THE ARMY'S OFFICIAL PROFESSIONAL BULLETIN ON SUSTA

JULY-SEPTEMBER 2020

ARMY SUSTAINMENT

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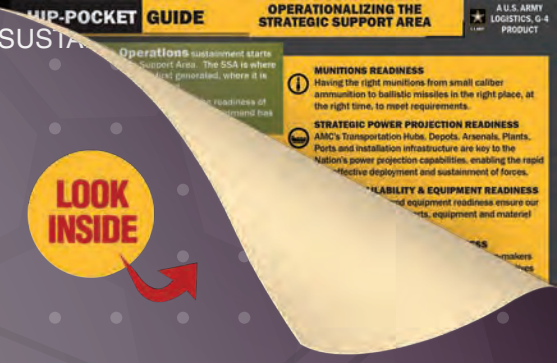

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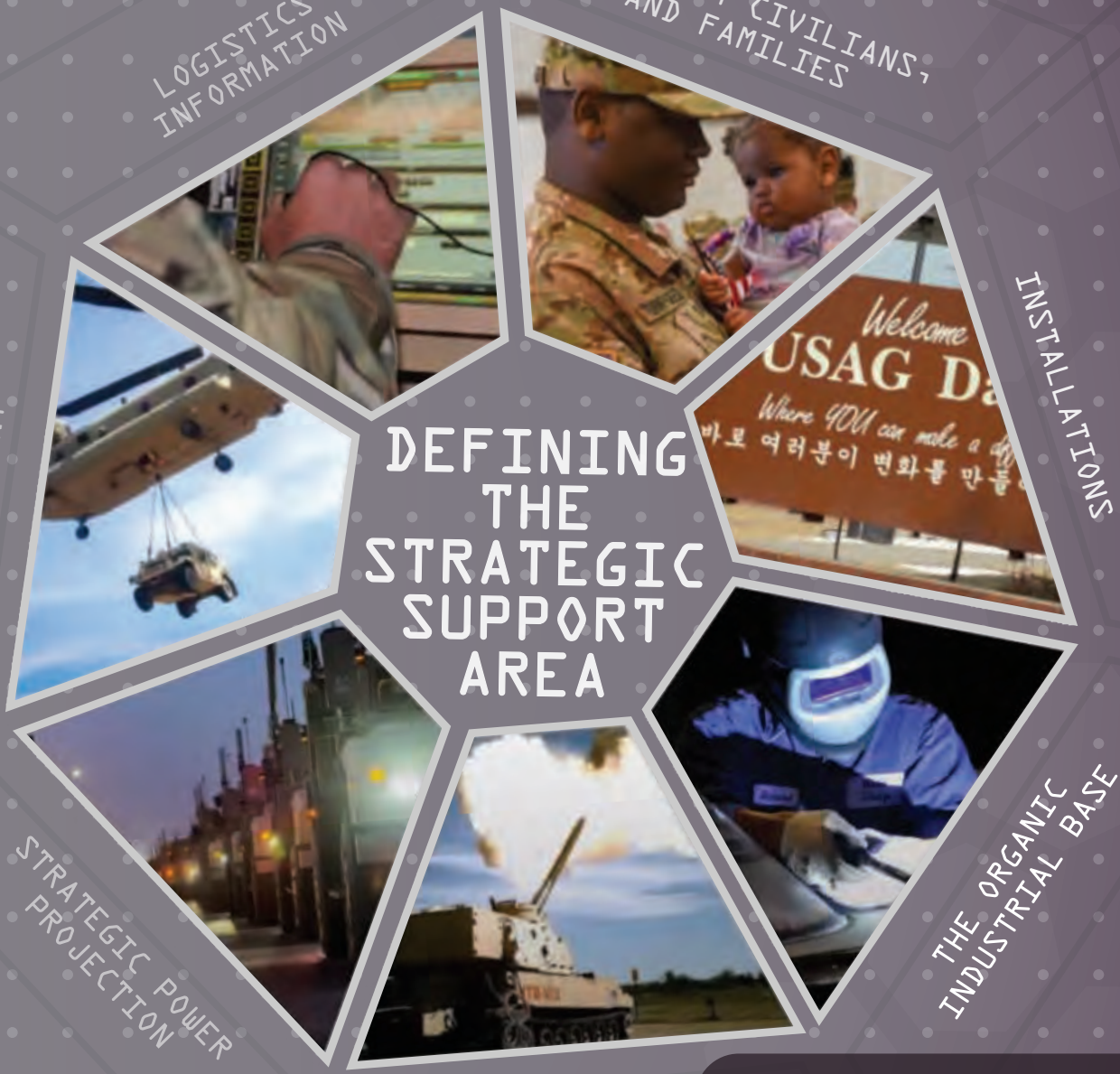

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"Our nation and Army has stood up to this tremendous challenge. As we continue to work through this new mission, we will learn, adapt, and get better every day to ensure Army readiness is our number one priority."

Maj. Gen. Rodney Fogg

Vehicles assigned to 1st Armored Brigade Combat Team, 1st Infantry Division, are staged at a rail load facility in Fort Riley, Kan., to be loaded for deployment to Europe, Nov. 2019. The vehicles were deployed to exercise Fort Riley's power projection capabilities in support of a U.S. Forces Command troop deployment as part of Atlantic Resolve. (U.S. Army photo)

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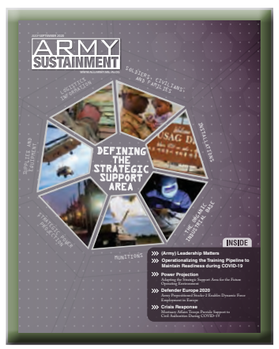

ON THE COVER

The topic for the July - September issue of Army Sustainment explores the Strategic Support Area (SSA). Army Materiel Command is Army's command responsible for the readiness of the SSA. The SSA is where the U.S. military might is generated, projected, and sustained during the fight.

This medium is approved for the official dissemination of material designed to keep individuals within the Army knowledgeable of current and emerging developments within their areas of expertise for the purpose of enhancing their professional development.

By Order of the Secretary of the Army:

JAMES C. McCONVILLE
General, United States Army
Chief of Staff

Official:

KATHLEEN S. MILLER
Administrative Assistant
to the Secretary of the Army
2020200

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PHONE: 804-765-4754 (DSN 539-4754)
ARMYSUSTAINMENT@MAIL.MIL
WEBSITE: *WWW.ALU.ARMY.MIL/ALOG*

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Mission: *Army Sustainment* is the Department of the Army's official professional bulletin on sustainment. Its mission is to publish timely, authoritative information on Army and Defense sustainment plans, programs, policies, operations, procedures, and doctrine for the benefit of all sustainment personnel. Its purpose is to provide a forum for the exchange of information and expression of original, creative, and innovative thought on sustainment functions.

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From the Editors

Army Sustainment Professional Bulletin's (ASPB) main purpose is to provide professional development information and a forum for sharing professional development information between sustainers throughout the enterprise. As such, we typically don't devote a whole lot of space to current events, except insofar as they affect Army sustainment. Early this year, however, the global COVID-19 pandemic inserted itself into nearly every facet of our lives, and this publication is no different. In addition to the adjustment to our own operations that we, like many other organizations across the Army, made, we also find our content focusing heavily on current events over the next two issues of ASPB.

COVID-19 Pandemic

The Army's sustainment enterprise felt the effects of the pandemic as it presented a number of challenges throughout the enterprise, from the closure of schools and training facilities to the cancellation or curtailment of major training exercises and multinational events.

Even here at the editorial offices of ASPB, we have had to adapt our operations, as our staff, along with the majority of the Army Logistics University, were directed to telework. Transitioning from a traditional office environment to a telework situation on short notice was really among the least of the challenges this situation has presented to our Army and its sustainment community.

This issue, along with the next, will focus on the strategic support area (SSA) and the ways in which the COVID-19 epidemic has challenged sustainment operations in the SSA and beyond.

July to September Issue

This issue (July to September) will focus on defining the SSA, along with some articles on various challenges presented by COVID-19. There is no column from the Army Materiel Commander in this issue since the position is in transition, and the new commanding general of Army Materiel Command made the call to defer his first column until the next issue. Army G-4 starts off this issue detailing the impacts of Army Materiel Command's previous commanding general. Gen. Gustave 'Gus' Perna has had an indelible impact on the sustainment enterprise in recent years.

The commanding general of Combined Arms Support Command sets the stage for much of the rest of this issue by outlining the challenges the COVID-19 pandemic has presented to Army sustainment, and the efforts undertaken by CASCOM (an organization largely composed of training and learning institutions) to continue operations.

Articles not focused on COVID-19 response or adjustment efforts are primarily focused on this issue's theme of defining the Strategic Support Area.

The SSA consists of a number of organizations, facilities, and strategic partners, and to really understand what the SSA is, takes an understanding of not only what is included in the SSA itself, but also how the SSA interacts with partners at the operational and even tactical levels.

October to December Issue

In our next issue, we expect to go more in depth into how the still developing worldwide pandemic continues to challenge SSA operations and the operations the SSA supports with the theme focusing on "Sustaining Contested Strategic Support Area Operations." The previously planned topic for the October to December issue, "Sustainment Modernization," may be addressed in some future issue. The stakeholders of ASPB felt that tackling the challenges of the COVID-19 epidemic, and the sustainment community's response to those challenges, was an important element to explore immediately so that sustainers throughout the enterprise, and especially the SSA, can benefit from the leadership of senior Army leaders, as well as the lessons learned from fellow sustainers across the field, even as this situation continues to unfold.

Army Sustainment Editorial Staff

Call for Submissions

Army Sustainment is seeking articles on techniques, tactics and procedures; emerging trends; lessons learned; and other experiences.

The editorial staff from *Army Sustainment* is seeking submissions from the community. As with all content submitted to *Army Sustainment*, it should be sustainment focused, provide professional development information, and should not contain any classified or sensitive information.

Submissions should be well-developed narrative articles and can be opinions, techniques, tactics and procedures (TTPs), lessons learned, exploration of new technologies or emerging trends, or other similar content of a valuable nature to fellow sustainers.

General public affairs style coverage or content on units, exercises, initiatives and events that do not otherwise hold additional professional development value are typically not as strong as those submissions that offer real, actionable sustainment information.

While the editorial staff here at *Army Sustainment* do conduct our own review and editorial process and have authority to approve content submitted to us for public release, we recommend at least some basic professional coordination between the submitting author and their organization's public affairs or public information office, especially for U.S. personnel working in NATO or other multinational organizations.

Army Sustainment chooses new topics for each bulletin and accepts contributions from the sustaiment field. Check out our social media, including our page on Facebook, to learn about upcoming topics.

Find more information: *www.alu.army.mil/alog/submissions*

(Army) Leadership Matters

■ *By Lt. Gen. Duane A. Gamble*

Leadership matters in all things—and it can be decisive.

Think about the times in your own career when leadership changed, or could have changed, an outcome.

Last month, Gen. Gustave "Gus" Perna was planning to finish his final uniformed tour of duty. Typically, the last days of one's career are marked by a gradual off-ramp; not for Perna. If it wasn't enough for him to help lead and sustain operations in the strategic support area for the Army during the nation's response to the global COVID-19 pandemic, set against a backdrop of increased great power competition, add to the list now his appointment to co-lead Operation Warp Speed—our nation's effort to develop and distribute a vaccine for COVID-19. It is no surprise to me that his plans changed when a nation called. In my career, he has epitomized selfless service, decisive leadership, and unmatched competence. Our nation and Army are reaping the benefits of his leadership.

I've never been the Army Materiel Command (AMC) commanding general. I imagine, though, that on day one of every AMC CG's tour, each CG opened a closet in their office to find two hats: the AMC CG hat and the Army senior logistician hat. It's clear to me that Perna donned, and never removed, his Army senior logistician hat. This is not to say that he somehow shirked his responsibility as CG of AMC, but I believe he saw command of AMC as part of a larger responsibility as the Army's senior logistician. And he did more than lead and grow AMC's subordinate commands; he led us all. In doing so, he changed our Army and operationalized Army logistics around the globe.

He operationalized logistics in the post modular Army; returning to a division-centric construct and preparing our Army for large-scale combat operations (LSCO) by connecting enterprise-level logistics with the tactical Army. When overlaid by LSCO, the tactical modular Army sustainment structure created years ago for counterinsurgency operations revealed chasm-sized gaps in logistics at the operational and tactical levels. He wasted no time in filling those gaps—not by adding force structure, but by reshaping, refocusing, and optimizing what we already had. He bulldozed the enterprise into the gaps while pulling the tactical logistics community across the gap from the other side. He reduced the unintended LSCO obstacle instead of simply describing and studying it. He delivered the power of the materiel enterprise to the tactical edge and changed the way we maneuver and employ logistics formations. He operationalized AMC, converting it from a bumper sticker to a behavior of reflexive competence.

His seven strategic focus areas—Soldier and Family readiness, strategic power projection readiness, installation readiness, industrial base readiness, munitions readiness, supply availability and equipment readiness, and logistics information systems readiness—will guide our readiness building and prioritization of resources in the strategic support area (SSA) for years to come. If we can get these right; we can project and sustain our Army in any environment; COVID-19 or adversary contested.

In addition to all he did for AMC, Perna took on leadership of Installation Management Command

General Perna did none of this alone, but he led it all. He recognized that the right person, in the right job, at the right time can move mountains.

(IMCOM), providing a higher headquarters to resource, synchronize and deliver Soldier and Family readiness, strategic power projection readiness, and installation readiness. The outcome was immediately felt. Our power projection platforms and our mobilization, force generation installations have rehearsed executable expansion plans. And the Army employed a portion of this capability as we established COVID-19 screening, quarantine, and isolation operations. Although only a fraction of IMCOM's new-found abilities were tested, it was enough to realize the effectiveness of his work to set the SSA for power projection.

Supply availability yields Army readiness. Unprecedented investments in the industrial base are underway and supply availability, fueled by common authorized stockage lists and the soon-to-be common shop stock lists, have resulted in all-time readiness highs. Army Medical Logistics Command (AMLC) is now up and running and the convergence of other disparate logistics capabilities are visible in the headlights. AMLC's contributions to our fight against COVID-19 gives us a sneak preview of the power and synchronization that is now within our Army's reach.

General Perna did none of this alone, but he led it all. He recognized that the right person, in the right job, at the right time can move mountains. Most importantly, he grew a deep bench of logistics leaders who "know their jersey number," never ask if the task at hand "is their job" or worry about "who they work for." When called, and most times without being called, they reflexively and decisively act instead of hesitate. No one stops to check their jersey to see if their number was called. He transformed the logistics talent management process by creating a logistics board of directors, which has trained and developed the logistics general officer corps in the art of talent management. He created a yearlong series of collaborative venues that result in former brigade commander placement in positions where they can serve and move the ball down the field. He created in our logistics corps a bias for action. He drove AMC to become a commander-centric organization where leaders at all levels see themselves and hold themselves accountable.

Just as our country and world have changed with COVID-19, our Army has changed due to the "Perna Effect." As he continues to lead and serve now as the co-lead and chief operating officer of Operation Warp Speed, he was and will continue to be the right leader, at the right time. He epitomizes the idea that leadership matters decisively.

Lt. Gen. Duane A. Gamble, Deputy Chief of Staff, G-4, Headquarters, Department of the Army, G-4, oversees policies and procedures used by U.S. Army Logisticians. He has masters of science degrees from Florida Institute of Technology, and Industrial College of the Armed Forces.

Operationalizing the Training Pipeline to Maintain Readiness During COVID-19

■ ***By Maj. Gen. Rodney Fogg***

I would like to begin this column by taking a moment to recognize the outstanding leadership of Gen. Gustave "Gus" Perna. Over the last four years at the helm of Army Materiel Command, he has been an instrumental figure in leading the sustainment enterprise. The Army has benefited, and I would personally like to thank him for his tremendous leadership.

We are currently fighting one of the greatest challenges in our modern history: facing an invisible enemy. A novel coronavirus has ripped through the American and global landscape, inflicting tens of thousands of casualties worldwide and affecting all aspects of life. The U.S. Army and its sustainers are responding and are ensuring that we are focused on the most important priorities: force protection and readiness.

On March 16, U.S. Army Combined Arms Support Command (CASCOM) at Fort Lee, Virginia, ramped up measures to prevent the spread of the virus on the installation. Teleworking, social distancing, and curtailing of on-post services were initiated. In response to COVID-19, CASCOM, in coordination with the Fort Lee garrison command team, incorporated guidelines from the Centers for Disease Control and Prevention (CDC) throughout the installation and executed health protection condition, Charlie. The concepts of both quarantine and isolation became part of our lexicon.

Our own task organization and processes, which were designed to manage educational institutions, were quickly operationalized and our training and doctrine-centric processes began to resemble concepts more familiar to U.S. Army Forces Command entities. We also immediately initiated an information campaign via social media in the form of virtual town halls on Facebook, safety messages, and Twitter posts disseminating pertinent information to inform the workforce and their families to help prevent and detect the spread of COVID-19.

The Department of Defense implemented a restriction on movement (ROM) policy effective on March 17; however, the training mission for advanced individual training (AIT) and basic combat training were still considered essential to Army readiness. After a brief pause, the pipeline of Soldiers going through training and onto their first unit of assignment (FUA) was required to remain open. Training was modified to accommodate the CDC guidelines while the high quality of training our Soldiers deserve was maintained. Digital platforms were utilized—such as Microsoft Teams, Skype for Business, and Global Video Services—to help enable social distancing. Clean teams were activated down to the company level and were trained by medical professionals. Courtesy patrols ensured compliance with CDC guidelines and first-line leaders inspected the cleanliness of work and living areas.

Operationalize Movement of Troops at BCT-AIT-FUA

The pace of operations and rapidly changing situation demanded the restructuring and reprioritization of staff. A center of excellence (COE) staff is not designed in the same way as a brigade combat team, division, or expeditionary sustainment command/theater sustainment

command. In order to continue the pipeline of transporting troops, a movement cell was created to focus on ground and air movements of troops being transferred into Fort Lee for AIT and out to their FUAs throughout locations inside the continental U.S. (CONUS) and outside the continental U.S. (OCONUS). This was a significant shift from a commercial movement system, routinely handled by installation transportation offices to an operationalized system executed by CASCOM with military coordinated movements. Fort Lee also served as a central hub for all personnel going to U.S. Army European Command as their FUA. Similar to operational environments, procedures were put in place for movement control such as: operational orders, execution checks, concept of operations, and movement control boards.

The movement cell was predicated on the U.S. Army Training and Doctrine Command (TRADOC) pilot of getting Soldiers into the pipeline of training and eventually FUAs to ensure readiness. The movement cell coordinated buses and air transport through our logistics readiness center. After coordination for travel was made, the cell assigned cadre from each of the branch schools to provide escorts for the traveling Soldiers. Keeping Soldiers in a sterile bubble was paramount. The transports were cleaned before and after each movement and the travelers were medically screened before departure and upon arrival. Originally, the movements were point-to-point; but as the holdover populations began to grow, it became necessary to travel further than a 500 mile radius. National Guard and U.S. Army Reserve Soldiers, who were all in a temporary duty and return status, were exempted from the stop movement in order for them to return to their states and potentially mobilize, as directed, to support COVID-19 measures.

Fort Bragg, North Carolina, was selected as the first to receive Soldiers under the pilot movement program. After it was demonstrated that we could safely transport Soldiers during the initial push, we eventually developed ground movements to additional locations. The furthest ground movement was Fort Benning, Georgia, and onward to Eglin Air Force Base, Florida (approximately 830 miles from Fort Lee). As of the date this publication was written, we conducted 17 air and 15 ground movements which consisted of 1,560 Soldiers outbound to their first duty stations. Also during this time period, over 4,300 Soldiers were transported to Fort Lee to conduct AIT.

CASCOM was also the initial pilot for OCONUS push of AIT graduates from Fort Lee to Germany via Baltimore-Washington International Airport (BWI) and originating at the BWI Air Mobility Command (AMC) terminal, also known as the Patriot Express. CASCOM consolidated travelers from multiple centers of excellence (COEs), received them, and acted as an intermediate staging base. All travelers coming from other COEs already had a confirmed seat and orders to get on the plane.

Surge Planning for Holdover Population

In addition to the troop surge to Fort Lee, another significant undertaking involved the establishment of a life support area (LSA) which would convert unoccupied barracks space into functional and clean living spaces for service members held on Fort Lee who were unable to move on to their FUA after AIT. The LSA was originally designed to house up to 500 Soldiers for up to 90 days. The area is self-contained with a dining facility tent (three hot meals a day are served), and mobile showers, latrine, laundry facilities, and internet were provided to ensure quality-of-life activities. All facilities are cleaned three times a day, and social distancing was strictly enforced. Additional space was identified that could house up to an additional 1,000 Soldiers, if required. The LSA is also operationalized and manned with a mayor's cell, replicating a concept often utilized in deployed environments.

The ability to reorganize and the responsiveness of the Logistics Civil Augmentation Program contract paid huge dividends. Just over two weeks after the DoD implemented the stop movement order, the LSA was established and operational. This was only possible through critical and efficient coordination of contract support between CASCOM, Army Sustainment Command, and Fort Lee garrison personnel.

Pandemic Playbook

Ensuring unity of command—between CASCOM, garrison, and Kenner Army Health Clinic—under the senior mission commander and developing an understanding of key tasks and responsibilities during a crisis is imperative, which necessitated the creation of a pandemic playbook. The playbook is useful when operational teams or staff have to be formed, organically, in an emergency situation. The playbook outlines the local medical facility's capabilities and limitations. It defines quarantine and isolation procedures, and it helps plan the steps for contact tracing, screening, and clean team operations. It also provides guidelines for how the information regarding our responses will be disseminated and portrayed to our workforce. Battle drills will also be captured and described. They are nested with the six phases of pandemic response (prevent, protect, mitigate, respond, stabilize, and recover), and the actions that take place during each phase. Additional information had to be drawn from the pandemic operation plan.

Regardless of plans, the driving force for pandemic response is resourcing capabilities. To ensure that planning efforts are effective for future response and recovery, staff leads need to ensure that the G-3 (operations), G-4 (logistics), and G-8 (office of the deputy chief of staff) are synchronized early and often with pandemic response planning. National disaster and pandemic scenarios will cause extreme strain to both civilian and federal supply chains. During these scenarios, a solid understanding of knowing what is needed, and how much available funds can be allocated, will provide clarity of future capabilities and constraints. This will offset the long delay times for supplies and prevent unnecessary planning.

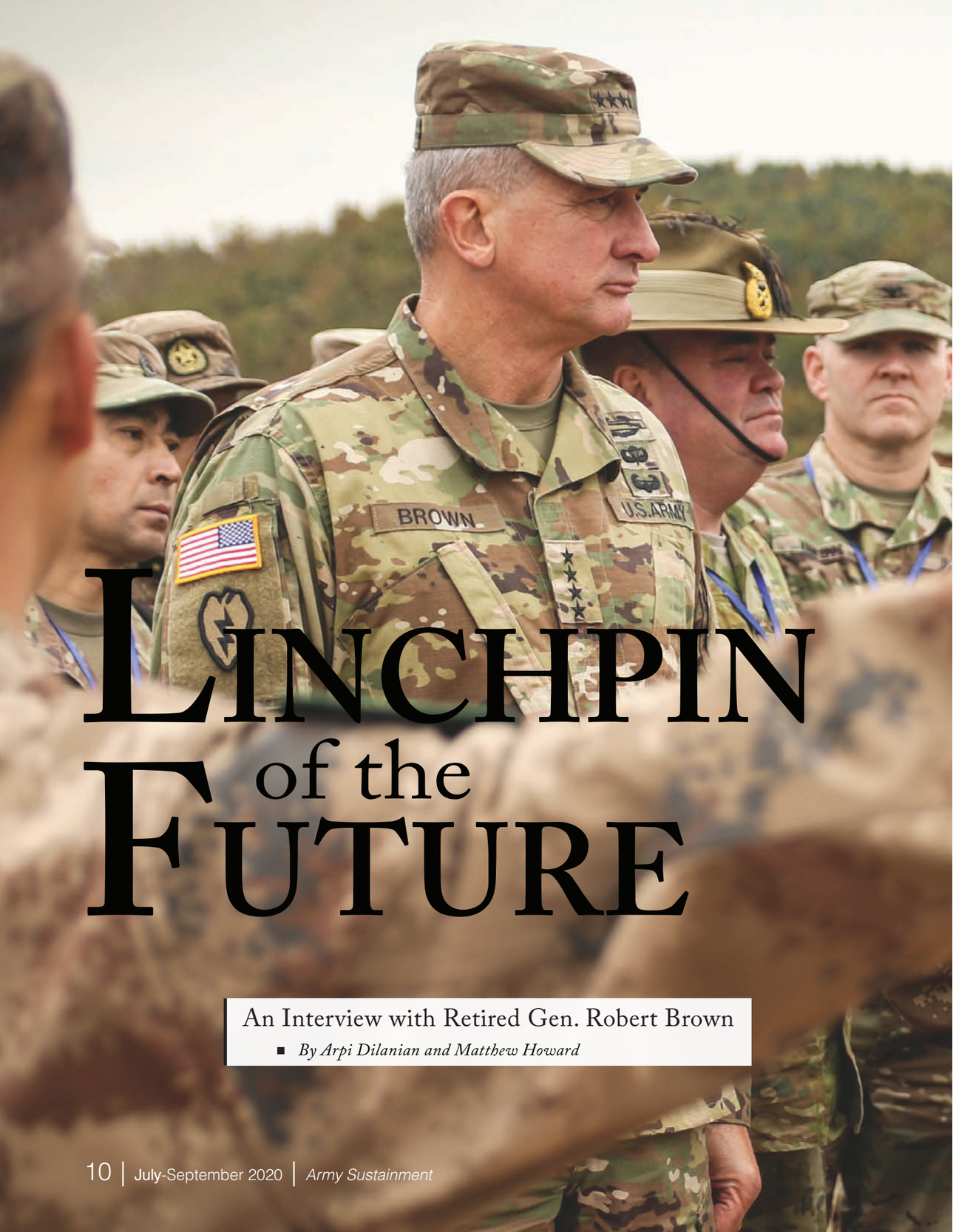
A major constraint to obtaining Class VIII (medical) supply is that as of now, GCSS-Army does not allow users to place orders for medical supplies. Medical supplies can only be ordered via the Defense Medical Logistics Standard Support system. Getting Class VIII (medical) supplies into GCSS-Army is an ongoing effort between AMC, CASCOM, and Program Executive Office-Enterprise Information Systems that will be addressed more thoroughly in the next Army Sustainment issue.

Conclusion

We will continue to capture information and provide initial impressions reports to the Center for Army Lessons Learned during our response to the COVID-19 crisis. Sharing best practices will be critical in our preparedness for a potential resurgence of COVID-19-related illnesses or other pandemics.

Our nation and Army has stood up to this tremendous challenge. As we continue to work through this new mission, we will learn, adapt, and get better every day to ensure Army readiness is our number one priority. The training pipeline and TRADOC are reopened. The critical mission of maintaining trained and ready Soldiers will continue because our adversaries will not rest. We need to remain positive that our nation and the whole world will get through this pandemic. I wish all the sustainers out there the best for you and your Families. Stay safe and thank you all for your outstanding service to our great nation.

Maj. Gen. Rodney Fogg, commanding general of Combined Arms Support Command, is a graduate of Quartermaster Basic and Advanced Officer Leadership Courses, Command and General Staff College, and the Army War College. He has a master's degree in logistics management from Florida Institute of Technology and a master's degree in strategic studies from the U.S. Army War College.



Linchpin of the Future

An Interview with Retired Gen. Robert Brown

■ *By Arpi Dilanian and Matthew Howard*

As a career maneuver officer who commanded at every level from platoon to corps, retired Gen. Robert B. Brown was often on the receiving end of Army sustainment throughout his nearly four-decade career. Known for his down-to-earth, motivational leadership—from his days at the U.S. Military Academy to the helm of U.S. Army Pacific (USARPAC), the Army's largest service component command—Brown also served as commander of U.S. Army Combined Arms Center (CAC) and I Corps. We sat down with him to discuss the criticality of the strategic support area and the role it will play in the future fight.

How did you perceive logistics evolution throughout your career?

As a young officer during the Cold War, command and control was the method of organizational leadership. It was very predictable, and you almost knew the other team's plays. The fog of war was not having enough information.

Today, it's the opposite: The fog of war is too much information. We have moved to mission command to empower and be able to gain the initiative against an adversary. You no longer know for sure whether you'll be in a large-scale operation, fighting COVID-19 or Ebola, or something in between. The transformation has been significant, and logistics is no exception.

We used to think of a secure rear-area for sustainment operations. In AirLand Battle, we didn't spend much time on potential threats to logisticians because we assumed they were protected in a relatively secure rear area. Throw all that out the window now; the battlefield is everywhere. It's ubiquitous, it's interconnected, and it's unpredictable. There's no 'safe area' in any type of conflict. Not even the homeland, where we used to feel very protected, is safe. You just can't have the large mountains of supplies we're used to.

Multi-domain operations (MDO) is clearly the future. The key aspect, the linchpin, will be the ability to logistically support MDO. Our sustainment has continued to evolve, but fixing strategic-level support areas is not as attractive as getting a new tank or airplane. Everybody's known for a long time that sustainment has needed more investment. Logistics leaders have done a great job highlighting the shortcomings; the challenge has been convincing others of the need to put more effort into sustainment.

The old adage, "Amateurs talk about tactics, but professionals study logistics," is very, very true. We have to innovate to have more agile, flexible support areas. We can talk about all the other stuff, but if you can't support it, you're going to put folks out there alone and unable to complete their missions. We don't operate that way so we have some work to do.

Can you discuss our efforts to "Set the Pen" during the period of heightened tension and provocative behavior by North Korea in 2017 and 2018?

In my 38 years in uniform—18-plus of which were in the Pacific—no question, it's the closest we came to war with North Korea. As USARPAC commander, I was responsible for training, preparing, and logistically supporting the forces' Eighth Army would fight with on the peninsula. As tensions started rising, we were tracking roughly 500 issues, many of which were sustainment related. It wasn't like we were ignoring them; everybody knew what we needed. But people were losing their lives in Iraq and Afghanistan and there was no question that had to be the priority. It was Gen. Mark Milley, then chief of staff of the Army, who got the entire Army behind this "All Things Korea" effort.

It started with tabletop exercises (TTXs). He had us bring commanders out, stand on the map, and talk. At first, I thought, "This isn't the National Training Center or tactical level; will this help synchronize the massive challenges that needed fixing?" It was a great idea. The TTXs were difficult to set up, and had to be kept very secretive, but we learned a ton. From the industrial base to noncombatant evacuation operations (NEO), by bringing together all the best minds from across the military and inter-agency and multinational partners, the rose got pinned on somebody to fix a problem and feasible solutions were developed.

They were tense moments. Updates were briefed weekly, sometimes daily, and had the attention of the entire Department of Defense. It was a tremendous example of the weight of the entire institution turning toward the crisis. In the end, less than 20 of those 500 issues couldn't be resolved within six to eight months.

Then-Secretary of Defense retired U.S. Marine Corps Gen. James Mattis took what we were doing and had each of the services do the same, because the situation was that critical. It was a team-planning method that worked.

Thank goodness we had incredible logistics folks. They led a lot of innovation that should be studied as tactics, techniques, and procedures for the future. We often have to move to the next crisis without ever looking at what we did wrong or patting ourselves on the back for what we did right. I'm certain they're using some of the same techniques for the ongoing COVID-19 response.

It was a huge success story and I was proud to be a small part of it. Without a doubt, I believe it was one of the key factors in the eventual negotiations with North Korea. They saw what we were doing—incredible commitment and teamwork with allies in our planning efforts, rehearsals, and exercises—and they knew they would lose; it was just a question of how long it would take.

Can you discuss strategic support area (SSA) in the context of deterrence and the tyranny of distance?

Amazingly, one thing that hasn't changed throughout the Pacific's history is the tyranny of distance. The Pacific is 50% of the earth's surface, and there is nowhere more challenged by time and distance factors.

In one of those TTXs, I remember Gen. Gustave "Gus" Perna briefing that it takes a ship approximately 12 days to get to Korea. I responded, "You're kidding me!" For some reason I thought they had bigger engines or newer technologies that would reduce the time. But a ship can only go so fast. It took them 12 to 14 days in World War II and it takes about the same today.

The strategic support area has to be set and ready. It doesn't take a genius to study and red team yourself. If I were going to fight us, I'd look first to the strategic support area: It's hard to hide, must be practiced, rehearsed, and able to function against any threat, including cyber and space. If you're dealing with a poorly-organized or unsecure strategic support area, you're not going to be successful because distances in the Pacific are just too great. But if it's effective and secure—enemies know it's able to do its job in any condition—it's going to deter.

We also need to look at innovative ways to be less predictable in where things are coming from; everything can't come from Northeast Asia or stateside. How do you come from other directions? How do you preposition materiel or move it during exercises to reduce the tyranny of distance? Perna and I had this discussion frequently, and the logisticians amazed me with what they drew up for the North Korea scenario. When I asked in the past, they'd say, "Give me $4 million and we'll move it." This time around, they didn't ask for money. We told them what we needed and they figured out how to do it, efficiently and effectively.

That's the type of innovation you need in the Pacific, and I would argue in Europe as well. There's tyranny of distance there too, but instead of island-to-island and an expansive ocean, you're dealing with a large continent and infrastructure—everything from railroad lines to bridging—that has deteriorated over time.

How are the Army's Multi-Domain Task Forces (MDTFs) helping advance the MDO concept closer to doctrine?

During my time at CAC, we worked hard to think about the future fight and its impact on the Army and Joint force. What would be the next AirLand Battle? Alongside great leaders like Gen. Dave Perkins and Lt Gen. H.R. McMaster, we really started working the Army Operating Concept which then led to the initial development of MDO and joint integration.

For what was at that time known as multi-domain battle, I was able to take the experience from the

Gen. Robert B. Brown, commanding general, U.S. Army Pacific, talks to students of the Regional Development Program at the 2019 Indo-Pacific Armies Chiefs Conference/Indo-Pacific Armies Management Seminar/Senior Enlisted Leaders Forum luncheon, held in Bangkok, Thailand, Sept. 11. (Photo by Staff Sgt. Monik Phan)

institutional side of the Army and apply it in the Indo-Pacific Command (INDOPACOM) area of operations (AOR). It fit extremely well because forces in the theater cannot do their job effectively and efficiently without it. So I went to the chief of staff of the Army and INDOPACOM commander to gain support for piloting the concepts in our simulations, war games, and exercises to ultimately move them toward doctrine.

For a good 20 years, Russia and China have studied our playbook. They know what we want to do and have developed anti-access area denial (A2/AD) systems to prevent it. In the competition phase, very little used to happen 20 years ago; now, something happens every day. Whether it's competition for influence or resources, China is competing more than anybody, and Russia is right there with them. When you look at AirLand Battle, going from concept to doctrine took about 14 years. We don't have 14 years anymore.

If you don't have an element that can be out competing on a daily basis, you'll have major problems. We found that a small maneuver formation on land—particularly on islands and key features—that can effectively operate in multiple domains and employ long-range fires could have huge impacts on that A2/AD umbrella and the MDO fight. Yes, you can survive in the air and at sea, but it's hard to hide for long periods of time in either, with the technology out there today. Small maneuver formations on land are the most survivable, can consistently impact the competition phase, and be incredibly effective if competition turns to conflict.

The first MDTF was stood up at Joint Base Lewis-McChord, Washington, in February 2019, and included an Intelligence, Information, Cyber, Electronic Warfare, and Space (I2CEWS) battalion. From concept to a formation actually formed on the ground, the Army made it happen in 18 months, which may be the fastest in history during peacetime. It's a game changer, and many of the concepts coming out of the MDTF are moving into doctrine and capabilities.

The other piece is joint integration. In AirLand Battle, and largely still today, we have joint interdependence: Each service is dependent upon the others for unique capabilities. We

depend on the Air Force to put Joint Direct Attack Munition through windows in support of ground maneuver formations, because only they can. Historically it's been very effective, but it's not good enough anymore. We need integration that is platform- and system-agnostic so information can be rapidly shared between all the services to get inside an enemy's decision cycle and impact their A2/AD.

Logistical support is critical to this joint integration. You're going to have small formations that must be supported in creative ways—we even looked at things like positioning old Navy fuel blivets underwater off an island. My point is nothing should be moving to the theater, joint-wise, that isn't supporting sustainment operations. It's really changed the whole concept of support across the AOR and created much more of a joint team approach.

Can you discuss Pacific Pathways, and how DEFENDER-Pacific will build upon them?

The first few years of Pacific Pathways showed us the innovation of taking regular exercises and using the same methods as if we were deploying for real. You always hear "train the way you fight," but we weren't doing it in previous exercises. It was all about finding the cheapest way to get somebody or something there and back. That's not practicing.

We also wanted to show we could go numerous places, quickly, and understand the complexities of different nations. It's very different going into a port in Thailand versus one in Indonesia, Japan, or Sri Lanka. You can talk about being deployable worldwide all you want but, unless you actually do it, it's only talk.

More recently, we looked at staying longer during Pacific Pathways operations to deepen relationships and build better alliances and partnerships, which ties perfectly into DEFENDER-Pacific. 'Team Spirit' used to be a REFORGER-like exercise in Korea, but it, too, became expensive and we cut it back. We didn't want to be fighting the old fight with another Team Spirit- or REFORGER-like event; we wanted to practice getting folks to theater and into a scenario. While the DEFENDER series was initially only in Europe, the Pacific was again a top priority; so we convinced the Army to bring the series to the INDOPACOM AOR as well.

As part of DEFENDER, Pacific Pathways forces already forward help bring in forces coming from the continental United States, something we rarely practice and is great for deterrence. Then we add in new and innovative locations throughout the Indo-Pacific region to really challenge us and involve numerous countries and partners. It's all about the ability to move quickly from the United States, test those strategic support area systems, and look at innovative, joint ways to conduct MDO. If done right, any adversary will certainly be deterred from starting a fight as they will know for certain they will lose.

How can commanders at the tactical level build readiness at the strategic level?

When I was a lieutenant some 36 years ago, there were clear-cut lines between the tactical, operational, and strategic levels. Differences were simple to understand. Today, that's all gone; it's a blur from tactical to strategic. It's the strategic corporal on steroids!

Commanders at the tactical level need to understand their day-to-day operations can turn strategic in a nanosecond. Whether in a real fight or an exercise, someone at the tactical level does something wrong and it ends up on the front page or in an online video. That's why the fundamentals that have worked so well for the Army over the years are still critical: disciplined units, disciplined initiative, and mission command that builds trust.

You have to empower and the only way to do so is to build trust in your organization every day, over and over again. It takes time and is incredibly difficult but folks are ready when they're empowered. Without trust, it's impossible to fight, successfully, at the tactical level and subsequently build readiness at the strategic level.

The other aspect is prudent risk. The commander may think acceptable risk is one place while the subordinate leader thinks it's somewhere else. You must have that discussion to bring them together. You may go a little their way; they may come a little yours. But if you don't have that discussion, they won't know you're going to back them up or you may back something you didn't bargain for.

When I was a Stryker brigade commander, I had amazing battalion commanders—guys like Eric Kurilla, now 18th Airborne Corps commander, and Todd McCaffrey, now U.S. Africa Command chief of staff. I could empower the heck out of them, but each was a little different based on experience, perspective of the situation, and their unit's capabilities. I may give one this much room and the other a lot more. By having that discussion, you constantly build that trust. You can never build enough.

Finally, you have to understand the new fight. The services are still posturing on exactly who does what, but eventually they'll see very clearly the only way forward is joint integration, MDO, and working together. Young leaders must never be satisfied with the way they're currently doing things; be hungry for what's next. You will have the best ideas for incorporating cyber and space, or that new type of unmanned aerial vehicle or long-range fire that can go 10 times farther.

If you sit back and accept the norm, too many people will be lost if we have a conflict and have to learn as we fight. But if you push and are never satisfied, we'll get to the future.

What are the biggest lessons that most impacted your time in uniform?

I never, in a million years, thought I'd be a general. All I wanted was to command a battalion; that would have been success. I wouldn't even be in the Army except a guy named Mike Krzyzewski was very persuasive and talked me out of a basketball scholarship to University of Michigan to play at West Point instead. I feel very fortunate.

Building a team to face a challenging mission is one of the most fun things you can do, and I learned how from Coach K. He instilled loyalty and trust, constant effort and energy, and still sets that example today. Perhaps most important is learning you really have to care for those you lead. From the time we're born, we start evaluating our leaders: parents, teachers, coaches. If you look back, the best leader you ever had isn't necessarily the smartest person you worked for, or the one who accomplished this or that. It's the one you knew cared about you and cared about the organization, not themselves. You can't hide the fact that you care. You also learn you have to be yourself. When you're younger, you're always trying to find who you're most like as a famous leader. Eventually, you realize you have to be yourself and accept that.

Humility is the last thing, which my parents instilled. Especially today, you have to know you don't have all the answers. How do you get to the point of standing in front of a group—whether it's two people or 200,000—and say, "I may not have the best solution, we need everyone's input and ideas"? That takes humility in leadership. I fought for years to get humility added to the Army's leadership characteristics. Empathy was there, confidence, too; humility was not. They just added it and I'm so glad.

The Army is the greatest team in the world and it's because of the people. The dedication of Soldiers never ceases to amaze me. When they know you care about them, then you're brothers and sisters for a lifetime; they'll go through a brick wall for you. Having just retired, I don't miss the bureaucracy or meetings. I miss the people. I feel very proud to have served alongside them and to be able to call myself a Soldier for Life.

Arpi Dilanian is a strategic analyst in the Army Logistics Initiatives Group, Office of the Deputy Chief of Staff, G-4, Department of the Army. She holds a bachelor's degree from American University and a master's degree from Rensselaer Polytechnic Institute.

Matthew Howard is a strategic analyst in the Logistics Initiatives Group, Office of the Deputy Chief of Staff, G-4, Department of the Army. He holds bachelor's and master's degrees from Georgetown University.

Featured Photo
Gen. Robert B. Brown, commanding general, U.S. Army Pacific, and People's Republic of China People's Liberation Army Lt. Gen. Qin Weijian, deputy commander, Eastern Theater Command, tour the practical field exchange site of the Disaster Management Exchange, in Nanjijng, China, Nov. 17, 2018. The DME is an annual risk-reduction event between the U.S. and PRC to address humanitarian assistance and disaster relief challenges across the region. The 2018 DME focused on an international disaster relief scenario following a hypothetical devastating earthquake. (Photo by Spc. Geordan Tyquiengco)

Bridging Strategic, Operational Support Areas

21st Theater Sustainment Command Keeps Logistics on Track in Europe

By Maj. Catherine "Cait" Smith, Maj. Robert McDonough, Capt. Joseph Friedman, and John Gallagher

U.S. Army Reserve Spc. Tiffany Boatner, a human resources specialist with Medical Support Unit-Europe, 7th Mission Support Command, sorts bottles of Acetaminophen at U.S. Army Medical Materiel Center-Europe warehouse in Pirmasens, Germany, March 26. 7th MSC Soldiers are supporting the shipping and receiving functions in the warehouse to help with the high demand of Army Class VIII medical supplies during the COVID-19 pandemic. (Photo by Sgt. 1st Class Joy Dulen)

In 2018, U.S. Army Materiel Command (AMC) described the strategic support area (SSA) and operational support area (OSA) in relation to the Army's multi-domain operations (MDO) concept. The American homeland serves as the primary SSA for Army units; it is the Army's initial industrial, supply, manpower, and power-projection base for all operations.

Forward-stationed units in Europe, Africa, Asia, South America, and the Pacific function as both a secondary SSA for each theater and an OSA for theater-wide operations. Defining which activities take place in the SSA and OSA provides sustainment commanders, of forces based both in the continental U.S. (CONUS) and forward stationed outside the continental U.S. (OCONUS), a framework to visualize the Army's sustainment enterprise and their unit's role in it.

Framing the Strategic and Operational Support Areas

The SSA encompasses seven domains: supply availability, industrial base readiness, munitions readiness, Soldier and Family readiness, strategic power projection, installation readiness, and logistics information readiness. According to U.S. Army Training and Doctrine Command (TRADOC) Pamphlet 525-3-1, The U.S. Army in Multi-Domain Operations 2028, the SSA is the "area of cross-combatant command coordination, strategic sea and air lines of communications, and the homeland. Most friendly infrastructure are controlled and located in the strategic support area," where logistics functions required to support MDO take place. The SSA is largely CONUS-based, but does include forward-stationed installations and sustainment assets such as Army prepositioned stocks (APS). These strategic assets are operationalized in the OSA where units work to achieve and retain superiority.

Key sustainment functions occur in the OSA in order to (IOT) enable friendly operations across the area, that often encompass many nations. Due to the nature of the OSA, according to the TRADOC Pamphlet 525-3-1, units are "never out of contact," because it is "an important space for friendly political-military integration." CONUS-based units may see little overlap between the SSA and OSA, whereas forward-stationed units navigate the often nebulous border between the two, daily.

21st Theater Sustainment Command's Role in the SSA and OSA

As the Army's logistics and sustainment force forward stationed in Europe, 21st Theater Sustainment Command (21st TSC) sustains the U.S. Army Europe (USAREUR) commander's OSA while simultaneously providing SSA functions for multiple theaters: U.S. Central Command (CENTCOM), U.S. Africa Command (AFRICOM), and U.S. European Command (EUCOM). This mission set is unique to 21st TSC. The sustainment problem sets across these regions are particularly complex due to geographic and regulatory dichotomies, time and distance removal from logistics operations in the homeland, the unique nature of military and political relationships throughout each region, and concurrent demand on limited capacity assets. 21st TSC operates in this demanding climate with particular consideration to four of the seven SSA domains IOT advance national strategic goals in each supported SSA and sustain operational overmatch in the European OSA. These domains are strategic power projection, logistics information readiness, supply availability and equipment readiness, and installation readiness.

Strategic Power Projection

Army strategic power projection (SPP) assets exist to rapidly deploy forces and equipment to meet the needs of combatant commands (CCMD). SPP assets in Europe include American and host-nation (HN) installations and infrastructure of rail terminals, airports, seaports, barge and littoral vessels, and warehouse facilities. Each operates under different regulations and at varied capabilities. Projecting power through and across Europe requires a nuanced understanding of international laws, treaties, border restrictions, multinational agreements, and diplomatic tensions. These tasks lie firmly within the OSA portfolio but are critical to enable cross-border military mobility, the crucial SSA ability to project military assets across national borders throughout Europe and to other theaters in both permissive and contested environments.

Acting as a secondary SSA for CENTCOM since 2003, 21st TSC exercised SPP when it deployed U.S. Army Fifth Corps (V Corps), 1st Armored Division, 1st Infantry Division, and multiple other echelon above division (EAD) units totaling thousands of Soldiers and pieces of equipment to operate throughout CENTCOM. Europe's installation and power projection nodes delivered critical combat power in support of (ISO) Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF), Operation New Dawn (OND), and Operation Freedom's Sentinel (OFS). As recently as April, 21st TSC assets acted as power projection platforms to distribute critical supplies from APS-2, Dulmen Work Site, Germany and other sources in support of CENTCOM's COVID-19 pandemic mitigation and response operations.

Army strategic power projection assets exist to rapidly deploy forces and equipment to meet the needs of combatant commands.

Serving this role for AFRICOM, 21st TSC regularly projects forces and equipment into the AFRICOM area of operations (AOR) ISO missions ranging from Ebola crisis management (2015) to ongoing Special Operations Forces (SOF), civil affairs, and training team support missions. The preponderance of service members and supplies routed to Africa originate in or transit through Europe, making this theater a critical secondary SSA for AFRICOM.

The delineation of 21st TSC's SPP as part of the European secondary SSA ISO OSA operations in other theaters is clear. However, when exercising SPP to support operations in the European OSA, this line blurs and 21st TSC often operates at both the strategic and operational levels via complimentary or nested efforts, as seen during preparations for exercise DEFENDER-Europe 20. From 2019 through March 2020, 21st TSC exercised the SPP inherent in APS by having drawn key equipment from APS and deploying it across borders via multiple nodes ISO DEFENDER-Europe 20 objectives. 21st TSC drew and moved 9,000 vehicles and other pieces of equipment from APS for use across Germany, Poland, Belgium, and other DEFENDER-Europe 20 partner nations; thereby having exercised roles as both a secondary SSA and primary OSA for SPP throughout Europe. SSA power projection and OSA maneuver ISO friendly objectives bled inexorably into one another and this tight interrelationship of the European SSA and OSA increases the precision with which it must be navigated.

Logistics Information Readiness

Logistics information readiness in the SSA consists of "a variety of information including equipment numbers, what is ready to go, what is coming inbound in the next 24 hours, the number of ships and what's on them, the arrival of Soldiers, highway capacity, the best times of day to drive, and more. That information provides a solid foundation for strategic decision making." In 21st TSC's sustainment role for the European SSA, support operations planners require timely logistics information from U.S. forces operating in the EUCOM, AFRICOM, and CENTCOM AORs in order to influence demand signals for supplies and equipment from APS, the CONUS supply base, or local vendors. However, multiple logistics information systems with duplicative inputs and non-aggregated outputs create barriers to anticipation and responsiveness. This hinders implementation of the principles of sustainment and improperly skews toward improvisation as a regular tactic when the systems should be vertically integrated to increase simplicity, economy, and survivability.

This SSA capability gap for logistics information readiness exacerbates frictions in OSA activities for these three CCMDs due to significant language and

systems communications lapses between the U.S., allies, and partner nations. Support operations planners at 21st TSC require input from across the dozens of nations in the USAREUR OSA and the aggregation of demand from CENTCOM and AFRICOM to properly maintain supply availability, equipment readiness, and achieve power projection across and outside of Europe. However, there is no single (or even few) approved system(s) to consolidate and achieve a common logistics operating picture for multinational operations.

This issue is continually voiced as an impediment to success by participants in Europe's multinational exercises, to include DEFENDER-Europe 20. Due to security concerns, each partner nation retains its own internal communication systems which are incompatible with other nations' technologies. Access to NATO Secret terminals is very limited, even among American forces. A recent push to develop the Mission Partner Environment (MPE) network produced promising results during planning for DEFENDER-Europe 20. While the technology requires further development and wider distribution, 21st TSC took the first step toward a paradigm shift from purely-U.S. systems to one that is usable by many nations' forces. The lack of interoperability between NATO, allied, and partner nations considerably slows commanders' visualization of the logistics common operating picture and significantly hinders the ability of the alliance to react quickly during a time of crisis. This capability gap between the logistics information systems development and European OSA requirements has resonant consequences for sustaining a multinational force in the event of a European conflict. Each added layer of complexity increases the chances of sustainment being late to need.

21st TSC overcomes this challenge by implementing internally created and maintained tracking systems to account for demands by theater, type, time horizon, recurrence, and frequency of need. The responsibility to provide logistics information readiness for American and supported allies' demand to SSA assets in three CCMD AORs is unique to 21st TSC.

Supply Availability and Equipment Readiness

The industrial base and resupply capabilities enjoyed by CONUS-based units are delayed and often degraded OCONUS. During the lag time between need and fulfillment, OCONUS unit commanders assume a level and type of risk that their CONUS counterparts do not encounter. This is further exacerbated by Europe's role as a secondary SSA for CENTCOM and AFRICOM, thereby increasing the demand on both supplies and distribution systems. In alignment with the 2018 National Defense Strategy mandate to prioritize prepositioned forward stocks and munitions, and strategic mobility assets, the Department of Defense and Department of the Army bolstered APS, ammunition depots, and supply stockpiles throughout Europe. Even these extensive assets do not entirely bridge the gap.

For example, Class V (ammunition) stockpiles in Europe are part of both EUCOM and AFRICOM SSA supply assets. 21st TSC retains responsibility to orchestrate the call forward, realignment, and retrograde for all ammunition shipments to and from Army Depot Miesau. This task encompasses SSA functions of logistics information readiness for reporting through multiple systems, installation readiness for the depot itself, and the projection of required Class V to the theater. To achieve this end state, 21st TSC navigates the OSA's political-military environment, movement restrictions and agreements, and cross-border military movement procedures.

APS are also critical to supply availability and equipment readiness. These stocks, maintained by AMC, are an extension of the SSA embedded in the OSA. They are utilized for large-scale combat operations, small-scale contingencies, national emergencies, peacetime emergencies, or exercise support. APS-2 and APS-7, equipment sets for EUCOM and AFRICOM respectively, are both located in Europe and under the operational control of 21st TSC, with the responsibility to maintain availability and readiness and to forward deploy those assets in line with CCMD requirements. This straddles the SSA–OSA divide for multiple areas of responsibility.

Installation Readiness

Installation readiness requires a focus on facilities and infrastructure that keeps the Army deployable to include everything from on-post housing to airfields, railheads, and motor pools. The unique nature of Europe as both the USAREUR OSA—and a SSA for CENTCOM, AFRICOM, and EUCOM—coupled with the aforementioned power projection and communications challenges, increases the importance of installation readiness for 21st TSC and supported units.

The 21st TSC commander's roles as senior responsible officer (SRO) for installations and garrisons across the Rheinland-Pfalz region and the deputy commanding general, sustainment, for all of USAREUR confer particular onus upon him or her to ensure that all infrastructure is prepared to project power within and outside of Europe. Within the SSA context, this includes maintenance of strategic sea and air lines of communication such as ports, open waterways for barging and littoral operations, depots, warehouses, Army airfields, rail heads, and so on to enable SPP for the EUCOM commander or ISO CENTCOM and AFRICOM operations, like the Ebola response or COVID-19 patient reception, as well as planned training exercises and deployments.

This strategic role is complimented by the OSA activities executed by both 21st TSC's assigned units and the SRO area garrisons. OSA activities, ranging from housing quality-of-life issues or commissary stocks to strategic placement of unit growth across the continent, are informed and influenced by the strategic requirements 21st TSC faces to support operations across EUCOM, CENTCOM, and AFRICOM as well as the political environment of Europe.

21st TSC's ability to execute both SSA and OSA responsibilities for installation readiness was tested during the height of COVID-19 pandemic mitigation and response operations in March/April. Focus quickly shifted from DEFENDER-Europe 20 to the safety of personnel and the movement of Class VIII medical supplies and personal protective equipment (PPE) via ground and air platforms on our installations. Garrisons within the 21st TSC SRO's area converted buildings into medical treatment and isolation facilities. Transportation assets launched from a bevy of installations to distribute medical equipment, PPE, medical teams, and enhanced testing capabilities to protect American, allied, and host nation lives in CENTCOM, AFRICOM, and EUCOM. This level of response demonstrates again how tightly linked SSA and OSA activities are for 21st TSC.

Summary and Conclusion

21st TSC, the Army's theater sustainment command in Europe, faces singular realities to provide SSA to three CCMDs and simultaneously provide OSA functions in a complex, ever-changing environment. The complexities of navigating this unique mission set stretch the 21st TSC's capacity particularly across the domains of SPP, logistics information readiness, supply availability and equipment readiness, and installation readiness where SSA and OSA responsibilities inexorably intertwine.

Maj. Catherine "Cait" Smith currently serves as force management officer (FA-50) for 21st Theater Sustainment Command, Kaiserslautern, Germany. A native of San Antonio, Smith received the MacArthur Leadership Award in 2016. She earned a Master of Business Administration as a graduate of the Major General James Wright Fellowship, and she participated in the British Ministry of Defence Joint Service Command and Staff College.

Maj. Robert McDonough currently serves as chief, Commander's Initiative Group, for 21st Theater Sustainment Command. A native of Kennett Square, Pennsylvania, McDonough has been awarded the Distinguished Flying Cross and the Bundeswehr Cross of Honour for Outstanding Deeds.

Capt. Joe Friedman currently serves as the operations officer (S3), 405th Army Field Support Brigade, Kaiserslautern, Germany. A native of Warminster, Pennsylvania, Friedman previously served as commander, Juliet Company, Field Support Company, 1st Battalion, 26th Infantry Regiment, at Fort Campbell, Kentucky. He is a graduate of The Sabalauski Air Assault School.

John Gallagher is a Supervisory Traffic Management Specialist with the Theater Movements Center, 21st Theater Sustainment Command, Kaiserslautern, Germany. A 1993 graduate of University of Massachusetts at Amherst, he has served in the Army Transportation Corps in military and civilian capacities since June 1993, including Battalion Command of 838th Transportation Battalion, 598th Transportation Brigade (Military Surface Deployment and Distribution Command).

Vehicles assigned to 1st Armored Brigade Combat Team, 1st Infantry Division, are staged at a rail load facility in Fort Riley, Kan., to be loaded for deployment to Europe, Nov. 2019. The vehicles were deployed to exercise Fort Riley's power projection capabilities in support of a U.S. Forces Command troop deployment as part of Atlantic Resolve. (U.S. Army photo)

FACE TO THE FIELD

AFSB, CLSE Link Generating Force, Operational Force to Deliver Strategic Capabilities

By Col. Scott Noon, Mark Akin, and Ken Wycoff

U.S. Army Materiel Command (AMC) employs its Army Field Support Brigades (AFSBs) to deliver readiness and enterprise sustainment to the warfighter. The AFSB synchronizes and integrates AMC strategic capabilities in support of Army service component commands (ASCCs), field armies, and corps. Army Sustainment Command (ASC) executes command and control of seven AFSBs—four U.S.-based and three forward-stationed AFSBs—in selected combatant commands. The 407th AFSB is headquartered at Fort Hood, Texas supporting III Corps and is regionally aligned to U.S. Southern Command.

407th AFSB has been implementing changes to meet the ASC commander's new vision statement. The goal is to have an agile and anticipatory organization that is fully networked to leverage all capabilities in the strategic logistics enterprise, as the AMC 'face to the field' to deliver readiness for the supported commander.

This article highlights ongoing ASC and 407th AFSB efforts to operationalize continuous AMC enterprise readiness services and responsiveness to the warfighter in support of contingency operations with a focus to support and sustain large-scale combat operations (LSCO).

Developing ASC Futures Strategy

AMC, ASC, and U.S. Army Combined Arms Support Command (CASCOM) force development directorates are working together to provide the AMC interface to support commands during multi-domain operations (MDO) and LSCO. Through this effort, AFSBs and the corps logistics support element (CLSE) are the links between the generating force and the operational force to integrate and synchronize the delivery of strategic capabilities of AMC and ASC to supported ASCCs and corps.

The AFSB's subordinate Army field support battalions (AFSBns) and its division logistic support element (DLSE) sustain 1st Cavalry Division headquarters, sustainment brigades, and other units through synchronization and integration of AMC capabilities into division plans and operations. The AFSB, its subordinate battalions, and logistics readiness centers (LRCs) provide the interface to the broad range of strategic-level support to build and maintain combat power in the strategic support area (SSA).

To achieve CLSE/DLSE objectives in support of the Army's move to Force 2025 and Beyond, ASC is developing the capabilities and organizational structure to maintain the readiness of Army units to conduct unified land operations. ASC architecture is in sync with the Army Campaign Plan's phase lines (PL) in regards to MDO: PL Readiness is 2022, PL Overmatch is 2028, and PL Dominance is 2034 for the future operating environment. These PLs are time-based goals to defeat future competitors.

AFSB's Corps Logistics Support Element

The 407th AFSB provides daily sustainment, deployment, and redeployment services through its 13 LRCs and four AFSBns. They provide installation logistics support and AFSB operations vital to integrate and deliver readiness and enterprise sustainment. They provide AFSB (corps) key tasks and capabilities:

- Mission command to/for corps-aligned subordinate battalions and operational control (OPCON) AMC capabilities in the area of responsibility (AOR)
- Build Army readiness for operating and generating forces at home station
- Synchronize the delivery of AMC capabilities on the installation, to include life-cycle management commands (LCMCs)
- Manage the Logistics Civil Augmentation Program (LOGCAP) and advise unit LOGCAP contract officer representatives
- Provide support to power projection platforms and mobilization force generation installations
- Provide AFSB and other AMC capabilities to deploy, as required, with corps/division headquarters to facilitate the planning and execution of materiel enterprise integration into corps/division formations through the deployment and employment process
- Prepare, coordinate, and execute operations that support deployment and redeployment
- Integrate acquisition, logistics, and technology into Army units at home station

At the AFSB headquarters level, the CLSE is a tailorable, deployable element used to support contingency operations and can be leveraged to support corps-level Army warfighter exercises. The CLSE synchronizes and integrates AMC capabilities into corps operational plans, which support logistics operations with materiel and services provided by AMC commands.

The 407th AFSB CLSE provides daily logistic support for III Corps, headquarters, and separate corps brigades and battalions. The CLSE's organizational structure includes military personnel, Army Civilians, four LCMC senior command representatives (SCR), and multiple logistics assistant representatives (LARs). Using the military decision-making process, and analysis of the supported corps mission, the AFSB CLSE is configured to meet mission requirements.

AFSB's Subordinate Battalions

AFSBs also provide support through their subordinate AFSBn's DLSE, which is a mission-tailored organization within an AFSBn that deploys with its supported division. The DLSE coordinates and synchronizes AMC capabilities to support division priorities. Led by the AFSBn commander, the DLSE is composed of military officers, enlisted personnel, Department of the Army Civilians, and contracted employees.

When required, the DLSE leverages table and distribution allowances equipment (which is currently being reassessed), which can deploy forward in support of division operations. The DLSE has OPCON and dedicated lead system technical representatives (L-STRs) and LARs from U.S. Army Tank-automotive and Armaments Command (TACOM), U.S. Army Aviation and Missile Command (AMCOM), U.S. Army Communications-Electronics Command (CECOM), and Joint Munitions Command (JMC). They are subject-matter experts for the supported equipment resident in the supported division.

The AFSBn commander forms the DLSE and staff synchronize AMC LAR technical support at the division level to address readiness-related issues. Through LAR support, the DLSE obtains technical assistance in diagnosis and repair, determines battle damage, identifies and resolves systemic logistics problems, and facilitates disposition instructions. The DLSE commander can leverage installation-level logistics capabilities needed to resolve logistic problems that impact readiness in the supported division. This capability was not available before the 2018-2019 consolidation of the installation LRCs under the AFSBn.

CLSE/DLSE Processes

Both the CLSE and DLSE focus daily to anticipate and identify logistics issues that impact materiel readiness and the responsibilities of the AMC enterprise. They focus on trending problems that affect readiness for corps separates, tenant units, and divisional units, and provide problem-solving solutions to operators and maintainers. The CLSE/DLSE readiness tracking employs 'readiness effects' bins:

- Original equipment manufacturer: Newly fielded equipment integration
- Organic industrial base: Equipment modernization/Modification work orders/Field-level inspection and repair
- Obsolescence: Divestiture
- Unit training/Soldier education: AMC LAR-focused training and education

This information provided by the AMC LARs is reported through the CLSE/DLSE to analyze data and categorize trends for the AMC enterprise team to resolve unit equipment and training issues. Additionally, the CLSEs/DLSEs track fleet readiness and focus on the readiness effects and resolution courses of action for fleets falling below 70% operational readiness.

Before deployment, the CLSE/DLSE commander coordinates with corps or division headquarters and establishes memorandums of agreement in support of a joint deployment. These agreements may vary due to multiple types of missions requiring CLSE/DSLE support.

There are three types of deployable scenarios AFSBs take into consideration to employ a CLSE/DLSE:

- Combat training center (CTC) support: CLSE/DLSE will use CTCs as training opportunities and participate in the exercise from pre- through post-training. Based on the deployable organizations and equipment, the CLSE/DLSE commander will designate CLSE SCRs or AFSBn L-STRs to manage LCMC LARs and choose LSTs logistics support elements (LSEs) to provide accountability on site. To date, 407th AFSB CLSEs/DLSEs have successfully supported several CTC rotations under the new concept of support.
- Deployment in a mature theater: If a continental U.S. (CONUS) CLSE deploys into a mature theater that is geographically under the command and control of another AFSB (i.e., Europe or Afghanistan), both CONUS AFSB and AFSBn commanders coordinate with their outside the continental

U.S. (OCONUS) counterparts to ensure there is no duplication of services. The CLSE or DLSE is under OPCON of the corps or division it supports and is under the administrative control (ADCON) of the originating AFSB. Currently, ASC's OCONUS AFSB are under the tactical control (TACON) of the ASCC and theater sustainment command (TSC) to set ASCC policy and manage theater assets.

- Deployment in contingency operations: An immature theater indicates there is no dedicated AFSB (i.e., South America or Iran). Support for an immature theater requires the highest level of CLSE and DLSE support. The CLSE/DLSE provides the expertise to stand up an AMC enterprise single-support focal point for the corps or division headquarters. All equipment required for the mission is shipped from the originating corps or division into the theater and used to support life, health, and safety or logistics. The 407th AFSB, leveraged multiple DLSEs from three subordinate AFSBns during the early establishment of the Defense Support of Civil Authorities mission along the nation's southern border in 2018-2019.

Life Cycle Management Command Support

LCMC SCRs are OPCON to the AFSB commander. There is one SCR per LCMC—TACOM, CECOM, AMCOM, and JMC—and they are deployable. LCMC SCRs provide advice and guidance to commanders to attain and sustain materiel readiness. Each SCR is responsible for representing its LCMC commander and act as the senior member, supervising all LCMC civilians in the AFSB footprint. The SCR coordinates, synchronizes, and integrates LCMC resources to execute the AFSB/AFSBn concept of support. They are responsible for tracking and reporting LCMC support provided to the corps, separate tenant units, and divisional units.

AMC LARs who support corps separate units are OPCON to the AFSB headquarters, and in coordination with SCRs, integrate as part of the CLSE. They are responsible for providing technical expertise and maintenance of their LCMC's commodity, tracking readiness issues, and reporting corps-separate and tenant-unit materiel operation and maintenance requirements.

Army and Joint Materiel Enterprise Enabling Tools

AFSBs are capable of split-based operations using reach-back and call-forward capabilities to the SSA. The AFSB may deploy a LSE based upon variables within the operational area. The LSE is linked with the supported G-4 (logistics). It is responsible for integrating AFSB support actions in the operational area and coordinating with the supported unit for facilities, logistics support, and security. The LSE serves as the forward headquarters element and provides the AFSB commander information systems capability and connectivity.

A deployed AFSB CLSE or AFSBn DLSE has AMC call-forward capabilities for augmentation from numerous national-level provider organizations. These organizations (except the theater aviation sustainment maintenance group) are ad-hoc organizations formed from existing AMC capabilities, based on operational variables. The actual size and composition of these organizations varies with mission requirements. Critical call-forward capabilities that are available include:

- Development of acquisition-arranged contract support requirement packages for system support contracts of newly fielded equipment
- Commercial-off-the-shelf equipment
- Redistribution property assistance teams to facilitate the turn-in of equipment for redistribution or retrograde
- Test measurement and diagnostic equipment calibration support coordination in the theater AFSB to provide Army calibration expertise and technical assistance

AFSBs can request a liaison officer from ASC to assist with mission support and provide general support to the unit-level sustainment automation support management office, technical assistance, system troubleshooting, software replacement services, and software system change packages for logistics information systems. ASC also deploys mobile labs to provide flexibility and rapid response to support Army Oil Analysis Program requirements.

AFSBs can be augmented with operational readiness analysis teams to monitor and collect readiness data on supported unit equipment. The collected data identifies maintenance failure trends and systemic readiness problems. AFSB support activities include, but are not limited to, maintaining operational readiness, training, and contingency planning from the very beginning to the end of supported AMC enterprise logistics services.

Another AMC service available to support contingency operations is enabling sustainment maintenance capabilities. If requested, the AFSB/AFSBn commander can form mission-tailored support, forward repair activity (FRA) that originates from CONUS LCMC depots or installations, and are comprised of DA Civilians and contractors. The TSC, expeditionary sustainment command, and AFSB validate the request and send this information to the selected LCMC. The FRA is a task-organized activity designed to accomplish repairs on specific types of equipment or components and has no standard design.

AFSBs are responsible to manage the LOGCAP in contingency environments. The AFSB and AFSBn commanders can seek ASC-operated LOGCAP support for CLSE/DLSE contingency conditions-based operations. AFSBs help determine if the requirement is LOGCAP-supported or contractor-sourced through the normal contracting processes. LOGCAP capabilities normally support the theater support area. The OCONUS theater AFSB works closely with the contracting support brigade to determine sourcing solutions for operational contract support requirements.

The AFSB headquarters has deployable LOGCAP professionals from ASC's LOGCAP Program Management Office for augmentation until the LOGCAP support brigade mobilizes their respective battalion. Given the dynamic nature of a LSCO, most of the LOGCAP professionals work the required packages under the management of the AFSB. The intent is to have LOGCAP support officers move forward to support the requirements using a hub-and-spoke concept that is condition based in the operational environment.

Summary

This article explains how the ASC AFSBs formations are structured to deliver continuous AMC enterprise readiness services as AMC's 'face to the field' for contingency operations with a focus on LSCO. Over the past decade, ASC and its AFSBs, AFSBns, and LRCs, have evolved to better support Army forces. The use of the AFSB CLSE/AFSBn DLSE is a continuation of this maturation process to ensure the Army is on track to meet the requirements of MDO and resolve the sustainment challenges of the future operating environment.

Incorporating and maximizing the usage of the tremendous capabilities of the AMC materiel enterprise in support of contingency operations and the deployed Army unit (be it at the corps or division level) is the focus of the AFSB/AFSBn commander. These emerging capabilities fully support AMC's mission to deliver logistics, sustainment, and materiel readiness from the installation to the forward tactical edge to ensure globally dominant land force capabilities. ASC and 407th AFSB embrace their roles to represent the AMC enterprise readiness initiatives. They will continue to sustain and seek improvements for mission success.

Col. Scott Noon currently serves as commander, 407th Army Field Support Brigade. His career includes seven deployments in support of Operation Iraqi Freedom, Enduring Freedom, and Inherent Resolve. He was commissioned from James Madison University with a degree in international affairs. Noon has completed the Combined Logistics Officer Advanced Course, Command and General Staff College, School of Advanced Military Studies, and Joint Advanced Warfighting School in Norfolk, Virginia for Senior Service College.

Mark W. Akin currently serves as deputy to the commander, 407th Army Field Support Brigade. He has six deployments, including four while on active-duty military service and two while being a Department of the Army Civilian in Afghanistan and Kuwait. He holds a Bachelor of Arts in Management from Texas A&M University, a Master of Science in Logistical Management from Florida Institute of Technology, and a Master of Science in National Resource Strategy from the National Defense University. He is certified as Level III in Life Cycle Logistics.

Ken Wycoff has earned a Bachelor of Science in Management, a Master of Arts in Human Resource Management from Wayland Baptist University, and a Master of Strategic Studies from the U.S. Army War College.

DEFENDER-Europe 2020

Army Prepositioned Stocks-2 Enables Dynamic Force Employment in Europe

■ *By Capt. Matthew A. Gaumer and Paul "Corey" Horn*

Workers with 405th Army Field Support Battalion prepare safety equipment for turn-in to 504th Composite Supply Company, 553rd Combat Sustainable Support Battalion, from Fort Hood, Texas Feb. 27, 2020, at Army Prepositioned Stock Site-2 Zutendaal. The 504th CSC deployed to Poland in support of DEFENDER-Europe 20. (U.S. Army photo by Henri Cambier, Training Support Center Benelux)

A key objective for the inaugural DEFENDER-Europe 2020 exercise (DEF-EUR 20) was the issue, use, and turn-in of Army prepositioned stock (APS) equipment as part of exercising dynamic force employment of a combat-credible force. In this capacity, Europe-based APS-2 builds rapid power projection in theater and operationalizes the U.S. National Defense Strategy. Army Doctrine Publication 4-0, Sustainment, makes clear the value of geographically dispersed APS sites: they are essential to timely support to national military and defense strategies in areas of national interest and treaty obligations, while significantly reducing strategic lift requirements and bypassing congested nodes.

APS equipment issue occurs at sites that are strategically placed and contain a whole-unit's worth of modified table of organization and equipment, authorized stockage lists, and shop stock.

During DEF-EUR 20, APS-2 Zutendaal Work Site in Belgium issued three sustainment brigade company equipment sets to three gaining tactical units (GTUs) based in the continental U.S. (CONUS). This was a change based on real world conditions: the eruption of COVID-19 in Europe in early March 2020 resulted in a fourth sustainment brigade company not getting issued after it was prepared and made ready for issue (RFI).

In this article we present important observations that enabled APS-2 Zutendaal Work Site to successfully anticipate requirements then prepare and issue equipment to deployed units. Given that Zutendaal, like other APS-2 sites in the Netherlands and Germany, was only established in 2017, the lessons learned are beneficial for the larger sustainment community to shape the strategic support area of tomorrow. Standing up and operationalizing Zutendaal Work Site as an APS site within a short period is particularly relevant to discussions about posturing the force for future fights that require a forward, dispersed, and nimble footprint but which can quickly generate materiel readiness closer to the point of need.

Preparing for Equipment Issue

APS equipment issue to the deployed warfighter is only successful

when preparation for contingencies is coordinated and synchronized at every stage of the planning process. At the strategic level, this requires close collaboration between headquarters, Department of the Army (owner of APS equipment and issue authority), U.S. Army Materiel Command (AMC) (the executive agent for APS equipment sourcing, management, and accountability), U.S. Army Forces Command (prepares units to fall in on and draw from an APS), and Defense Logistics Agency (the sourcing agent for APS secondary items and sustainment stocks).

According to Army Regulation 710-1, Centralized Inventory Management of the Army Supply System, an APS site constitutes one leg of the strategic mobility triad, along with airlift and sealift capabilities. The use of APS allows rapid CONUS-based power projection anywhere in the world. As APS exists to support the warfighter and reduce the amount of equipment that must deploy from home station, strategic-level planning supports the combatant commander (CCDR) who identifies APS requirements in conjunction with their aligned Army Service Component Command (ASCC). The CCDR and ASCC decide to employ APS assets in theater and seek release approval from the chairman of the joint chiefs of staff, or his or her designee. As laid out in Army Techniques Publication (ATP) 3-35.1, Army Pre-positioned Operations, this decision is made in coordination with Headquarters, Department of the Army and the Joint Staff, AMC, the requesting ASCC, and Army Sustainment Command (ASC).

ASC is AMC's executive agent for APS, responsible for accounting for, storing, maintaining, and issuing APS equipment and stocks. U.S. Army Medical Materiel Agency, a realigned AMC subordinate agency that falls under the new Army Logistics Medical Command, is also a key stakeholder and manages all Class VIII (medical supply) equipment at APS sites. The CCDR is supported with APS in theater by ASC's Army field support brigades (AFSBs), composed of Army field support battalions (AFSBns) that manage APS sites. The APS site is where the warfighter comes face-to-face with strategic readiness. It is the readiness fulcrum of the strategic support area: linking personnel in the joint security area with materiel from CONUS.

Before a Soldier can deploy and accept a single piece of equipment, a series of APS site activities must be closely synchronized:

- Manning and training
- Equipping
- Equipment configuration and handoff
- Nurturing of partnerships

Manning and Training

Surprisingly, neither ATP 3-35.1 nor Technical Manual (TM) 38-470, Storage and Maintenance of Army Prepositioned Stock Materiel, discuss the workforce that makes APS sites function. The civilian technicians, supply clerks, mechanics, quality assurance officers, information technology specialists, and human capital staff are essential for successful APS operations and equipment issue. No single piece of equipment can be provided to the warfighter without the trained and skilled team required to account for, store, maintain, and issue APS equipment. To make this happen, a nuanced approach to recruitment, upon initial site stand-up, and retention of top talent must be devised far ahead of any equipment issue.

In the areas where APS-2 sites are located, unemployment rates are historically low and, generally, geographically separated from more urban areas. This makes hiring the right talent a challenge. Adding to this, each European nation has different status of forces agreements concerning the number of U.S. Department of the Army Civilians and U.S. civilian contractors allowed in each country. In Belgium the number is set low. Thus, an APS site must rely on and leverage host-nation talent to augment the smaller U.S. management staff. Zutendaal Work Site has partially overcome this constraint through a steady and tailorable approach by working closely with host-nation employment agencies, advertising in local publications, reaching out to local trade schools, and by attending local job fairs and hiring events in search of critical skills.

Equipping

Preparation of unit equipment sets at Zutendaal Work Site began as soon as the first DEF-EUR 20 planning guidance was distributed in mid-2019. This allowed APS site personnel ample time to perform supply, maintenance, and quality assurance on the designated unit-sets intended for issue. TM 38-470 briefly describes the production efforts required to get equipment ready for GTUs; while APS sites develop standard operating procedures (SOPs) and sequences of issue to manage site efforts. At a newer site like Zutendaal, preparation of equipment for issue requires a little more time as personnel continue to receive, store, and maintain new materiel that arrives as they simultaneously develop production schedules, perform maintenance services, and configure equipment for issue.

The site maintenance directorate realigned its work priorities to ensure designated equipment was serviced in accordance with TM 10/20 standards, to replace defective mechanical components, order and install replacement parts, and configure vehicles with combat identification panels and component mounts. In the months prior to the GTU's arrival, maintenance personnel with quality assurance oversight performed routine surveillance as described in TM 38-470 to ensure battery life, fluid levels, and correct tire pressure. The validating event for these efforts was the on-site vehicle road tests before the GTU arrival. This ensured each piece of rolling stock was road-worthy and any minor defects that emerged during storage and staging was corrected. Further, quality assurance personnel follow a rigorous eight-step RFI process before stamping off that a piece of equipment is ready for issue to the warfighter.

Site supply personnel had equally arduous tasks to prepare unit equipment for issue. They:

- Managed storage and release timelines
- Ensured equipment basic issue items (BII) and components of the end item (COEI) were complete—with no shortages that rendered the equipment less than TM 10/20—and secured to major end items in accordance with higher headquarters guidance
- Removed preservation materials
- Configured equipment into unit sets
- Ensured vehicles were fueled
- Maintained property account-ability at all times
- Physically loaded and mounted end items such as sets, kits, and outfits with vehicles, and vehicles with

A Belgian army movement control officer guides a U.S. Army heavy expanded mobility tactical truck (HEMTT) on a street along Sint-Jozet Church, Zutendaal, Belgium, during DEFENDER-Europe 20 exercise. The multinational training tests the interoperability of U.S. and allied forces during multi-domain and large-scale combat operations. (Photo by Ludo Dewaelheyns)

trailers or ground support equipment

The quality assurance directorate played an outsized role at Zutendaal Work Site, ranging from planning and managing the equipment issue process, conducting unit equipment readiness assessments, tracking RFI rates, ensuring vehicle compliance with European regulations on fuel and ammunition carriers, and coordinating for field service representative support with U.S. Army Communications-Electronics Command and U.S. Army Tank-automotive and Armaments Command. That level of coordination ensured that complex systems, such as vehicle command, control, communications, computers, cyber and intelligence, surveillance and reconnaissance (C5ISR) equipment or tactical water purification systems, had the requisite components and were fully installed and operational prior to handing them over to the GTUs. At the end of all of these efforts, equipment designated for issue was laid out for GTUs as a unit set in the equipment configuration and handoff area (ECHA).

Equipment Configuration and Handoff

The warfighter first encounters strategic readiness at the APS site's ECHA, a deliberately planned, organized, and secured area where RFI equipment is drawn by the GTU according to site SOP. ATP 3-35.1 emphasizes that the draw process should occur as quickly as possible. It is otherwise generic in its description of the timeline and process for efficient equipment issuance. As a result, an APS site will typically appoint a senior leader to serve as the ECHA chief. The ECHA chief, in turn, creates a detailed issue sequence to manage the GTU's time on site and allow the GTU to efficiently arrive, take issue of APS equipment, and begin movement to the tactical assembly area as fast as possible.

The central objective for Zutendaal Work Site during the draw process was to simplify the process for the GTUs, make it very easy for Soldiers to quickly perform preventive maintenance checks and services, for GTU command and supply teams to conduct an inventory alongside the site accountable officer, and then transfer property from the Army's wholesale record to the GTU. The intent was to minimize the GTU's time spent on the ground to allow more time to prepare for convoy operations.

During DEF-EUR 20 property transfers, site personnel did encounter slight delays in the exchange of data files between the Army War Reserve Deployment System (AWRDS) and Global Combat Support System-Army, however, solutions have been identified to prevent future delays. Additionally, in the coming years AMC intends to integrate GCSS-Army worldwide within the APS program.

Nurturing of Partnerships

APS equipment issue cannot happen without support from partners. This is even more important outside of the U.S. (ATP 3-35.1), where host-nation support can make or break an operation. At Zutendaal Work Site, close synchronization between multiple U.S. agencies and site leadership was critical:

- Base operations support and emergency services, provided by U.S. Army Garrison–Benelux to accommodate a surge of deploying Soldiers onto the site
- Customs clearance
- Equipment loading support
- Vehicle test-driving, provided by multiple units from 16th Sustainment Brigade
- NATO Support and Procurement Agency delivered and applied African Swine Flu disinfectant on all vehicles (a more important APS-issue function in the era of the COVID-19 pandemic)
- U.S. Embassy Brussels assistance, identified and solved inter-state movement issues after equipment issue to GTUs

Participating NATO countries, to include Belgian host-nation partners, were likewise essential for the APS issue. This support ranged from effective site-level communication and planning with the mayor of Zutendaal, Belgium; to the setup of the GTU Life Support Area in Grobbendonk, Belgium; to the delivery of diesel fuel by the Belgian army 29th Logistics Battalion for issued vehicles; and synchronization between local police agencies and Belgian army movement control teams that enabled vehicle convoys that departed the site.

Future APS Operations

The use of APS and equipment outside of the U.S. is a decades-old concept. The precursor to the current APS-2 equipment sets were prepositioned organizational materiel configured to unit sets, which were maintained at Combat Equipment Group-Europe sites throughout several NATO countries. At the end of the Cold War and after Operations Iraqi Freedom and Enduring Freedom, U.S. Forces in Europe began to draw down and no longer had to maintain a deterrence footprint to support the AirLand Battle doctrine of the U.S. Army. Prepositioned stock models changed as irregular warfare became normative. The Army continues, however, to prepare for sustainment operations in a multi-domain battle environment, which requires operationalized prepositioned stocks that are combat configured well ahead of Soldier arrival.

On future battlefields, the traditional U.S. advantages of unimpeded strategic movement into theater and time to amass combat power will be contested. Soldiers will require capabilities that are agile and ready for immediate deployment. APS sites have realized this certainty and are implementing combat-configured (CFC) readiness standards at the direction of the AMC commanding general. CFC APS sets include vehicles configured with identification panels, weapon mounts. BII and COEI will be secured where Soldiers are accustomed to storing on vehicles and critical C5ISR will be installed and tested, a major milestone. The aforementioned objectives will be documented and stamped by quality assurance personnel to ensure the APS provides the best equipment possible to the warfighter.

Defining CFC standards has required PhD-level analysis and effort. It represents a paradigm shift in the way APS is managed. Notably, CFC standards require a significant change in how APS arranges workflow, as major platforms are viewed as a fully configured system of systems. As production schedules across all APS commodities are linked and synced, a fully configured platform and all of its systems will enter maintenance simultaneously to maintain the highest level of unit set readiness. Also required is an acceleration in building capital infrastructure and facilities that can support this more robust industrial requirement.

APS Site as the Fulcrum of the Strategic Support Area

The principle lesson learned at the APS site level during DEF-EUR 20 is that APS sites are not just a place where Army "stuff" is stored. They serve as highly valuable, readiness-generating platforms that are expeditionary oriented and agile to support the emerging requirements of multi-domain operations. This article makes clear that before, during, and after DEF-EUR 20, the Zutendaal Work Site served as a fulcrum for the strategic support area where military might is generated, projected, and sustained.

APS sites are strategic locations where the entirety of the sustainment enterprise can coalesce in real time to achieve national military objectives. They drive and inform supply availability, equipment readiness, organic industrial base readiness, installation readiness, strategic power projection, munitions readiness, Soldier and Family readiness, and logistics information readiness. The end result, as captured in Army Doctrine Publication 4-0, Sustainment, is increased efficiencies across military services, agencies, industry, and allied partners.

Capt. Matthew A. Gaumer serves as plans and operations chief, Army Prepositioned Stock-2, Army Field Support Battalion-Benelux, 405th Army Field Support Brigade, in Zutendaal, Belgium. He holds a bachelor's degree and multiple master's degrees from Loyola University Chicago, Saint Meinrad School of Theology, University of Leuven, American Military University, and the University of Oklahoma. He holds a doctorate degree in history and theology from the University of Leuven. He is certified as a Demonstrated Master Logistician and is a graduate of Transportation Basic Officer Leader Course, Combined Logistics Captains Career Course, and Theater Sustainment Planners Course.

Paul "Corey" Horn is site director of Army Prepositioned Stock-2, Army Field Support Battalion-Benelux 405th Army Field Support Brigade, in Zutendaal, Belgium. He holds a bachelor's degree in criminal justice from Armstrong Atlantic State University and a master's degree in procurement and acquisition management from Webster University. He is certified in Life Cycle Logistics-Level II, is a member of the Army Acquisition Corps, and is a graduate of the Sustaining Base Leadership and Management Program.

WORKING SMARTER DoDAAC

Portability Enables Efficient Materiel Transfer on the Battlefield

By Percy Alexander

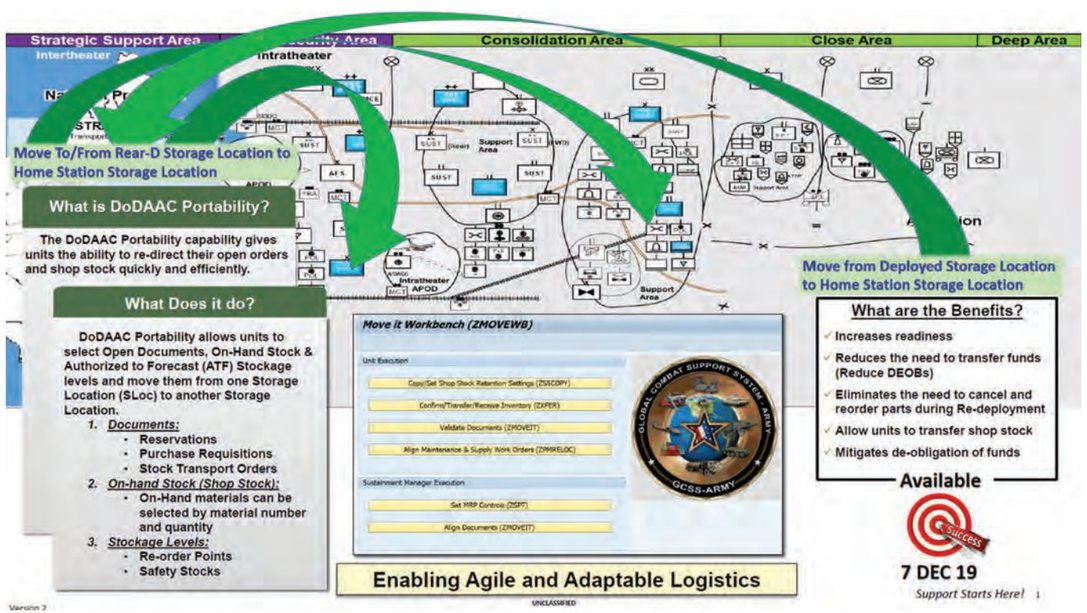
Department of Defense Activity Address Code (DoDAAC) Portability enables a commander's battlefield mobility while conducting split-based operations by allowing units to keep valid Global Combat Support System-Army (GCSS-Army) requisitions open with the same document number and to reposition shop stock inventory. This improves readiness, reduces the possibility of financial deobligations, maintains the original line of accounting, and unburdens the Soldiers.

Deployments and training exercises involve the movement of equipment between gaining and losing DoDAAC via lateral transfers. Units always had the ability to move open maintenance work orders with the equipment but had to cancel the corresponding open repair parts requisitions and reorder the parts on the gaining DODAAC. There also was not a clean process to move shop stock on-hand inventory and retention rates between a deploying and stay-behind storage location (SLOC). DoDAAC Portability solves these issues.

Units are already reporting success while using DoDAAC Portability since it was released Dec. 7, 2019. During the months of January and February 2020, over 12,000 lines of on-hand inventory shop stock have been relocated and over 100,000 open requests have been moved with a reservation transfer value of $92,274,198 and a stock transport order transfer value of $13,137,485. Deploying units from 1st Infantry Division, 25th Infantry Division, 82nd Airborne, and the National Guard have followed the training instructions, executed DoDAAC Portability, and increased their units' readiness.

Training is available for DoDAAC Portability in the End User Manual Plus, and instructional videos are located on Army Knowledge Online at:

https://www.us.army.mil/content/armyako/en/mycommunities/Home/groups/TRADOC/Groups/CASCOM/Groups/gcss-a/Groups/GCSS-A/files.asset.html/content/usergenerated/asi/mongo/content/armyako/en/mycommunities/Home/groups/TRADOC/Groups/CASCOM/Groups/gcss-a/Groups/GCSS-A/files/jcr:content/content/primary/library/videos-sq6d.html



DODAAC Portability increases readiness through rapid movement of open requests and on hand shop stock inventory in support of world wide deployment operations. This supports an expeditionary Army which conducts split operations and task aligns forces based on the needs of the combatant commander.

The Move It Workbench is the landing portal for DODAAC portability inside of GCSS-Army. It allows users to identify open requests and move them to the gaining DODAAC. It also gives maintenance managers the capability of copying their shop stock settings and transferring on hand parts between storage locations.

A DoDAAC Portability Smart Book is also located on the GCSS-Army website. Smart Book helps the unit plan and execute this enhanced capability and assists with the coordination of all stakeholders.

DoDAAC Portability's success requires normal coordination among the property book officer (PBO), maintenance officer, and materiel manager. PBOs will transfer property between the commander's home station and deployable structures. Materiel managers will execute their current deploy/redeploy procedures to move in and out of an area of responsibility. Using the Move it Workbench, the sustainment manager will set the conditions for the unit supply sergeant and maintenance manager to identify and move open documents. The maintenance manager will also adjust shop stock settings and move on-hand stock inventory between SLOCs. Working together, the unit team moves equipment, open work orders, open requests, and on-hand inventory as part of deploy/redeploy operations.

During DoDAAC Portability's first few months in production, it has proven to be a gamechanger by supporting an expeditionary army and increasing readiness. This capability will prove invaluable for the upcoming exercises and real world deployments as commanders will move and align units based on the mission with the system now being able to respond quickly. The Enterprise Systems Directorate (ESD) team at U.S. Army Combined Arms Support Command encourages all units to identify and maintain their permanent home station and deployment structures. Leaders should also familiarize themselves with the steps in DODAAC Portability in order to support their commander's deployment intent.

For more information, visit: *https://cascom.army.mil/g_staff/cdi/esd/*.

Percy Alexander is the chief, Logistics Enterprise System Division, Combined Arms Support Command, whose office is responsible for the development and sustainment of GCSS-Army as the functional lead. He holds a MBA from Colorado Technical University and retired from active duty after 27 years of service as a chief warrant officer 4 property book officer. He is a graduate of Warrant Officer Senior Service Education and Command and General Staff College.

Enabling THE Rucksack:

An Interview with Lt. Gen. Eric Wesley

By Arpi Dilanian and Matthew Howard

As director of Army Futures and Concepts Center (FCC), Lt. Gen. Eric J. Wesley is responsible for providing the intellectual foundation to design, develop, and field a more lethal future Army. A graduate of the U.S. Military Academy at West Point, Wesley previously served as commanding general of U.S. Army Maneuver Center of Excellence. Prior to that, he served as director for Afghanistan-Pakistan policy on National Security Council as well as director for future plans for the International Security Assistance Force Joint Command, in Afghanistan. Here are his thoughts on the evolution of the multi-domain operations (MDO) concept and the role of Army sustainers.

Can you discuss the importance of the strategic support area (SSA)?

As a nation, we are isolationists by nature. We don't believe we're a warfighting people and therefore view war as an anomaly. Why is that important? In a very digital way, our norm is peace not war. Our Constitution and our laws, policies, and behavior see it as a discrete issue—you're either at war or not. That sets a very high threshold and leads to a mobilization mindset: If we are pushed beyond our threshold, we'll mobilize for war.

There's an era where that might be acceptable. Think about the massive mobilizations of World War I and World War II, which ultimately moved the campaigns to a positive outcome. In our lifetime we've dominated the sea lanes and airspace so well, we can choose the timing of war, stack metal in a certain theater at an aerial port of debarkation, and at our discretion conduct an operation.

In the future, we likely won't have time to conduct massive mobilizations to achieve our outcomes. Many argue he who wins the first battle wins the war because the cost of protracted conflict with two nuclear-capable forces becomes untenable. That means you already have to be there to some degree to effectively compete and deter war. If deterrence or the ability to defeat that first battle fails, then mobilization will be fundamental and significant.

Here's where the SSA comes into play. If we are challenged in all domains, those challenges extend well beyond the theater of war into the SSA and Installation Management Command's (IMCOM) area of operations. With Army Materiel Command (AMC) being responsible for the SSA, this becomes the theater in which it must be ready for attacks and is why the realignment of IMCOM under AMC was so important.

Hardening our systems and communications capacity across the SSA will be critical so we're less vulnerable to cyberattacks. Smart capabilities in each of our installations—smart homes, buildings, even whole cities—are being developed by the Army G-9 (Installations), IMCOM, and our industry partners. All of these are important steps to rapidly synthesize what we have and move it forward.

How has MDO evolved during your tenure at FCC, particularly in defining the future of sustainment?

We do not look at MDO absent the understanding of sustainment. One of the more critical aspects of its evolution is the increased rigor with which MDO has been grounded. As we've exercised and wargamed over and over in the last two years, we're finding MDO is increasingly true based on experimentation. In fact, the sustainment community's progress in the next 10 or 15 years is a fundamental anchor to our success in enabling MDO, which not enough people realize.

When you look back in history, the sustainment community has largely built the logistics system around a pipeline; in the future, organizations and formations will require a rucksack. For centuries, culture has traditionally focused on building a main supply route (MSR)—a pipeline—in order to sustain units forward. But in this era of distributed operations, increased lethality, and hyperactive battlefields, convoys are more vulnerable and threats to lines of communication greater. Formations will at times be out of contact, both physically and technically, and therefore must be able to operate independently. That

means being increasingly sustainable by organic capabilities, whether it be generating energy or supplies. They're going to have to rely on their rucksacks.

When he was AMC commander, Gen. Gustave "Gus" Perna pushed for a tenfold improvement in the efficiency and effectiveness of our sustainment capabilities. It's not just because he wanted to be better; if we have independent formations or those that need organic power, we must be able to sustain them at that level.

Take additive manufacturing, for example. Printing repair parts rather than shipping them reduces the requirement for trucks and MSRs. What if you leverage hybrid or fully-electric vehicle technology? You measure the number of parts on an internal combustion engine in the tens of thousands; you measure the same on an electric vehicle in the dozens. Couple that with mobile nuclear reactors that the Office of the Secretary of Defense is working, and the impact of generating organic power at the tactical level to "refuel" vehicles. Each of these enhance the rucksack and enable organic logistics closer to the point of need, ultimately reducing the burden of our dependence on the pipeline.

Can you discuss the idea of convergence?

There are three tenets of MDO: calibrated force posture, multi-domain formations, and convergence. Calibrated force posture is a function of four things. First, what is your forward force, be it rotational or permanent? Second, given the degree to which you do or don't have forward presence forces, what is your expeditionary capacity to get forces there? Third, if I'm going to be integrating cyber and space, what access do you have to national-level assets and capabilities? Last, what are your authorities? Those four things are rheostats in a given theater.

Multi-domain formations ensure you can get access down to the tactical level and conduct independent maneuver. This requires, in some fashion, the ability to leverage data coming from the cyber and space realms that formations don't have now.

Convergence is a new word. Doctrinaires understandably don't like new words; they're the antithesis of doctrine. Doctrine relies on common language and we introduce new words only when we want people to think differently.

With convergence, many think it's no different than synchronization—but there's a reason we didn't use "synchronization of the battlefield" or "synchronization of weapons systems." In terms of fundamentals, convergence has two components. First, we know our adversaries are investing in ways to challenge us in all domains. If that's true, there are only a couple ways you can create overmatch. One is to invest in all domains: cyber, electronic warfare (EW), space, maritime, ground, and air. If you put enough resources into each of those stovepipes, you'll always overmatch your adversary. Intuitively, that is cost prohibitive. If instead you identify a decisive space where you want to apply those domains and stack them, the total is greater than the sum of the parts and thus creates overmatch. This, we're pretty good at as an Army and as a joint force.

The second aspect of convergence, however, is distinctly new and that is the ability to have a resilient system for integrating those domains rapidly and continuously to prevent a brittle kill chain. Say you have an exquisite kill chain synchronized 72 hours out, according to the authority to operate. If they're challenging us in all domains, that kill chain could effectively be cut or bifurcated; now what are we going to do?

You might be thinking, "The Army has been integrating in all domains for several years; when we took down Raqqa, we brought in cyber, EW, and space." That's true, but oftentimes we were only able to do it episodically based on weeks of planning efforts to line everything up and get the requisite authorities. Convergence is not episodic; we're talking about doing it rapidly and continuously at scale across a theater of war. When you consider that each of those domains are controlled at different echelons by different services—sometimes even interagency—you realize just how much bigger and more complex this is than simply synchronizing the tools of war.

We want to enable any shooter, through any sensor, through any command and control node, in near-real time. When we can do that across a theater of war, then we have convergence.

How do we overcome anti-access and area denial (A2/AD) challenges to enable freedom of maneuver?

It's important to first look at why we need MDO. We've had a pretty powerful Army the last 30 years, borne out of AirLand Battle. So what is the reason we're pushing a new concept?

The world has changed. We're challenged in all domains. Our adversaries employ multiple layers of standoff. The battlefield is increasingly lethal, complex, and expanded. You can't take the old way of doing business and still expect to leverage it in a useful way.

Adversaries recognize our strengths in integrating the joint force at the tactical level. They want no part of close combat with the U.S. and our allies and partners. Be it Desert Storm in 1991 or the invasion of Iraq in 2003, they've seen what happens when we're allowed to get close to their formations—it usually doesn't end well [for them]. They want no part of that, which is why China and Russia have invested in trying to keep us at bay.

When we talk about A2/AD, standoff is bigger than just long-range fires. It starts with social media and cyberattacks that extend well into the continental U.S. (CONUS) and other nations. This first layer of standoff disrupts and bifurcates the unity of opposition.

Then we get to the long-range fires: massed precision fires integrated with long-range sensors and drones. Their reach extends well beyond the organic artillery we've been used to for the last 30 years in Southwest Asia and Afghanistan.

The last piece is an integrated air defense (IAD) system with extended range, which poses a threat to the U.S. Air Force. We've always assumed we would have air supremacy so maneuver formations could move at will with appropriate support from the air. If the Air Force can't be sustainable in the close fight, it's another manner in which they keep us at bay.

So how does the joint force penetrate those multiple layers of standoff? Competing every day, all the time. That means countering unconventional and information warfare in theater every single day. Say there are demonstrations in Tallinn, Estonia. What is the theater commander doing that day to counter alongside our interagency partners? Are we even considering that as a target to be rendered on a daily basis?

Operational preparation of the environment is also critical for penetration. If we know there's an IAD system in a space and we're up against long-range fires, what is the theater operational command doing each day to target the key nodes of those A2/AD capabilities? In AirLand Battle, we thought about echelons and formations: you wanted to defeat the second echelon simultaneous to the first. In MDO, it's no longer the mass Soviet hoards we're concerned about, but rather getting after those key points of integration. Where are the radar or headquarters systems linking those IAD capabilities together? What are the key nodes that enable their long-range sensors for precision fires? If you can identify and take those systems down, you break down their A2/AD.

The last piece is being there. The National Defense Strategy (NDS) talks about "inside forces," which enable you to pull in the rest of the formation that will be organic to outside forces. While it won't be a huge force posture forward, the strikes made almost immediately begin to disintegrate those systems, creating space to exploit for maneuver. Our multi-domain task forces are a pilot effort putting units forward with the purpose of penetrating the A2/AD problem. They are intended to very rapidly integrate all domains in order to create overmatch in that decisive space.

All of this enabling capacity is done in the competition phase. Operational headquarters have to be engaged and stimulate these nodes every single day. By doing so, first and foremost, you deter war but, secondly if deterrence fails, you can very rapidly take down those integrated systems and move into the penetration phase.

Can you discuss how MDO ties into the joint force?

The unique aspect of MDO is it has to be understood across

Lt. Gen. Michael D. Lundy, commanding general, Combined Arms Center, and then Maj. Gen. Eric J. Wesley, commanding general of Maneuver Center of Excellence, observe a combined training exercise between Infantry One-Station Unit Training and Infantry Advanced Leaders Course. February 2, 2107, at various locations across Fort Benning. (Photo by Patrick A. Albright)

the joint force. Historically, the services federated their capabilities, brought them together for a fight, and had some matrix for targeting that was actually fairly brittle. If we want to have convergence and be able to rapidly and continuously integrate all domains in near real-time, the joint force—even the interagency—has to be part of a top-down view of how war would be fought. That's not to say you can't refine bottom-up, but there has to be a common understanding from the top.

As soon as becoming secretary of defense (SECDEF) and chairman of the joint chiefs of staff, both Secretary Mark Esper and Gen. Mark Milley were very clear that we needed a joint concept describing how we're going to fight in the future—one not unlike what we described in MDO. Right now, the joint force is creating a joint warfighting concept for all-domain operations and the Army has the lead role in facilitating its development. Here at FCC, and Army Futures Command under Gen. John Michael "Mike" Murray's guidance, we are working with the joint staff to ensure that concept can support joint all-domain operations.

SECDEF and Chairman also directed an annual, globally-integrated war game intended to take these joint concepts and validate them to ensure they achieve the desired end states. It also helps scrutinize and reinforce all of the services' investments to ensure they're buying the right systems to enable those concepts.

What is the goal for the DEFENDER exercise series from your foxhole?

Underneath the Office of the Secretary of Defense-level DEFENDER series umbrella, we use our joint warfighter assessments (JWA)—run out of Joint Modernization Command at Fort Bliss, Texas—each year to validate, learn, and confirm what we say in Multi-Domain Operations 2028.

We do all sorts of exercises all the time: training events, warfighter exercises, and National Training Center (NTC) rotations. But ask yourself, "What exercises put real boots on the ground at echelons above brigade to evaluate whether what we're saying in MDO is right, or answer the questions that remain?" The only one we do on that scale is the JWA.

Like DEFENDER, JWAs similarly happen in both the European and Indo-Pacific areas of operation. Each year, we identify certain training objectives to prosecute the five key MDO problems we have to solve at the joint level: how do you compete, penetrate, disintegrate, exploit, and return to competition? Within each, there are certain tasks we have to accomplish. For example, in the most recent JWA, we were asking how we establish a sufficient command and control network to conduct convergence. The exercise allowed us to get after that question and either validate what we've learned or further develop the concept.

While still oriented on the European theater, DEFENDER-Europe 2022 will be a little different because we're also going to leverage and connect the vast training space we have in CONUS. In AirLand Battle, we enhanced NTC to be able to fight deep simultaneously to our ability to fight close; our small installations around the U.S. just didn't give us enough space to fight deep. Now, MDO requires a global scale. We'll use live, virtual, and constructive environments to get the most out of integrated systems, which becomes a big deal.

What is your advice as we transform into the Army of 2028?

The Army will look different, but those at the battalion and brigade levels will still preeminently need to be able to shoot, move, and communicate. While MDO is largely an operational concept, I think lieutenants coming into the Army and tactical-level leaders need to think about two main differences.

First, not only will you have to fix and maneuver, but you'll need to see the opportunities to integrate another domain to enable you to shoot, move, and communicate. What are those entry points—what cyber node, power grid, or EW overlay—to enable your formation to fight even better? We have to train tactical leaders to think about those opportunities, and then enable their access to reach up and grab those capabilities as appropriate.

Second, you will face ethical and moral leadership challenges as a result of mission command on a scale that our generation has never experienced. The hyperactivity and increased lethality of the battlefield, coupled with that physical and technical separation of formations from their higher headquarters, implies you might have to make very rapid decisions in an environment where you don't know if you have permission. These are dilemmas we haven't seen since the 19th century when leaders weren't able to talk to their commander and had to operate off intent. The difference now is the speed, tempo, pace, and lethality will be exponentially higher.

How does the current COVID-19 environment relate to MDO and the future of sustainment?

COVID-19 is not an anomaly relative to our competition with adversaries, in fact, it accentuates it. I would argue the current scenario reinforces both the NDS and MDO because it has accelerated the behaviors of near-peers to compete and out-maneuver us left of conflict. That competition space is even more important in the COVID-19 environment.

It's been fascinating to watch the sustainment community's agility in this environment to enable our nation's senior leaders and bring to bear the resources we need to mitigate and solve the problem of COVID-19. When an outlier enters our culture, AMC and our Army's logisticians rapidly adapt accordingly. What's the next pandemic going to be? Probably not a virus, but it will make us just as vulnerable and require the same agility from the sustainment enterprise. All of this is very relevant to tomorrow and we have to be ready.

Arpi Dilanian is a strategic analyst in the Army Logistics Initiatives Group, Office of the Deputy Chief of Staff, G-4, Department of the Army. She holds a bachelor's degree from American University and a master's degree from Rensselaer Polytechnic Institute.

Matthew Howard is a strategic analyst in the Logistics Initiatives Group, Office of the Deputy Chief of Staff, G-4, Department of the Army. He holds bachelor's and master's degrees from Georgetown University.

Feature Photo
Lt. Gen. Eric Wesley, director of the Army Futures Command's Futures and Concepts Center, discusses the importance of preparing the force for future combat Feb. 7, 2019, at Fort Riley, Kansas. Wesley spoke about the technological capabilities of other nations and how it affects the future landscape of military operations. (U.S. Army Photo)

Combining FORCES

Synchronizing Logistics with Field Artillery Operations at Combined Resolve XIII

By Capt. Christopher W. Kim, 1st Lt. Kyle D. Haddock, and 1st Lt. Michael P. Murphy

Soldiers assigned to 3rd Battalion, 16th Field Artillery Regiment, 2nd Armored Brigade Combat Team, 1st Cavalry Division, drive a M109 Paladin 155mm into a firing position during a training exercise as part of Combined Resolve XIII, Hohenfels Training Area, Hohenfels, Germany, Feb. 1. The multinational training exercise involves more than 5,000 service members from the U.S., allied, and partner nations to test interoperability and promote regional stability while enhancing the U.S. relationships with allied and partner nations. (Photo by Sgt. Megan Zander)

The 2nd Armored Brigade Combat Team serves as part of U.S. European Command's Regionally Aligned Force (RAF) for Operation Atlantic Resolve. The brigade deployed from Fort Hood, Texas, in October 2019 for a 9-month rotation to the Atlantic Resolve AOR, spanning five countries. 3rd Battalion, 16th Field Artillery Regiment deployed to Torun, Poland, to assume the fires' mission for Operation Atlantic Resolve. I took command of Fox Forward Support Company (FSC) on Dec. 31, 2019, and I was on a bus two days later from Poland to Germany to execute a combat training center rotation. Fox FSC supported 3rd Battalion, 16th Field Artillery Regiment (3-16 FAR), 2nd Armored Brigade Combat Team (ABCT), 1st Cavalry Division in Combined Resolve XIII (CBR XIII), the 13th iteration of the multinational combined exercise designed to test and exercise interoperability between partner nations. The Joint Multinational Rotational Center (JMRC) rotation was a decisive action, large-scale combat operation (LSCO), exercise split into two phases: live fire and force-on-force. 2nd ABCT faced a near-peer threat during the force-on-force portion at Hohenfels Training Area.

Fox FSC had the unique challenge to support the split field artillery battalion tasked with the Atlantic Resolve mission and the JMRC rotation. 3-16 FAR had two batteries that participated in CBR XIII: Alpha Battery, and Headquarters and Headquarters Battery. Bravo Battery and Charlie Battery remained in Poland in support of Operation Atlantic Resolve. Fox FSC did not deploy the entire company to Germany in order to support the two batteries' operations in Toruń, Poland. We deployed a total of 53 Soldiers from our company, which included one field maintenance team, the distribution platoon, a section of

the field maintenance platoon, the field feeding section, and select members of the maintenance control section.

Of the senior company leaders, the company commander, the distribution platoon leader and platoon sergeant, and the automotive maintenance technician participated in the exercise. The terrain at Hohenfels was the most challenging ever personally experienced. In addition to the difficult landscape, the weather was unforgiving and unpredictable. The average high was 30 degrees Fahrenheit and low was 22 degrees Fahrenheit. We experienced a daily mixture of rain, snow, hail and sleet that created hazardous conditions for logistics operations. The training area at Hohenfels is significantly smaller than the National Training Center (NTC), but the weather created unique challenges that made traversing one kilometer tremendously more difficult than any other training area.

Logistics in LSCO

Logistics is echeloned in LSCO in order to position the right commodities at the right location to provide logistics support at the right time. Supporting field artillery is unique due to distance of the position areas for artillery (PAA) from the forward line of troops (FLOT) and the wide variety of 155mm ammunition. Also unique to field artillery operations is the nonstop fires as the battalion supports the brigade during the deep and close fight, and does not conduct reorganization operations unlike the combined arms battalions (CAB). To support field artillery operations, there are several logistics nodes serving different purposes on the battlefield. Logistics nodes include the company and battery trains, combat trains command post (CTCP), unit maintenance collection point (UMCP), field trains command post (FTCP), and brigade support area (BSA). Fox FSC had requirements at every single logistics node.

Battery Trains. Attached to Alpha Battery was a field maintenance team (FMT). This team was composed of self-propelled artillery and light track and wheel vehicle mechanics led by an experienced sergeant first class motor sergeant. The FMT provided direct and immediate maintenance support to the M109A6 Paladins and M992 CATs. In addition, they carried a shop stock list (SSL) container with up to 300 lines of class IX (repair parts) (CLIX), which reduced non-mission capable times on critical combat systems. The motor sergeant had several critical duties beyond general track maintenance, to include tracking tube life, SSL management, 5988-E flow to the UMCP, and report requirements to the FSC commander and maintenance technician. In addition to the FMT, one M978A4 Heavy Expanded Mobility Tank Truck (HEMTT) fuel tank was attached to Alpha Battery to provide immediate retail JP-8 fuel support. It permitted them to conduct refueling operations gun by gun, in between fire missions, that significantly reduced the amount of time the Paladins spent offline and enabled the battery to retain six Howitzers in position, ready to fire at any given time.

Combat Trains Command Post. The CTCP is for the immediate resupply of commodities to the supported Batteries. The FSC commander is the CTCP officer-in-charge. The FSC transports and manages two to three days of supplies of commodities at the combat trains. The trains are composed of the distribution platoon, field maintenance section, headquarters section, and field feeding section. The equipment capabilities included the M978A4 HEMTT fuel tanker, M1075A1 Palletized Load System (PLS), and M1076 PLS trailer for mobile storage and distribution of multi-class commodities and field feeding equipment. In order to provide responsive logistics support, it is an art and science to position the correct commodities and FSC assets at the CTCP.

The FSC commander is responsible for the tactical planning and execution of logistics support to the batteries. The battalion S4 (logistics) and FSC headquarters section tracks the battalion's logistics status (LOGSTAT) report in order to issue, receive, and position the correct commodities at the CTCP. Our combat trains were co-located with the battalion tactical operations center, due to the size of the training area and speed of which the fight moved.

Unit Maintenance Collection Point. The UMCP was physically located within the CTCP. The UMCP served as the consolidated maintenance area to conduct uninterrupted maintenance operations at a secure location. The HEMTT M984A4 Recovery Truck, or wrecker, and M88A2 Hercules Recovery Vehicle were positioned at the UMCP to provide recovery and lift capabilities. Important to UMCP operations were special tools, coordination of shop stock list (SSL), and common core additional stock list (CCASL) line items. The FMTs retrograded mechanically failed or battle-damaged combat systems to the UMCP to conduct maintenance as the fight moved. To support the FMTs, the field maintenance section provided the resources for the FMTs to execute maintenance. Maintenance operations were deliberate, planned, and operationalized in order to decrease the time to return combat systems back to the fight.

Our largest challenge to maintenance operations arose from difficulty communicating between the FMT and the maintenance technician. To mitigate this, a manual Department of the Army form 5988-E, equipment maintenance and inspection worksheet, rotation was implemented prior to the start of the exercise. The maintenance technician sent new 5988 forms to the battery every 48 hours, which were picked up and issued by the distribution PLT. The battery, in turn, conducted maintenance activities and recorded it on their 5988s during periods of low battlefield activity. This did not allow for a quick turn on parts but did promote the long-term health of equipment as the parts needed were ordered once the maintenance tech received the 5988s.

Field Trains Command Post. The field trains command post was located within the brigade support area; the purpose of the FTCP was to coordinate with the brigade support battalion (BSB) commodity managers, validate and package commodities that moved to the CTCP. The FTCP was typically overseen by the battalion S4 assistant officer-in-charge (OIC), FSC executive officer, or the Headquarters and Headquarters Battery executive officer. A battalion representative with decision-making authority must be at the FTCP. It was their responsibility to validate, request, and coordinate for commodities to be moved either to the CTCP by the FSC or throughput to the batteries by the BSB. 3-16 FAR's S4 assistant OIC was located at the FTCP, which provided enormous value for battle tracking commodities and synchronizing with the BSB support operations (SPO) section. In addition, his solid grasp of commodities requirements and projections by platform was key to the battalion's sustainment successes as he was able to accurately project the needs of the battalion during periods where communication broke down. A keen understanding of the various projectiles used by the battalion was crucial to maintain lethality through the transition from the defense to the offense. It's recommended for field artillery battalions to maintain at the FTCP an individual who understands artillery ammunition and what is required of the battalion throughout all phases of the operation. Failure to accurately project and order ammunition will render a field artillery battalion ineffective.

Brigade Support Area. The brigade's commodity managers and distribution capabilities resided in the BSA. It was critical the battalion liaison synchronized with the BSB's SPO using the brigade logistics synchronization matrix, battalion logistics status report, and the logistics common operating picture to create a shared understanding of the battalion's logistics requirements. A portion of the battalion's Class V (ammunition) (CLV) supply was stored at the BSA's ammunition transfer holding point (ATHP) for pick-up by the FSC or through put to the batteries by the BSB's distribution company. Prior coordination must be made for bulk-to-bulk JP-8 fuel transfers to ensure the BSB's bulk fuel assets are staged to transfer once the FSC assets arrive. Also, the battalion liaison ensures CLIX repair parts are post goods received (PGR) for timely transfer from the supply support activity (SSA) to the FSC. Our maintenance technician was located at the BSA, which made requisition and coordination of CLIX repair parts quick and effective.

CLV Ammunition Management

CLV is the most important commodity to the battalion. CLV management and planning is done at the battery, FSC, and battalion level. The distribution platoon is the field artillery battalion's beast of burden, responsible for the transport, management and issue of CLV to the batteries. Although responsible for the mobile transportation and distribution of ammunition, the distribution platoon does not forecast or order ammunition. That responsibility lies with the battalion fire direction officer (FDO) and battalion S4 OIC, who along with the battalion S2, project what ammunition is required to engage anticipated targets. Once they are identified, the order for ammunition is sent to the FTCP based on the attack guidance established by the field artillery battalion commander.

Triggers & Combat Configured Loads. Ammunition resupply from the FSC to the batteries, or from the BSA to the CTCP, were based on triggers determined through the military decisionmaking process (MDMP). The battalion staff conducted daily MDMP. They provided the FSC commander, battalion S4 OIC, the battalion FDO, and the battalion S2 OIC the planning analysis to refine, update, and determine the composition of CCLs for the next 24-96 hours. This allowed us to adjust triggers, and CCLs based on conditions generated by current and future operations. Also, the staff's daily planning, with the battalion commander's intent, provided the FSC commander the flexibility and planning analysis to better anticipate triggers with the appropriate CCLs ready for movement to the batteries. With the staff's planning, I knew which batteries were designated for the counter-fire and dynamic-fire missions in order to have CCLs ready at the CTCP and move additional CLV from the BSA's ATHP. Additionally, this provided flexibility to anticipate and respond to changes by having the correct assets on hand at the CTCP.

Forward Support Company. The 89B ammunition specialist in the FSC managed the CLV at the CTCP and kept an accurate count of all ammunition on hand. The FSC commander and distribution platoon leader ensured the ammunition was configured and ready for immediate transport to the supported batteries.

Battalion. The battalion S4 officer-in-charge, battalion FDO, and battalion S2 intelligence officer were responsible for the ammunition composition requirement for the batteries based on the enemy situation template (SITEMP), planned targets, historical numbers of counter-fire, and dynamic target missions. Also, the ammunition requirement was based on the field artillery tasks, rounds per target, and rounds required at the battery, CTCP and BSA.

R3SP: Rearm, Refuel, Resupply, Survey Control Point. The field artillery community uses a unique method of resupply called the R3SP. R3SP is primarily used during the initial movement of troops into the tactical assembly area after the reception, staging, onward movement, and integration (RSOI) process. R3SP is a deliberate and well-organized version of the supply point distribution method. It provides the initial CLV unit basic load (UBL), Class III (bulk) retail, Class I (meals ready-to-eat) and Class IV (construction) material to the batteries prior to the movement to their PAA. Batteries arrived at the R3SP location with a plan of which type and amount of ammunition was to be loaded into their M109A6 Paladins, M992 Field Artillery Ammunition Support Vehicles (carrier ammunition tracked), and M1074A1 PLS trucks. The battalion FDO provided the battery with the target list worksheet, which enabled batteries to properly store the correct ammunition on the correct platform to engage upcoming targets. Having communicated upcoming ammunition requirements by target to the battery enabled them to conduct responsive fires in support of the brigade's mission.

Methods of Resupply. Fox FSC conducted multiple types of resupplies based on the operational environment, troops available, mission, terrain, and enemy SITEMP. The primary methods of resupply were unit distribution, supply point distribution, and throughput from the BSB. The battalion S3 (operations) section issued the order. The battalion S4 section and the FSC commander determined the requirements based on the LOGSTAT and commodities on hand at the CTCP. Furthermore, the distribution platoon leader executed the resupply using one of the three methods of resupply, based on the operational environment and the batteries' operation. In addition to unit and supply point distribution, the BSB was capable of executing CLV throughput to the batteries that depended on the brigade's priority of support and battle period. During the close fight, the BSB executed multiple throughput CLV resupplies to the batteries, having cached ammunition near the PAAs. This enabled the battery to receive a quick resupply without the direct support of the FSC. It also reduced movement across the area of operations and minimized the likelihood of a convoy being detected and targeted by enemy information collection assets.

Lessons Learned

The company's time at JMRC was invaluable to assess the company's readiness to support 3-16 FAR's mission. Additionally, it showed where we could think outside the box to provide the best support to the battalion. Through the combat training rotation, the company understood its areas for improvement and further development. We developed tactics, techniques, and procedures to include daily planning procedures, looking out 24-96 hours, and logistics resupplies based on triggers. In addition, we quickly learned a shared understanding of the logistics status is only achieved when leaders at all echelons remain in constant communication with one another.

Commodity Management & Forecasting. The FSC must maintain Joint Capabilities Release (JCR) capabilities between the FMTs, CTCP, and the FTCP in order to track the commodity levels at each logistics node. The CTCP must maintain a live logistics common operating picture, with the commodities on hand, with the FSC and the batteries. In addition, the CTCP must communicate with the FTCP for incoming commodities and the commodities that have been resupplied to the batteries. In a high-stress environment where many individuals are sleep deprived, maintaining JCR communications, with its written record, were key for reference. We had challenges with JCR logistics communications that increased the non-mission capable time for maintenance operations and movement of commodities between the logistics nodes. We semi-successfully used our primary, alternate, contingency, and emergency plan to work through the JCR, but relied primarily on FM radio and face-to-face communications at the brigade and battalion logistics synchronization (LOGSYNC) and maintenance meetings.

Communication & FSC To Battalion Staff Integration. The FSC commander must conduct LOGSYNC meetings with the battalion S4 OIC and battalion FDO, and lead the LOGSYNC meetings with the batteries. Doing so validates the batteries' logistics requirements which allows the FSC to accurately request supplies from the BSA. Huge to success were the twice daily LOGSTAT reports which were then validated during the LOGSYNC meetings with the batteries.

BSA Expectations. The brigade support battalion supported eight battalions which caused delays for 3-16 FAR to receive commodities. The BSA was often backlogged with units waiting to receive supplies and 3-16 FAR was not the priority of support or resupply. The FTCP must be engaged with the BSB's commodity managers and distribution assets in order to receive resupplies in a timely manner. In addition, the FSC must be prepared to receive commodities; assets must be made available when the BSA is ready to issue supplies to the battalion. I was constantly engaged with the SPO, the BSB operations officer (S-3 OIC), and the distribution company commander to communicate when my assets moved to the BSA in order for the BSB to prepare for the transload of commodities and to ensure synchronization one level up.

Capt. Christopher W. Kim currently serves as commander of Fox Forward Support Company, 3rd Battalion, 16th Field Artillery Regiment. He holds a bachelor's degree in history from North Georgia College.

1st Lt. Kyle D. Haddock currently serves as battalion S4 officer-in-charge, Headquarters and Headquarters Battery, 3rd Battalion, 16th Field Artillery Regiment. He holds a bachelor's degree in business administration from California Polytechnic State University.

1st Lt. Michael P. Murphy currently serves as distribution platoon leader, Fox Forward Support Company, 3rd Battalion, 16th Field Artillery Regiment. He holds a bachelor's degree in secondary education from Arizona State University.

Josh Miller welds the frame assembly for an AN-TPS-80 Ground/Air Task Oriented Radar (G/ATOR) power equipment group pallet. Highly skilled employees at Tobyhanna Army Depot provide high-quality materiel support to maintain Army readiness. (Photo by Thomas Robbins)

READINESS DRIVER

Tobyhanna Army Depot Supports Modernization in the SSA

By Col. John W. McDonald

As the Army relies on the strategic support area (SSA) to sustain the readiness of warfighters, the organic industrial base (OIB)—consisting of critically needed depot support, arsenal capabilities, and munitions production—remains the key enabler and major readiness driver for our Army. The OIB must remain ready, provide sustainment capabilities at the speed of relevance, and capitalize on modernization efforts that provide critical infrastructure in support of ongoing requirements and large-scale combat operations (LSCO).

As part of U.S. Army Materiel Command (AMC) and headquartered by U.S. Army Communications-Electronics Command (CECOM) Life Cycle Management Command (LCMC), Tobyhanna Army Depot emboldens specific focal areas within the SSA. These include areas such as strategic planning, multifaceted and responsive production, comprehensive engineering capabilities, and a recently completed ten-year, $750 million infrastructure modernization plan.

This plan included:

- Establishment of a state-of-the-art electronics enclosure
- Construction of a defense cyber operations facility
- Establishment of all-weather asset testing capabilities
- Development of over 2.5 million square feet of working floor space able to meet the future maintenance demands of the Army

As part of the SSA and OIB, Tobyhanna is the primary

logistics and sustainment support center for the majority of the Department of Defense Command, Control, Communications, Computers, Cyber, Intelligence, Surveillance, and Reconnaissance (C5ISR) weapon systems, providing design, development, engineering, manufacturing, repair, and overhaul support across the services and around the globe. Designated by the Army as the Center of Industrial and Technical Excellence for C5ISR, electronics, avionics, and missile guidance systems, Tobyhanna ensures continual and steadfast engagement with evolving communications and electronics technology. As the largest industrial employer in northeastern Pennsylvania with roughly 4,000 personnel, Tobyhanna maintains a worldwide footprint capable of projecting sustainment capabilities to the warfighter. Tobyhanna has a workforce with vast electronics skill sets, able to deploy in support of C5ISR support services worldwide.

Tobyhanna deploys technicians to 40 forward repair locations established in over 30 countries. These technicians facilitate on-site repairs to support warfighter readiness at the time and point of need.

Tobyhanna also has a robust engineering department consisting of over 400 engineers, technicians, programmers, and logisticians who play an integral part to ensure legacy weapon systems can be sustained through issues of obsolescence and diminishing sources. Tobyhanna serves as a strategic partner in meeting the Army's C5ISR sustainment requirements.

TOBY 2028

To ensure the depot remains ready for the future, Tobyhanna has established a comprehensive and cohesive strategic planning effort known as TOBY 2028. This initiative ensures the organization proactively searches for ways to posture itself for future demands of the warfighter. This is accomplished by adding additional skill sets and upgrading infrastructure to align with the Army's innovation and modernization efforts.

TOBY 2028 is organized into four lines of effort which are nested with the priorities of the Secretary of the Army and Chief of Staff of the Army:

- C5ISR Readiness
- Invest in our People
- Shape the Future
- Strategic Communications

As part of the effort to 'Shape the Future,' Tobyhanna combined two engineering labs into one cohesive unit—the Engineering Analysis and Solutions Lab (EASL) and the Automatic Test Equipment Lab.

Tobyhanna Army Depot's electronic maintenance enclosure was designed in line with current trends and industry best practices. The 30,000-square-foot enclosure includes a raised floor that can easily be reconfigured for changing mission needs. It is certified according to aerospace quality standards and electrostatic discharge requirements. (Photo by Thomas Robbins)

"This facility will serve as a beta site for emerging electronics testing, repair, and fabrication capabilities; process development support, and C5ISR sustainment and maintenance operations," said Mark Sgobba, an electronics engineer who is leading the unification effort. He also noted that the unification concept combines the facilities, equipment, and skilled technical resources required to analyze complex technical problems and develop innovative solutions for communications and electronics weapon systems.

To retain, maintain, and sustain the Army of the future for LSCO, a focus must also be placed on the rapid advancement of commercial electronics products to assess their potential use on the battlefield. Tobyhanna works closely with program managers and Army materiel developers to build the right sustainment capabilities and appropriately plan for future requirements. In addition, the depot works with the private sector to ensure the team remains current with technological advancements and innovative improvements concerning C5ISR sustainment and maintenance operations.

Tobyhanna understands this critical relationship with industry and has established public-private partnerships (P3s) with commercial providers since 1997. P3s allow Tobyhanna and private organizations to work in a collaborative environment and complement one another's capabilities to support the warfighter.

Frank Zardecki, deputy commander of Tobyhanna, highlighted the depot's involvement in over 400 P3s throughout the past 24 years. "We have the public-private partnering experience to provide high-quality, cost-effective C5ISR total lifecycle support services," said Zardecki. "Among their many benefits, partnerships enhance the ability to collaborate, share best practices, and ultimately provide optimized readiness support to the warfighter."

Prototyping and Testing

Tobyhanna also supports the Army's use of prototyping and testing new technology to field combinations of commercial and nondevelopmental items.Tobyhanna established a prototype design facility to explore various initiatives. "The plan is to have various metal working, sheet metal, fabrication, and electrical capabilities under one roof with the necessary support infrastructure, such as cranes and adequate floor space," said Michael Vivlemore, chief of the Design, Development and Fabrication Division, Production Engineering Directorate.

Finally, it is critical to continuously build the bench of tomorrow's skilled workers and military personnel to keep the Army and SSA rolling along. Tobyhanna invests in the workforce and supports warfighters through an established dynamic, hands-on training program. The depot offers continuous on-site training, from shop-floor skills to management-level training, education incentives, and partnerships with several local colleges and universities for continuous education and honing of critical skills for all workers. On-site training tools are provided to the current workforce and are also available to all branches and components of the U.S. Armed Forces. Military personnel receive the same hands-on training from depot journeymen technicians in C5ISR systems. As a result, many have earned certificates in basic robotics, networking, and environment protection.

The depot's proactive approach and culture is rooted in the Tobyhanna business model and values to support the warfighters across the C5ISR mission. These principles are the lifeline of the organization; without that structure, the Army would not have the ability to adapt to support the SSA.

Col. John McDonald is commander of Tobyhanna Army Depot, Pennsylvania. As commander for 4,000 personnel, his responsibilities include supporting global readiness for command control, communications, computer, intelligence, surveillance and reconnaissance (C5ISR) systems across the Department of Defense. His military career started as a parachute rigger with 82nd Airborne Division, Fort Bragg, North Carolina. He was commissioned as a second lieutenant in the Quartermaster Corps and has served in several leadership and staff roles throughout his 27-year career. He holds master's degrees in logistics management and national resource strategy.

Maj. Gen. Douglas M. Gabram, commanding general, U.S. Army Aviation and Missile Life Cycle Management Command, discusses maintenance efforts with Chief Warrant Officer 3 Douglas A. Daughenbaugh, armament officer, 277th Aviation Support Battalion, during a visit to Illesheim Army Airfield, Germany, March 27, 2017. (Photo by Spc. Thomas Scaggs)

Fight The Enemy, Not the Plan:

An Interview with Lt. Gen. Douglas Gabram

By Arpi Dilanian and Matthew Howard

Since assuming duties as commander of U.S Army Installation Management Command (IMCOM), Lt. Gen. Douglas M. Gabram has been at the forefront of building the foundation of readiness across the strategic support area (SSA). Overseeing a workforce of over 50,000 in 75 worldwide installations, Gabram and the IMCOM team integrate and deliver base support to enable a self-reliant and globally-responsive Army. With multiple combat deployments, from captain to general officer, Gabram has an operational and strategic perspective on how installations are warfighting enablers of readiness.

What focus areas have you established since taking command?

Last year, IMCOM was realigned under Army Materiel Command (AMC). While I won't speak for our complete history or the accomplishments of the great leaders who came before me, I think the realignment is the best thing that's happened to this organization. Now, we have the power of the patch—synergy with the other major subordinate commands of AMC—and a four-star commander behind us all promoting unity of command and unity of effort.

It also helps us evolve. One of IMCOM's enduring priorities has been infrastructure. Now, with the weight of the entire AMC enterprise behind us, we are elevating our military construction and strengthening our restoration and modernization efforts across the Army. We've coordinated a facility investment strategy with Army commands and Army service component commands, and will be working across the enterprise to bring it to fruition in the coming year.

Perhaps most important is our role in the SSA, on which AMC is laser-focused. It's all about how we project combat power at echelon, and Gen. Gustave "Gus" Perna has brilliantly led us through the seven focus areas. Three of those fall directly into IMCOM's portfolio: Soldier, Civilian, and Family Readiness; Installation Readiness; and Strategic Power Projection Readiness. Simply put, the SSA, and specifically our installations, are where we fight from and where we generate the nation's military power.

Through Perna's superior leadership over the past three-plus years, we—the entire AMC enterprise—have done incredible work and I think you can really see and feel the tangible change in where we're heading. At the end of the day, we've enabled readiness for the Army.

What has the response to the COVID-19 pandemic done to help further define the SSA?

I think it's put a direct spotlight on the SSA in action: the entire enterprise has been stressed to respond to an atypical threat. But in a lot of ways, it's really no different than a combat operation—and I often refer to it that way. We fight the enemy, not the plan.

For us, it's all about enabling commanders and mission command at every installation. We are the "i-n-g"—we are supporting tactical battalion and brigade commanders, along with their senior commanders, to actually go fight the fight. They are the supported commander. I think it's important to understand that distinction and to highlight the role our garrison commanders play in supporting that readiness. As the integrator of services, they're essentially the mayors of each of our 75-plus installations across the globe. I can't overstate the criticality of that mission, especially during our Army's response to COVID-19. I truly believe garrison commanders are the center of gravity for installation readiness.

Couple that with how we're structured organizationally and you begin to see the power of a cohesive, integrated SSA. Our IMCOM directorates are task-organized by function and co-located with the organization they are directly supporting: Training (U.S. Army Training and Doctrine Command), Readiness (U.S. Army Forces Command), Sustainment (Army Materiel Command), Europe, and Pacific. In doing so, each of those directorates enables integration among garrison commanders while providing a direct reach back to our headquarters.

When the outbreak first started to accelerate, this network enabled best practices at echelon to be shared quickly from our garrison commanders to higher headquarters commanders, and vice versa. A lot of folks don't realize just how much the lessons learned from our installations in Korea, Germany, and Italy have helped the Army—if not the entire Department of Defense—respond as the threat moved to the continental United States. It's a real-world example of the whole being greater than the sum of its parts. It's been a powerful sight.

The other piece is the battlefield: It's now a home game, where before it was always an away game. FOBs as we used to know them—our forward operating bases when we're deployed—are now our installations. For many of our Soldiers, Civilians, and families, the fight has become much more personal than it has been in the past.

Again though, we fight the enemy not the plan. Responding to the current environment has not only proved and reinforced our relationships within the Army, it's also strengthened relationships with our surrounding communities and business leaders. All of our battalion, brigade, garrison, and senior commanders are fighting as one team. They certainly did before, but remember, battalions and brigades usually deploy their forces while garrison commanders stay back at the installation. Now they're all geographically co-located on the "FOB" together fighting this invisible enemy. That synergy has been very powerful.

What role does the SSA area play in winning in a multi-domain environment?

It's absolutely critical for success on the future battlefield. Our adversaries know and understand they can't beat us in a straight-up fight. However, I believe they have had their eyes on us in recent months to see how we've been able to protect our installations and our people while remaining ready and maintaining our ability to project power in the COVID-19 environment.

That said, I'm confident in the preparation we've done thus far. Last fall, IMCOM played a central role in the U.S. Forces Command Deployment and Mobilization Rock Drill and the First Army Mobilization Force Generation Installation Exercise. Here, we brought supporting and supported commanders together to identify potential gaps and vulnerabilities and find ways to mitigate them. This spring we are participating in SSA forums, hosted by AMC, where each member of the SSA walks through how they employ capabilities in support of the mission and determine solutions to the collective issues we face as this doctrine continues to evolve.

What are some of the changes we will see as we modernize and strengthen our military communities?

IMCOM is the Army's home, and it's Perna's vision that every installation is a Soldier's and family's number one choice. That's a powerful statement, but as the foundation of the SSA for over a million Soldiers, civilians, and their families, we're committed to making it a reality.

The chief of staff says that people drive the Army. He's outlined five quality of life focus areas and IMCOM is responsible for driving four of them to this vision:

- Housing
- Childcare
- Spouse employment
- Permanent change-of-station moves

A great example of our efforts in all these areas is the detailed planning we've done in coordination with Human Resources Command, Army Sustainment Command, and others to ensure the seamless transition of students this summer from the Army War College at Carlisle Barracks, Command and General Staff School at Fort Leavenworth, and the Sergeants Major Academy at Fort Bliss. The team worked hard, solved problems, and learned valuable lessons while planning the massive swap over of students this summer. In housing, we learned what it will take to execute all necessary actions between occupants to provide each student and their family a quality set of quarters upon arrival. We are looking at child care availability on each garrison and how to increase it both on and off post. These three garrisons are conducting virtual hiring fairs for spouses and other information-sharing activities to give them a heads up on available jobs, both on post and in local communities. And, of course, we strengthened our relationships and communication streams with moving company leaders and industry reps to jointly plan the surge that will happen when we execute these missions.

Clearly, the response to COVID-19 has thrown several big wrenches into our plans; but because we were well on our way to determining a solution set when it hit, our team was able to take a measured approach because we were adjusting from a known point instead of making it up from scratch.

So while we're certainly reevaluating our environment based on the impacts of COVID-19, we haven't taken our eyes off our people, especially in these four key areas. We will continue to adapt these quality-of-life initiatives and make them even stronger moving forward. There's no alternative.

What message do you have for our Soldiers, civilians, and families in the face of challenging and uncertain times?

I think it's important to echo Perna's guidance to the enterprise as the pandemic really started expanding, which was to protect the force, prevent the spread of the virus, and accomplish the worldwide mission. In doing that, my message is what I call "The Three Ps": protect yourself, so we can protect the force, so the force can protect the nation.

It all starts with protecting yourself. When the airplane is at 30,000 feet and the oxygen masks drop, who do you put the mask on first? You put it on yourself; you have to take care of yourself so you can help your friends and your family members. It's no different in today's environment. We're all in very unique positions we've never experienced before, but we must do our part at the personal level so we can protect the force and the force can protect the nation.

Arpi Dilanian is a strategic analyst in the Army Logistics Initiatives Group, Office of the Deputy Chief of Staff, G-4, Department of the Army. She holds a bachelor's degree from American University and a master's degree from Rensselaer Polytechnic Institute.

Matthew Howard is a strategic analyst in the Logistics Initiatives Group, Office of the Deputy Chief of Staff, G-4, Department of the Army. He holds bachelor's and master's degrees from Georgetown University.

Crisis Response

Mortuary Affairs Troops Provide Support to Civil Authorities During COVID-19

By Capt. Cristian Radulescu and Capt. Chris Lancia

Soldiers in the New Jersey National Guard and U.S. Air Force Airmen rehearse a plan at the Newark temporary storage location, in the Rutgers University Hospital parking lot, in support of civil authorities during the COVID-19 response in that region. (Photo by Capt. Cristian Radulescu)

As the nation prepared for a high number of COVID-19 deaths, the National Funeral Directors Association expressed a likely shortfall in its ability to process remains. It became clear that the Department of Defense (DoD) Mortuary Affairs program had training and expertise in the dignified handling of remains due to two decades of armed conflict that would serve a critical role to offset that shortfall by providing advice on mortuary affairs collection points and providing assistance in operating mortuary affairs programs and facilities. With many public health officials anticipating a second surge of COVID-19 later this year, we should take the opportunity to review some lessons learned from the mortuary affairs' initial support effort to provide a more efficient response should the need arise again.

To provide data points for comparison, it makes sense to review two states in which, as of May 6, the Center for Disease Control reports having carried the heaviest death tolls from the virus: New York and New Jersey.

New York

- 316,041 cases of COVID-19
- 25,014 deaths related to COVID-19
- Total population: 19,440,469
- 47,126 square miles
- 414 people per square mile (eighth most densely populated state)

New Jersey

- 130,593 cases of COVID-19
- 8,244 deaths related to COVID-19
- Total population: 8,936,574
- 7,354 square miles
- 1,213 people per square mile (highest population density of any state)

Capt. Cristian Radulescu served as the mortuary affairs planner for both states in April and May. This article highlights his key takeaways from his work with both states' emergency management teams and the Federal Emergency Management Agency (FEMA).

New Jersey

In New Jersey, Radulescu assisted the Office of the Chief State Medical Examiner (OCSME) and the mass fatality manager. The scope of joint operations is informed by DoD Directive 3025.18 Defense Support to Civil Authorities (DSCA), the Stafford Act, the Posse Comitatus Act, and Army and joint mortuary affairs publications presented in the Joint Mortuary Affairs Officer course at Fort Lee, Virginia.

The New Jersey State Police (NJSP) used incident management teams (IMTs) to support the state's Office of Emergency Management (OEM) during the crisis. New Jersey is one of two states that operate this way. The OCSME's mass fatality manager plans mortuary affairs at the state level and NJSP provides resources to support the plan. New Jersey did not request support from FEMA Region 2 or the Department of Health and Human Services (HHS) Disaster Mortuary Operational Response Teams (DMORT). These teams can augment medical examiners' offices, able to operate a Disaster Portable Morgue Unit (DPMU) or assist with mortuary affairs during disasters declared by the President of the United States.

Instead, New Jersey bought 20 new 53-foot specialized refrigerated trailers and a privately-owned business donated metal racks to increase storage capacity to 50 human remains per trailer. The plan initially emplaced these trailers in the north, south, and central regions of the state. Initial forecasts of COVID-19 related death tolls anticipated the state's north region to have the greatest need to require temporary refrigerated storage. A parking lot of Rutgers University Hospital became the site at Newark to support that need.

In the central region, a delay in delivery from the out-of-state vendor prompted New Jersey to contract two 10,000 square-foot warehouses to additionally increase storage capacity to more than 2,000 remains and mitigate an expected spike mid-April which analytics and modeling companies provided the Governor's office. The site was equipped with sub-zero refrigeration units suitable to provide the required temperature control to delay decomposition. To properly store remains and increase capacity, the same company donated additional metal racks to double the number of rows in the warehouses. These racks allowed the available refrigerated trailers to be repositioned as needed and provided a centralized collection point at the warehouses.

Hospitals sent remains to the prepositioned trailers or, in certain cases, directly to the warehouses. Funeral directors were then able to recover the remains from either the hospitals or any of the temporary morgues without having to bypass proper handling procedures due to time constraints of storing remains in facilities that would allow decomposition to begin. This process was similar to the Army's use of a theater mortuary affairs evacuation point (TMEP).

It became clear that the Department of Defense Mortuary Affairs program had training and expertise in the dignified handling of remains ... providing advice on mortuary affairs collection points and providing assistance in operating mortuary affairs programs and facilities.

Governor Phil Murphy published two key executive orders in support of the mortuary affairs process. One allowed crematoriums older than 30 years, to operate 24 hours a day and the other expedited processes in mortuary affairs and required retrieval from temporary morgues to occur within 72 hours of the time of death.

The state's mass fatality manager reduced the amount of paperwork necessary for a hospital to release remains, after an appropriate legal review, from four detailed documents to just one custody sheet. This simple change had a far-reaching effect that bought time to avoid overwhelming funeral homes without a negative impact on accountability of the remains.

The New Jersey National Guard (NJNG) quickly mobilized and provided troops at Newark and the central region sites, with approximately 33 Soldiers at each facility to conduct 24-hour operations. They were postured to provide 30 field litter ambulances (FLAs) to help transport five remains at a time and, as a contingency, 11 multi temperature refrigerated container systems (MTRCS) normally used to store food supplies. The Soldiers who handled the remains were not mortuary affairs specialists (92M), but were trained and supervised by qualified OCSME personnel to ensure proper procedures were followed. NJSP provided resources and support at all sites, through the temporary morgue policy and procedures planner. NJSP contracted decontamination teams to be used if the MTRCS or any other nonstandard equipment had to be put into operation. Sites were secured by state troopers to ensure NJNG were well-supported and could safely conduct operations.

A representative from OCSME ensured remains were tracked and accountability was maintained at all sites. Information published on the OCSME site was easy to follow. OCSME and NJSP ensured the New Jersey State Hospital Association, private hospital corporations managing 71 hospitals throughout the state, over 350 long-term care facilities and nursing homes, and three temporary military field medical sites (FMS) knew and followed the plan. The temporary storage sites, especially the warehouses in the central region, bought funeral directors the time necessary to execute final disposition.

Teamwork, simple solutions, and flexibility made the difference in ensuring New Jersey had a plan that was realistic and executable. Adaptations such as the various metal racks that easily snapped into place and could be broken down, reconfigured, and repositioned and the reduction in paperwork to one custody sheet reduced time required to properly transfer remains and made the

process flow smoothly. OCSME was receptive to our advisor's ideas, from considering temporary internment to burial at sea, and collaborated well with NJNG. Everyone's professional attitudes ensured the dignified transfer and internment of all remains and established the capability to respond to a spike that is forecasted to occur during the upcoming fall and winter seasons.

New York

The city had initially set-up four DPMUs managed by DMORT and 54th Quartermaster Company (54th QM) that fell under the dual-status commander, since New York National Guard's (NYNG) own mortuary affairs company was deployed. A long-term storage facility, or DPMU No. 4, was set up at the south Brooklyn Marine Terminal on 39th Street. The Office of the Chief Medical Examiner (OCME) set-up a recovery taskforce to assist with what had become a backlog of remains at hospitals.

Initially, the city hospitals transferred remains to refrigerated trailers, what they termed body collection points (BCPs), in parking lots adjacent to hospital morgues. The city has 62 hospitals augmented by the Javits Center and USNS Comfort (T-AH-20). The volume and speed of the death toll overwhelmed hospital staff. Since an estimated 80% of patients on ventilators expired, there was a forecast of a spike in hospitalization cases in the months of March and April. Firms hired to provide modeling and analytics offered data to the governor's office, and on April 9, New York Governor Andrew Cuomo signed an executive order authorizing out-of-state licensed funeral directors to assist with final disposition. Like in New Jersey, the friction points occurred at hospitals on the front end and funeral homes, cemeteries, and crematories on the back end. Even though the Brooklyn Marine Terminal was set-up for long-term cold storage, the backlog in the hospital BCPs remained the challenge.

To manage this backlog, OCME was augmented with an interagency recovery taskforce, supported by the Fire Department of New York. Per the New York Disaster Management Plan and Mass Fatality Guide, the HHS' DMORT augmented OCME's efforts to recover remains from BCPs to the Brooklyn Marine Terminal where 54th QM could apply their expertise and process remains into long-term storage until funeral directors could recover them.

Once this plan went active, it was used to recover an estimated 1,527 unclaimed remains and approximately 3,000-4,000 remains. 54th QM processed approximately 240 cases per day with the intent to maximize their capability to work through the backlog before their redeployment scheduled for late May. The average time for remains in storage was 25 days. The longest time remains were held was 40 days. The manner of performance and professionalism of the 54th QM Soldiers set the standard in the state of New York.

Soldiers from Defense Coordinating Element Army North and staff from Federal Emergency Management Agency (FEMA) that make up the COVID-19 FEMA Region 2 response team pose for a group photo. The Soldiers have special mortuary affairs skills to support civil authorities during the pandemic response in New York and New Jersey, where a high number of COVID-19-related deaths overwhelmed the local mortuary infrastructure. (Photo by Capt. Cristian Radulescu)

Capt. Cristian Radulescu briefs at a COVID-19 Federal Emergency Management Agency (FEMA) command center, in Trenton, N.J. As a sustainment officer, Radulescu was deployed to support the FEMA mortuary affairs planning team as part of the military's support to civil authorities during the COVID-19 pandemic response. (Photo by Patrick Buffett)

Summary

It is beneficial to determine the measures that can make the difference if the forecasted second wave of COVID-19 becomes a reality. Most essential for both states were the long-term warehouse storage facilities with freezing capability. These facilities buy precious time for hospitals and funeral homes to work through what otherwise becomes a backlog of rapidly decomposing remains. A level of flexibility and decisive unity of command between various agencies was required so that a taskforce could be surged to areas of greatest need and streamlined the 'red tape' process between privately owned and operated hospitals and government organizations.

Capt. Cristian Radulescu is assigned to Army Logistics University, Fort Lee, Virginia. He has served as commander of Echo Forward Support Company, Regimental Engineer Squadron, 2nd Cavalry Regiment, Vilseck, Germany, and has deployed to Operation Enduring Freedom '12. He holds a Bachelor of Science in Sociology from University of Wisconsin-Superior and a master's degree in transportation and logistics from American Military University. Radulescu is a graduate of the Command and General Staff Officers' Course and Joint Mortuary Affairs Officer Course.

Capt. Chris Lancia serves as deputy director of public affairs, U.S. Army Combined Arms Support Command, Fort Lee, Virginia. He has served as company commander of Echo Company, 2nd Battalion, 3rd Aviation Regiment, 3rd Combat Aviation Brigade, 3rd Infantry Division, at Hunter Army Airfield, Georgia and has deployed multiple times to Iraq, Afghanistan, and various other countries. He holds a bachelor's degree in English communications from Armstrong Atlantic State University, in Savannah, Georgia, and is a graduate of the Logistics Captains Career Course.

Detainee Operations

Units Face Dual Imperatives of Security, Sustainment

By Maj. Megan Williams

Soldiers assigned to 2nd Brigade Combat Team, 2nd Infantry Division, simulate detaining an enemy combatant during a training exercise as part of Decisive Action Rotation 17-09 at the National Training Center, at Fort Irwin, Calif., Sept. 12, 2017. The NTC rotations provide units with near-real-world training to prepare for overseas deployments. (Photo by JD Sacharok)

War is an inherently human endeavor, and capturing the enemy is an unavoidable consequence of warfare. The successful conduct of detainee operations requires a significant investment in terms of both security and sustainment. This mission has international strategic implications, capable of directly impacting U.S. national policy and national defense enterprises. Historically, the U.S. has struggled with detainee operations due to planning shortfalls. The challenge, in essence, is to sustain an unknown enemy population with a significant security requirement but without knowing the size, composition, timing, or location of that population.

At point of capture, detainees will originate in the close area and will move rearward through support areas at the tactical, operational, and strategic levels. Detainee operations in the tactical and operational support area will be expected because of the direct and indirect support to the main fight. However, there is a historical precedent for prisoners of war (POW) housed on American soil which changes planning considerations for the strategic support area (SSA). We need to think about planning considerations now to avoid surprises and reactionary responses.

Understanding the operational environment (OE) and how it pertains to the enemy population will help planners conduct mission analysis. With organization and preparation, detainee operations planning can anticipate population risks and mitigate the operational impacts to enable the full projection of combat power for mission accomplishment. This requires dedicated investment in mission analysis for detainee operations, to understand the enemy population, along with concerted synchronization efforts.

The Mission

The U.S. upholds the Geneva Conventions, which specify the treatment of POWs and civilians in time of war. Violations of the Geneva Conventions in improper interrogation techniques or detainee operations planning and execution will be a strategic failure for our armed forces, that will lengthen the intensity of future conflicts and have a negative impact on the reputation of the U.S. government. These ethical obligations are understood by leaders on all levels; but the practical application, the ability to comprehend the magnitude of the requirements, and the synchronization of efforts presents a challenge. A division in large-scale combat operations (LSCO) may capture prisoners in the tens, if not hundreds, of thousands throughout the course of a conflict. The responsibilities and requirements associated with the care for this detainee population are the same; but regardless of the scale, when and where the detention occurs matters.

Joint Publication 3-63, Detainee Operations, defines a detainee as any person "captured, detained, or otherwise under control of [Department of Defense] personnel." Detainee operations broadly encompass the "capture, initial detention and screening, transportation, treatment and protection, housing, transfer, and release of the wide-range of persons who could be categorized as detainees. During operations, the military must be able to plan, implement, and support detainee operations from the point of capture through the transfer, release, repatriation, escape, or death of a detainee.

Sustainment requirements are challenging to project. It is even more challenging to position and sustain resources to meet those requirements. Planners will have to analyze requirements and make plans for transportation, life support, and construction materials for both hasty and deliberate facilities, medical support, and mortuary affairs as detainees move across the battlefield. Prisoner intake will be concentrated during phase III operations, when maneuver commanders are concerned with dominating the enemy and resources may be allocated to the fight. Prepositioning the necessary resources for detainee collection points and holding areas to support the fight will require advance analysis and coordination across multiple staff sections. Failure to coordinate and synchronize requirements creates an unnecessary and avoidable vulnerability.

The Risk

The military increases risk by not understanding the detainee mission, not planning, and not supporting correctly. Poor or insufficient planning prior to conflict prevents the U.S. from effectively setting the theater. Failing to prepare delays the response time when the diversion of forces to support detainees may jeopardize the primary mission. As Soldiers, our instinct is to direct resources and assets to support friendly forces in the fight, but the legal and moral obligations created by taking detainees will require deliberate planning and resource allocation.

The sensitive nature and high visibility of detainee operations is vulnerable to the potential of damaging or false information being perpetuated by media sources. Erroneous reports could impede U.S. military efforts as negative narratives may impact domestic political support or international coalition partnerships. Adversaries will look for any opportunities to exploit this vulnerability. Additionally, contact with the detained enemy combatant population may put friendly forces at risk; such as exposing U.S. personnel to disease, especially if a contagion has not been anticipated.

Historical Challenges

Contemporary challenges with detainee operations echo history. Failure to anticipate the need to detain large numbers of individuals, to have in place an adequate doctrine for doing so, and to have trained and disciplined personnel to understand and execute the doctrine have been recurring challenges. A historical review identifies different U.S. approaches to the detainee mission but with unique considerations to each conflict. Detainee populations are larger during conventional fights than in counterinsurgencies but the problems are similar.

In World War II, the U.S. held more POWs than every other conflict combined, a total of more than seven million German, Italian, and Japanese prisoners. To reduce the logistical strain to support these large populations overseas, the military shipped prisoners stateside. Nearly 450,000 prisoners were held in the continental U.S. in more than 500 camps across America. Military planners grossly underestimated both the size and speed of capture of prisoners. Capture rates rose slowly, but did not sky rocket until after the Normandy invasion; planners anticipated 60,000 prisoners in the 90 days following D-Day, but Allies captured almost 200,000 prisoners and sent them to the U.S. Initial camp construction focused on security considerations and cost effectiveness, but public sentiment heavily weighed in on location selection. Eventually, prisoners were used to replace U.S. troop personnel for Army installation maintenance.

In Vietnam, the U.S. military turned detainees over to the South Vietnamese for holding, a decision made in order to conserve American combat power for the fight. While

The consequences and repercussions of disorganized or reactionary detainee operations should not be underestimated or dismissed. It is a critical task of the highest military and political magnitude.

Special Operations Forces from Italy and Germany simulate securing a detainee during close-quarters battle training at the International Special Training Centre, near Stuttgart, Germany, Nov. 18, 2018. The CQB course is designed to train SOF and conventional forces from the U.S., Germany, Italy, the Netherlands, Norway, and Slovakia on the principles of effective operations in an urban environment. (Photo by Jason Johnston)

the U.S. ensured the International Committee of the Red Cross (ICRC) and the international community that they would implement the Geneva Conventions in Vietnam, it proved difficult to ensure that the Vietnamese would. After inspections, the ICRC informed the U.S. that South Vietnamese prison camps were not in compliance with Geneva Conventions and that the U.S. was responsible for the prisoners it had transferred. The U.S. had to react quickly to immediately develop and implement a detainee operations plan.

In 1965, the U.S. assumed control of about 5,000 POWs, but within only two years, the population nearly tripled and continued to grow exponentially. This conflict emerged as a cautionary lesson that Americans cannot abdicate responsibility for their own detainees, even if we have entrusted custody to a partnered nation. The U.S. will ultimately be responsible for our own prisoners and the global public will hold the U.S. to a higher standard of conduct.

In Iraq and Afghanistan, the detainee population was more complicated because of the legal context of the adversaries as primarily nonuniformed combatants designated as detained persons. A large-scale counterinsurgency exacerbated the planning shortfalls to forecast detainee populations. The realization of a much larger-than-anticipated population did not generate an immediate response to redirect capacity and funding to accommodate. Inadequate cultural understanding and limited linguistics support continued to be a problem for the U.S. In Iraq, the invading coalition forces did not have information on projected capture rates, and, among other blind spots, did not have intelligence regarding the detainees' health. The high rate of tuberculosis among Iraqi detainees exposed coalition handlers to the disease and increased the risk of contagion in the detention camps. This information gap increased the risk for detainees, handlers, and guards. Inadvertently, population mismanagement allowed detainee populations to become fertile ground for insurgent, extremist, and criminal recruitment. Detainee operations have been an unavoidable and complicated aspect of the Global War on Terror and subsequently have been linked to political and security repercussions that influence national policy.

Despite the progression of warfare and technology, detainee operations have had consistent commonalities in the U.S.' approach. While the detainee population has trended downward in counterinsurgencies in comparison to LSCO, the security and support requirements remain the same. By underestimating the captured population, along with subsequent logistics requirements and legal challenges, the U.S. military has struggled to adequately plan for this mission.

Proposed Solution

To avoid previous experiences, planners must continually assess and predict shifts in mission requirements and incorporate projected detainee population needs as the OE changes. For the detainee operations mission, as with any other, staff must be elastic: adapt as the OE and the situation change, develop branch and sequel plans to support primary missions, and develop decision points for the commander. As the OE evolves during conflict, the enemy populations may change, too. That subsequently impacts the Army's response to the enemy. As the environment or the mission changes, the requirements for detainee operations may change as well. For example:

Indications that an enemy population carries communicable diseases can give frontline troops information and resources to protect themselves. Diseases will detract from combat power even after the enemy has capitulated.

An onset of cold weather, particularly on a poorly resourced enemy population, may impact the enemy's willingness to fight. They may more easily succumb to surrender, which would impact the operational capacity to absorb the population. If this prisoner population also has cold weather exposure and limited warm clothing, it will require both medical treatment and logistics support in response.

Knowing that the enemy population suffers from malnutrition with a higher likelihood of carrying parasites should trigger different preparatory planning, such as alert a potential requirement for specific medical treatment and supplies, as well as guard considerations for custody.

These requirements will have cascading impacts as the detainees move rearward on the battlefield and through support areas. Understanding the OE and the detainee operations mission allows staff to advise commanders and proactively develop plans.

Conclusion

The consequences and repercussions of disorganized or reactionary detainee operations should not be underestimated or dismissed. It is a critical task of the highest military and political magnitude. In preparation for conflicts of any size, the U.S. military must plan and prepare for detainee operations. The ramifications of failing to do so are grave but avoidable. Research shows that the U.S. has consistently underestimated detainee populations, impacting the military's ability to support the populations accordingly. Thus, it is more likely than not that current and future adversaries will attempt to exploit this trend in an effort to repeat this failure and to damage the military's reputation, domestically and internationally.

Detainee operations affect all support areas and could have much greater implications for national strategy. The U.S. Army's dedicated attention to understand the detainee operations mission, and invest early in the planning for both security and sustainment, allows us to direct our efforts to fight and win wars.

Maj. Megan R. Williams currently serves as the threats analysis officer for U.S. Army Training and Doctrine Command, G-2 (Intelligence), Fort Leavenworth, Kansas. She holds a Bachelor of Science in Political Science from the U.S. Military Academy and a master's degree in policy management from Georgetown University. She has completed the Federal Bureau of Investigation National Academy, Command and General Staff College, Military Police Basic Officer Leader Course, and Military Police Captains Career Course.

TIPS FOR Success

Seven Questions Essential to Preparing FSCs for Large-Scale Combat Operations

■ *By Capt. Martin Johnson*

The National Training Center (NTC) provides our Army important repetitions to practice and hone our skills for large-scale combat operations (LSCO). At the very least, it offers a dynamic training environment designed to challenge and stress units in ways that home station training cannot. It is almost as if NTC along with its observer, coach, trainers (OC/T) serve as a mirror which enables units to see themselves in ways that it never has before. While this is powerful and assists in ensuring that units are better prepared for follow-on operations, company commanders often arrive only to realize they have problems that they did not know existed, and have little to no time to fix them. Ultimately, this causes their units to lose valuable training opportunities once they arrive at NTC.

The seven questions presented in this article offer Forward Support Company (FSC) leaders a chance to look within their organizations and shed light on some of the most common issues facing FSCs, as well as sustainment within a combined arms battalion. By no means are these intended to serve as a survival guide to NTC, but instead serve as a self-assessment for a unit as they plan training, assess their mission essential task list (METL), and prepare for combat operations.

Can we do the basics?

Functioning in a tactical field environment designed to simulate the complexities of LSCO comes as a struggle for many sustainment units. They are generally placed in a position where they should be technically proficient, however, they rarely have structured opportunities to simulate such combat operations at home station. The massive time, space, and pace that NTC presents generally poses a problem set that many sustainment elements are simply not prepared for. FSCs are generally proficient in areas like maintenance operations or refueling operations because it is what they do each and every day. Contrary to their maneuver counterparts, it is the tactical emphasis that sustainment elements lack which prove to be a major shortfall at NTC.

A recommendation for every Soldier is to review the Soldier's Manual for Common Tasks: Warrior Skills Level 1 (STP 21-1-SMCT). It covers the critical tasks that are often overlooked or forgotten, yet would make each individual Soldier more lethal and proficient in their assigned roles. Thorough, well resourced, and well executed weekly training in each subject contained in this manual would drastically enhance the capabilities of the FSC.

Can our sustainment nodes survive?

A consistent trend amongst FSCs is a failure to prepare for or even realize that they will need to defend themselves without any outside assistance from the supported task force. One area where this is most prevalent is combining the Combat Trains Command Post (CTCP) with the Unit Maintenance Collection Point (UMCP). These nodes must be both capable and comfortable operating completely independent of the other. In many instances, the UMCP clings to the CTCP often because the UMCP lacks the knowledge or literal ability to defend itself. As the fight pushes on, the UMCP naturally becomes more and more cumbersome and the ability to move it with any relative ease and quickness rapidly degrades.

This then leads to a decision point for the battalion or squadron commander: whether the UMCP should remain in place and yet farther from the forward line of own troops (FLOT) to continue regenerating combat power, or if maintenance operations should cease to keep the UMCP and the CTCP together. These decisions would become easier if the UMCP was self-sustaining to the degree that it could operate independent of the CTCP. Often, the FSC typically lacks the weapons platforms or the knowledge base of how to effectively employ them to ensure the survivability of the UMCP.

In order to become proficient at defending the UMCP, the FSC must practice it. This goes beyond emplacing weapon systems to provide 360-degree security. It is key to ensure that each fighting position has a means to communicate with the company command post and be capable of sending vital information back to a decision maker. Beyond this, Soldiers must be well versed in the rules of engagement in the event that they are unable to contact a senior leader for guidance. The FSC should reference Army Techniques Publication (ATP) 3-90.5 ch. 5-3, in reference to perimeter defense as well as the defense of a base. In addition to these references, ATP 3-90.5 also serves as a resource for the characteristics of a defense, which should also be taken into account when planning to defend the UMCP.

Can we routinely sustain? In emergencies?

Sustainment should have a measured degree of predictability. Routines and methods should never become so obvious to the degree that that they become more susceptible to hostile action, but should at least be to the degree where sustainment leaders can set in place work/rest cycles for their Soldiers and the maneuver element can build confidence that pertinent classes of supplies will arrive when and where requested.

How do we establish that rhythm? What steps are in place to ensure that convoy operations remain on target and on time for both routine and emergency resupply operations?

All too often, the distribution platoons slide into a realm of reactionary sustainment that is hard, if not impossible, to escape from. It starts again with the basics. Logistics package (LOGPAC) operations typically become less and less deliberate. With little to no backwards planning, watered down pre-combat checks and inspections (PCC/PCI), all coupled with less sleep almost always lead to the degradation of sustainment.

Something that everyone needs and everyone has, yet few utilize, is a standard operating procedure (SOP). An SOP that is not well refined, yet everyone uses, is far better than a 100% solution that is not well discriminated and no one uses.

Where do we place our sustainment leaders?

The field trains command post (FTCP) pays huge dividends when manned by the right personnel and when utilized the right way. The FTCP and the person responsible for leading it are the direct link to the brigade support area (BSA) has the ability to ensure their supported battalion receives the right supplies at the right time. The leader that is placed at the FTCP should not be placed there solely based on his or her position. It should be based on their ability to fulfill the roles and responsibilities of the FTCP to standard. Whether it be the HHC or FSC commander, or perhaps the FSC executive officer, it is critical that the FSC commander, who is the senior logistician in the battalion, executes a strenuous battlefield circulation plan. He or she must travel to each node to conduct frequent face-to-face meetings with the battalion or squadron commander to ensure sustainment needs and objectives are being met. This is also to assist with uncovering, diagnosing, and solving complex sustainment issues across the battlefield.

Typically seen at NTC is that the FTCP lacks the requisite communication platforms to talk to either the CTCP or their respective battalion main command posts. To further complicate things, the FSC commander, or whomever the FTCP senior leader is, often does not have the ability to review logistics statuses (LOGSTATs). This means that the individual whose sole purpose is to be the link between the BSA and the battalion, to facilitate the proper movement of commodities to the FLOT, generally cannot conduct quality assurance checks on LOGSTATs or talk to anyone else on the battlefield to accomplish this task.

This issue is generally exacerbated by the fact that whomever is responsible for the FTCP tends to not circulate, whether it be the headquarters and headquarters company or the FSC commander. This prevents them from being able to participate in any planning or military decisionmaking process sessions. Moreover, they develop a false sense of sustainment success within the prospective taskforce.

What is our battalion maintenance battle rhythm?

There is a direct correlation between units that are deliberate with 5988 flow, battalion maintenance meetings, and logistics synchronization meetings to the overall operational readiness (OR) rate of combat power within the battalion. As time consuming as it may be to enforce and ensure that Soldiers are conducting preventive maintenance checks and services (PMCS) on their equipment, there truly is no other choice if the battalion intends to remain lethal.

What is our 5988 cycle?

How are we ensuring that they get to where they need to go? Who is reviewing them? It is generally too late to fix this sort of issue or attempt to figure it out after arriving on ground. These issues must have field-grade level oversight and enforcement to ensure they are done. Many would automatically assume that it falls squarely within the lane of the battalion executive officer to provide field-grade level oversight, however, more times than not, this does not happen.

The maintenance culture within an organization has to be built on integrity. An equipment status report (ESR) that is full of faults displays a healthy and fully functioning maintenance program. It then becomes the task of leaders to ensure that when parts are received they are installed in a timely fashion. A maintenance program where there is a general fear or overall dishonesty of what goes on the ESR makes acceptable a trend of falsifying data. The standard you accept is the standard you set. As stated before, NTC serves as a mirror; however, it often serves as an x-ray as well. It will be quite easy to see right through a maintenance program that is exceptional on paper but in reality is rotting from its core.

Far too often, a combined arms battalion will enter the rotational unit bivouac area (RUBA) on reception, staging, onward movement, and integration (RSOI) on day one with roughly a 96% OR rate, according to the ESR. After moving via heavy equipment transport (HET) to the western part of the box on training day one, combat power is generally already down to 70% OR rate, and potentially 50% OR rate by training day six. This is because the 96% OR rate was never honest nor accurate to begin with. Once notional kills are incorporated, the unit is quickly rendered combat ineffective.

How does the company communicate tactically?

Being unable to communicate exponentially complicates even the simplest task. Critical training for the FSC includes a communication exercise (COMEX). The degree at which units visit NTC and have little to no ability to communicate with one another, both internal and external to the company, is staggering. Further complicating this matter is the fact that the task force generally issues orders via a joint capabilities release (JCR) and the FSC is often equipped with JCR logistics (JCR-LOG), meaning the FSC does not receive any information that is classified. Prior to their arrival at NTC, the FSC must conduct a long-range COMEX and ensure that communication equipment is a part of the command maintenance program. In addition, if there is not a standard method of communication (i.e. joint battlefield command-platform, or JCB-P, versus JCR-LOG), the battalion must determine how they will ensure their sustainment element will receive critical battle-related information.

A huge portion of ensuring the effectiveness of a COMEX is operating without cell phones. Sustainment often occurs in garrison and is synchronized using a messaging application. In a decisive-action fight, there will be little-to-no ability to use a cellphone; even if there is, the risk will almost certainly do more harm than good. Soldiers absolutely must be comfortable utilizing JBC-P, combat network radios, or other means at home station to ensure they are prepared to communicate effectively at NTC and on the battlefield.

How do we conduct rehearsals?

The FSC must also conduct deliberate rehearsals. Generally, LOGPAC operations are fumbled through because no one knows exactly what to do once the FSC arrives on ground. If they do, actions are conducted as though they are in garrison as opposed to a hostile theater. A clear and concise SOP and rehearsed steps, of what should happen on the resupply objective, would aid in expediting logistics requirement plans and reduce the overall time on ground. Along with deliberate rehearsals, it is important to ensure that the FSC commander delivers operations orders (OPORDS) throughout the rotation. This ensures the entire company is tracking each phase of the battle and how each individual fits into the plan. This empowers junior leaders and helps the junior Soldiers remain engaged in what is going on.

The Center of Army Lessons Learned (CALL) provides a valuable resource for rehearsals at all levels. The Commander and Staff Guide to Rehearsals (No. 19-18) is a must read to ensure that any and all rehearsals meet their intended purpose, and ensure that all participants walk away with a shared understanding of the mission ahead.

Conclusion

The intent of this article is to provide thought-provoking questions to shape FSC training in preparation for NTC, and LSCO, as a whole. It is up to the unit, SOP, and training objectives to provide the answers to these questions. Company commanders must make a sincere assessment to ensure their units are prepared to operate in LSCO. It is too easy to attend a quarterly training brief and say what needs to be said to appear exceptional on paper, but literally be untrained and unprepared in basic tasks and skills.

Training at a combat training center is a golden opportunity and should be treated as such. It could very well be the last chance to prepare for the unknown.

Capt. Martin Johnson currently serves as an observer, coach/trainer at National Training Center, Fort Irwin, Calif. He holds a Bachelor of Science in Communications and Broadcasting from Norfolk State University, and a Master of Arts in Business Management from Liberty University.

Featured Photo
A Heavy Expanded Mobility Tactical Truck with 539th Transportation Company, Fort Wainwright, Alaska, delivers food supplies to the supply distribution point at the National Training Center, Fort Irwin, Calif., operated by 106th Support Battalion, Mississippi Army National Guard, June 4, 2017. Over 40 Army and Air Force units consisting of all components are supporting and training with Mississippi's 155th Armored Brigade Combat Team during their NTC rotation. (Photo by Staff Sgt. Shane Hamann)

A Soldier from 101st Brigade Support Battalion, 1st Armored Brigade Combat Team, 1st Infantry Division, conducts supply support activity operations at Fort Riley, Kan. while wearing personal protective equipment. Liberty Battalion Soldiers have implemented procedures to protect the force and prevent the spread of the pandemic while maintaining mission essential readiness. (Photo by Spc. Brandon Bruer)

Power Projection

Adapting the Strategic Support Area for the Future Operating Environment

By Maj Gen. Steve Shapiro, Col Todd J. Allison, and retired Lt. Col. Jonathan Jeckell

The Army is prioritizing and posturing to meet the challenges of great power competition. Due to these growing challenges, the ability to rapidly deploy forces strategically from home station and receive them at the tactical point of need is more important than ever. The Army maintains a strategic power projection capability in order to support a calibrated force posture, provide a sustainable forward presence to deter aggression, and strengthen and assure allies. The calibrated force posture is comprised of joint and interagency capabilities positioned to serve the needs for daily competition, but with the ability to maneuver strategic distances as required. This enables flexibility to respond to provocations worldwide because adversaries will normally avoid direct confrontation. A calibrated force posture must be optimized to simultaneously deter and defeat enemy aggression, disrupt violent extremism, and competition below the threshold of war, and defend the homeland.

To support within this emerging multi-domain operating environment, Army Sustainment Command (ASC) and other enterprise partners must adapt and modernize how they operate in the strategic support area (SSA). U.S. Army Training and Doctrine Command Pamphlet 525-3-1. Multi-Domain Operations (MDO), defines the SSA as the "area of cross-combatant command coordination, strategic sea and air lines of communications, and the homeland." ASC enterprise partners include other commands within Army Materiel Command (AMC), such as Army Contracting Command (ACC), Installation Management Command (IMCOM), and AMC's lifecycle management commands (Tank-automotive and Armaments

Command, Aviation and Missile Command, Communications-Electronics Command, and Joint Munitions Command). The broader materiel enterprise includes Defense Logistics Agency, Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASA(ALT)), Headquarters Department of the Army (HQDA), G-4 (Logistics), Office of the Army Deputy Chief of Staff, G-8, and others.

ASC adapts and postures to meet the demands of MDO and bridges the capacity and capability at echelon from the SSA to the operational and tactical point of need. ASC does this through shifting to a division, corps , and theater-aligned force structure, enhancing logistics readiness centers, modernizing logistics assistance programs, combat-configuring Army prepositioned stocks, and program management of a global contracting capability.

Strategic Support Area: Contested Readiness and Power Projection

With the shift from counterinsurgency to large-scale combat operations (LSCO) and the emergence of MDO, sustainment planners must be able to provide support in contested environments before they even leave home station. Additionally, Army logisticians will be challenged by the fluidity, pace, and depth of LSCO, particularly since potential adversaries will be capable of launching long-range precision fires deep into the division, corps, and theater support areas. Current joint and Army doctrine does not fully account for the future challenges posed by competition and conflict in the SSA.

Power projection was already challenging during both world wars and the Cold War, but adversaries now have unprecedented capabilities to disrupt deployments deep within the homeland. This includes contested power projection, disruption to the supply chain, and pressure across political, economic and social domains by proxy actors, cyberattacks on critical infrastructure, direct attacks, and other actions intended to slow or stop power projection and sustainment.

Shift to Expeditionary Division and Corps Alignment

ASC shifted assets from the brigade logistics support teams (BLSTs) and ASC headquarters to optimize and enable support at the division level through dedicated Army field support battalions (AFSBn), and at the corps level through dedicated Army field support brigades (AFSB). ASC provides continuous support to units from home station through their deployment and in the operational environment. AFSBns and AFSBs provide many forms of support at home stations with other enterprise partners that enable readiness, power projection, and modernization to deter and defeat our nation's adversaries while defending interests at home and abroad. These units provide a dedicated single interface and unity of command for the entire materiel enterprise. This single face to the field for all AMC capabilities enables brigade and battalion commands to anticipate requirements and responsively bring the full capability of the materiel enterprise into the division and corps concept of support from planning to execution.

When the divisions and corps deploy, a mission-tailored logistics support element from the AFSBn or AFSB will deploy alongside with this new alignment. Through this alignment and embedded element, ASC can continue to seamlessly synchronize and integrate the materiel enterprise into planning and execution. Furthermore, it will enhance unity of command and effort at echelon in order to mitigate the risk of enemy disruption in the multi-domains that will interfere with the ability to reach back for support and provides materiel enterprise synchronization at the tactical and operational point of need.

Enhancing Logistics Readiness Centers to Posture Power Projection

Through logistics readiness centers (LRCs) and in conjunction with IMCOM and other partners, ASC generates force readiness at home station through a host of installation readiness functions which enable mobilization and strategic power projection. These include central issue facilities for individual Soldier clothing and equipment, dining facilities, supplies, ammunition, transportation, contracting support, and maintenance.

U.S. Soldiers with the 4th Battalion, 118th Infantry Regiment, 30th Armored Brigade Combat Team, sort brass after a .50-caliber marksmanship training qualification event in the U.S. Central Command area of operations, May 4. Deployed in support of Operation Spartan Shield, maintains marksmanship readiness with regular training and qualification events. (Photo by Sgt. Angela O'Hearn)

ASC also delivers integrated technical support and identifies systemic readiness trends to pass back to the materiel enterprise through AMC logistics assistance representatives (LAR) from each of AMC's lifecycle management commands. ASC distributes equipment to units in accordance with Army priorities. Equipment and installation readiness—provided in conjunction with IMCOM and other enterprise partners—enables high-quality, realistic training that facilitates overall readiness to fight and win.

Modernizing the Logistics Assistance Program

The Army is modernizing the force to meet the future demands of MDO through the acquisition of advanced new equipment and development of multi-domain formations. ASC supports this in several ways. First, modernizing the Logistics Assistance Program (LAP) in conjunction with ASA (ALT), Program Executive Office, Army Futures Command, and other partners ensures the right technical expertise will be present where it is needed on the first day of a conflict. Second, relentless enterprise-wide collaboration and focus on reforming processes to provide the most efficient and effective sustainment possible affords the Army additional resources to invest in modernization. Modernizing LAP will enable the materiel enterprise to identify systemic issues and mitigate them early to save resources, especially precious training opportunities.

AFSB Support to Army Service Component Commands

AFSB also help Army service component commands and theater sustainment commands by providing a single interface for all AMC

capabilities, with command and control over all AMC assets in theater. AFSBs also provide the materiel enterprise more coherent and integrated understanding of theater requirements, infrastructure, and relationships. AFSBs enable forward-postured and rotational forces operational reach through affordable and efficient Logistics Civil Augmentation Programs (LOGCAP) and other contracted support.

AFSBs are involved with theater planning to ensure materiel enterprise and contracted capabilities are available to set the theater and optimize support to theater war plans. AFSBs accelerate the reception and integration of forces into theater with Army prepositioned stocks, contracted surge capabilities, technical support from LARs, and much more. LOGCAP and other contracted capabilities use resources and assets already in theater. They are prepared to assist with receiving forces and do not compete for transportation assets and infrastructure. AFSBs and ACC contract support brigades work behind the scenes to coordinate the most responsive, anticipatory, and economical contract support to ensure the best value for the American taxpayer.

Finally, AFSBs integrate AMC and materiel enterprise capabilities to the theater in LSCO to the operational and tactical point of need. They can vastly increase the operational reach and endurance of combat forces with AMC call-forward capabilities, like forward repair activities and specialty repair teams. These call-forward capabilities bring sustainment maintenance and specialized technical capabilities into the theater to rapidly return battle-damaged equipment and components to combat.

A member of kitchen patrol serves meals in the dining facility to U.S. Army paratroopers, assigned to 173rd Brigade Support Battalion, 173rd Airborne Brigade, during Exercise Lipizzaner VI, with Slovenian Armed Forces at Pocek Range, Postojna, Slovenia, Jan. 30. Lipizzaner is a combined squad-level training exercise in preparation for platoon evaluation, and to validate battalion-level deployment procedures. The 173rd Airborne Brigade is the U.S. Army Contingency Response Force in Europe capable of projecting ready forces anywhere in the U.S. European, Africa, or Central Commands' areas of responsibility. (Photo by Paolo Bovo)

Global Contract Capability–Speed of Support to Requirement

Logistics planners need to rapidly identify capability gaps and turn them into well-defined requirements in order to access contracted surge capabilities to develop and posture strategic power projection to respond to this new operating environment. The Army cannot prepare for every potential mission with force structure but can anticipate requirements and prepare to develop, award, and employ contracted assets when they are needed. Contracted surge capabilities, to include LOGCAP, expedite deploying forces while enabling military sustainment units to focus on tactical sustainment.

Current contract management challenges include lengthy requirements approval and funding processes with supported commands, and subsequent management of requirements over time. This can lead to uncontrolled cost growth while personnel turnover can lead to oversight problems. These delays make it more challenging for contract professionals to develop an accurate cost analysis and provide cost predictability. Contract professionals must also quickly reconcile locally customized requirements with a global outlook and capabilities.

The U.S. Army requires an Army-level, global contract capability that can provide seamless contracted sustainment in support of setting and surging the theater in the continental U.S. (CONUS) and outside the continental U.S. (OCONUS). This capability must support the force-generation process and deployment of expeditionary forces; and then through responsibilities cited in Title 10 of the United States Code, support joint operations across the conflict continuum.

There must be a singular contract vehicle that provides a capability to support the seamless flow of forces from CONUS mobilization force generation installations and power projection platforms (PPP) sites to reception, staging, onward movement and integration (RSOI) sites in the OCONUS contingency operations area. These capabilities will be much more responsive and effective in contingency operations if we develop and routinely employ them during phase zero. ASC, ACC, and other partners continually refine LOGCAP and other contract mechanisms to optimize the use of the broad array of capabilities and capacity available in the private sector in the most affordable way possible.

Conclusion

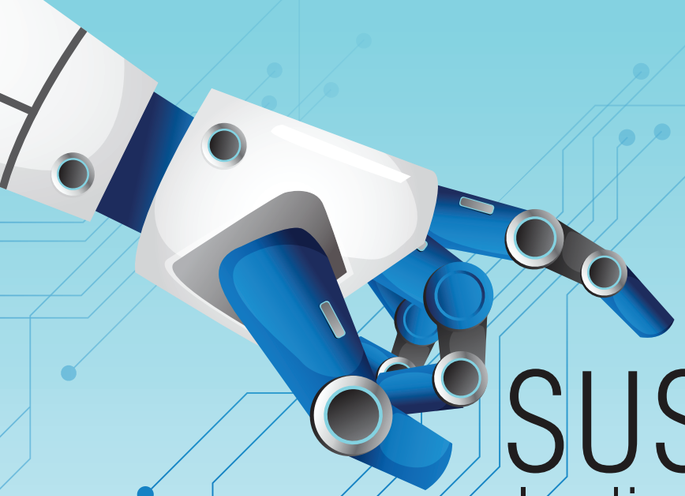
AFSBs, AFSBns, and these capabilities have been battle tested and proven in the emerging multi-domain environment. ASC elements have deployed in support of divisions in Afghanistan, with divisions and corps to warfighter exercises, training center rotations, and during exercise DEFENDER-Europe 20. A broad spectrum of these capabilities has been recently tested while supporting Operation Judicious Archer in response to Iranian aggression, and ongoing support to U.S. Army North for defense support to civil authorities in the fight against the COVID-19 pandemic.

The materiel enterprise provides the resources and tools to enable the Army to simultaneously defeat, deter, and disrupt our adversaries while defending the homeland. By transitioning its focus from brigade-centric rotational deployments to supporting LSCO ASC has enhanced focus on divisions and corps. Through this shift, ASC is best postured for the demands of MDO, enabling projection of forces and supplies; and integrating them at the operational and tactical point of need through AFSBs and AFSBns based in CONUS and in forward locations overseas. ASC efforts and cooperation with all sustainment enterprise partners continue to bridge the capacity and capability of the defense industrial base from the SSA and integrate forward at the operational and tactical point of need at echelon.

Maj. Gen. Steven A. Shapiro serves as commander of U.S. Army Sustainment Command. Previously, Shapiro served as commanding general of 21st Theater Sustainment Command since June 2017. His military education includes Ordnance Basic and Advanced Officer Leadership Courses, Army Command and General Staff College, and Army War College.

Col. Todd J. Allison earned a Master in National Security and Strategic Studies from the Naval War College and is a qualified Joint Planner. Allison is currently serving as Chief of Plans/Deputy Chief of Staff, G-5, for Army Sustainment Command.

Retired Lt. Col. Jonathan Jeckell earned a Master in Systems Engineering and graduated from the Advanced Military Studies Program (AMSP) at the School for Advanced Military Studies (SAMS). Jeckell is currently a plans analyst in the Future Plans directorate, Army Sustainment Command.



SUSTAINMENT REVOLUTION

Implications of Artificial Intelligence for Army Sustainment

By Col. Eric A. McCoy

Artificial intelligence (AI) has the potential to revolutionize the execution of sustainment during multi-domain operations (MDO). Emergent technologies such as AI, hypersonics, machine learning (ML), nanotechnology, and robotics are driving a fundamental change in the character of war. As these technologies mature and their military applications become clearer, their impact has the potential to revolutionize battlefields unlike anything since the integration of machine guns, tanks, and aviation which began the era of combined arms warfare. In an era of great power competition, Russia and China continue to explore methods of stymieing U.S. military power. China has the economy and technological base, such as an independent microelectronics industry and world-leading AI development process, enough to overtake current Russian system overmatch in the next 10-15 years and become a world-class military capable of power projection. Therefore, it is prudent to focus research and development efforts in AI across all warfighting functions (WfFs), to include sustainment, to ensure the U.S. military can compete and win across all domains.

AI indicates different concepts to different audiences. As Army efforts to operationalize AI crystallize, there is value in providing a common definition for what AI is to differentiate it from related concepts such as robotics, autonomous systems, and ML. Loosely defined as intelligence exhibited by machines, AI consists of extended techno-human cognitive systems capable of significant independent action. AI relates closely to business intelligence, a set of techniques and tools for the transformation of data into meaningful and useful information for analysis purposes. Components for study within the AI field include:

- Automated perception using a range of modalities, such as vision, sonar, lidar, and haptics
- Robotic action, such as locomotion and manipulation
- Deep reasoning, such as planning, goal-oriented behavior, and projection
- Language technologies, such as language, speech, dialog, and social nets
- Big data, such as storage, processing, analytics and inference
- ML to include adaptation, reflection, and knowledge acquisition

Stood up in February 2019, the Army's AI Task Force is pursuing pilot projects to explore the functionality of AI. Current efforts run the gamut of accelerating adjudication of security clearances to analyze imagery for use within the intelligence WfF. Future initiatives on the horizon will explore the use of AI to streamline the defense community's rapid prototyping process. As such, there is a necessity to aggressively explore AI's potential to operationalize sustainment for the multi-domain fight.

The sustainment perspective can further stratify AI as the use of computers to simulate human intelligence, specifically including learning—the acquisition and classification of information, and reasoning—and gaining insights into data. At the core of AI is the ability to recognize patterns across the volume, velocity, and variety of big data and find correlations among diverse data.

Man-machine interfaces, enabled by AI and high-speed data processing, improve human decision making in both speed and accuracy. AI and ML have the potential to vastly enhance the DoD's logistics enterprise network. Predictive analytics, demand forecasting, production scheduling, anomaly detection, and supply chain/inventory optimization are just some of the ways these technologies can enhance logistics.

According to senior Army leadership, there are seventeen major gaps in organizational structure that the Army must close prior to 2028 to field MDO-capable forces in support of U.S. European Command (EUCOM) operational requirements. Of these gaps, three are related to the sustainment WfF. AI can provide efficiencies to close these gaps and mitigate personnel increases within the force. Implementation of advanced technologies, including AI, robotics, and autonomous systems not resident in the current force on a wide scale, will require particular attention to doctrine,

organization, training, materiel, leadership and education, personnel, facilities, and policy (DOTMLPF-P) developments that integrate innovative leaders, skilled Soldiers, and trained teams for the best application of these technologies to MDO formations.

The first organizational gap within the sustainment WfF is the line haul and tactical distribution of fuel. In the MDO fight against great power competitors, simulations indicate that Army forces will lose operational momentum due to extended supply lines and lack of effective fuel distribution at the tactical level. Army sustainers continue to explore how AI can inform autonomous resupply by using technology to deliver materials autonomously or semi autonomously by ground, air, and watercraft. Since 2010, researchers have predicted several applications of AI in supply chain management that could help answer this shortfall. These include setting inventory safety levels, transportation network design, purchasing and supply management, and demand planning and forecasting. A potential technological solution for this gap involves the development of cognitive technology to track and predict supply chain disruptions for fuel based on gathering and correlating external data from disparate sources such as consumption reports, social media, newsfeeds, weather forecasts, and historical data.

As the corporate sector and competitor nations explore AI and its accompanying suite of intelligent automation, the heightened level of risk … allows for zero margin for error.

Sustainers in the MDO environment of 2028 and beyond can leverage AI and intelligent automation to forecast the needs of the customer unit for future operations based on the pattern of supply requests or through pre-requested supply inquiries. Sustainers can create these patterns of supply requests via machine learning or process automation. This improved process would allow units to get their supplies on time and ahead of schedule. Current algorithms built into Global Combat Support System-Army automate the process of monitoring, forecasting, auditing, and managing future requests and fulfillment between customers and suppliers. Continued improvement of these algorithms, coupled with feedback from operational units, shows promise for future AI-enabled Army enterprise resourcing platforms (ERPs).

The second organizational gap within the sustainment WfF is the lack of adequate tactical mobility within the division footprint to enable sustainment, troop movement, and survivability. Autonomous mobility kits provide the capability to retrofit select ground systems for a designated manned lead vehicle to lead a line of unmanned follower vehicles which are remotely operated by a single operator in the lead vehicle. This capability offers the ground commander options in the employment of Soldiers and the execution of sustainment convoy operations. Aided by AI, this technology has the potential to improve Soldier safety and battlefield survivability by increasing crew situational awareness and cognition while reducing vehicle collisions and driver fatigue. A reduction in vehicle accidents will result in saved lives and reduced injuries, reductions in loss of materiel and cargo, and reduced missed opportunity costs.

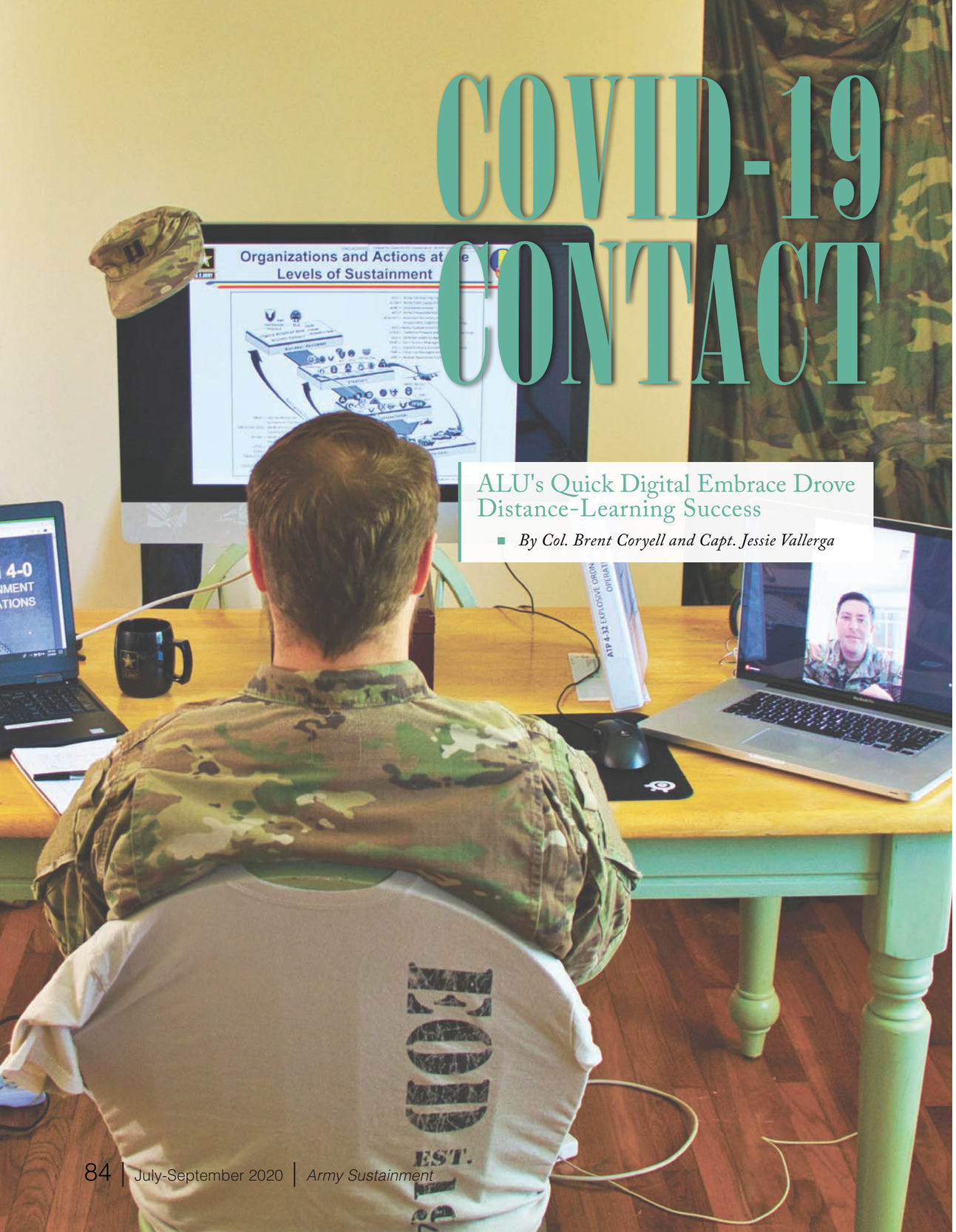
The third organizational gap within the sustainment WfF is the lack of materiel management capability and higher echelon maintenance within the division footprint. AI can analyze operational data to support initiatives in additive manufacturing (AM), also known as 3D printing. AM produces parts from plastic and other durable materials by using 3D printers. It can improve the performance of Army weapons systems on the multi-domain battlefield by reducing distribution requirements for spare parts and replacements, increasing operational readiness, and improving materiel development.

Ruben Cruz, a procurement analyst for the Army Artificial Intelligence (AI) Task Force, examines sensors in an autonomous robot built in the 1980s at Carnegie Mellon University. The deputy assistant secretary of the army for procurement is streamlining contracting to modernize the Army's acquisition of AI and robots. (Photo by Gary Sheftick)

AI also can help to inform and improve predictive maintenance systems on major Army equipment. Condition-based maintenance plus (CBM+) is a system that allows commanders to plan maintenance around their training and operational cycles to increase reliability and reduce the costs to sustain equipment. By anticipating component failures in real time, and maintaining accurate records of required and unscheduled maintenance, AI-informed CBM+ will keep Army combat systems operational for longer periods of time while reducing the number of human maintainers in an increasingly vulnerable deep maneuver area.

As the corporate sector and competitor nations explore AI and its accompanying suite of intelligent automation, it is unknown how the Army will apply the tools of AI to fight and win in MDO. The heightened level of risk in Army operations as part of a joint, interagency, and multinational force allows for zero margin for error. However as an emergent technology, the defense sustainment enterprise is still skeptical of potential compromise through espionage or cyberattacks. Properly supported by changes in organizational structure and championed by a culture shift, AI's ability to rapidly make fact-based decisions is a novel development with several positive implications for Army sustainment. Planners and futurists expect AI and its accompanying technologies to create the sentient supply chain of the future; MDO-capable and able to feel, perceive, and react to the needs of the warfighter at an extraordinarily granular level.

Col. Eric A. McCoy is director of the subsistence supply chain for Defense Logistics Agency Troop Support. He has a bachelor's degree from Morgan State University and master's degrees from Central Michigan University, Georgetown University, and the U.S. Army War College. He is a graduate of the Army Command and General Staff College, Combined Arms and Services Staff School, Combined Logistics Captains Career Course, and Ordnance Officer Basic Leadership Course



COVID-19 CONTACT

ALU's Quick Digital Embrace Drove Distance-Learning Success

By Col. Brent Coryell and Capt. Jessie Vallerga

The COVID-19 pandemic swept the nation overnight with unprecedented closures and uncharted mitigation tactics in an effort to remotely resume everyday business as seamlessly as possible. The Army is no exception, and it has kept a forward momentum through methodically calculated mitigation planning and keen oversight. Army Logistics University (ALU) at Fort Lee, Virginia, has been the tip of the spear in leading the transition to a virtual learning platform. Commanding General of Combined Arms Support Command (CASCOM) Maj. Gen. Rodney Fogg's top priority is to minimize risk to the force by modifying and adapting all of our professional military education (PME) to digital platforms, enabling emergency remote teaching, and conforming to social distancing guidance.

The COVID-19 threat has shown us the vulnerabilities of traditional training. It provides us the leverage and momentum to quickly migrate traditional instruction to a secure, responsive, and effective digital training environment that will secure Army training readiness in future unknown variables. ALU quickly moved to deliver curricula with numerous available collaboration and delivery methods, but needed to centralize to a single lesson management system. For the majority of the departments under ALU, the transition was smooth and well-received. The faculty understands the importance of continuing the mission to train the Army's future leaders, many of whom were able to see a foreshadowing push toward a distance learning environment when Virginia's public-school system began to close districts. Staff already began to transition to an online forum in preparation.

On March 12, Virginia Governor Ralph Northam declared a state of emergency. This enacted the mitigation planning ALU already took initiative with and shifted focus on removing students from classrooms and used the material online as seamlessly as possible.

A Phased Approach

ALU has a two-phase plan for execution to ensure all Soldiers are safe and able to practice social distancing.

Phase one began in mid April with a main goal to rapidly shift personnel from a traditional classroom setting and begin training online by May 25. The push was to ensure that the country's fighting force is healthy, ready, and able to execute the mission of the Army without compromise to their training and development as leaders. By the first week of May, ALU had 27 courses out of 59 already underway virtually while the other 32 classes standby ready to make the transition.

Phase two started May 26 and focused on refining the tools and platforms used in phase one. ALU's goal was to improve its foxhole with recalibration and an after action review that would determine what were the most successful platforms, learning tools, and teaching methods.

Not conducting PME and functional courses has a domino effect. As of today, 45 resident course non-conducts affect 921 students. Using the 30th of May as a right limit, we will have 113 non-conducts that will affect in excess of 2,575 students. Looking forward, we are reworking start dates for PME and functional courses post-COVID-19. Projections past the 30th of May show a cumulative 114 non-conducts will affect 2,579 students across all courses. CASCOM is leading a surge operation that is looking at later start dates, a blended curriculum (in-person and distance learning), and a percentage-based distribution over the upcoming courses. The primary focus of the operation is to generate solutions for current conditions to allow for PME and training to continue with minimal delay and backlog while still maintaining appropriate learning levels and outcomes. We have revised instructor training to include "How to teach in a virtual environment."

The Captain Career Training Department (CCTD) transitioned three PME courses, effortlessly, a year ago. Their goal was to streamline curricula across various digital platforms in order to standardize the program of instruction (POI) for three audiences: instructors, students, and the logistics community as a whole. CCTD moved lessons and other course material from the Fort Lee shared drive to a SharePoint site, which serves as the repository for all POI and supporting classroom materials. SharePoint is directly linked to Blackboard

and milSuite sites, which allows for continuity and standardization of all content. Blackboard allows students to access their assignments and lessons from the classroom or their residence with the added benefit of allowing international students to access the material without a CAC. MilSuite allows former students and the entire logistics community to reach back and review the most up-to-date material, based on current doctrine, to use for their professional development, leader professional development for their units, or to provide feedback to the course. CCTD uses Microsoft Teams and Defense Collaboration Services Connect for digital classroom environments.

Basic Officer Leader Department (BOLD) fully embraced the transition for the larger learning curve with the instructors rather than their recently collegiate-graduated student body. One challenge that BOLD faced differently than some of the other departments was that their students were in lodging at one of the hotels on post. This presented new challenges with internet connectivity for an online platform being blocked by protective firewalls the hotel had in place. The solution was to use Google Classroom; this allowed for access to everything anywhere there was internet connectivity.

Best Tools to Facilitate a Virtual Classroom, Knowing When to Use Them

In order to reach all of the students across various departments, with different required class material, and learning objects required ALU to find digital platforms to use in order to meet specific curricula criteria. ALU has primarily used Blackboard.mil, SharePoint, and milSuite as primary collaboration and knowledge management forums. The Network Enterprise Center (NEC) recently launched Microsoft Teams, Skype for Business, Geospatial Intelligence Visualization Services (GVS), and Defense Collaboration Services (DCS) Connect. Numerous platforms lead to multiple solutions. ALU is still using a wide variety of commercial delivery methods such as DCS Connect, Google Hangout/Classroom, and Zoom. With so many tools and resources available, ALU is defining the industry standard in order to influence our current teaching programs.

In order to be able to reach family members across the country, Col. Brent Coryell, commandant of ALU, is conducting graduation speeches via Facebook Live. Small group leaders (SGL) are using GVS for collaboration. Town halls are being conducted via Facebook in order to connect to as many people as possible.

As with any unprecedented mass change, there are going to be growing pains. DCS Connect is the predominant method used for large class content delivery, but is often unreliable. It works well when it works. Students are unable to access YouTube videos while on the NEC, which limits access to valuable information and tutorials for students. Microsoft Teams does not work while on Virtual Private Network whereas the desktop application works better. ALU faculty and students are experimenting and learning from all of these delivery methods. ALU leaders see Blackboard.mil as a promising way forward which will migrate to Blackboard.com/collaborate.

Blackboard.com/collaborate enables instructors to lead interactive instruction; students to create working groups internal to Blackboard for group projects; and staff can work remotely. The higher file capacity allows for a faster transfer time that eliminates frustrations with uploading and downloading material.

Classes run smoothly until about 9 a.m. when most of Fort Lee logs onto the network, slowing down DCS Connect due to the influx of users on an unadjusted bandwidth. ALU is working with the NEC and G6 (information technology) to improve bandwidth to accommodate for an increase of digital users at any given time.

Best Practices for Instructing in a Virtual Classroom

Introduce yourself. Post a professional photo with a short biography to allow students to relate and connect to a real person.

Be an engaged leader. SGLs have noticed a significant difference in class discussions online versus in the classroom. Instructors need to encourage and remind students to engage in discussion during the briefing portions. SGLs have found it easier to engage students by name than to ask generic questions. This forces students to be cognizant and understand the material. Those who would engage in the classroom lack the visual and personal cues that it is ok to talk during presentations. The facilitator must develop ways to bring them into the discussions. Some instructors have solved this with the traditional hand raising when they are on a video conference. Another solution is to have a second instructor monitor a chat while the other instructor teaches their lesson. This allows the second instructor to cue the primary when questions arise. SGLs might need to pause more often or ask more questions to encourage discussion. If you want discussion, you need to push harder than you would in class. The faculty member should have techniques to break the silence.

The faculty understands the importance of continuing the mission to train the Army's future leaders, many of whom were able to see a foreshadowing push toward a distance learning environment.

It's best to have two instructors. For our instructors who have a partner in the classroom, divide the roles. Have a primary who leads the facilitation. The partner monitors the chat room, reinforces comments, or focuses the group when needed. Additionally, they can keep track of those student-officers not engaged and draw them in. Even in the virtual classroom, breaks are needed. Nature continues to call and a few minutes may be needed to take care of things on the home front. The faculty member also needs a break to just collect their thoughts. As you all know, the virtual classroom can be a mentally demanding environment. Latency issues midday impacts some of the delivery.

Focus on critical thinking. Many people will raise concern with not being able to teach hands-on PME classes; specifically with newly commissioned officers in Basic Officer Leaders Course (BOLC). Over the last few years, BOLD has consistently improved their field training exercise (FTX) into a multiple-week program, including a range week and a week in the field operating in a field trains command post (FTCP) conducting convoy operations. Due to COVID-19, BOLC students are not able to conduct their FTX. However, Capt. Bruce Martin has praised the BOLD tactics instructors for creating challenging critical thinking exercises that students need to complete online. It is valid training for lieutenants to go into the field and get hands-on experience with seeing what operations look like, but what is more important is developing their critical thinking skills. They will be required to make on-the-spot decisions as platoon leaders. That is what we can focus on in virtual learning.

Create a pace plan. An example could be: Blackboard Collaborate with screen sharing as a primary form of communication followed by students dialing in to the Collaborate room. If primary and alternate communication fail then text notifications will be utilized as a tertiary measure. Lastly, as emergencies arise, emails with the instructors to conduct offline work will be implemented.

Post class schedules and calendars in advance. Many instructors have found it useful to post a calendar in advance of the whole course in order for students to better prepare for their workload. This allows students to own their time and practice good time management skills. Instructors will also use this avenue of approach for students to schedule one-on-one appointments. The students are able to see when the instructors are free and can edit the calendar to request additional guidance or help.

Allow students the maximum amount of time with the class schedule. This will allow them to do any preparations for the next class. Posting the class schedule no later than 24 hours in advance is suggested.

Decide how to present the material. Before class, decide whether the instructions should be taught by a live video

stream or by a picture and live voice recording. How can lessons be understood with minimal confusion? A reminder: keep it simple and less distracting.

Best Practices for Students in Virtual Learning Environments

Show up. Ensure your area is set up at least 10 minutes prior to the start of class. This will allow you as a student time to troubleshoot any issues without missing any vital classroom work. Take a deep breath and prepare yourself to learn. Focus on your class and put aside all outside distractions.

Create an environment conducive to learning. It's imperative for students to create a work space without distractions. This should be a quiet place with enough room to lay out classroom work. Create an environment that you as a student want to learn in; where you are comfortable but focused.

Be interactive. This is your education, be active in your learning experience. The more actively engaged you are, the better quality you will receive. Ensure you are responding to discussion board posts, asking questions, and being an active participant in the class. Build connections with your peers and be an active member in group projects.

Craft your communication skills. One of the great skills students will learn from virtual training is the skills and tools to work with a team that is not co-located. Although traditional classroom settings are a great source of collaboration and teamwork, are they realistic? How many times in a deployed scenario are staff sections located in the same room? Most often when we deploy, or even in garrison, our leadership—whether it be battalion or brigade—are located in separate buildings, possibly on a different installation, or even different countries. This new virtual learning provides Soldiers with the understanding of what works for a team working apart from one another. It creates a more realistic training environment.

Use time management and personal accountability. Virtual learning creates an environment for students to learn, self-manage, and take personal accountability. They are required to be actively involved with their own learning and need to take the initiative to interact with others to complete all assignments. Time management skills are crucial for online learning. It is most important for students to block out time, create a priority list and study plan, and to take ownership of their own education and training.

Be professional and respectful. Professionalism and respect are still pivotal values that should be observed in a virtual learning environment. Treat others with respect and be patient when waiting for your time to speak. Refrain from using inappropriate language. Remember that there is no difference when in a traditional or a virtual classroom environment, the same professional etiquette demonstrated in a classroom environment is required.

Standing Ready to Train Our Future Leaders

The Army is doing what the Army does best during uncertain times: Adapting, continuing mission, and overcoming obstacles. Our duty at ALU is to ensure the Army's future leaders have the skills and knowledge to lead Soldiers in combat. It is my humble opinion that ALU is leading the way for the Army to migrate courses to a digital learning environment. What the COVID-19 pandemic has shown us is that the Army is resilient and continues to adapt and overcome.

Col. Brent Coryell is commandant for Army Logistics University, Fort Lee, Virginia. Coryell commissioned through Montana State University's Reserve Officers' Training Corps in 1995. He earned a Bachelor of Art in Sociology from Montana State University, a Master of Science in Logistics Management from Florida Institute of Technology, and a Master of Military Arts and Science from Command and General Staff College. He recently served as deputy commander to Defense Logistics Agency Pacific and, prior to that, as senior logistics trainer at the National Training Center.

Capt. Jessie Vallerga currently serves as assisting public affairs officer at U.S. Army Combined Arms Support Command. She received her Bachelor of Fine Arts from Savannah College of Art and Design, Savannah, Georgia in 2014. Upon graduation from Officer Candidate School at Fort Benning, Georgia, she was commissioned as an officer in the U.S. Army Ordnance Corps. Vallerga attended Basic Officers Leadership Course and Captains Career Course at Fort Lee, Virginia.

Feature Photo
Capt. Jonathan Marsh, an instructor at Army Logistics University and explosive ordnance disposal senior group leader in the Captains Career Course, teaches his course in a virtual learning environment, May 2020. ALU shifted its training courses to distance learning during the COVID-19 pandemic. (Contributed photo)

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