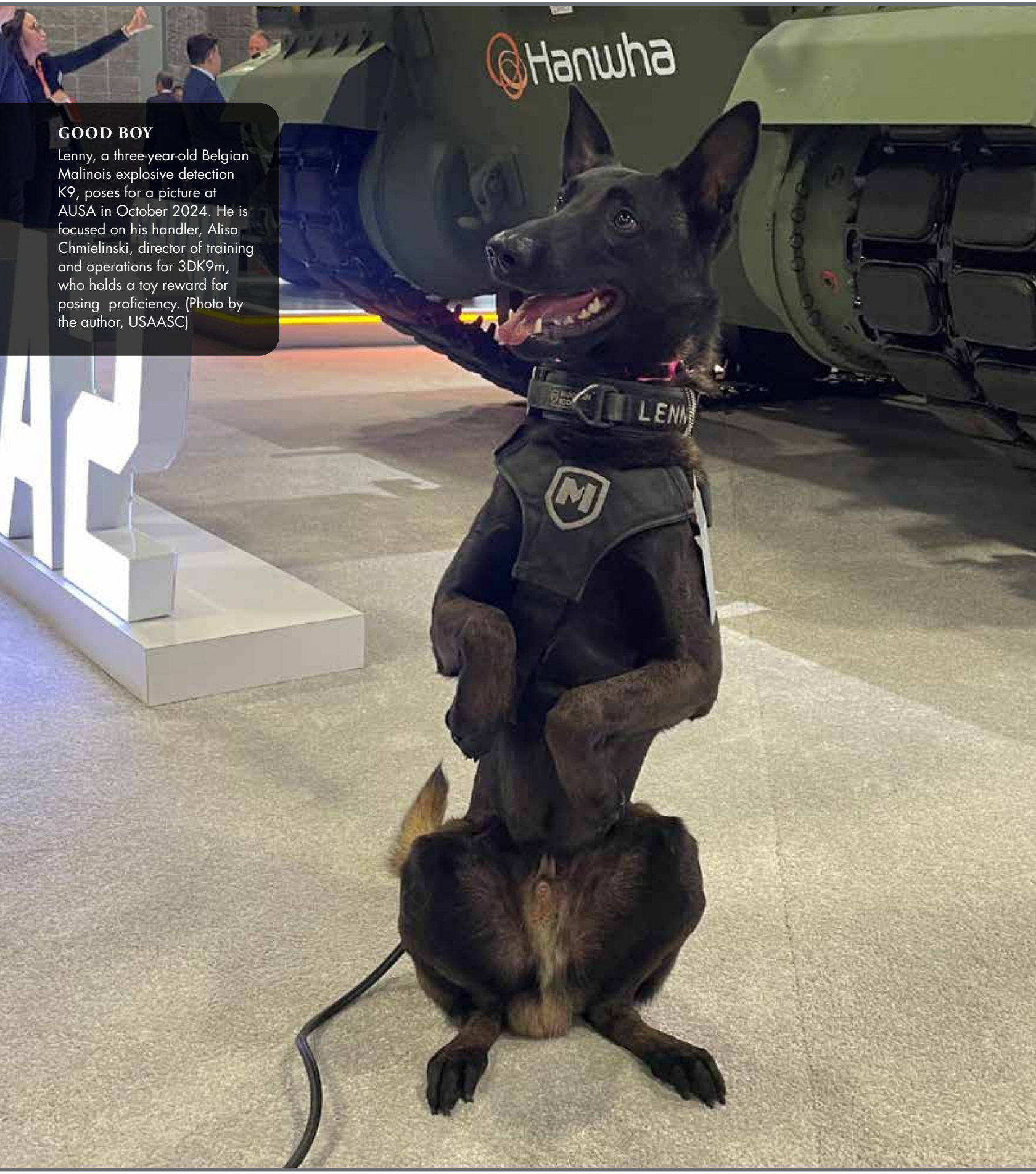
"My advice to junior acquisition personnel has consistently centered on the necessity of perseverance through changes and challenges. I have aimed to provide them with the tools and strategies necessary to overcome obstacles, fostering an environment where they can grow and succeed in their roles within the acquisition field."

Outside of work, Benson is an avid event planner and a dedicated mother of three. "Both roles enhance and reflect my capabilities as a contract specialist in various ways," she said. "As an event planner, meticulous attention to detail, robust communication skills and adeptness at handling complex logistics are crucial. These skills are directly transferable to my professional role, where detailed attention and clear communication are essential for negotiating contract terms and ensuring compliance with regulatory frameworks."

"Being a mother has taught me the art of multitasking and nurtured my ability to empathize and understand diverse perspectives, which are critical in building and maintaining strong relationships with stakeholders," she said. "These qualities are vital in my work environment, particularly when resolving disputes and negotiating contracts. In both parenting and my professional role, I strive to create supportive, productive environments that facilitate growth and success."

By fostering adaptability, she said, she not only enhances her professional performance but also cultivates a resilient approach to both her personal and professional life challenges. "This has been key to navigating complexities with confidence and securing successful outcomes across all facets of my life."

—CHERYL MARINO



GOOD BOY
Lenny, a three-year-old Belgian Malinois explosive detection K9, poses for a picture at AUSA in October 2024. He is focused on his handler, Alisa Chmielinski, director of training and operations for 3DK9m, who holds a toy reward for posing proficiency. (Photo by the author, USAASC)

DOGS ON DUTY

Helping the military on four legs.

by Holly Comanse

Most people who own dogs will agree their pet has a positive impact on their mental and physical health. Dogs can help boost a person's mood by being adorable and offering unconditional love or by encouraging their owners to get more exercise on long walks or playing fetch. While those benefits sound like something kids tell their parents when lobbying for a puppy, there are studies that link dog ownership to better heart health. In addition, there are many life-saving jobs for which dogs are relied on—for military and civilians alike.

Claymore, owned by retired Marine Corps Lt. Col. Ladd Shepard, is one of the many service dogs fulfilling that duty. The now two-year-old German shepherd was donated to Shepard when she was eight weeks old. "We picked her out [and] it saved my life," said Shepard, who served in the Marines for almost 30 years and has been retired for four.

For fellow veterans considering a service dog, Shepard gave the following advice: "First, yes, do it! Second, there are a lot of great organizations out there that provide this service, many for free to veterans," he explained, also cautioning that it may be a long process, though that is not always the case. "It starts with reaching out to make contact and explaining your circumstances," he added. "Third and finally, it is one of the best investments in your health and wellbeing that you can make, but it is an investment."

Shepard expressed the importance of understanding the extent of the work and time associated with any animal, including service animals prior to obtaining one. Making an informed decision is essential for any dog owner and there are many U.S. Department of Veterans Affairs resources available with more information to ensure the right animal ends up in the right home.

When encountering service animals in public, Shepard also advised: "When you approach a service animal team (dog and handler) it is generally okay to say something to the handler but best to ignore the service animal; even if the dog is breaking protocol and reaching out for affection, please don't return it." Service animals who are still in training may not be able to handle outside interaction or distractions as well as others who may have more experience in public. Just like humans, animals can also have bad or off days.

GET TO WORK

Not all dogs with jobs are the same. The Americans with Disabilities Act (ADA) defines a service animal as any breed or size of dog trained to perform a task directly related to a person's disability. While many service animals wear vests and complete professional training, the ADA states that it is not a requirement. Emotional Support Animals (ESAs), or comfort dogs, are not service dogs, meaning they are not permitted in restaurants or places of business where service animals are accepted.

Service dogs help individuals on a personal level with a variety of mental and physical needs. On the other hand, working dogs also known as canines (K9s), are human companions trained to perform tasks such as detection for police and the military to ensure the safety of people in various settings, such as concerts, airports or public events.

Military working dogs (MWDs) are K9s trained to support warfighters both on and off the battlefield, and they are an integral part of the Army's mission, employing them in large-scale combat operations. With superior senses to humans, MWDs have been vital in successfully alerting warfighters of attacks, both physical and chemical. Among the most famous MWDs is the first dog to receive a rank, Sgt. Stubby, a stray dog that served in World War I. Today, there are about 1,600 MWDs in service helping to keep the nation safe. The 341st Training Squadron at Joint Base San Antonio is the sole provider of DOD MWDs. They run the MWD Program teaching service member handlers and all courses required for K9s to become MWDs. Training is tailored to the requirements of each branch of service, with additional training extended for special operations. The 341st Training Squadron also runs the Military Working Dog Adoption Program when dogs fail to meet MWD requirements or retire.

Outside DOD, there are many veteran charity organizations and private organizations that train K9s for individual needs and public protection. Retired U.S. Army Cpl. Jeremiah Holder, the director of training at American K-9 Interdiction (AK9I), is no stranger to differing deployment experiences trained K9s face on mission and after retirement. "I have deployed to Mosul, Iraq, as patrol narcotic handler as a Soldier in the U.S. Army, as well as worked for several contract companies at U.S. Embassy in Baghdad, Iraq, in which we transported our K9 with us personally to and from country each time," Holder said. Occasionally, Holder will work his explosive detection K9 at public events like the Association of the United States Army (AUSA) Annual Meeting and Exposition. "Challenges honestly come with ensuring proper training is complete so that the dogs are able to work in hectic environments and getting the K9s neutral to all the stimulus happening around them," Holder said.

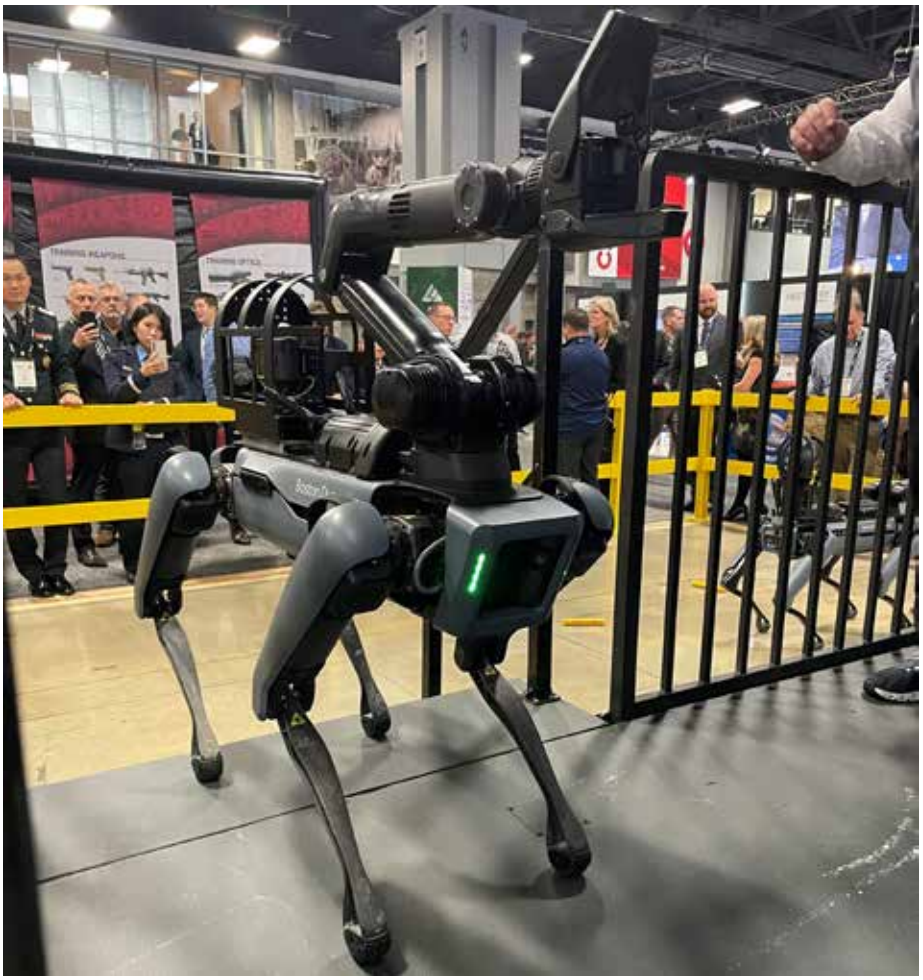
For most dogs, working in a crowded space would be difficult, but for trained K9s, it's another day at the office. "These animals serve a multitude of purposes. The No. 1 purpose they serve is saving lives," said Alisa Chmielinski, director of training and operations for 3DK9 Detection Services. Her working dog, Lenny, also provided support throughout AUSA. "Whether it's an explosive

DO NOT PET
Claymore, a two-year-old German shepherd, awaits her next command at the Marine Corps War Memorial in Virginia. The loyal canine was donated to her handler, retired Lt. Col. Ladd Shepard and received training from Semper K9 Assistance Dogs. (Photo by Ladd Shepard, Headquarters Marine Corps)

K9 or a narcotic K9, they are searching for something that is dangerous, something that has the ability to end lives, something that technology cannot detect and I believe that will never be able to detect as well as a dog."

ROBOT DOGS

Although dogs have superior senses of smell and other innate abilities that can't yet be replicated, technology continues to advance. The Army has started using quadruped (four-legged) robots in situations that would be too dangerous for dogs. The robot dogs can be controlled remotely or programmed to function



WORKING LIKE A DOG
The four-legged robot from Boston Dynamics, named Spot, made an appearance at AUSA in October 2024 demonstrating its ability to navigate stairs, lift objects and open doors. (Photo by the author, USAASC)

automatically. A development priority was for the robot to be as terrain agnostic as possible, handling stairs and uneven ground with ease. The legs can operate independently, counterbalance and create resistance against threats. AUSA attendees had the opportunity to witness the robot dog named Spot in live demonstrations. Spot has been seen patrolling in Palm Beach, Florida, as part of the security measures put in place by the Secret Service to protect President Donald Trump.

Approaching a threat can be dangerous for K9s and their handlers, but Spot can investigate and deescalate a potentially hazardous situation while the operator is at a safe distance. K9s can respond intuitively and immediately to a situation, but they also can get tired or distracted. Spot can be programmed to follow an automated schedule and monitor a perimeter for hours without ever taking a break. While a K9 is an active deterrent, Spot acts as a passive deterrent. There are benefits and risks to each and both are being utilized to their strengths.

CONCLUSION

There are many ways that dogs as pets, service animals, MWDs, K9s and ESAs improve the lives of civilians and military members. While each has its unique purpose, dogs remain a vital mission partner in service alongside our warfighters, both in and out of active-duty service, and the military wouldn't be the same without them, four-legged robots included.

For more information about U.S. military working dogs, go to ***https://www.defense.gov/Multimedia/Experience/Four-Legged-Fighters****.*

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SECURITY LOCKED DOWN
The ZT framework hinges on the philosophy of never trust, always verify. (Image by Kevin Deegan, CECOM SEC)

CYBERSECURITY FIRST

CECOM SEC leads Zero Trust implementation.

by Kevin Deegan

In an age when the U.S. government reinforces strategies to protect critical data from the exploitive actions of nation-state and non-nation-state attackers, the Army continually relies on top experts to implement new strategies. And in today's digital world, cyberattacks are becoming more sophisticated and widespread. To combat these threats, organizations must adopt Zero Trust (ZT) Architecture.

An Executive Order was signed in 2021 that calls for improved national security. Section three of the order detailed the need for ZT Architecture.

But what exactly does this mean, and how does it protect against cyberattacks? ZT is a modern approach to cybersecurity that operates on a simple but powerful principle: never trust, always verify. Unlike traditional security models that assume everything inside a network is safe, ZT assumes that threats can come from anywhere—inside or outside the network. Therefore, every user, device and application that tries to access your resources requires continuous verification.

The U.S. Army Communications-Electronics Command (CECOM) Software Engineering Center (SEC) supports the technical navigation of this ever-present cyber conflict. In early 2024, Farhat Shah, a cybersecurity expert, began spearheading the SEC's policy and procedure development for ZT cybersecurity.

LEVERAGE EXISTING SECURITY CONTROLS

Shah and her team led an initiative to integrate ZT principles into our existing systems. The SEC's goal in the initiative was to build upon the existing risk management framework (RMF—the security framework that systems must follow) controls. By leveraging existing controls, the team aimed

to create a ZT readiness profile and was successful in enhancing system security without duplicating efforts.

The focused approach of optimizing current configurations for ZT alignment allowed the team to make systems more resilient. Building upon the RMF ensured a smoother transition to ZT with minimized disruptions.

The transformative effort involves aligning current cybersecurity guidelines with more efficient, beefed-up ZT security measures. The SEC is referencing the Department of Defense (DOD) Zero Trust Overlay, a document published in June 2024, to meticulously map the Control Correlation Identifiers (CCIs). Mapping the CCIs makes the policy implementable and measurable.

"The Zero Trust framework is not a new piece of technology per se, nor a service that one can acquire and implement. In essence, it's a concept that, in simpler terms, is 'never trust, always verify,' " said Shah. "To holistically achieve Zero Trust, we're not coming up with anything new that the Army hasn't seen—we're building upon our current capabilities, and we are building Zero Trust in," she added.

The overarching aim of developing a ZT implementation policy baseline was to further bolster the Army's efforts in protecting critical data from the preying advances of nation-state and non-nation-state attackers and rogue hackers who intend to harm and disrupt U.S. interests across its cyber infrastructure and beyond. The new policy stands as another case of the Army's requirement to employ enhanced, sturdier countermeasures in the face of emerging, ever-changing cybersecurity threats. The first-of-its-kind effort seeks to aid the Army in maintaining constant vigilance of critical network resources while rigorously adapting its cyber posture to stay ahead of the game.

BUILD ON THE FOUNDATION

The SEC is using the DOD Zero Trust Security Control Overlay to map and implement changes to the current RMF. Mapping the new policy to the existing RMF is critical to upgrading the cyber posture.

A CLOSER LOOK

Long-term goals for SEC include incorporating ZT further into Army and DOD systems and developing workforce training programs around the organization's methodology. (Graphic by Kim Miller, CECOM SEC)

Unlike traditional security models that assume everything inside a network is safe, ZT assumes that threats can come from anywhere—inside or outside the network.

"It's not a tool, and it's not a one-time deal—[Zero Trust] is a concept that requires a careful implementation of policies, integration and continuous monitoring that provides the highest level of protection for assets and data," said Shah. "I think the biggest challenge is the cultural shift," she continued. "There is some change required in the way we do business in cybersecurity."

SEC's core focus remains on implementing ZT into the warfighter's practice while reducing the learning curve and improving cyber practices within the Army and DOD. In an increasingly hostile cyber environment, SEC will continue to prioritize ZT integration as it moves to bolster the Army's overall cybersecurity posture.

AI AND ML ACTIVITIES

Multi-agency collaboration will play a critical role in shaping cohesive ZT policies. SEC works closely with external stakeholders to ensure ZT efforts are aligned across different entities. Collaborations focus on shared information, best practices and insight into agency-tailored policies supporting a unified security posture; cooperation across organizations is essential.

Standardizing policy involves working with external stakeholders to establish consistent and effective ZT guidelines. Agencies must ensure that policies are complete and compliant with DOD standards . . . but they must also be practical. One critical focus is meeting the challenges of securing tactical systems, which often live in complex, demanding environments. By creating standardized policies, SEC's goal is to simplify compliance and enhance the overall security framework, making it easier for teams to adopt and implement ZT practices.

SEC is currently aligning the DOD ZT model with RMF controls with artificial intelligence (AI) and machine learning (ML) activities to enhance security outcomes for future systems with those capabilities. The alignments are critical because they ensure that ZT is fully incorporated into compliance processes related to AI/ML technologies that enable threat detection and automated responses. Bridging the gap between innovative security and traditional risk management empowers the DOD to stay ahead of evolving threats.

CONCLUSION

Whether running a small business, working in a large corporation or just worrying about personal cybersecurity, the ZT approach minimizes risks and enhances security. The ZT framework is a vigilant security guard for the digital world—one that never sleeps, never assumes and always ensures protection. By embracing ZT, organizations can avoid cyber threats and ensure the security of their data, systems and people.

For more information about SEC ZT efforts, contact Farhat Shah at ***farhat.shah4.civ@army.mil****.*

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READY TO LAUNCH
The Uncrewed Aircraft Systems Project Management Office, in collaboration with the U.S. Special Operations Command, executed a successful flight demonstration involving the first launch of the Air-Launched, Tube-Integrated Unmanned System (Altius) 700 air vehicle on Dec. 3, 2023, at Fort Campbell, Kentucky. (Photo by Daniel Henke, U.S. Army)

RESPONSIBLE SPEED

Maintaining standards at the speed of relevance.

by Lt. Col. James Lawson, Maj. Lacey Losole and James Smith

Building or buying something quickly is easy; however, building or buying something quickly that will reliably and effectively perform for warfighters in life-or-death situations is a challenge worthy of the best and brightest minds in the DOD. In July 2024, the Army designated the Long-Range Precision Munition (LRPM) for development under a Middle Tier of Acquisition (MTA) pathway to rapidly prototype and evaluate a critical capability. LRPM is one of many Army efforts to swiftly address emerging threats and capability gaps, leveraging streamlined MTA authorities to accelerate timelines. However, to ensure LRPM is developed with responsible speed, the Army is taking a deliberate approach to tailor in the work necessary to balance rapid development with safety, suitability, effectivity and long-term supportability.

WHY MTA?

In the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92, 425 Section 804), Congress granted DOD transformative new authorities for the "Rapid Prototyping and Rapid Fielding" of warfighting equipment under a new MTA framework. These authorities provide a radically streamlined alternative from the traditional Major Capability Acquisition (MCA) framework, with the spirit and intent of enabling accelerated development and delivery of critical capability to the warfighter.

The Army is continuously refining its MTA guiding policies, based on gained experience, to better align with its goal of fostering an innovative and streamlined acquisition framework. These

policies encourage closer and quicker collaboration across the enterprise of stakeholder communities, minimizing bureaucratic barriers through two variants:

- MTA for "Rapid Prototyping" is designed to quickly prototype and evaluate emergent technologies for warfighting needs.
- MTA for "Rapid Fielding" is designed to quickly deliver transformative but mature technologies to Soldiers in the field.

MTA authorities significantly reduce the reporting requirements inherent in traditional MCA frameworks, empowering materiel developers to focus on responsive development, user feedback and technological refinement. By reducing documentation and oversight burdens, the MTA allows program offices to operate with greater agility and responsiveness. However, this reduction in mandated reporting does not absolve materiel developers of the need to deliver capabilities with responsible speed and responsible risk—thinking through enduring needs as well.

ENTER RESPONSIBLE SPEED

Responsible speed necessitates a balanced approach to acquisition, combining the agility of streamlined processes with deliberate and thorough decision-making. While MTA reduces the documentation and milestone requirements of MCA, materiel developers must still ensure deliberate cross-functional and expert reviews. These reviews address the core attributes of a capability including safety, suitability, effectivity and supportability to facilitate potential transition into a long-term acquisition framework. Responsible speed emphasizes that rapid development must not come at the expense of strategic foresight or comprehensive capability evaluations. Materiel developers, as vanguards of Soldier overmatch, must focus on accountability, agile development and creating a foundation for transition.

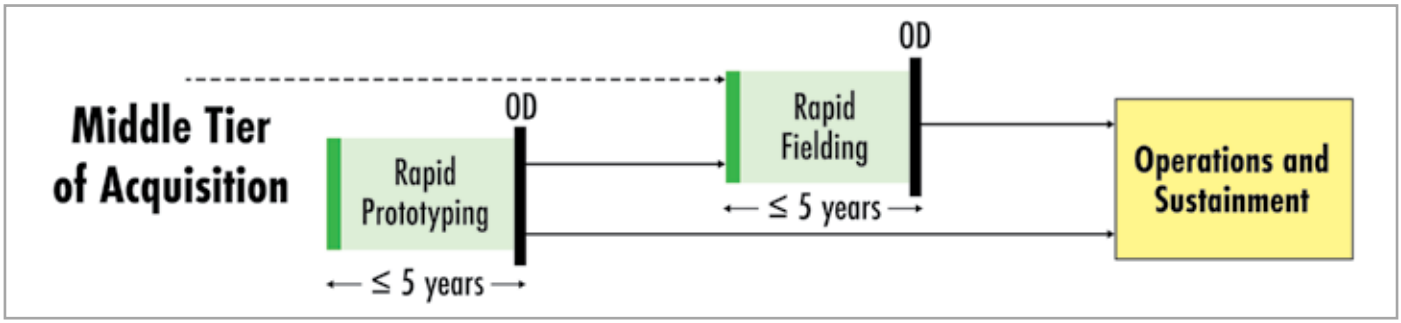
In three categories, responsible speed may be loosely characterized as:

- **Accountability**—Balancing the need for speed with the obligation to deliver safe, suitable, effective and supportable systems that meet operational demands. Meaning, program managers are responsible for assessing and accepting prudent risk to prototype and field a safe, suitable, effective and supportable capability in the most expeditious manner.
- **Agile Development**—Rapidly incorporating feedback from users and requirements from stakeholders to refine solutions. MTA programs must be structured and aligned to the thinking and execution approaches required to build to an initial set of requirements and then be receptive to feedback aimed to aid in development.
- **Foundations for Transition**—Posturing MTA programs to smoothly transition into enduring Programs of Record. Essentially, program managers and MTA stakeholders must be committed to not only moving fast but also thinking through the life cycle requirements, sustainment strategies and operational compatibility.

The fundamental challenge of an MTA is to execute with responsible speed and responsible risk, which means balancing delivering transformative capability, at the speed of relevance, while maintaining standards—despite the ability to tailor documentation. Enter one of the Army's newest MTAs for Rapid Prototyping (MTA-RP), the LRPM.

THE LRPM VARIANT

The LRPM is the lethal, medium-range variant of the Army's Launched Effects (LE) family of systems—a material solution to support multidomain operations at all echelons in a peer-threat environment. The LE uncrewed aircraft family of systems will deliver doctrinally transformative capability to the Soldier



MTA PAVING THE WAY

The MTA pathway enables quick prototyping and delivers transformative technologies to Soldiers in the field. (Graphic by USAASC)

through a family of long-, medium- and short-range unmanned systems designed to be deployed from the ground and air.

The LRPM MTA-RP commenced with responsible speed in July 2024, following a series of acquisition shaping panels and a program initiation brief to the Hon. Douglas R. Bush, then assistant secretary of the Army for acquisition, logistics and technology (ASA(ALT)) and the Army Acquisition Executive (AAE). Bush designated LRPM as an MTA-RP program and charged the Program Executive Office for Missiles and Space (PEO MS) with decision authority and developing, procuring and testing this new lethal munition concept.

The MTA pathway provides a unique opportunity to fast-track LRPM prototyping and integrating emerging technologies. The MTA-RP framework minimizes bureaucratic hurdles, enables agile decision-making and supports operational employment quickly. By rapidly prototyping and demonstrating the capability in an operational environment, the Army can make an informed decision on the suitability of the materiel solution. A prescribed five-year MTA authority ensures accelerated timelines to assess solutions to immediate capability gaps, while simultaneously providing insights for further refinement on subsequent variants and iterations.

EXECUTING RESPONSIBLE SPEED

In December 2024, the LRPM MTA-RP Decision Authority, Maj. Gen. Frank J. Lozano, PEO MS, established the baseline LRPM hardware configuration comprised of an Anduril Altius A700M air-vehicle and multiple science and technology (S&T) initiatives from the Army Combat Capabilities Development Command's (DEVCOM) Aviation and Missile Center (AvMC). The DEVCOM AvMC S&T initiatives included in the LRPM are the Multiple Simultaneous Engagement Technologies and Precision Target Acquisition Seeker software capabilities, a seeker and guidance section collectively developed by Hood Technology Corporation and DEVCOM AvMC and a DEVCOM AvMC-developed combined effects warhead. This configuration of the LRPM will undergo safety and suitability testing and be employed in follow-on ground and air-based operational demonstrations to inform production and deployment decisions.

In keeping with the themes of "responsible speed" and accountability, agile development and foundations for transition, there are various examples of functional application in the LRPM MTA-R.

ADAPTING TO RESPONSIVE REQUIREMENTS

An Abbreviated Capability Development Document (A-CDD) is a streamlined version of the traditional Capabilities Development Document that outlines essential performance requirements, operational needs and intended use of a system or capability in a concise manner. This abbreviated structure allows flexibility among the requirements, user and materiel developer communities to achieve a desired capability quickly, while informing the requirements community of what is possible. The A-CDD supporting the LRPM program is in evolution as lessons learned from ongoing conflicts improve understanding of what is necessary to develop a combat-effective system on a modern battlefield.

There is a natural conflict between an evolving A-CDD responding to battlefield realities and the stringent requirements necessary to place explosive munitions in the hands of Soldiers. Qualifying and testing a munition requires extensive and often sequential tests to ensure safety and reliability. In addition to ensuring safety validation requirements, LRPM is responsible for integrating emerging technologies to address the demands of the evolving battlespace. However, adoption of these technologies introduces risks to cost, schedule and performance. A critical aspect of this process is determining when to execute a branch plan to mitigate risk associated with long-lead requirements and ensure timely delivery of the LRPM to operational units.

"GOOD IDEA CUT-OFF" POINTS

The LRPM program must have a plan to integrate (or defer to a future LRPM version) the capabilities being developed for the LE enterprise (e.g., a multi-use air and ground launcher solution and a universal command and control system). Lozano directed the program to identify "good idea cut-off" (GICO) points. Essentially, to meet the constraints of the MTA timeline, the LRPM program must have off-ramps and alternatives if any of the LE-enabling capabilities are not mature enough to support the LRPM timeline. The LRPM program backward planned from mandated operational demonstration dates to identify the "no later than" points, which the LRPM must have access to properly incorporate and test.

The resultant product is a programmatic plan that incorporates GICO decision points with alternate paths to successfully execute. The program maintains active stakeholder engagement to understand the planned inclusion of emerging technologies and LRPM's plan to incorporate the technologies in a future version. Active, transparent communication with stakeholders on current program status falls in the box of "must do" to achieve and maintain responsible speed.

RAPID PROTOTYPING IN ACTION

The U.S. Army's Future Tactical Uncrewed Aircraft Systems (FTUAS) Product Office has officially taken receipt of the Textron Systems' MK 4.8 HQ Aerosonde system, in December 2024, marking a significant milestone in the program's Rapid Prototyping effort. (Photo by David Hylton, Program Executive Office for Aviation)

TESTING INCLUSIVITY

Developing a lethal munition inherently requires extensive safety and suitability testing requirements. The Department of Defense Instruction (DODI) 5000.80 (Operation of the Middle Tier of Acquisition), DODI 5000.89 (Test and Evaluation) and ASA(ALT) MTA Policy collectively indicate that an MTA-RP is bound, by regulatory and statutory responsibility, to develop a Test and Evaluation Strategy (TES, regulatory) and demonstrate and evaluate operational performance (statutory). The LRPM program has been deliberately inclusive with stakeholders during the development of the LRPM TES. Given the depth and breadth of munitions testing requirements and complexity of the program, there is no way to execute "responsible speed" without deliberate inclusivity. Borrowing the words of the Honorable Heidi Shyu (curated from her tenure as a former ASA(ALT) and AAE), "Everyone is on the acquisition accountability bus," and there is no way to successfully arrive at the desired destination without coordinated participation.

CONCLUSION

The introduction of the MTA authorities significantly reduced the required documentation and reporting compared to traditional MCA. However, both acquisition paths can produce programs of record with established and statutory and regulatory information requirements. The DOD and the Army continue to evolve the guiding MTA regulations and policies based on lessons learned from early MTA programs that have completed transition. The LRPM program is leveraging the MTA authorities and executing with "responsible speed," while also posturing to transition to a program of record if the Army deems the LRPM worthy of enduring operational use. The PEO MS, LE community, DOD and Army-enterprise stakeholder communities are dedicated to delivering transformative capability, at the speed of relevance, while meeting standards in system safety, suitability, effectivity and supportability.

For more information on LRPM, go to ***https://www.army.mil/peoms*** *or contact the PEO MS Public Affairs at* ***usarmy.redstone.peo-ms.list.msls-hq-public-affairs@army.mil****.*

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AUKUS TALKS
Secretary of Defense Pete Hegseth hosts a bilateral exchange with Australian Deputy Prime Minister Richard Marles at the Pentagon in Washington, Feb. 7, 2025. (Photo by Madelyn Keech, U.S. Air Force)

COMMON KNOWLEDGE

Since 2021, the U.S., U.K. and Australia have been partnering to standardize and share battlefield sensor data.

by Claudia Flisi

Information is the ultimate weapon in the future of warfare. All the traditional equipment of war—whether offensive weapons such as guns and bombs, defensive devices like radar and light detection and ranging, known as LIDAR systems, or transport vehicles including tanks, planes, ships and submarines—depend more and more on information-generating sensors to carry out their missions.

Better, deeper, clearer and faster information is essential to a winning strategy as weapons become more powerful, defense devices become more advanced and vehicles become faster and more complex. Australia, the United Kingdom (U.K.) and the United States (U.S.), the three countries that make up the AUKUS alliance, are well aware of these changes in the military landscape and have joined together to adapt in coordinated fashion. AUKUS is working with the U.S. Army's Program Executive Office for Intelligence, Electronic Warfare and Sensors (PEO IEW&S) to ensure that the information generated by each country's sensors can be understood and shared by all partners.

The focus on interoperability began well before the creation of AUKUS in 2021, explained Christine Moulton, acting strategic integration manager for the Integration Directorate at PEO IEW&S. "Around 2013, we began discussing how to better use standards to provide true interoperability. We wanted configuration coordination to be able to connect systems and share information, at least on a basic level."

That led to the development of Integrated Sensor Architecture (ISA), which will meet the challenge of combining unique technical requirements from various modalities of sensors, types of data, distinct platforms and specialized implementations. The Army began working on ISA in 2011 and had compiled significant experience within the DOD when the PEO IEW&S Integration Directorate was asked to assist with interoperability within AUKUS. ISA is designed to make systems and their capabilities accessible to Soldiers and platforms without prior training or specific integration and regardless of

"We are well positioned to support whatever those future changes may be."

system type or ownership. This design maximizes access to useful data and functionality, while minimizing integration complexity and life cycle costs.

PARTNERSHIP PILLARS

The AUKUS security partnership between Australia, the U.K. and the U.S. was officially announced on September 21, 2021, but its cultural, economic and military roots obviously have a much longer history.

The U.S. and the U.K. have a longstanding relationship dating back formally to World War I but informally since the mid-1800s. Following World War II, they formed a bilateral partnership (UKUSA) for intelligence sharing in 1946. A decade later, this had developed into the Five Eyes (FVEY) alliance, with the addition of Canada, Australia and New Zealand. FVEY focuses on the gathering and sharing of intelligence information gleaned through signals (or signal intelligence), as well as electronic, cryptographic and other means.

AUKUS became a natural extension of UKUSA thanks to geography, as Australia's location in the Pacific makes it ideally suited for intelligence gathering in that part of the world. Its key objective is to improve the quality of decision-making by commanders

PILLAR 1 MAINTENANCE

The U.S. Navy submarine tender U.S.S. Emory S. Land arrived in Australia in August 2024 as part of an AUKUS exercise involving military from both countries. (Photo by 2nd Class Darek Leary, U.S. Navy)

in the three countries, as measured in speed, accuracy and effectiveness.

The partnership is defined by two pillars. The first pillar, according to DOD, is "to enable Australia's acquisition of a conventionally armed, nuclear-powered submarine capability," and, in fact, the Australia Defence Force is currently scheduled to receive eight nuclear submarines starting in the 2030s.

The second pillar expands on this arrangement, acknowledging that the combined capabilities of the three countries make them stronger in a region where China's emergence as a global power is perceived as a security threat. Its purpose is to ensure cooperation to develop and provide advanced capabilities to promote security and stability in the Indo-Pacific region. These advanced capabilities encompass artificial intelligence (AI), quantum computing, hypersonic and counter-hypersonic weapons, undersea warfare and cybersecurity.

QUANTUM AS SENSORY SUPERPOWER

Quantum computing, in particular, will play a major role in the future development of sensors and its importance cannot be overstated. Complex computations that would take a "traditional" supercomputer 47 years can be done by a quantum computer in mere seconds.

This will make it possible for AUKUS to realize the detection of microscopic changes in magnetic or electric fields, so that enemy missiles, aircraft, submarines or underwater mines can be identified much earlier than was previously possible. It will enable more precise navigation systems, including those in environments where GPS cannot function. Quantum power will bring about more accurate mapping of enemy territories and contested environments, improving intelligence, surveillance, target acquisition and reconnaissance capabilities. More secure encryption will also be possible, facilitating ultra-secure communications among allies. Perhaps most significantly, commanders will be able to make better decisions based on real-world conditions and complex scenarios involving land, air, sea, space and cyberspace simultaneously.

In recognition of this potential, AUKUS has an official Quantum Arrangement focusing specifically on positioning, navigation and timing.

AUKUS INTEROPERABILITY

In addition to countering military risks in the Pacific, AUKUS focuses on coordinating interoperability among its three partners and working together on advanced technology innovations that will strengthen the defenses of all three countries. Increasingly, customized battlefield sensors, integrated into U.S. Army architecture, are key to these innovations.

This trilateral partnership among allies also fosters the development of a "Common Tactical Picture" system, enabling commanding officers to reach better, faster and more coordinated decisions. Commanders have clearer and more complete information at their disposal, they have it faster so they can reach decisions more quickly and they can share this information instantaneously with their counterparts in AUKUS.

STRENGTHS IN PARTNERSHIP

Each partner brings its own expertise to the program. The U.S. has deep research capabilities in quantum technologies, AI and autonomous systems such as drones. The U.K. has a well-regarded quantum research program, as well as expertise in electronic warfare and command and control systems. Australia also has strengths in quantum physics but is now focused on developing undersea sensor capabilities through the AUKUS Undersea Robotics Autonomous Systems project.

By sharing research findings, the three partners can pool their resources and avoid costly duplication while optimizing resource utilization. They can also share data in the development and testing of new sensors across varied domains—land, maritime, air and cyber. This makes sense for large-scale projects in technological innovation, which require specialized equipment and multimillion-dollar investments.

The challenges they face may be new, but they have been facing common threats for more than a century. Shared information about these threats can only work to the benefit of AUKUS. This shared data needs to be communicated smoothly and synchronously, utilizing a common standard to maximize interoperability. Hence the need for sensors that are compatible across their respective military forces, which happens when they are developed jointly.

"Our partners can provide updates and additions to the standard, and the implementation to make it better in a dynamic way, which is always a good thing to have in collaboration," Moulton noted.

Equally important, system standardization should not affect operators in the three countries. "Once standardization has been implemented, Soldiers using the equipment, the end users,

THE NATURE OF SENSORS

Sensors have existed in nature for millions of years. Dolphins and bats use echolocation, a specialized form of sonar. Sharks use electroreception, sensing the electric fields of their prey. Pit vipers use infrared radiation. Birds use the earth's magnetic field to navigate during migration. Bees use ultraviolet light to find food.

Humans have been trying to catch up over the last two millennia, starting with primitive devices like weathervanes and water sensors developed by ancient Romans. Scouts or reconnaissance patrols were the original human sensors, serving as eyes and ears ahead of an advancing army. Automated sensors for commercial use became important during the Industrial Revolution and for military applications during World War I. With the advent of World War II, the speed of innovation increased, and radar, sonar, infrared and magnetic sensors became indispensable for fighters on land, sea and air.

The Cold War accelerated sensor innovation, especially for radar systems. However, the most dramatic changes came with the digital revolution. By the 1990s, military strategists were incorporating vastly improved temperature, pressure, infrared, motion, acoustic, seismic, environmental, electro-optical and biometric sensors in their operations. Digital technology has made possible increasingly accurate laser guidance systems; multi-spectral imaging; improved sonar systems; cyber sensors; chemical, biological, radiological and nuclear sensors; and electronic warfare sensors. The latter is used to detect, analyze and often confound enemy signals.

The concurrent rise of Internet of Things and—more recently—artificial intelligence and machine learning have resulted in the development of unmanned aerial vehicles, or drones, and other independent or semi-independent devices. These new technologies, reliant on ever-more-sophisticated sensors, are continuing to change the nature of warfare.

SPECIALIZED SONAR
Dolphins have been practicing sophisticated echolocation for millions of years. (Photo by Tetsuo Arada, Shutterstock)

will operate their systems as they have always done," observed Moulton. "The functionality of ISA is unobtrusive. All ISA does is provide additional ways to pull in data and information. It works behind the scenes for the Soldier."

Complex computations that would take a "traditional" supercomputer 47 years can be done by a quantum computer in mere seconds.

AVOIDING DATA OVERLOAD

A potential problem of sensor standardization in AUKUS is the danger of data overload. "We could have more data than the network could support and more information than an operator can digest," acknowledged Moulton.

To avoid this issue, operators don't automatically receive all the data from the system's capabilities. Only the information and data that have been subscribed to or requested are sent. There are multiple ways to subscribe, such as geographically or by type, and the system has been designed dynamically, so adjustments can be made depending on need. "That in and of itself is going to help with data management, because, right from the beginning, not everyone is getting all the data that is available," Moulton emphasized.

Interoperability has always existed among the three partners, but it had lacked "commonality." According to Moulton, "It wasn't as elegant or as seamless, and it definitely did not have dynamic connectivity. It was a lot more work and a lot more effort." She is confident that the ISA standards that have been developed are flexible enough to accommodate new capabilities and new sensor technologies. "I think we are well positioned to support whatever those future changes may be."

With the joint approach through AUKUS now entering its fourth year, Moulton looks forward to the contributions each partner can make to the standard and mutual understanding as a basis for additional improvements. "I look forward to the collaboration that we're going to foster with AUKUS and the additions they can provide to the standard. The more it's adopted, the better our understanding of how to improve it."

For more information, go to ***https://peoiews.army.mil*** *or* ***https://www.defense.gov/Spotlights/AUKUS****.*

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BLACK HAWK
ABOVE AND BEYOND

Modernization decisions made this decade will affect the next generation of Army aviators.

by Scott Rosengren

As a result of an Army decision made in February 2024 to rebalance the aviation portfolio, the Army will be flying Black Hawk helicopters far into the future. "Modern aviators are not just pilots; they are tactical commanders in a rapidly evolving battlespace. The cognitive load they face is immense," said Col. Ryan Nesrsta, program manager for the Utility Helicopter Project Office (UHPO) within Program Executive Office for Aviation (PEO AVN). "Autonomous systems aim to alleviate this burden, acting as co-pilots that manage routine or time-intensive tasks—navigating difficult terrain, monitoring fuel efficiency or handling basic maneuvers—so that pilots can concentrate on mission-critical decisions."

Today, the Army must enable near-term Army Aviation support to current engagements in Europe and the Middle East, as well as possible escalation in the Far East, while also ensuring that it is "future proof" so Black Hawks can support the Army's missions of today (2030), tomorrow (2040) and beyond (2050+).

The UHPO outlines three key areas of Black Hawk modernization:

- Targeted modernization to meet the needs of today's Army, highlighted by adding structural improvements for launched effects capability.
- Payload and range improvements and a Modular Open Systems Approach (MOSA) to cockpit avionics to allow rapid insertion of increased capability to tomorrow's warfighters.
- Risk reduction in fly-by-wire (FBW), autonomy and artificial intelligence (AI) and sensor fusion to allow optimally piloted capability (OPC) across the Army aviation enterprise.

TARGETED MODERNIZATION FOR THE ARMY OF 2030

A key takeaway from the current wars in Europe and the Middle East is that launched effects (LEs)—drones launched from aerial or ground assets in combat—employed en masse will overwhelm the enemy and traditional defense systems. The Army aviation enterprise is working both near- and mid-term solutions (as shown at recent EDGE and Project Convergence events) to allow ground and air forces to seamlessly deploy and employ LEs in increasingly effective and lethal ways. In support of this effort, the Army is improving the Black Hawk to deploy LEs. The structural improvements on the Black Hawk will increase the maximum gross takeoff weight of the aircraft. The increased maximum gross takeoff weight will allow the Black Hawk to carry LEs to be deployed against the adversary. This increase, combined with advancements in composite materials, allows battlefield commanders to gain and maintain overmatch in today's wars, not only in the emerging use of LEs but also in more effective traditional Black Hawk missions.

PAYLOAD AND RANGE IMPROVEMENTS FOR THE ARMY OF 2040

The foundation of Black Hawk modernization is the T901 engine. The T901 achieves a 50% power growth to 3,000 shaft horsepower over the current T700 engine. This increased power will improve the Black Hawk's ability to operate in extreme weather and battlefield conditions worldwide for generations to come. This power growth also comes with a reduction in specific fuel consumption, which will extend the reach of the Black Hawk. The first Black Hawk aircraft test flight with the T901 engine is scheduled for early 2025 in West Palm Beach, Florida.

UP, UP AND AWAY
Members of the UHPO Medevac team engaged in hoist training with Combat Aviation Brigade, 3rd Infantry Division, on June 17, 2024. (Photo by William "Lee" Suggs, UHPO)

The UHPO is implementing agile software development and MOSA through avionics obsolescence mitigation to enable industry competition with reusable software "apps" for multiple Army aviation platforms. Industry partners will submit "apps" to an Army aviation "app store" to create a combined Black Hawk Operational Flight Program (OFP)—the software portion of the MOSA cockpit in the Black Hawk. When deemed sufficiently mature, the combined OFP will undergo independent verification and validation by the Original Equipment Manufacturer, followed by system-level flight testing by the U.S. Army to ensure it achieves the desired functionality and maintains airworthiness. These events will enable internal and external stakeholders to evaluate the maturity and benefits of the combined OFP available for quarterly releases to the Black Hawk fleet.

RISK REDUCTION FOR THE ARMY OF 2050

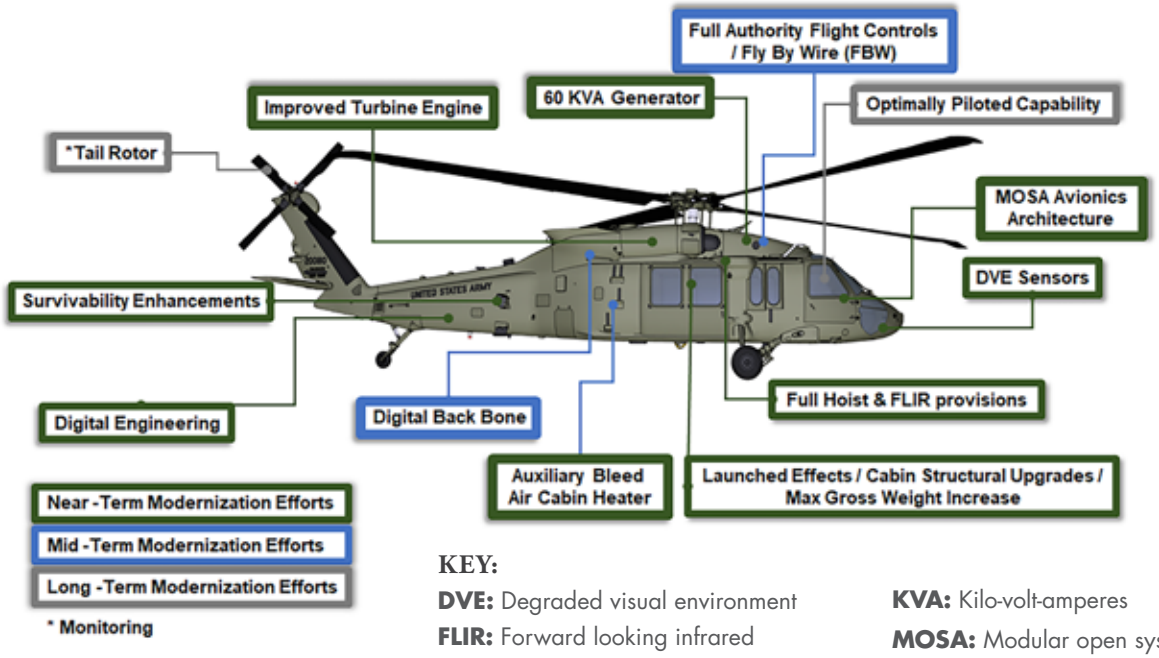
Two key risk reduction areas for both future and enduring fleet OPC-enabled pilot workload reduction are integration of autonomy and AI into FBW avionics software and hardware and improvements in sensor data fusion reliability and availability. AI will be seamlessly integrated into aviate and navigate functions to reduce pilot workload and allow for additional duties to be performed safely by the Soldier aviators. The OPC-enabled pilot workload reductions are any improvements to the operation of the Black Hawk that reduce the mental and physical tasks of the aviator. A helicopter that contains FBW avionics software and hardware has removed the hydraulics-based control of the swashplate (a device that controls the angle of the rotor blades) and rotor blades and replaced it with electromagnetic actuation of the control mechanisms. Sensor data fusion reliability and availability are necessary to use in aviation-related

STICK THE LANDING

A UH-60M Black Hawk sets down at the Sparkman Center at Redstone Arsenal in Huntsville, Alabama, on Dec. 6, 2023, as part of a demonstration for a Brazilian Army senior delegation. (Photo by William "Lee" Suggs, UHPO)

IN FULL FLIGHT

The multi-mission UH-60M Black Hawk helicopter, pictured here at the Sikorsky Development Flight Center in West Palm Beach, Florida, is more capable, more survivable, more powerful and easier to maintain than its predecessors. (Photo courtesy of Sikorsky, a Lockheed Martin company)



FUTURE PROOF

These are the near-, mid- and long-term modernization priorities that the UHPO has set for the Black Hawk helicopter as of Sept. 29, 2024. (Graphic by Scott Rosengren, UHPO)

pilotage applications, such as automated guidance and landing determination (i.e., how iPhones are used for navigation and parking). Enterprise technology enablers, such as electronic circuit breakers (ECBs), will allow automated emergency procedures and algorithms—like Mission Adaptive Autonomy (MAA) using AI and sensor fusion—to determine how to safely fly an aircraft from takeoff to landing. Prototype Black Hawks have demonstrated both ECBs and MAA. Strategic investment today in enterprise-FBW and autonomy using the Black Hawk for risk reduction activities is crucial to enabling OPC in both the future and enduring Army aviation fleets.

CONCLUSION

There are multiple areas of modernization the Black Hawk will pursue. Each of these modernization efforts have different time horizons, but all are essential to enable the Future Aviation Tactical Environment (FATE) warfighting concept of operations (CONOPS) being finalized by the Army Futures Command. To fully support the FATE CONOPS, enduring fleet platforms, such as the Black Hawk, are vital to ensure the Army can fight and win our nations' wars today, tomorrow and in the future.

All in all, the Black Hawk will serve for decades to come, and this decade will be decisive for Black Hawk modernization as the decisions made will affect the next generation of Army aviators.

For more information, contact Scott Rosengren at ***scott.c.rosengren.civ@army.mil****.*

SCOTT ROSENGREN is the chief engineer of UHPO in PEO AVN. He holds an M.S. in electrical engineering and a B.S. in physics, both from the University of Florida. He is a DAWIA Certified Practitioner in engineering and technical management.

DRINK WATER

Dehydration is caused by not drinking enough water. The amount of water necessary to keep someone hydrated depends greatly on the weather, the amount of physical activity and an individual's physical fitness level. The symptoms of dehydration include lethargy, headaches and lack of energy. (Photo by Staff Sgt. Tommie Berry, 196th Mobile Public Affairs Detachment)

TESTING THE WATERS

GVSC teams up with Wayne State University to better hydrate Soldiers in the field.

by Heather B. Hayes

Water may be "the driving force of all nature," as Leonardo da Vinci once observed, but when it comes to people, the real necessity is water that is safe—both for drinking and other uses. And that reality can be a major dilemma for Soldiers working in the field, as well as civilians impacted by natural disasters, as there currently is no approved rapid capability outside of a lab to detect harmful levels of bacteria and chemicals in water sources.

That could soon change thanks to an education partnership agreement between U.S. Army Combat Capabilities Development Command (DEVCOM) Ground Vehicle Systems Center (GVSC) and Wayne State University. Their primary goal is to work closely together to innovate and create an accurate, effective and transportable water detection and treatment capability so Soldiers and other potential beneficiaries can have easier and continuous access to clean, safe water wherever they happen to be operating or living.

That GVSC chose to work with Wayne State on this project is not surprising. For starters, the university has a unique, highly collaborative engineering research and innovation center at its campus in Detroit, which is located just 30 minutes from Warren, Michigan, where GVSC has its offices and research facilities.

The Army also has a nearly 30-year history working on research projects with Wayne State. For example, Wayne State, through its participation in the Automotive Research Center, which is part of the U.S. Army of Excellence at the University of Michigan, has worked closely with GVSC to provide modeling and simulation of ground vehicle systems operating in harsh and uncertain scenarios.

A NOVEL ARRANGEMENT

At a partnership signing ceremony held in December 2024, GVSC Chief Scientist David J. Gorsich, Ph.D., stated that the current water detection project is unique in that "it allows us to loan and share equipment and utilize resources together, and [it] also builds a special partnership in educating, training and mentoring, both on the GVSC side and with students and faculty at Wayne State."

The arrangement enables the Army to leverage the expertise and resources of Wayne State to develop innovative solutions for water purification, while also providing a framework for collaboration and knowledge sharing, according to Jeremy Walker, Ph.D., division chief for Force Projection Technology at U.S. Army DEVCOM GVSC.

"Both the GVSC Fresh Water Test Facility and WSU's engineering labs will accommodate group research opportunities, allowing for real-time testing and evaluation of prototype advancements and actual testing on natural water sources using Army mobile water purification equipment," he explained.

Walker actually knows a little something about the education, research and collaborative capabilities of Wayne State, having received his doctorate in civil engineering there in 2018 under the tutelage of Professor Shawn McElmurry, chair of the school's Department of Civil and Environmental Engineering.

"Wayne State brings novel ideas and expertise in water quality, biological and chemical contaminants of concern, fundamental knowledge of industry standard detection capabilities and the novel nano/MEMS [micro-electromechanical systems] technology area, which are all critical for developing rapid and effective field water quality detection capability to verify the different treatment processes utilized in the Army's mobile water purification systems," he explained. "The university's research facilities and equipment will be used to support collaborative projects aimed at developing technology solutions for Army-identified capability gaps."

SOON TO BE READY FOR PRIME TIME

Given all the problems that modern technologies have managed to solve in recent decades, why is water testing out in the field

TESTING IN TRAINING

GVSC water purification experts support the Marine Corps during the large-scale exercise training rotation of the Joint Pacific Multinational Readiness Center, October 2024, on Oahu, Maui and Hawaii Island. (Photo courtesy of the U.S. Army)

so complicated? It's really a question not of what, but where, the testing has to occur. According to Walker, current methods of "detecting biological and chemical contaminants down to the levels of drinking water standards requires sophisticated laboratory equipment that is complicated to operate and not suitable for use in the field."

While advancements in technologies like MEMS have enabled the miniaturization of bench-top analytical equipment typically used for analyzing water, he stated, "these technologies have not advanced to the point yet that they have been transitioned to the field or approved by regulatory agencies like the EPA [Environmental Protection Agency] or Army Public Health Command."

Succeeding at identifying and building an accurate and reliable mobile water detection capability promises numerous potential applications, including assisting victims in the aftermath of natural disasters like hurricanes, wildfires, floods and tornado strikes. The GVSC and Wayne State partnership will begin by focusing on the unique needs of the Soldier in the field, Walker explained. That means finding ways to detect harmful bacteria and chemical agents in the field at two points: 1) Untreated source water to ensure that the most suitable source is selected; and 2) Treated product water to verify that the water is safe to drink.

The strategy will be to build on current research in academia, industry and other government labs to develop rapid technologies for identifying emerging contaminants in expeditionary water purification. For example, Walker explained, "The use of advanced membrane testing and evaluation, organic carbon analysis and novel techniques for continuous monitoring will provide a more effective and efficient means of detecting chemical and biological contaminants," which could include anything from nitrogen, metals and pesticides to bacteria, viruses and parasites.

Additionally, the project will tackle new threats, including Pharmaceuticals and Personal Care Products (PPCPs) and polyfluoroalkyl substances (PFAS), "to ensure their removal and enable water reuse," Walker said.

DISASTER RELIEF

Construction vehicles remove debris from a bridge damaged by Hurricane Helene near Chimney Rock, North Carolina on Oct. 10, 2024. The U.S. Army Corps of Engineers coordinates with a contractor to deliver generators provided by the Federal Emergency Management Agency at critical facilities, such as temporary shelters and water resource stations. (Photo by Michel Sauret, U.S. Army Corps of Engineers)

According to the EPA, PPCPs are emerging contaminants of concern "that are increasingly being found at low levels in surface water," while PFAS are "widely used, long-lasting chemicals with components that break down very slowly over time." Current scientific research shows that both of these contaminants, depending on the level of exposure, can lead to a variety of health impacts in both people and aquatic life.

BUILDING AND ADVANCING

Although the partnership is clearly focused on coming up with technology breakthroughs and capabilities that can give Soldiers the safe water resources they need to thrive in the field and further the Army's mission, there is also an educational component that officials of both GVSC and Wayne State hope will pay dividends in the future for both the military and the school—and the rest of society.

In fact, the water detection research was stimulated by previously funded research collaborations between the Army and Wayne State that focused on developing rapid detection technologies for biological and chemical agents, Walker explained. The new partnership builds on this existing relationship and also leverages the expertise of Wayne State professors, including previous research conducted by Professor Gregory Auner and new research efforts proposed by McElmurry and Professor Amar Basu to develop innovative solutions for water purification.

It helps that the two organizations have capabilities and resources that are different but complementary. Wayne State faculty "use an integrated approach to engineering in terms of how we can take digital tools, models, simulations and all the advanced technologies that are needed to really stay in front of that innovation curve," Ezemenari Obasi, Ph.D., Wayne State's vice president for research and innovation, said in a university article touting the new partnership. He noted that among other areas, the school is "pioneering research in integrated augmented technology, figuring out ways of using virtual reality and pairing new technologies with autonomous machinery."

Meanwhile, as the DOD's technology laboratory and engineering center of excellence for all ground vehicle advancement and development, GVSC has a number of unique focus areas, among them human machine integrated formations: Advanced manufacturing, modeling, simulation and prototyping, and survivability and protection.

As part of that mission, GVSC collaborates with various universities in a very hands-on fashion, relying on a quad structure made up of four specific team members: A university faculty member, a graduate student, a GVSC member and an industry advisory member. This approach ensures that research aligns with the Army's mission and is eventually transitioned for use by Soldiers; that industry will benefit through direct technology transition; and in this case, that Wayne State students gain a deep understanding of both the needs of the Army and industry and have the opportunity to work in GVSC laboratories during the course of the project.

"It's exciting that our students will have an opportunity to meet and work with leaders in this field from the Army and engage in developing a solution for this real-world problem to benefit our military and civilians," McElmurry said.

CONCLUSION

The project is now moving forward quickly, Walker said. GVSC has already transferred key Army analytical equipment and test stands to Wayne State, which will enable the collaborative research projects to begin developing innovative solutions for detecting harmful bacteria and chemical agents, as well as novel treatment processes for PPCPs and PFAS.

As a result of this collaboration, Walker noted, both the Army and civil society will reap a number of benefits. Among these are "the development of innovative solutions for water purification, improved detection and removal of harmful bacteria and chemical agents, and enhanced protection of public health. The project will also contribute to the advancement of scientific knowledge and technology, with potential applications in a range of fields, from environmental monitoring to medical research."

For more information on DEVCOM GVSC, go to ***https://gvsc.devcom.army.mil****.*

HEATHER B. HAYES provides contract support to the U.S. Army Acquisition Support Center as a contributing writer and editor for Army AL&T magazine and JANSON. She holds a B.A. in journalism from the University of Kentucky and has more than 30 years of experience writing and editing feature articles and books.

Army AL&T's
Frontline Favorites 2024

Top 5 Audience Choice Articles

1. **SHAKING THE TREE**
   by Andrew H. Cline, Maj. Eric B. Forsgren and Travis T. James from the Program Executive Office for Soldier
2. **ATEC'S DIGITAL TRANSFORMATION**
   by Maj. Lucas Gebhart and Blaine Perry from the United States Army Test and Evaluation Command
3. **STRYKER READY**
   by Lt. Col. Nate Platz and Maj. Matt Gilbert from the 704th Brigade Support Battalion and 1-41 Infantry Battalion
4. **TRANSFORMING IN CONTACT**
   by Maj. Bradley Anderson and Kathryn Bailey from the Program Executive Office for Command, Control, Communications and Network
5. **ACCELERATING THE ARMY'S AI STRATEGY**
   by Anna Volkwine and Steven Lusher from the Army Small Business Innovation Research Program, under the Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology

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CRAIG RIEDEL

COMMAND/ORGANIZATION: Program Executive Office for Missiles and Space

TITLE: Project manager, Tactical Aviation and Ground Munitions

YEARS OF SERVICE IN WORKFORCE: 20

DAWIA CERTIFICATIONS: Advanced in program management; Practitioner in engineering and technical management

EDUCATION: MBA in global leadership and management, Lawrence Technological University; M.S. in mechanical engineering and B.S. in mechanical engineering, Iowa State University

AWARDS: Meritorious Civilian Service Award (2); Civilian Service Commendation Medal (3)

MANY HANDS MAKE LIGHT WORK

Craig Riedel, project manager for Tactical Aviation and Ground Munitions (TAGM) under the Program Executive Office for Missiles and Space, finds that people outside of his workplace are fascinated with defense work. Often, he said, they are unaware of the collaboration between civil service and military in these roles and inquire about opportunities in this field. They often ask how he stumbled into it himself.

"I was in the last semester of my master's degree work [in 2003], wrapping up my thesis, and started looking for jobs when I needed a break from writing. I came across an Army posting on the university alumni career services website, but I didn't apply because the criteria required 10 years of experience and some other qualifications I did not meet," Riedel said. "It turned out I accidentally applied and was confused when I got a call a few days later for an interview."

Riedel's master's work was in engineering design and analysis applications in virtual reality, and it turned out that the Research Development and Engineering Center at Rock Island Arsenal was starting up a virtual reality program and seeking someone with virtual reality hardware and software experience, which was rare at the time.

"It was an accidental match made in heaven," he said. "I interviewed and started work there a few months later after graduation. The idea of working for the Army on weapon systems and utilizing the skills I developed in my master's work was very appealing."

As the project manager for TAGM, Riedel is responsible for the overall cost, schedule and performance management of critical tactical munitions, including the Joint Air-to-Ground Missile, the Hellfire, the Javelin, guided and unguided Hydra rockets, the Tube-Launched Optically Tracked Wireless-Guided (TOW) missile, the Switchblade, the Long-Range Precision Munition, the Containerized Weapon System and all the related launchers and support equipment, as well as developing, fielding, sustaining and improving these weapon systems.

"One reason I enjoy acquisition is that I get to interact with a wide variety of organizations across the Department of Defense and beyond," he said. "I really enjoy the diversity and breadth of people I interact with as an acquisition professional."

The most important point in Riedel's career, he said, was when he deployed to Iraq in 2007 to be the chief of facilities and facilities engineering for the U.S. Army Materiel Command's 402nd Army Field Support Brigade. "At that point I had been in civil service for three years. I enjoyed my work, but there were a lot of great career opportunities out there and I was starting to doubt whether I wanted to make a career out of Army acquisition."

Riedel said the deployment experience was completely out of his comfort zone. For the first time in his life, he was surrounded by Soldiers daily and was given a massive amount of responsibility with minimal direction to go with it.

ITAS OPERATION

Riedel learns how to operate the Improved Target Acquisition System, equipment designed to acquire and engage a target, at the TOW demonstration day, held in April 2024 at the PM TAGM pavilion on Redstone Arsenal, Alabama, and hosted by the TOW Product Office. (Photo courtesy of Craig Riedel)

"The natural course of my duties allowed me to see almost all Army modernization activities that were being executed in country. I also got to talk to a lot of warfighters who were on our footprint getting trained on the new gear before they drove off with it into combat. This flipped a switch in me. I have always worked hard, but this experience brought my commitment level and work ethic to a whole new level," he said. "I left there excited to make a change in my career field to program management and start managing a program as soon as I could." He was placed into a developmental assignment as an assistant product manager following the deployment that later became permanent.

Riedel realized he could benefit from training to take the next step in his career. He was serving as a board select product director when he applied to the Senior Service College Fellowship (SSCF). "I had reflected enough on my work performance to know that I made too many unforced errors, and that there was a significant gap between my current performance and my potential. However, I could not quite put my finger on what to do about it. I heard that SSCF was a great program for many things, including taking a year to really focus on myself as a leader," he said. "The timing and recognition of need lined up very well for me, and I went for it."

He participated in SSCF from July 2020 through May 2021, and said he got a lot out of the program. Two things in particular have proven to be essential for him. "First, a lot of time was spent on skills for developing trust bonds that enable effective delegation. I would fail at my job if I could not implement responsible, effective delegation," Riedel said. "And second, through formal learning as well as peer mentoring, I learned how to better address feelings of defensiveness when they come on. This has helped me stay focused on the task at hand when working through difficult situations or relationships."

He said the best lessons he's learned through his experience and training is that you will get the best outcome on challenges nearly 100% of the time when you work collaboratively as a committed team.

"Real world problems are far too difficult to solve with an individual perspective or skill set," he explained. "It is imperative to include multidisciplinary and diverse perspectives to attack hard problems. I seek to build such teams to work the hard stuff, and never make any important decisions in a vacuum. I often find that I make a different decision after hearing other perspectives than I would have on my own. I have also found that many hands make light work and free up some of my time to address more priorities."

Riedel said he applies many of the techniques he has learned at work to situations outside the workplace. "I definitely apply the skills for handling defensiveness on a regular basis. I am able to come out of difficult situations and engagements in a much better position for being successful," he noted. "It has also helped me see when others are getting defensive and change the tone of an engagement to get everyone pulled back into a place where we can move forward together."

—CHERYL MARINO

TECHNOLOGICAL SUPPORT
The travel industry is turning to technology more and more to cope with increasing logistical challenges. (Photo by Anna Shvets, Pexels)

TOURIST INVASION

Rising travel logistics solutions could be as instructive for the DOD as for private enterprise.

by Claudia Flisi

Blame it on Thomas Cook. In 1851, the British entrepreneur created the first "package tour," organizing a group of his countrymen to visit London together with the same scheduled itinerary. Before that, the only people who had been able to indulge in leisure travel—especially the Grand Tours of major European cities—were the privileged few who made their arrangements on an individual basis. Now, suddenly, the bourgeoisie could travel to the same places, albeit not as luxuriously.

Mass market tourism began to take hold in the wake of Cook's innovations. Fast forward another century, and leisure travel exploded after World War II, thanks to a series of overlapping developments: the growth of the airline industry; improved transportation infrastructure in general (cars, buses, trains, ships and planes); the increased affluence of the middle class; and the introduction of paid vacation days for employees.

Today, massive tourist invasions are normal. Upwards of 50 million people will invade the city of Paris in 2025, and a similar number is projected for Rome. Venice, a city of 50,000 people, tries to cope with more than 20 million visitors a year. Far-flung destinations like Antarctica are not immune: That white wilderness, bigger than Australia, registered fewer than 8,000 visitors two decades ago but may surpass 120,000 in 2025. The global travel market, estimated to be worth about $12 trillion in 2024, is growing at a compound annual rate of 5.4%. This means that the market will double in size by 2035, and it is already 14 times the size of the 2024 U.S. Department of Defense (DOD) budget.

So, how has the travel industry been able to keep up with this staggering volume of people, the equipment needed to transport them and the supplies required to feed and house them?

The solutions could be as instructive for the DOD as for private enterprise, since many of the issues they face are analogous. Fortunately, technology has evolved dramatically in half a century

to keep pace with market needs. Sophisticated data management systems have been developed to handle the sheer number of people, planes, hotel rooms, ship cabins, provisions and other complexities that are integral to the exploding travel industry. Logistics are the baseline for these systems.

"Efficiency, optimization and agility are the goals of any logistics system," Alicia Ingersoll, a professor of business at Weber State University in Ogden, Utah, explained during an interview. "But it is preparedness that underlies everything. Logistics leaders need to be knowledgeable and up-to-date on a variety of topics, such as geopolitics, the regulatory environment, weather patterns and the business environment, in order to be prepared."

Preparedness, Ingersoll explained, is a thorough understanding of one's operating environment. "This means constantly scanning sources of information and being able to digest that information to make informed decisions. You can build an agile and adaptable system, but in order to maximize that system you need to be able to understand when it is time to shift," she emphasized.

The travel sector generates reams of data from its customers and operations and puts this information to work to optimize route planning, improve resource allocation, reduce operational costs, enhance supply chain management and develop predictive maintenance schedules. Airports use data to decide how highly contested airport slots should be allocated and utilized most efficiently to avoid congestion and flight delays.

Customer relationship management software systems enable travel companies to harness Big Data for the automation of repetitious actions and the creation of customized client profiles. Automation takes on the basic repetitive tasks that humans might find boring. Since computers don't get bored, they don't make errors resulting from ennui. Tasks such as payment processing, booking confirmations and the like are moved to automation while human resources address more complex and challenging problems.

Big Data was one of several travel trends presented at Digital Transformation 2025, a travel technology conference held in London in September 2024. Maria Bondarenko, featured speaker and vice president of product for GP Solutions, discussed how businesses can apply emerging technologies to drive growth and efficiency. In her view, these trends have shaped world travel today and will continue to mold its direction for the future. In addition to Big Data and automation, she included the Internet of Things (IoT, i.e., device connectivity across platforms), cloud computing (the ubiquitous access to data and applications anytime, anywhere) and artificial intelligence (AI).

Industry and DOD alike need to concentrate on mantras of efficiency, optimization and agility if they are to maximize technology's potential.

The Army recognized that "time to shift" in 2018, when it established the Army Futures Command to integrate new concepts and capabilities into its mission of winning future wars. This was followed by the Army Digital Transformation Strategy (ADTS) in 2021. Key objectives of the ADTS include data-driven decision making, cloud implementation, cybersecurity enhancements, network modernization and workforce development.

ENTER BIG DATA

Big Data refers to massive, increasingly expanding data sets that are too large and complex for traditional data-processing software. When mined algorithmically, Big Data can reveal patterns, trends and associations that might otherwise remain hidden or be unnoticed. This type of data can help the travel industry, as well as the DOD, know when it is time to shift. Dynamic pricing strategies are only possible because of Big Data. For example, airlines use mathematical modeling techniques, including game theory and network optimization, to make informed decisions.

MOBILE ADVANCEMENTS

IoT can be described as a network of connected devices able to exchange information with other devices and systems over the internet. Mobile phones and apps are the most obvious examples, bringing information and interaction into the hands of individual customers. More than 60% of the world's population had a smartphone in 2024. With these smart devices, travelers can manage their own booking, payment, check-in and navigation

tools. They can request personalized recommendations and provide direct feedback to customer service.

Mobile phones have also changed the travel industry because of their geo-location capabilities. A cellphone knows where you are and often what you want in that specific place. Such proximity can be an advantage for both travel operators and their clients, explained Jim Blackwell, digital market leader at BDO, a global business advisory service, adding, "Today the industry is trying to figure it out fast and furious."

He gave the example of Avis, the car rental company. "It not only sends information in real time about your car booking, but, if there is a problem, it will search online and propose another car or option based on your tastes, needs, preferences and location. Airlines don't do this well yet."

Industry is also using IoT for luggage tracking. Some suitcases have built-in tracking tools so they can be located with one's cellphone or computer. Apple's AirTags are another way to track objects, not limited to luggage. It is no surprise that the global smart luggage market is predicated to rise 13% annually between 2025 and 2034.

IN THE CLOUD

While mobile advancements enable time- and cost-saving capabilities for customers, cloud computing enables the travel industry to scale up and down quickly—and cost-effectively—based on changing demands for storage and computing power. Travel businesses can avoid large upfront investments in infrastructure and instead pay only for what they use. In addition, from the cloud, travel industry agents, guides and booking managers can access data and applications anytime, anywhere. Cloud solutions are especially valuable when members of the workforce are faced with unforeseen events, whether meteorological or human-made. For example, an earthquake or bombing might destroy a local office, but not the information in the cloud.

Another attraction of cloud solutions is added security, such as strong encryption, multifactor authentication and other features of parallel importance to industry and DOD modernization efforts.

The cloud and security are also first and foremost in DOD thinking. U.S. Air Force Lt. Gen. Robert J. Skinner, then director of the Defense Information Systems Agency (DISA) and former commander of the Joint Force Headquarters – Department of Defense Information Network, laid out his three priorities for DISA in his introduction to its full five-year plan, released in April 2024. They are to build a common information technology (IT) environment, a more robust cloud computing system and zero-trust cybersecurity in both IT systems and the cloud.

LOST LUGGAGE
As the volume of lost luggage grows, so do luggage tracking options to deal with it. (Photo by Sergei Sarostin, Pexels)

ARTIFICIAL INTELLIGENCE

AI is more than the flavor of the month; it is the technology of the decade. The travel industry is acutely aware of this and is integrating AI into operations at a seriously fast and furious pace as travelers can now plan trips using chatbots such as ChatGPT. A 2023 study by Longwoods International found that one-third of U.S. travelers were likely to use AI to plan their vacations, with that percentage expected to grow in the future.

"Generative AI provides the means of layering a chat-based application with a conversational user interface," said Ingersoll. "Instead of having to understand commands and queries, you can just ask conversational type questions." For example, a cruise director won't need specialized training or language to ask, 'How many passengers will disembark in Southampton and how many will board? How many eggs will I need for the next week of cruising?' Faster and more accurate responses and less required training can translate to cost savings.

INNOVATIONS TAKE FLIGHT
The travel industry has turned to software, hardware and innovation to deal with billions of travelers each year. (Photo by Tom Barrett, Unsplash)

Ingersoll also pointed out that generative AI can assist with deciphering analytics. "Large amounts of data can be analyzed quickly and put into digestible formats for leaders, again without specialized training. AI can offer first-pass insight or warnings and be the front line of scanning to help on the preparedness front," she said.

The travel industry is leaning into AI to make sense of unstructured data in particular, elaborated Blackwell. He gave the example of text information, which is very hard to analyze and quantify because it lacks automatic numeric value. AI can consistently identify overall intent and sentiment from the text, and it does so consistently without bias or boredom. It can understand that a "badass" evaluation is good, not bad, which a traditional word search would not be able to do, according to him. AI enables deep data analysis, organizes it into spreadsheets and assigns numeric values. It can then suggest solutions to problems.

"This is not a question of generating new data," Blackwell insisted. "There is plenty of data out there. It's a matter of understanding and using the data you already have."

CONCLUSION

Thanks to advances in trending technologies, the tools to deal with rapid travel industry expansion exist. But there are challenges. The complexity of technology options has ironically driven more people back to using old-fashioned travel agents, increasing agents in the U.S. by 6% over the last five years, according to the U.S. Bureau of Labor Statistics. The quest for simplicity is one reason. Another is something Rich Harril, a professor at the University of South Carolina (USC) called "soft intelligence." Harrill is director of USC's International Tourism Research Institute. He noted that agents learn things about destinations because they have their ear to the market. He advised not to rely on technology alone but also on soft communications from the field. "AI can be a double-edged sword. Decisions can be made faster but AI can also replicate false data," he added.

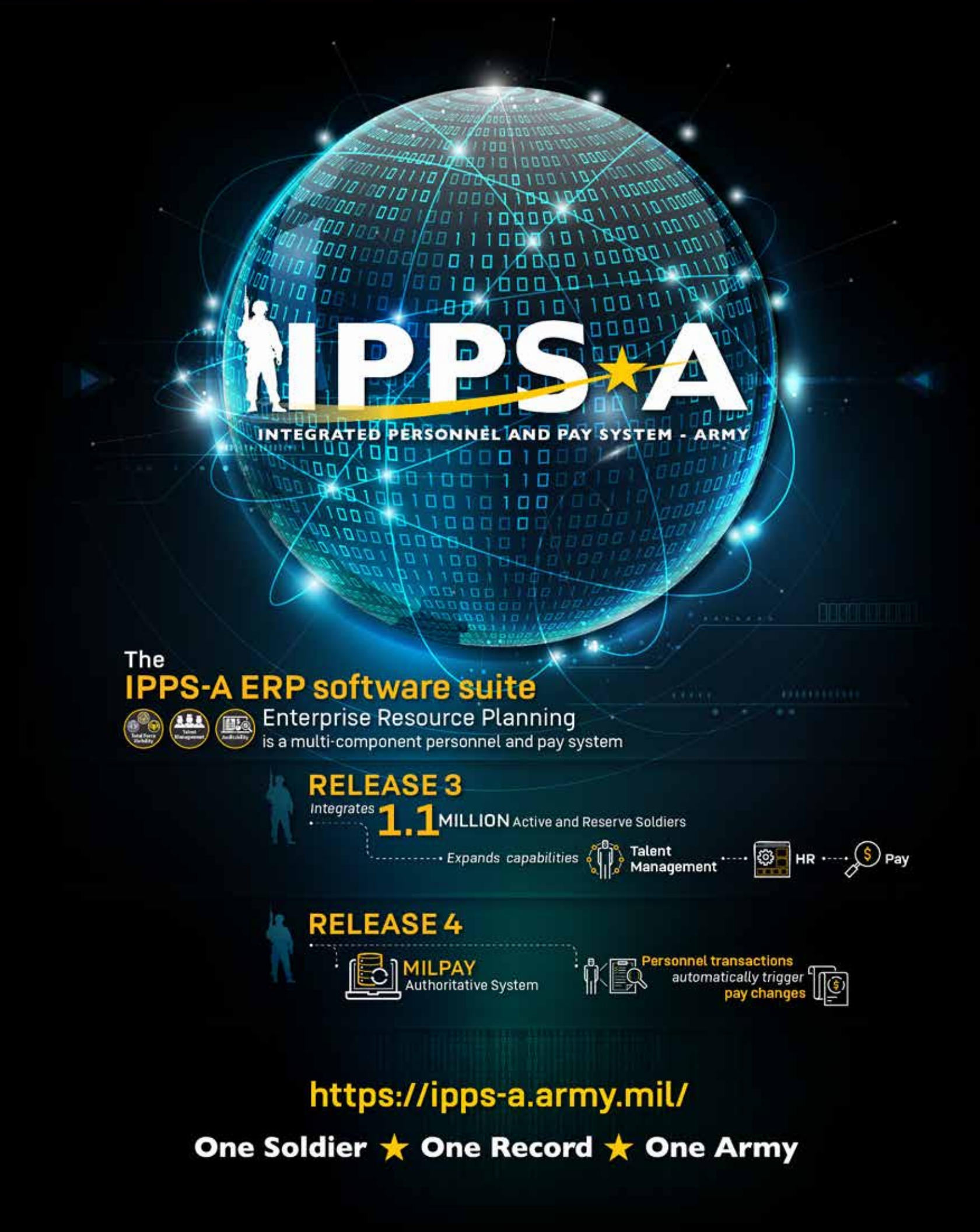
Industry and DOD alike need to concentrate on mantras of efficiency, optimization and agility if they are to maximize technology's potential. They need to balance their customers' desires for customization with data privacy concerns and security considerations; incorporate the human touch into automated systems; and train their people and their generative AI systems continuously.

"Simplify, simplify, simplify," Skinner said in the DISA Next strategy. "We need to simplify our processes, we need to simplify the infrastructure, we need to simplify the configurations and we need to simplify how we do business with each other."

Thomas Cook wouldn't understand the 21st century technology but he would undoubtedly approve of the people-centric focus.

For more information, email ***armyalt@army.mil****.*

CLAUDIA FLISI provides contract support to the U.S. Army Acquisitions Center as a contributing writer and editor for Army AL&T and JANSON. Her writing has appeared in the International New York Times, Newsweek, Fortune and other publications, websites and books from four countries in three languages. She has an M.A. in international relations from the Johns Hopkins School of Advanced International Studies and a B.A. in international relations with distinction from Mount Holyoke College.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is a multi-component personnel and pay system
RELEASE 3
Integrates 1.1 MILLION Active and Reserve Soldiers
Expands capabilities
Talent Management
HR
Pay
RELEASE 4
MILPAY
Authoritative System
Personnel transactions
automatically trigger
pay changes
https://ipps-a.army.mil/
One Soldier ★ One Record ★ One Army

ANSWERING THE CALL

The Army Acquisition Workforce is prepared to provide support, stateside and globally.

Army Acquisition Workforce (AAW) professionals have the training, ethical foundation and discipline to support Soldiers in their success worldwide. Whether it's supporting operational missions or humanitarian efforts, our acquisition workforce is prepared and ready to provide exceptional support whenever and wherever we are needed, both stateside and across the globe.

SUPPORTING GLOBAL EFFORTS

The acquisition professional is charged with the mission to cultivate innovation, design the impossible and provide Soldiers with what they need to be successful. In a workforce of approximately 33,500 Army acquisition professionals, each member supports the readiness of the Army's warfighter no matter the range of requirements for the mission. Our acquisition professionals have demonstrated their commitment to providing support whenever and wherever it's needed, often becoming a critical part of the success of many global operations and humanitarian efforts.

For over 18 months, our AAW professionals have voluntarily supported the efforts in Ukraine. The multibillion-dollar military aid packages included in this support have been delivered at unprecedented speeds, reassuring our nation's commitment to Ukraine's sovereignty. This support from the AAW is a prime example of the workforce's ability to pivot, for example, providing thousands of pieces of equipment to Ukraine and then replacing those items at a rapid pace. Our acquisition professionals also took this opportunity to learn from their work and incorporated those lessons into training that will support similar needs in the future.

Stateside, the U.S. Army Corps of Engineers (USACE) led the efforts in Baltimore, Maryland, after the collapse of the Francis Scott Key Bridge in March 2024. The team from the USACE, including acquisition professionals, responded immediately to restore safety in and out of the Port of Baltimore. From collecting critical data that would assist with future operations to structural engineer support and waterway debris management, the support from USACE has helped pave the way for the reconstruction and reopening of a vital port in the region, critical for transportation, businesses and network optimization.

Global efforts often require multimillion or multibillion dollar investments. The acquisition workforce professionals behind these efforts are coming to these projects with the credibility needed to ensure that the missions are not only executed successfully but that the overall mission can be held accountable to the American people. Having a disciplined and dependable workforce that is properly trained with the tools and critical thinking skills needed to succeed for these types of missions means they can bring a calm to the chaos that can be felt by the public when our service members are involved in global conflicts, such as that in Ukraine. It's vital to ensure transparency to the American people and that acquisition professionals are able to provide and maintain that level of accountability and showcase the results of these collective efforts.

Numerous acquisition professionals from the Army Materiel Command, Army Futures Command, USACE and our program executive offices have volunteered their skills and expertise to operations globally, many of which have become permanent support for forward operation bases. Efforts in Ukraine, supporting bases in Kuwait and delivering supplies to Gaza are just a few examples in which the AAW has helped the Army succeed in its mission around the world.

LEADING WITH DIGITAL TRANSFORMATION

In 2023, we began reskilling and upskilling the workforce through digital transformation initiatives that will bring our acquisition professionals into the future with innovative thinking, modern software development and accelerated work systems that are critical to the success of our Soldiers against pacing threats. The training and credentialing we provide to the AAW has led to an adaptive workforce that can effectively support the Army's global efforts and forward operation bases as they change with the environment.

As we look towards the future with digital transformation at the forefront, the tools we are utilizing are evolving every day to help shorten work cycles and accelerate our capability to support operations abroad and in the continental United States. Partnerships with Udemy, enhanced credentials through the Defense Acquisition University and my office's MOREin'24 and Ignite 2025 campaigns are all examples of opportunities that have served as support for building a workforce that is capable and ready to take on any challenges the future may hold.

For example, by implementing new artificial intelligence (AI) tools, there's opportunity to use the technology to help craft request for proposals and solicitations, facilitate market research and any other tasks that can help contribute to and reduce

WHEN DISASTER STRIKES

Former U.S. Secretary of the Army Christine Wormuth joins USACE Commanding General and Chief of Engineers Lt. Gen. Scott Spellmon and other USACE and Unified Command representatives on board the USACE Survey Vessel H.R. SPIES on April 24, 2024, to learn more about the disaster response to the Francis Scott Key Bridge collapse in Baltimore, Maryland. (Photo by Dylan Burnell, USACE Public Affairs)

AT THE POINT OF NEED

A U.S. Army Rigger assigned to the 165th Quartermaster Detachment 2 places Meals-Ready-to-Eat on top of a palletized humanitarian aid bundle as part of the U.S. military effort to deliver humanitarian aid supplies to those affected by the war in Gaza. (Photo by Sgt. Tanner Dibble, 13th Armored Corps Sustainment Command)

acquisition lead time. A goal of the AAW is to create efficient systems that allow us to deliver kits to the Soldiers as soon as possible, and strategically using these tools will help achieve that.

While AI can help with the more advanced needs of the future, using technology and contracting opportunities to address basic needs also ensures that our workforce is supported globally—no matter the scope of their task. For example, implementing tools such as Microsoft Teams has drastically changed communication for the workforce compared to the technology that was available just a decade ago. Contracting and acquiring local support to provide fresh vegetables to workforce members deployed overseas makes a difference in their day-to-day experience and is an example of a low-value dollar investment that leads to a high payoff.

Embracing the future through digital transformation and taking advantage of contracting opportunities provides the ability to quickly adapt to the wide range of needs of the globally engaged acquisition enterprise, including any and all humanitarian efforts. By combining digital tools and the exceptionally trained skills of an acquisition professional we'll not only be proactive and anticipate the needs of the Soldier, but we will also alleviate any strain on the industrial base that supports the material needs for high-intensity operations.

CONCLUSION

Around the world, acquisition professionals are applying their skills and expertise to solve the complex problems of today and prepare for tomorrow. In addition to working towards their required training, continuous learning and credentialing, members of the workforce have demonstrated their service to others by volunteering their time to critical missions and humanitarian efforts in the United States and abroad. The value each acquisition professional brings to their work every day is immeasurable to the success of these efforts.

I am incredibly proud of the work our acquisition professionals have accomplished globally, and I am committed to making sure that the AAW is armed with the tools, education and training opportunities needed for them to achieve even more success in the future. No matter the mission, we don't have to look too far to find people who are willing to put in the work. The workforce has proven time and time again that they are always ready to answer the call, and we can count on them to be deliberate and disciplined as adaptive and agile acquisition professionals.

BASIC TRAINING
Sgt. 1st Class Johnson instructs students of Army Acquisition Transition Course 24-003 on Procurement Desktop-Defense at TAAS in April 2024. (Photo courtesy of Sgt. 1st Class Ryan Johnson, TAAS)

RAISING THE BAR

Sgt. 1st Class Ryan Johnson is the first TAAS instructor to receive the Basic Army Instructor Badge, setting a high standard for those who follow.

by Cheryl Marino

With over a decade of distinguished service under his belt, Sgt. 1st Class Ryan Johnson has achieved a remarkable milestone, becoming the first instructor with The Army Acquisition School (TAAS) to receive the Basic Army Instructor Badge (BAIB), setting a high benchmark for those who follow in his footsteps.

"Johnson is one of the best NCOs [noncommissioned officers] I've worked with in the almost 40 years I've been in government service, and it doesn't surprise me that he is the first one at TAAS to achieve this milestone," said TAAS Director Craig Gardunia, who presented Johnson with his badge during a holiday party at the school facility in Huntsville, Alabama, on December 12, 2024. "His commitment to his profession and to the students is incredible and it just highlights the outstanding NCO that he is." TAAS—a centralized training, education and career development center for Army acquisition professionals (officers, noncommissioned officers and Department of the Army civilians)—provides a dynamic learning environment for acquisition professionals who are equipped to provide and sustain superior support to the warfighter.

The BAIB is part of the Army's Faculty Development Recognition Program (FDRP), a voluntary program active at TAAS since October 2023 that helps recognize the professionalism of

"This is not just a personal achievement but also a reflection of the incredible support and mentorship I have received from the entire TAAS faculty and staff."

its NCO educators and bolster the standing of the instructors who teach the courses in the NCO education system. Participating instructors, who meet all program requirements, are awarded Basic or BAIB, Senior (SAIB) and then Master (MAIB) level badges—the culmination of a nearly three-year process that seeks to professionalize Army instructors and enhance their standing.

THE BADGE ADVANTAGE

To achieve the BAIB, a Soldier must first become a certified instructor—candidates are required to complete the Common Faculty Development-Instructor Course, which Johnson completed in 2023, then serve 40 hours as an assistant instructor and 40 hours as a primary instructor. Finally, the Soldier must successfully teach at least 80 hours of instruction as the primary instructor, undergo two consecutive evaluations and conduct four developmental observations of other instructors.

Johnson currently serves as the primary instructor for the Army Contract Writing Lab—a course offered through TAAS—where he trains Soldiers on using the Procurement Desktop-Defense software, a key system used for creating contract actions in support of the warfighter.

"I am proud to be a recipient of the Basic Army Instructor Badge and would like to highlight that this is not just a personal achievement but also a reflection of the incredible support and mentorship I have received from the entire TAAS faculty and staff," said Johnson, who plans to continue as an instructor at TAAS while pursuing his SAIB. Career advantages with the Senior level badge are promotion points and increased responsibility in instructor roles within the Army. This will put Johnson a step closer to the MAIB, which is the highest level of learning expertise within the FDRP.

At the Basic level, Johnson will facilitate and present instruction in a variety of learning environments and effectively prepare and execute instruction; question students and provide effective feedback; promote learning retention and transfer; assess learning; and counsel students.

The Senior and Master instructor levels signify a considerably higher level of teaching proficiency. They are achieved through extended experience, advanced instructor courses and demonstrated ability to design and implement complex training programs beyond the foundational knowledge required for the Basic Badge.

FIRST IN TAAS

Craig Gardunia, TAAS director, presents Sgt. 1st Class Ryan Johnson with his BAIB at the school facility in Huntsville, Alabama, on Dec. 12, 2024. (Photo courtesy of Craig Gardunia, TAAS)

NEW NAME, COMMITMENT IS THE SAME

The Army Acquisition Center of Excellence was officially renamed to The Army Acquisition School on March 26, 2024. According to Director Craig Gardunia, while the name has changed, the commitment to provide superior training has not.

FROM MORTAR PLATOON TO TRAINING ROOM

Johnson, a member of both the Noncommissioned Officer Corps and the Acquisition Corps, enlisted in the Army in 2009, driven by a desire to serve his country and develop leadership skills. During his four years as an Infantry Mortarman, he honed his technical and tactical expertise through numerous field operations. In late 2012, he moved from the Mortar Platoon to the training room to begin his transition from military service back into civilian life—setting the stage to bring his operational experience, military discipline and training aptitude to a new role as an instructor. He applied for reclassification to 51C and was selected in May 2013.

In the decade that followed, Johnson has served as an acquisition workforce leader and instructor in various capacities, including the Mission and Installation Contracting Command, Installation Support Programs and the 63rd Regional Support Command. He also served at Fort Cavazos in Texas, working with the 418th Brigade staff on training and readiness, and later at the Regional Contracting Center-Operation Inherent Resolve, Camp Taji, Iraq, providing policy reviews and workload management for five regional contracting offices. Using his military experience to mentor and educate others, Johnson has shaped countless individuals into confident and capable leaders and continues to influence today's acquisition professionals in preparation for tomorrow's challenges.

CONCLUSION

"This achievement is a testament to Sgt. 1st Class Johnson's hard work and dedication to the precept heralding the NCO Creed, 'No one is more professional than I,' " said Ronald R. Richardson Jr., director of the Acquisition Career Management Office and of the U.S. Army Acquisition Support Center, whose offices oversee TAAS. "His commitment to excellence and efforts in both training and mentoring others has not gone unnoticed, and this badge is a well-deserved recognition of his skills and dedication."

Richardson said Johnson's ability to inspire and educate is truly remarkable and is indicative of the positive impact he has had on the U.S. Army Acquisition Support Center team and across the Army Acquisition Workforce as a whole.

"We are fortunate to have someone of Sgt. 1st Class Johnson's caliber in our organization, and we look forward to seeing the continued contributions he will make as an instructor," said Richardson. "We appreciate everything he's done and are excited to see his continued success."

For more information about TAAS, go to ***https://asc.army.mil/web/taas****.*

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EXCEPTIONAL CONTRIBUTIONS
Programs like the Defense Acquisition Awards are designed to honor exceptional contributions. (Photo by Michael Bubar-Krukowski and Nicole Brate, Visual Arts and Press, Defense Acquisition University)

THE IMPORTANCE OF RECOGNITION

Three ways to drive engagement in acquisition award nominations.

by Rachel M. Longarzo

Recognizing employee achievements through awards is a powerful way to boost morale and strengthen the Army Acquisition Workforce (AAW) culture. In addition to G-1 Human Resources Command awards programs at your organization and command level, there are several HQDA and DOD awards programs that recognize AAW members. Programs like the Defense Acquisition Awards, the Army Acquisition Hall of Fame and the Army Acquisition Executive Awards are designed to honor exceptional contributions, but all too often these initiatives fall flat—not because they lack significance but because employees view the process as a burden rather than an opportunity.

So how can you motivate your organization to truly engage in the process with so many competing priorities? The good news is that building engagement doesn't require a massive overhaul. With the right strategies, you can inspire employees to nominate their colleagues, celebrate achievements and take pride in the process. There are three key ways to drive AAW engagement for better, more inspired nominations: Creating excitement around the nominations, encouraging participation in the awards and sustaining year-round employee engagement with awards.

CREATE EXCITEMENT AROUND NOMINATIONS

People are naturally inspired by examples, so sharing success stories can be a powerful way to generate enthusiasm. Highlight past award winners and how their achievements made an impact. Share stories that resonate, such as how the nominee went above and beyond or contributed in meaningful ways. This can be done through email spotlights or quick shoutouts during team meetings. When employees see the real-world value of these awards, it shifts the narrative. It's no longer just about filling out a nomination form—it's about recognizing and celebrating an individual's hard work and contribution to the mission. For example, inductees into the Army Acquisition Hall of Fame are celebrated for their lifelong contributions to advancing the mission, often serving as role models for the next generation of acquisition professionals.

To build awareness and excitement, promote the awards widely and creatively. Leverage multiple channels: newsletters, emails, team meetings or senior leadership summits. The goal is to socialize the importance of awards well in advance of deadlines. Use plain, relatable language in your messaging. Avoid overwhelming people with rules right away. Instead, focus on why nominations matter and how easy it is to participate by sharing quick links and top-line information on how to apply.

The Program Executive Office for Missiles and Space (PEO MS) came up with a great way to organize all of their award programs. Mark Farthing, an instructional systems specialist at PEO MS, suggests creating a spreadsheet that includes all of the upcoming award programs, their deadlines, points of contact, eligibility criteria and where to submit. Farthing sends this out to PEO MS's Organizational Acquisition Point of Contact (OAP) and senior leadership to distribute and ensure that everyone is aware of what's upcoming. "Pre-planning for the year is key. The awards spreadsheet ensures visibility across the organization and allows for people to plan accordingly to meet all awards deadlines," said Farthing.

When leaders champion the program, they signal its importance. Ask managers and executives to actively encourage their teams to submit nominations. Even better, have them share personal stories of why recognition matters to them. "Our acquisition awards represent the pinnacle of acquisition excellence. The AAW is comprised of professional, agile and innovative experts who deserve to be recognized. An award shines a spotlight on your achievements, helping to build your professional credibility and opening new doors for growth and opportunity in your career," said Ronald R. Richardson Jr., director, U.S. Army Acquisition Support Center. "Our acquisition leaders could not do what is needed without the support of their workforce. I encourage those leaders across the Army acquisition enterprise to make time to write an endorsement letter, support your organization's awards POCs [points of contact] and submit nominations. Ultimately, awards strengthen morale, foster a positive work environment and help showcase to our Nation our workforce's values and commitment to excellence."

ADVANCING THE MISSION
The 2024 Army Acquisition Hall of Fame inductees were celebrated for their lifelong contributions to advancing the mission and serving as role models for the next generation of acquisition professionals. The awardees, from left, are Maureen Cross, Cathy Dickens, Gary Winkler and Joseph Yakovac. (Photo by Rachel Longarzo, USAASC)

ENCOURAGE PARTICIPATION

Taylor Ebner and Angela Hayden, both OAPs for Joint Program Executive Office for Chemical, Biological, Radiological and Nuclear Defense (JPEO-CBRND), shared some best practices they use to get people involved and streamline the process for submitting nominations.

First, send out an "Intent to Nominate" email to your contacts. This lets the awards program managers know who you're intending to nominate and includes a short description and information on the award you are nominating for. This step helps avoid duplicate nominations and ensures you're casting a wide net and nominating for the various categories, Ebner explained. Then, senior leadership can review and fill in any gaps, ensuring maximum coverage and participation across their organization for each award category. From there, the nominator will be notified to draft their nomination packet, working closely with the awards program managers to edit and finalize the packet for endorsement.

A well-run awards program benefits from strong oversight. Establishing an award committee ensures the process is fair, transparent and inclusive. "The committee can be made up of individuals from

various departments or teams, offering a cross-functional perspective on the nominations," Ebner said. The committee's role isn't just to vet applications; it's also to serve as ambassadors for the program. Committee members can promote the awards, answer questions and provide guidance on what makes a strong nomination. To keep the program fresh and prevent bias, rotate committee members periodically. Bringing in new voices ensures that the process continues to evolve and reflects the diverse values and priorities of your organization.

Also, don't forget to utilize your Army acquisition career management advocate, who assists with career planning and advocates for the interests of civilian employees, ensuring their professional development and career advancement within the Army, or your OAP, who provides organizational-level support and advice to ensure the workforce is qualified, professional and capable. Both resources can provide guidance on who to nominate.

To build excitement around award programs, it's important to make the nomination process feel approachable and rewarding. Encouraging participation is about removing barriers, creating a sense of collaboration and recognizing the effort it takes to celebrate others. There are ways to make it easier and more engaging for employees to get involved.

Writing nominations can feel daunting. Providing easy-to-use templates and clear examples can make all the difference. Consider hosting quick drop-in sessions or workshops to help employees craft stronger nominations. These don't need to be overly formal—a 15-minute walkthrough on "how to write a compelling nomination" can empower even the most hesitant participants.

Nominations don't have to be a solo effort. Encourage teams to come together to highlight a colleague's achievements. Collaborative nominations can not only result in better submissions, but they also build camaraderie and reinforce team bonds. For example, a team could collectively write about how a colleague contributed to a shared project, with each member offering specific details. The result is richer, more thoughtful and captures multiple perspectives.

SUSTAIN ENGAGEMENT YEAR-ROUND

Recognition shouldn't be limited to an award season. Share success stories consistently throughout the year to keep the excitement alive. Monthly spotlights or newsletters featuring standout employees, such as Faces of the Force, can maintain momentum and set the stage for award nominations when the time comes.

The JPEO-CBRND celebrates its award winners by drafting an email that goes out to the workforce and highlighting their successes in a social media campaign. Hayden explained that "these smaller, ongoing moments of recognition remind employees that their contributions are valued and keep the idea of celebrating achievements top of mind."

After each award cycle, ask for feedback to determine what worked and what didn't—and whether or not there were barriers to participation. This input is invaluable for improving future programs. For example, if employees mention that the nomination process felt time-consuming, look for additional ways to streamline the submission process. When people see their feedback being implemented, they're more likely to stay engaged.

Connect the awards program to your organization's bigger picture. If you're focused on innovation, highlight how nominations celebrate creative problem-solving. If teamwork is a priority, emphasize recognizing those who go above and beyond for the group. When employees see the alignment between recognition and organizational goals, it gives the awards greater meaning and motivates participation.

CONCLUSION

Driving excitement and participation in award nominations isn't about reinventing the wheel—it's about creating a culture where recognition feels natural, accessible and meaningful. By sharing success stories, simplifying the nomination process and celebrating achievements year-round, organizations can inspire employees to take part in recognizing their peers.

When done right, the impact of awards goes far beyond the awards themselves. It builds stronger teams, boosts morale and creates an environment where everyone feels valued for the work they do. So, start spreading the word—who will you nominate today?

For more information about awards best practices and to find the 2025 Army Acquisition Award call for nominations openings, go to ***https://asc.army.mil/web/acquisition-awards/****.*

RACHEL M. LONGARZO is a communications analyst for the U.S. Army Acquisition Support Center's Director of Acquisition Career Management Office. She holds a B.S. in marketing and management from Old Dominion University.

TEACH THE FUTURE
Gen. Gary Brito, U.S. Army Training and Doctrine Command's commanding general, discusses the importance of understanding the military decision-making process with a Logistics Captains Career Course at the Army Sustainment University, in March 2024. (Photo by Ryan Sharp, U.S. Army Combined Army Support Command)

FUTURE-PROOF TALENT

Army introduces mandatory Cognitive Assessment Battery for Captains Career Courses in 2025.

by Angela Sanson

The Army is set to implement a groundbreaking change in the way officers are selected for functional areas (FAs) with the introduction of the Captains Career Courses' Cognitive Assessment Battery-Revised (C3AB-R). Starting in early 2025, the operational pilot for this mandatory assessment will be administered to officers attending Captains Career Courses across all branches, marking a significant shift in the Army's approach to acquisition talent management and officer placement.

COGNITIVE ASSESSMENT EVOLUTION

The concept of cognitive assessments within the Army isn't entirely new. The Army Talent Management Task Force initially used these assessments as tools to aid officers in determining their career paths during the branching process. The new iteration—now known as the C3AB-R—has been tailored specifically for FAs, beginning with FA 51 (Acquisition) and FA 30 (Information Operations).

"The Army initially developed assessments to aid in determining the right basic branch for cadets, but we evolved to make these assessments available for functional areas," said Jason Pitts, acquisition workforce proponency chief in the U.S. Army Acquisition Support Center's Director of Acquisition Career Management Office. "Our focus is now on ensuring that officers can make informed decisions about their careers, especially after completing their company command."

The C3AB-R, developed by the Army Research Institute, aligns with the Army Talent Attribute Framework and measures key knowledge, skills and behaviors (KSBs) identified through an Army-wide job analysis. The assessment provides a predictive tool to identify officers' fitness for functional areas and assists in their recruitment and Volunteer Transfer Incentive Program decisions.

A STRATEGIC TOOL FOR BETTER PLACEMENT

The C3AB-R will assess captains, particularly around their six-to-eight-year mark of service. This timing coincides with their attendance at the Captains Career Course—a critical point for professional development. The assessment evaluates key factors like job fit, satisfaction and performance prediction within a specific functional area.

"Historically, officers transitioning into a new functional area like acquisition had limited information about their potential success or satisfaction," Pitts explained. "The C3AB-R changes that by offering data-driven insights, allowing both the Army and the officers to make better, more informed decisions."

The assessment groups FAs into clusters based on KSB importance ratings. For example, FA 51 is evaluated based on critical KSBs like communication, analytical thinking and critical thinking. The assessment measures cognitive, non-cognitive and communication skills, providing a holistic profile of each officer's strengths and fitness for these FAs.

VALIDATION AND IMPLEMENTATION

The validation of the C3AB-R involved extensive data collection, where current FA officers completed the assessment and provided feedback on their satisfaction and fit within their roles. Supervisors also contributed by rating the officers' performance across 17 dimensions. The results demonstrated that the C3AB-R effectively predicts officer fitness for FAs, supporting its use as a reliable tool for talent management.

Following the successful validation, the Army plans to roll out the C3AB-R as the Occupational Aptitude Battery (OAB) starting in 2025. This transition will include integrating scoring algorithms into automated tools, finalizing feedback reports for Captains Career Course students, and establishing data pipelines to ensure seamless communication of results to functional area proponents.

CONCLUSION

The Army's implementation of the OAB is not just about enhancing the officer selection process; it's also about future-proofing the Army's talent management strategies. By 2025, the OAB will be a standard component of the Captains Career Course, with the potential to influence a wide range of FAs beyond FA 51.

Moreover, efforts are already underway to develop a similar predictive assessment for noncommissioned officers within Military Occupational Specialty 51 (Contracting), reflecting the Army's commitment to expanding cognitive assessments across different ranks and roles.

"By introducing these assessments, we're not only improving our selection process but also providing our officers with the tools they need to succeed in their chosen careers," Pitts emphasized. "These assessments empower officers to make informed decisions about their future, which is crucial for retaining the talent the Army needs to stay mission ready."

As the Army prepares for the full rollout of the OAB, the program promises to bring a new level of precision and personalization to the Army's talent management efforts, ensuring that officers are placed in roles where they can thrive and contribute most effectively to the Army's mission.

For more information, email Jason Pitts at ***jason.r.pitts.civ@army.mil****.*

ANGELA SANSON is a communications analyst in the U.S. Army Acquisition Support Center's Director of Acquisition Career Management Office. She has worked in strategic communication and public affairs for the U.S. Army for more than a decade. She holds an M.A. in public communication from American University and a B.A. in strategic communication from The Ohio State University.

MARY FALCIGNO

COMMAND/ORGANIZATION: U.S. Army Futures Command, Combat Capabilities Development Command, Armaments Center

TITLE: Computer scientist

YEARS OF SERVICE IN WORKFORCE: 9

DAWIA CERTIFICATIONS: Practitioner in engineering

EDUCATION: B.S. in mathematics, St. Michael's College

AWARDS: Dr. Burdick Special Act Award, Defense Civilian Emerging Leaders Program

LEVERAGING TOUGH ADVICE FOR CAREER SUCCESS

Early in her career, computer scientist Mary Falcigno received some tough advice: " 'No one is going to care as much about your career as you.' That was difficult to hear, but it was the push I needed to figure out how to advocate for myself and my goals. I thought everyone would put the care and effort into me that I put into myself, but that was often proven incorrect, and I overlooked that." Since then, she has made a point of finding developmental and rotational assignments and reaching out to other organizations to identify and pursue growth opportunities.

That mindset landed her in her current role with the Armaments Center within the Combat Capabilities Development Command (DEVCOM), part of the U.S. Army Futures Command. "I focus heavily on data analytics and artificial intelligence and machine learning (AI/ML). I love being able to come up with new and innovative ways to protect our Soldiers and help them complete their mission."

She's now working on counter-unmanned aerial systems, using modeling and simulation, data analytics and ML to determine how drones behave and how to prioritize key targets. Her previous projects include using computer vision, AI and ML for target recognition, using data analytics to identify degradation in ammunition stockpiles, and applying data analytics, AI and ML to information gathered through social media platforms to identify potential threats to Army installations.

Falcigno's interest in federal service was sparked in part by her dad, who worked for the U.S. Army Corps of Engineers. "Through college, I became interested in research and in new, interesting applications of scientific principles." She got her start with the Armament Software Engineering Center, helping Soldiers learn how to use Army Enterprise Systems Integration Program modules. "That project eventually evolved to more pre-Milestone A work, learning where problems are and how our technology can help."

Now eight years into her career, she noted that the highlight so far has been "the opportunity to develop myself professionally and personally." She is pursuing a technical master's degree in data science with a computational focus and has had the chance to do an array of training, including several leadership development programs. "I am able to learn so much and then share it with those back in the office, which is very rewarding. Additionally, I volunteer through our STEM [science, technology, engineering and mathematics] Outreach office, sharing the love of STEM work with local students."

She has been involved in the STEM Outreach program, sponsored by DEVCOM Armaments Center's Human Capital Office, for nearly six years. Falcigno helps with efforts that introduce high school girls to engineering and mentors female STEM students at Rutgers University. "At the high-school level, we show the students the interesting systems we work on and explain how their interest in coding or robotics can translate to

"No one is going to care as much about your career as you."

college," she explained. "For the college mentoring program, we talk about ways to find internships or jobs, as well as non-work things like how to practice for an interview or how to meet people outside of work—the details of what life is like after college. Our goal is to get everyone set up for success."

Her support of others isn't limited to the STEM Outreach Program. "I love talking with newer personnel," she noted. "Beyond navigating the sometimes-confusing systems, from timekeeping to travel, I love being able to answer their questions and share points that can help them thrive in our workplace. Sometimes, it's not what they want to hear, but it's important to hear the hard lessons before they sneak up."

Earlier this year, Falcigno participated in the Defense Civilian Emerging Leader Program (DCELP). The three-month program "provided not just career development but also a chance to grow personally to be a better leader at work," she said. "It was challenging and unbelievably rewarding. I highly recommend it."

She learned three things from the program. "First, vulnerability is not weakness and is incredibly important to being a leader. Second, your presence speaks louder than your voice; how you present yourself informs others of your character before they even meet you. Finally, there are so many factors, layers and traits to communication, and having difficult conversations should not be avoided."

She also learned about active listening and asking powerful questions, "and that has helped me facilitate deeper conversations with coworkers, friends and family. The techniques for approaching difficult conversations have helped me not let problems stew and to speak with composure through challenging topics," she added. "Many of the hands-on activities were highly challenging and provided a safe space for me to learn about myself and practice my developmental points before bringing them into my workplace."

She's grateful for the connections that the program provided. "The network I now have following this program has given me so many perspectives across DOD, many of whom I would have never considered on my own or with my existing network. I now know that I can reach out to any of my cohort-mates with questions or concerns or for advice and they will do all they can to help me. I would do the same for them."

She's quick to recommend the program to others. "The fact that such an intense and challenging course is open to a wide range of grades—GS-07 to GS-12 or equivalents—is an amazing opportunity. It will push you physically, mentally and emotionally, but it will also develop you personally and professionally. It sounds cliché, but the lessons, friends and memories are truly irreplaceable."

At the completion of the program, Falcigno was one of two in her cohort to receive the Dr. Fiona Burdick Special Act Award. The peer-nominated award honors Dr. Fiona Burdick, whose 27-year federal service career included contributions that were instrumental to developing DCELP. It recognizes outstanding service, leadership and teamwork and honors program participants who make above-and-beyond contributions to their peers.

"I was surprised that I received the award," Falcigno said. "One of the things that comes up when people discuss it is that it honors behind-the-scenes contributions, but I consider myself a front-of-the scenes kind of person. I had a leadership role and I'm more of a cheerleader and team motivator who's not afraid of speaking up. But in reading the comments of the people who nominated me, I realized that I contributed a lot of small-group morale-building and provided one-on-one support that my team found helpful. Overall, I was proud and humbled that they selected me."

When she's not at work, Falcigno spends time painting, crocheting and cooking, as well as traveling. "I like to be active, and I love to participate in and organize activities," she said. "My personality outside of work is very similar to how I am at work: I approach my work with gusto, tackling problems that do not have obvious solutions and working through complex projects enthusiastically."

—SUSAN L. FOLLETT

HONORING EXCELLENCE

2024 Army Acquisition Executive's Excellence in Leadership Awards.

by Rachel M. Longarzo

The exceptional achievements of the Army Acquisition Workforce were recognized at the 2024 Army Acquisition Executive's Excellence in Leadership Awards Ceremony on Jan. 10, 2025, at the Pentagon.

The annual awards honor individuals and teams whose dedication, innovation and leadership provide the Army with the cutting-edge capabilities needed to stay ahead in an ever-changing landscape. The Hon. Douglas R. Bush, then assistant secretary of the Army for acquisition, logistics and technology, hosted the event.

For more information, go to ***https://asc.army.mil/web/acquisition-awards***.

2024 AAE AWARD WINNERS

ACQUISITION CAREER SUPPORT PROFESSIONAL OF THE YEAR
Adam R. Hall, U.S. Army Corps of Engineers (USACE)

BUSINESS OPERATIONS PROFESSIONAL OF THE YEAR AWARD
Matthew Seaman, Joint Program Executive Office for Armaments and Ammunition (JPEO A&A)

DEFENSE EXPORT AND COOPERATION JOURNEYMAN OF THE YEAR AWARD
Michael Suhy, Army Contracting Command (ACC) - Detroit Arsenal

DEFENSE EXPORT AND COOPERATION PROFESSIONAL OF THE YEAR AWARD
Brandi Martin, Deputy Assistant Secretary of the Army for Defense Exports and Cooperation

LOGISTICIAN OF THE YEAR AWARD
Craig Carson, Program Executive Office for Ground Combat Systems (PEO GCS)

PRODUCT MANAGEMENT/PRODUCT DIRECTOR OFFICE PROFESSIONAL OF THE YEAR AWARD (O-5 LEVEL)
Lt. Col. Edwin Kolen, Joint Program Executive Office for Chemical, Biological, Radiological and Nuclear Defense (JPEO-CBRND)

PROJECT MANAGEMENT/PROJECT DIRECTOR OFFICE PROFESSIONAL OF THE YEAR AWARD (O-6 LEVEL)
Col. Andrew Lunoff, Program Executive Office for Missiles and Space

CONTRACTING PROFESSIONAL OF THE YEAR AWARD
Michele Boardwine, JPEO-CBRND

BARBARA C. HEALD (DEPLOYED CONTRACTING CIVILIAN) AWARD
Sarah Keebaugh, ACC, Theater Contracting Center

OUTSTANDING GRANTS OR AGREEMENTS PROFESSIONAL OF THE YEAR AWARD
Jason C. Tatom, Program Executive Office for Intelligence, Electronic Warfare and Sensors (PEO IEW&S)

CONSTRUCTION SERVICES CONTRACTING PROFESSIONAL OF THE YEAR AWARD
Katherine Younts, USACE - New Orleans District

TEST AND EVALUATION PROFESSIONAL OF THE YEAR AWARD
Steven Drake, Deputy Assistant Secretary of the Army for Data, Engineering and Software

ENGINEERING AND TECHNICAL MANAGEMENT PROFESSIONAL OF THE YEAR AWARD
Steve Dawson, PEO GCS

DIGITAL TRANSFORMATION PROFESSIONAL OF THE YEAR AWARD
Kelly Modlin, ACC - Aberdeen Proving Ground

INNOVATION IN CONTRACTING STRATEGIES INDIVIDUAL OR ORGANIZATION AWARD
Robotic Combat Vehicle Product Management Office, PEO GCS

PRODUCT MANAGEMENT/PRODUCT DIRECTOR OFFICE TEAM OF THE YEAR AWARD (O-5 LEVEL)
Product Manager for Soldier Weapons, Program Executive Office for Soldier

PROJECT MANAGEMENT/PROJECT DIRECTOR OFFICE TEAM OF THE YEAR AWARD (O-6 LEVEL)
Project Manager (PM) for Intelligence Systems and Analytics, PEO IEW&S

TEST ORGANIZATION OF THE YEAR AWARD
Ronald Reagan Ballistic Missile Defense Test Site - Technical Center, Space and Missile Defense Command

CONTRACTING TEAM OF THE YEAR AWARD
Maui Wildfire Debris Removal Team, USACE, Honolulu District

SPECIAL RECOGNITION FOR UKRAINE SUPPORT

Smokejumpers: Jim Stocks, Col. Rachel Hoagland, Col. Matthew Johnson, Col. Steve Adcock, Col. Anthony Rogers, Col. Michelle Lewis, Lt. Col. Patrick Horvat, Lt. Col. Ryan Ressler, Lt. Col. Donald Bell, Maj. Dan Ferenczy, Maj. Paul Kilgore, Mary Lu, Ron Boisvert, Gabriela Contreras, Maj. Greg Wetmore, Tony Bullock, Wally Nichols, Maj. Porter Riley, Ray Colon, Omar Ray, Sarah Ragan, Brian Ellis, Mark Kopp.

CONTRACTING

- **Field Support Directorate:** Col. Michelle Lewis, Brad Freeman, Lt. Col. Eric Stangle
- **ACC-Headquarters:** Randall Morris, Rodney Smith, Jennifer Morgan
- **ACC-Rhode Island:** Brandon Garnica, Warren Stropes
- **ACC-Detroit Arsenal:** Magdalena Conner
- **ACC-New Jersey:** Tim Bakto, Polia Quiles, Stephanie Kless, Paul Giovannoli, Tim Cassidy, Mariah Hanko, Sean Kelly
- **ACC-Redstone Arsenal:** Michael Lawson, Roland Carter, Andrea Dixon, Jazmyne Williams, Treka House, Lisa Ledbetter

JOINT PROGRAM EXECUTIVE OFFICE FOR ARMAMENTS AND AMMUNITION

- **Headquarters:** Grace Burgin, Brian Meierdiercks, Tabitha Sawicz
- **PM Cannon Artillery Systems:** Ken Schulters
- **M777 and M119 Teams:** Ben Cooper

PROGRAM EXECUTIVE OFFICE FOR GROUND COMBAT SYSTEMS

- **Headquarters:** Harmony Hunsanger, James Thorpe
- **PM Mounted Armored Vehicles:** Heather Molitoris, Lauren Gehbauer
- **PM Self-Propelled Howitzer Systems:** James Sawyer
- **PM Stryker Brigade Combat Team:** Kelly McMahon

PROGRAM EXECUTIVE OFFICE FOR MISSILES AND SPACE

- **PM Integrated Fires Mission Command:** Cierra Odom Nnaji
- **PM STORM:** James Elliot
- **PM Tactical Aviation and Ground Munitions:** Barry Thrower
- **PM SHIELD:** Douglas Patterson Jr.

2024 MAJOR GENERAL HAROLD J. "HARRY" GREENE WRITING AWARD WINNERS

The Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology sponsors the 2024 Major General Harold J. "Harry" Greene Awards for Acquisition Writing to encourage critical writing focused on Army acquisition challenges and successful efforts to overcome them.

To read the winners' entries, see the 2024 Maj. Gen. Greene awards booklet insert, or go to **https://asc.army.mil/web/publications/army-alt-magazine**.

ACQUISITION REFORM

Winning Piece: "Artificial Intelligence (AI) Literacy: An Imperative Competency."

Author: Maj. Mathew Henderson, Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology

Honorable Mention: "Mini Portfolio Prioritization Sprints with Overarching Integrated Product Teams (O-IPTs) – Adapting to Changes within the DOD Decision-Making System."

Author: Elizabeth Smith, JPEO-CBRND

FUTURE OPERATIONS

Winning Piece: "Human-Machine Integration and Future Operations."

Author: Lt. Col. Christian Abney, Program Executive Office for Aviation

Winning Piece: "Software Independent Verification and Validation at the Speed of Relevance."

Authors: Megan Buford and Rebecca Hennessy, Ph.D., U.S. Army Combat Capabilities Development Command, U.S. Army Futures Command

Honorable Mention: "Learning to Expand the Aperture: Translating Emergence to Capability in Medical Evacuation and Other Operational Domains."

Author: Capt. Mahdi Al-Husseini, U.S. Army Department of Aviation Medicine

INNOVATION

Winning Piece: "Driving Innovation: Propelling the U.S. Department of Defense's Acquisition of Hybrid-Electric Tactical Vehicles to Win the Wars of Tomorrow."

Author: Maj. Curtis N. Cranston, The Judge Advocate General's Legal Center and School

Honorable Mention: "Bridging the Gap and the Path to Real-time Intelligence: Advancing A-ISR Through Acquisition and Innovation."

Authors: Eric Braun, Susan Tyndall, Lauren Scicchitano and Michael Amabile, Program Executive Office for Intelligence, Electronic Warfare and Sensors

LESSONS LEARNED

Winning Piece: "Enhancing Army Acquisition Through Collaborative Communication."

Author: Mark T. Rashford, Jr., U.S. Army North G-4

Honorable Mention: "Rethinking the Role of C2 in Army Acquisition: Lessons from FCS and DCGS-A."

Author: Col. Matthew Paul, Program Executive Office for Enterprise


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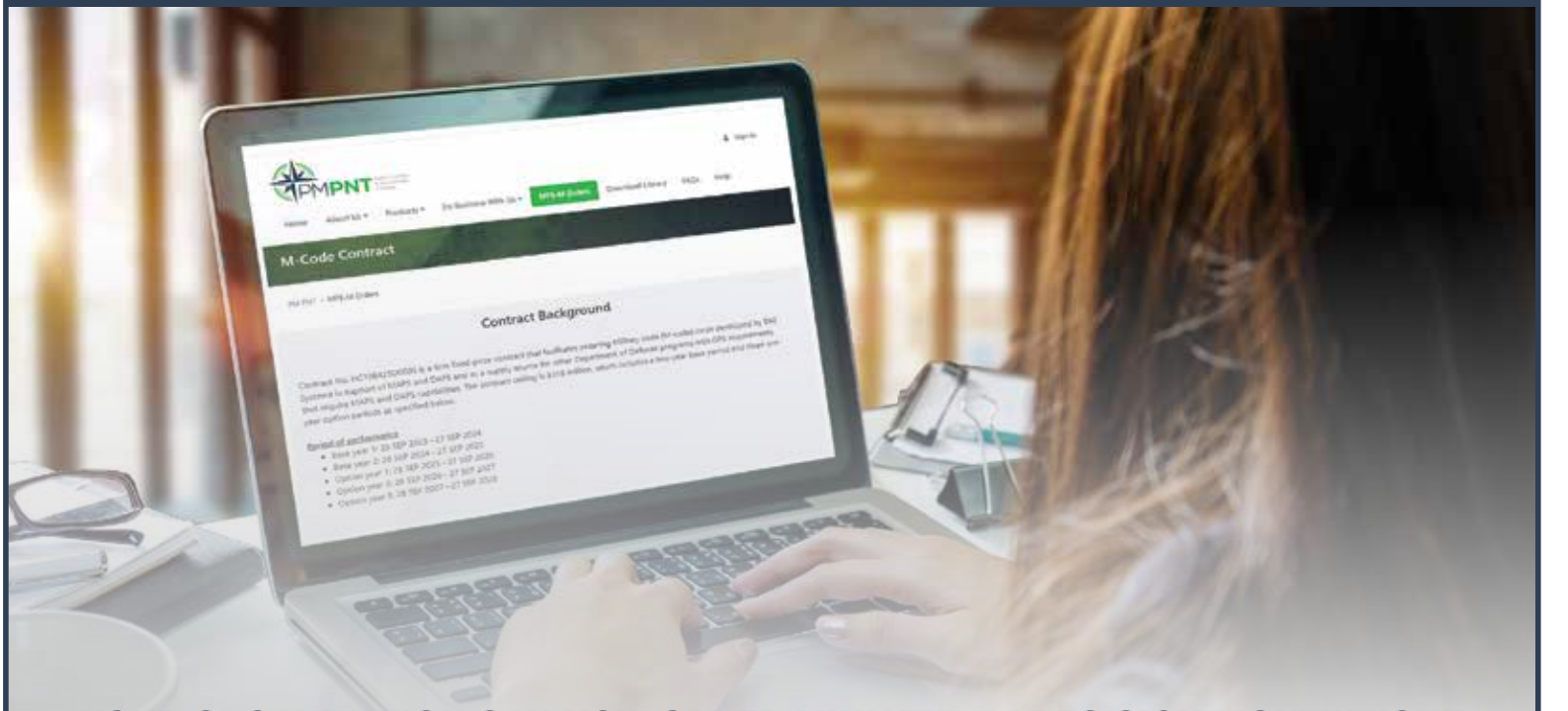

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"Department of the Army civilians play an incredibly important [part] and are the backbone within this acquisition core with our military teammates. So keep after it every single day and know how much we appreciate you."

—Mr. Patrick H. Mason
Senior Official Performing the Duties of the
Assistant Secretary of the Army for Acquisition,
Logistics and Technology (ASA(ALT)) / Army Acquisition Executive

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