ARMY COMMUNICATOR

January 2024

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The Army Communicator is published as a command information e-publication for the men and women of the United States Army Signal Corps under the provisions of AR 360-1. Opinions expressed herein do not necessarily reflect the views of Office, Chief of Signal, the U.S. Army or the Department of Defense.

Submit articles, photos, graphics, videos, story ideas, and nominations for the Army Communicator to the editor, Laura Levering, here or laura.m.levering.civ@army.mil.
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REGIMENTAL LEADERSHIP

Brig. Gen. Paul D. Howard, 42nd Chief of Signal

Command Sgt. Maj. Linwood E. Barrett, Regimental Command Sergeant Major

Chief Warrant Officer 5 Chris R. Westbrook, Regimental Chief Warrant Officer

On the Cover:

Tactical radios are the driving force behind the Integrated Tactical Network (ITN) suite of communications and networking hardware and software that provides voice and data communication capabilities to tactical units, and were employed by the 25th Infantry Division throughout the Joint Pacific Multinational Readiness Center (JPMRC) 24-01 exercise, held at Schofield Barracks, Hawaii, in November 2023. (Photo by Sam Brooks, U.S. Army)

Embracing professional discourse as Signaleers

Team Signal,

Since its inception in 1920, the Army Communicator, or a variation of it, has stood as a beacon of knowledge and professional dialogue within the Signal Regiment.

As we forge ahead into a new era, it is imperative to invigorate this esteemed journal, aligning it with the forward-thinking concepts of the Harding Project and addressing the evolving needs of our professionals. These include ideas about changing policy, educating our regiment, improving our ability to research, and empowering the force to voluntarily write professionally. I urge you to take a few minutes to educate yourself on the Harding Project by reading about it here, keeping it in mind when you submit articles for the Army Communicator.

To bolster the readership of the Army Communicator, we are proposing a transformation into a quarterly format and likely reestablishing it as a Professional Bulletin recognized by the Army Publishing Directorate. This shift will allow for more comprehensive and in-depth discussions, fostering a more engaged readership base eager to delve into the realm of Signal Regiment expertise. Quarterly releases will not only provide a more structured and anticipated publication schedule but also enable us to curate high-quality content that resonates deeply with our audience. However, the essence lies not only in frequency but also in the substance of the discourse. Emphasizing the promotion of professional debate among regimental professionals is key.

We envision the Army Communicator as a platform that encourages diverse perspectives, constructive debates, and the exchange of innovative ideas. Through this, we can cultivate an environment that thrives on collaboration and continual learning, ultimately elevating the standards of our field. Furthermore, in consonance with the ideals of the Harding Project, we aim to infuse the Army Communicator with a more professional dialogue. This involves elevating the quality of articles, enhancing the research standards, and ensuring a rigorous editorial process. By setting high benchmarks for content, we ensure that every piece published is not just informative but represents the pinnacle of professionalism within our discipline.

While not losing the ability to celebrate human interest stories and our history, we urge all Signal Regiment professionals to actively engage, contribute, and participate in this transformation. Let us collectively build a platform that embodies the very essence of our dedication to professional growth and innovation. Together, we can ensure that the Army Communicator continues to serve as a beacon guiding us toward greater heights in the dynamic landscape of Signal Regiment expertise.

Pro Patria Vigilans! Watchful for the Country!

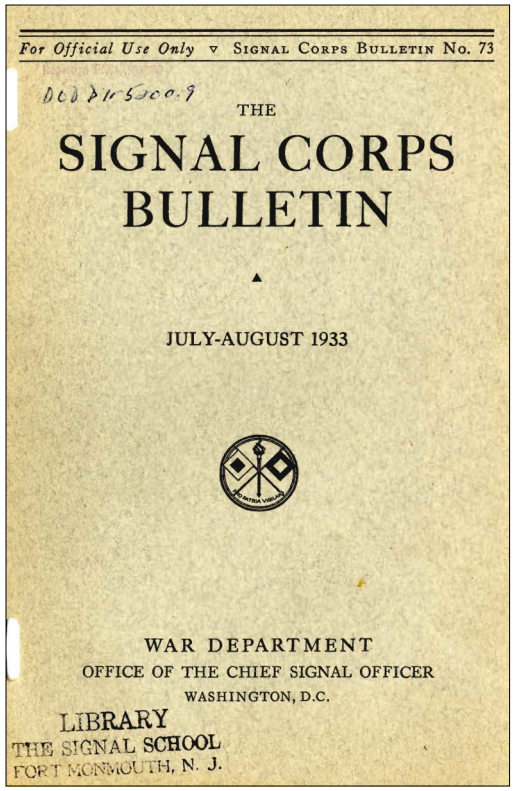
Brig. Gen. Paul D. Howard

42nd Chief of Signal and U.S. Army Signal School Commandant

A glimpse into the history of Signal Corps professional journals
100 years and counting

Steven J. Rauch
Signal Corps Branch Historian

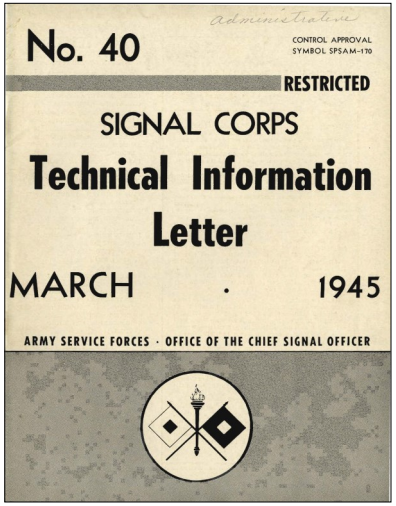
On April 1, 1920, the Office of the Chief Signal Officer published *Information Bulletin No. 1.* The announcement on the cover said: "It is the belief of this office that this publication will be the way of keeping all Signal Corps officers interested in their own particular branch of the service and the Army, and will also keep them informed of future plans of organization and training, development of Signal Corps methods and equipment, applications of lessons learned in the World War, and matters of general interest to the Signal Corps. This office is desirous of obtaining and invites officers of the Signal Corps of the Regular Army and of the Reserve Corps to submit to this office discussions, articles, letters, and suggestions for publication in these bulletins."



(Photo from Signal Historical Collection)

The April 1920 edition of the *Information Bulletin* began a long-standing venue where Signal Corps members could have professional discussions about communications topics and the Signal Corps. The *Army Communicator* you are reading today, in whatever media format, is a direct descendant of the bulletin and its successor journals.

As the chief of Signal said in the introduction to this issue, the *Army Communicator* will evolve in 2024 as part of the Army chief of staff's professional writing effort known as the "Harding Project," designed to revitalize, share, and expand professional dialog in multiple formats and media. The media, however, is not the focus. It is content that members of the Signal Corps must provide. Interesting content effectively communicated is usually based on sound research and analysis; in other words, knowing deeply and intimately the information one is trying to communicate.



(Photo from Signal Historical Collection)

Professional journals should reflect an author's thoughts about a topic after having gathered facts, attributed the sources of those facts, and ordered them in a way to prove a particular point. The contributions being asked of over 58,000 signal Soldiers today is no different than that asked from Soldiers during the past 100 years.

The *Information Bulletin* was published from 1920 to 1940 in a booklet, or pamphlet, format. During its first few years, the topics were about lessons learned during World War I, as well as trends in communications technology. As time went on, discussions focused on organizing, equipping, training, and manning Signal Corps organizations for the challenges of high speed, mechanized, advanced technology warfare.

In December 1941, as the nation expanded its military forces during World War II, the *Information Bulletin* was replaced by a larger newsletter known as the *Information Letter*.

As World War II progressed, the more formal name *Signal Corps Technical Information Letter* (SCTIL) was adopted in December 1942 and published monthly by the Office of the Chief Signal Officer. The *SCTIL* was the "go to" place for information about current operations and lessons learned in various theaters of war. By August 1945, the *SCTIL* had grown to a 44-page, professionally printed and published magazine filled with snapshots of various activities of the branch such as radio transmission security, signal assault planning, and notes on equipment, training, and personnel.

(Photo from Signal Historical Collection)

The *SCTIL* ceased publication after World War II, but in the early 1950s, the Signal Corps found itself in a new war in Korea, which prompted the revival of a professional journal titled *Technical & Tactical Training Aid,* also known as *Tec-Tac.* This new publication provided a means to disseminate innovative ideas, lessons, and thoughts about the Signal Corps much like earlier information letters and bulletins.

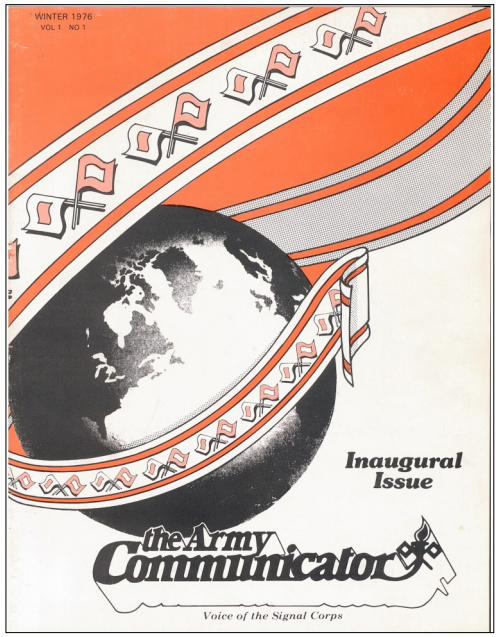
Tec-Tac was published from April 1951 until December 1962, when a major Army reorganization affected the Signal Corps – particularly the disestablishment of the Office of the Chief Signal Officer, who had been the central voice for the branch.

During the 1960s and 1970s, communicators in Vietnam instituted a publication to fill that gap and continue professional discussion and sharing of new communication knowledge, tips, and lessons learned. The publication was called *Command Communications*, published monthly by the assistant chief of staff, Communications-Electronics, for the U.S. Army, Vietnam. *Command Communications*, as its predecessors, encouraged Signal Corps personnel to share their professional knowledge to "Keep the Shooters Talking!"

In addition, the U.S. Army Signal Center and School at Fort Monmouth, New Jersey, published *C-E Trends* as an occasional, non-periodic publication designed to establish a two-way flow of information between the Army Signal School and Army communicators in the field. *C-E Trends* was published only when needed, such as passing along lessons learned in Vietnam.

After Vietnam, the Army underwent major organizational changes, to include establishment of U.S. Army Training and Doctrine Command in 1973. As part of that reorganization, the U.S. Army Signal School was moved from Fort Monmouth and combined with the Southeastern Signal School campus at Fort Gordon, Georgia, in 1974. During the consolidation and organization of the new Signal Center and School, leaders decided to establish a new professional journal in 1976.

Several names were debated for a title – *U.S. Army Signal School Magazine*, *Tactical Communications*, *Electronic Trends*, and several others. A decision was made, and the name *The Army Communicator*, sometimes referred to as *TAC,* was chosen. In the first edition, the editor said: "The Signal Corps needs a catalyst – a focal point to infuse into it a sense of unity and continuity. A forum – a place for expression and exchange of ideas – is essential to the progress and viability of any organization. We will indeed speak **of** the Corps, because that is our favorite subject. We will speak **to** the Corps, because we want to make better communicators and bring all signal types closer. Finally, we want to speak **for** the Corps. The Army Communicator is your forum, educator, sources of C-E news, and a common bond among communicators."



(Photo from Signal Historical Collection)

Over a century ago, members of the Signal Corps struggled to understand the past, the dangerous present, and an uncertain future within a forum – a safe space – where they could exchange ideas and professional knowledge. Apart from occasional resourcing issues that caused lapses in publication, the *Army Communicator* continues the legacy of the *Information Bulletin*, as the forum for information and discussion by members of the Signal Corps, and it will continue to do so as the Signal Corps moves forward into the second quarter of the 21st Century.

A brief introduction, note from the editor

Greetings, Team!

Laura M. Levering

Editor-in-Chief, U.S. Army Signal School

As we move toward a new format for the Army Communicator, I want to take a moment to introduce myself while establishing a few guidelines that should help make the content submission process go more smoothly. Please make note of the upcoming themes and deadlines.

The next (spring) Army Communicator will publish in April. The deadline for submissions is March 15. Themes for spring are: Maintaining the heritage of the Signal Regiment; MOS convergence/ strategic management.

The summer Army Communicator will publish in July with a submission deadline of June 14. Themes for summer are: Materiel solutions; doctrine; organization of the Signal Corps/formations.

The fall Army Communicator will publish in October with a submission deadline of Sept. 13. The theme for fall is training.

Articles should be sent in a Word document with photos or graphics when possible. Photos need to be sent as separate attachments and not embedded in the Word document (or portable document format). Include a description of each photo along with the rank, full name, and unit of person who took the photo (or created the graphic).

The Army and civilian style of writing for publications follows the Associated Press guidelines, which is taught in journalism courses at the Defense Information School (Fort Meade, Maryland) and across Department of Defense. This style of writing is unlike a memo, Operation Order, and other forms of military documents. Article submissions should always include a person's rank and full name on first reference. In subsequent references, only use the last name. Acronyms need to be spelled out initially, with the abbreviation of the term acceptable on second reference. For example, Tactical Radio Integration Kit (TRIK); second mention of the term TRIK is acceptable.

A part of my job is to ensure your submissions adhere to these standards prior to publishing them. Although the Army Communicator's primary audience is members of the Signal Regiment, keep in mind that your submissions may be read by others who are either unfamiliar with or who are new to the Signal Regiment. An important part of stewarding the profession is communicating in such a way that others can understand.

For those who don't know, my background is in Army public affairs. I served on active duty as a public affairs specialist (46Q), now mass communications specialist (46S), from 2004-2009 prior to crossing over to the civilian sector a few months after my active duty service ended. Up until March 2022, at which time I accepted this position, I served on an installation public affairs staff where I provided content (articles and photographs) for the installation's newspaper, eventually taking the roles of both journalist and editor of a newspaper. I have always considered it an honor to "tell the Soldier's story" and plan on continuing to do so. I also consider it a privilege to be on your team and look forward to helping you "get the message through" using this platform.

I am here to assist you with "getting the message through!"

Signal Corps welcomes its newest general officer with ceremony

A new echelon

Article, photo by Laura Levering
U.S. Army Signal School

The 42nd Chief of Signal and U.S. Army Signal School Commandant, Brig. Gen. Paul D. Howard, pinned on the one-star rank during a promotion ceremony held in his honor Jan. 5. Family, friends, and colleagues of Howard packed Eisenhower Conference and Catering to celebrate him reaching the rank of brigadier general – an achievement that is no small feat.

The promotion places him in a new echelon of leaders whose service continues past 30 years of service. Of the approximately 460,000 serving on active duty in the Army, only between 200 and 300 are brigadier general or higher at any given time.

"That's the kind of senior leader that he's getting ready to be," said Lt. Gen. John B. Morrison Jr., deputy chief of staff for the Army, G-6.

Morrison described Howard as a "humble servant-leader" whose "leadership, vision, and most importantly the way he manages, talks and takes care of people" is "second to none."

Howard has held a variety of command and staff positions around the world, including that of Morrison's executive officer for two years. He has deployed to Iraq with the 44th Expeditionary Signal Battalion and to Afghanistan as part of U.S. Army Central. Born and raised in the small southwestern town of Blakely, Georgia, Howard largely credits his success to his family and humble upbringing. Taking to the podium during his ceremony, Howard fought tears as he scanned the room – many of them standing because all chairs were taken.

Among those in attendance were former battle buddies he served with – one who Howard vividly remembers prayed over him as a on 9/11 as events were unfolding. Another group consisted of college classmates, and others from various periods of Howard's career, which spans 35 years.

Howard emphasized that he would never have gotten to where he is today without others' support and belief in him. Naming some of the people who have impacted his life, many of them lifelong mentors, Howard said, "There's plenty of you out there that have played a role informally or formally, and you've been cheering me on all along the way. People pulled me, they pushed me … and so here I am."

Brig. Gen. Paul D. Howard's wife, Lisa, and daughter, Madeline, pin the one-star rank on Howard's uniform during his promotion ceremony Jan. 5

Howard insists it was a "family decision" to continue to serve, reiterating that he could not have gotten this far without the love and support his wife and children. Despite multiple moves, deployments, and inevitable hardships that can with serving, Howard believes his family is "more resilient, successful, and confident" largely due to their diverse experiences through the military.

"I always tell people that we didn't survive the Army as a family; we thrived," Howard said. "I really do believe that."

Howard enlisted in the Georgia Army National Guard in 1989, receiving a 4-year scholarship to North Georgia College (now the University of North Georgia). Upon earning a bachelor's degree from NGC in 1993, Howard commissioned into the Signal Corps. He would later graduate from the Air Command and Staff College with a master's degree from the Air University at Maxwell Air Force Base, Alabama, while simultaneously serving in the Army. He and his wife, Lisa, have been married for 29 years. They have two children, Madeline and Lucas.

The promotion ceremony was broadcasted live and can be found on the U.S. Army Signal Regiment Facebook page here.

Signal Soldiers conduct communications exercise

Hunter-EMS VIIb

Spc. Kasimir Jackson
27th Public Affairs Detachment

Soldiers from 10th Mountain Division conducted the Hunter-Electromagnetic Spectrum (EMS) VIIb exercise, Nov. 30 - Dec. 5, spanning Camp Ethan Allen, Vermont, and Fort Drum, New York. This beyond line-of-sight exercise covered approximately 150 miles, aiming to enhance communications and safeguard Soldiers operating within the electromagnetic spectrum using new technologies and techniques.

The Hunter-EMS series revolves around experimentation and innovation. In contrast to Hunter-EMS VI, VIIb focused more heavily on creating and blocking lines of communication during potential multi-domain operations.

"Bringing all these pieces together, we are examining how different echelons can support top-down guidance with bottom-up refinement," said Chief Warrant Officer 3 Matthew D. Lott, the electronic warfare technician for the 10th Mountain Division Artillery (DIVARTY).

Cpl. Noah Weston, signal operations support specialist with DIVARTY, helps his squad set up a quick erecting antenna mast to achieve line of sight communication. (Photo by Spc. Kaylan Joseph, 27th Public Affairs Detachment)

According to Lott, as an alpine light infantry division, it is crucial to control the modern battlefield facing the growing prevalence of air missile defense and electronic warfare threats. Soldiers are tasked to isolate, locate simulated threats, and coordinate the appropriate response.

"To win in the next fight, we have to deny the enemy maneuverability on the electromagnetic spectrum and allow freedom for friendly units to move about," Lott said. "We need unimpeded access. If we can't achieve that, winning the next fight will be even more difficult!"

Staff Sgt. Caleb Anthes, air missile defense-electronic warfare (AMD-EW) spectrum manager in DIVARTY, said this equipment and training allow commanders to see a visual representation of their Soldiers' electromagnetic footprint while maneuvering under the spectrum.

"Electronic warfare Soldiers and spectrum managers are the future of the military," Anthes said. "We need to continue controlling the electronic spectrum by broadening Soldiers' skills and providing them with the best equipment to prevent any unwanted scenarios."

On Dec. 5, Lt. Col. Gregory Eldridge, the 10th Mountain Division deputy fires support coordinator, and Staff Sgt. Alex Miner, a fires direction noncommissioned officer with DIVARTY Fire Control, conducted a movement up Whiteface Mountain to deploy new communication equipment. Whiteface Mountain is home to the largest vertical drop east of the Rockies, and these Soldiers used their alpine skills, harkening back to the roots of the 10th Mountain Division, to scale nearly 5,000 feet above sea level to establish a connection between Camp Ethan Allen and Fort Drum.

"It's the tenacity of these Soldiers not just to operate but thrive in a multi-domain operational environment that enables us to create tactics, techniques and procedures for survivability," said Maj. Mark Smerka, DIVARTY fire support officer in charge.

Smerka said he believes it's the ease of available commercial technologies like Group 1 unmanned aerial systems that poses a threat to us and friendly forces.

"We need to master utilizing technology to control the electromagnetic spectrum because our adversaries are looking for any sort of advantage to impose their will," Smerka said. "And if we don't advance alongside technology, we will be left behind."

Moving into the modern battlefield, Soldiers will need to develop new skills to remain efficient.

"No matter what echelon you're operating in, you will still need the individual at the lowest level to execute, because it's still the individual Soldier setting up the communications tower, command node, and even the tents we are operating in," Smerka said. "You still need teams to coordinate and come together at the right place and time."

Jumping into the ‘Drop Zone of the Future’

Communication revolution of the airborne

Capt. Alvin Cade Jr. and Sgt. 1st Class Albert Jones
307th Brigade Support Battalion

The 307th Brigade Support Battalion (Black Devils), 82nd Airborne Division Sustainment Brigade (ADSB), is a part of the Army’s pilot program for the restructuring of the brigade support battalions (BSB). The role of the battalion S6 within 82nd Airborne Division is paramount, necessitating not only technical proficiency but a deep understanding of airborne operations. One can make the argument that the stakes are raised even higher within the battalion S6 shop within a BSB.

The BSB's importance cannot be overstated; it is the backbone of logistical, medical, and maintenance support, ensuring that front-line Parachute Infantry Regiments (PIR) remain operational, supplied, and combat effective. Sustaining the fight directly impacts the effectiveness and longevity of combat operations. Any disruption in the flow of communication within a BSB can potentially cripple an entire brigade’s operational capability.

Cpl. Gabriel Cardenas, 307th BSB, conducts operations for the battalion commander during the Black Devil Command Post Exercise on Dec. 1. (Photo by Sgt. 1st Class Albert Jones, 307th BSB)

Given the BSB's pivotal role, the Black Devils face heightened pressures. Reliable communication becomes more than just a matter of tactical advantage; it’s about safeguarding the lives of paratroopers and ensuring that resources reach where they're most needed in a timely manner.

Command and control (C2) systems must address its people, the processes, networks, and command posts. In the ever-evolving landscape of military operations, the Black Devil S6 shop shows every day that they are trailblazers. With the complexity of ADSB operations, BSBs must embrace the challenges of C2 while being able to communicate with the ADSB Main Command Post (MCP), which is the parent unit, and the task force brigade MCP, the unit that BSB is assigned to during operations. Furthermore, the Black Devils must ensure that emissions control (EMCON) is taken into consideration as the Army moves towards large scale combat operations (LSCO). In a domain where C2 is paramount, the Black Devils must use their ability to think outside the box to ensure that leaders have a real-time pulse on their operations, irrespective of the challenges at hand.

Within the BSB, there are several nodes or command posts that must be taken into consideration when created the concept of signal support. Each node must be able to execute within the PACE plan, to include the support operations section (SPO); the medical, distribution, and maintenance companies; and the forward support companies (FSC).

The recent introduction of the Integrated Tactical Network (ITN) equipment apart of the Army’s Capability Set 23 (CS23), has provided modernized communication capabilities, but have also posed challenges in ensuring interoperability with legacy systems. The Black Devils responsibility, then, extends beyond mastering ITN's features and creating a robust PACE plan. It's about weaving a coherent communication fabric where old and new communication systems seamlessly converge.

Some of these challenges include manning. By the Modified Table of Organization and Equipment (MTOE), the BSB S6 shop is assigned 12 paratroopers. The BSBs are looking at fighting as base clusters, where the SPO and MCP are not collocated as in a traditional BSA. With the current MTOE structure, the shop is now forced to integrate an additional node for their concept of signal support, with the same amount of personnel. By establishing a retransmission (RETRANS) team, you can mitigate this challenge. However, it comes at the cost of losing two to three personnel at your MCP.

Another challenge is supporting the SPO. Without the SPO being able to communicate to the BSB, battalions will not have their logistic support to feed combat operations. The S6 shop must ensure that the SPO section is trained and proficient on communication systems such as the Network Mission Planner (NMP), Joint Battlefield Communication Platform (JBC-P), and even the set-up of an OE-254 to extend the nodes FM range.

Additionally, it is up to the battalion S6 to facilitate training for the paratroopers on the ground at the lowest level. This includes routine commo maintenance, conducting communications exercises, providing training on new systems such as national maintenance programs, end-user devices, Tactical Radio Integration Kit (TRIK) Ultra Lite, and radios, and leaders understanding how we communicate using different waveforms.

Capt. Alvin Cade Jr., 307th BSB, prepares for a team sustain jump from a C-130J at Green Ramp, Fort Liberty, on Dec. 1. (Photo by Capt. David Watkins, 307th BSB)

The Black Devils take training a step further by incorporating training using the Signal Assessment Tables. Paratroopers conduct weekly tactical training such as conducting tactical ruck marches using only night vision goggles, establishing RETRANS sites with variable height antennas and setting up nodes such as the Tampa scout terminal. This ensures that paratroopers have the confidence needed to conduct operations in any environment, day or night. The 82nd Airborne nature compounds these challenges. Rapid deployments and high mobility require a PACE plan that's agile and robust. The Black Devils must ensure that whether Paratroopers are in the air, landing on the drop zone, or on the move, units can communicate with higher, laterally, and to subordinate units. The introduction of ITN serves as a testament to the evolving battlefield, but it's the Black Devil S6 shop's expertise that must transform potential into capability.

Little Group of Paratroopers from 307th BSB conduct a combat jump at Sicily Airfield on Fort Liberty on Dec. 1. (Photo by Capt. John Long, 307th BSB)

As the brigade gets closer to Joint Readiness Training Center (JRTC), how the shop trains every single day will be reflected. Feedback for how the Black Devils perform will shape how the ADSB fights as a unit, and how the BSBs integrate within an ADSB. It's the blend of technical and tactical mastery and pioneering spirit that solidifies the Black Devil S6's invaluable role in the heart of the BSB and the ADSB.

While the 82nd Airborne's might is often showcased through its front-line units, it's the unsung heroes in the BSB that ensure the Division's wheels keep turning, bridging the legacy systems with the new, and securing the Division's reputation as the pinnacle of airborne operations.

‘Voice of the Desert’ supports Army modernization efforts

Camp Arifjan, Kuwait

U.S. Army Network Enterprise Command

Top Army leaders emphasize the importance of modernization as the U.S. Army Network Enterprise Technology Command (NETCOM) continues supporting the Army’s Digital Modernization Strategy.

“Our number one priority when it comes to transformation is the network,” said Army Chief of Staff Randy A. George.

Being stationed overseas allows NETCOM units to affect positive change in those areas, and the “Voice of the Desert,” 54th Signal Battalion, 160th Signal Brigade, is crucial in supporting the Defense Information Systems Agency (DISA) convergence.

The DISA convergence is a physical bridge between two of the Army’s most crucial networks: Regional Hub Nodes (RHN) and the Department of Defense (DoD) Teleport system.

Spc. Hunter Lenga, 54th Sig. Bn., briefs leaders during a recent visit. As Army digital modernization efforts continue, the ‘Voice of the Desert’ is crucial in supporting DISA convergence. (Courtesy photo)

RHNs support theater-level operations and are regionally located to enable global network connectivity to securely transport information both in theater and around the world.

Chief Warrant Officer 2 Felix Salinas, front, of 54th Sig. Bn., discusses the DISA and RHN convergence with Lt. Gen. Patrick D. Frank, commanding general, U.S. Army Central. (Courtesy photo)

The DoD Teleport network is a global system that provides interoperability between multiple satellite communications (SATCOM) systems and deployed networks and is the gateway to the Global Information Grid (GIG) in support of tactical communication systems users. Incorporating these modernization efforts allows units to communicate on the RHN and pull strategic or Defense Information Systems Network (DISN) services.

The Voice of the Desert has embraced these modernization efforts and continues to help shape how the Army supports the integration of enterprise and tactical into one unified network.

“I see us embracing change, looking to the future, and becoming the more modern, more lethal and more adaptive force we need to be,” said Honorable Christine Wormuth, Secretary of the Army.

Transforming military operations and strategy in the Army

AI on the frontlines

Maj. Jody Holeton
415th Civil Affairs Battalion

The advent of artificial intelligence (AI) in various sectors, particularly in the military, has marked a transformative era. This shift is profoundly evident in the way the Army has embraced AI to revolutionize its operations, adapting to rapidly evolving combat environments and technological advancements.

The integration of AI in military operations symbolizes a significant shift from traditional approaches to a new paradigm where technology plays a central role in strategic planning and real-time decision making on the battlefield. AI's role in the military transcends mere technological enhancement; it is increasingly viewed as a strategic asset capable of redefining national security dynamics.

The Army's focus on leveraging AI spans a wide range of operations, including enhancing decision-making capabilities through advanced data analytics, employing predictive maintenance for crucial equipment, optimizing logistics and supply chains, and making significant strides in the health and performance monitoring of Soldiers. These advancements represent not just incremental improvements but are crucial in maintaining a tactical edge in an increasingly complex and technology-driven theater of war. However, the integration of AI into military operations is accompanied by challenges and complexities, especially concerning ethical, legal, and practical implications.

The deployment of AI in military contexts raises intense debate and scrutiny, necessitating a balance between the aggressive pursuit of technological superiority and addressing these concerns with thoughtful consideration and foresight.

Enhanced Decision Making

AI has significantly augmented decision making in military operations. AI systems can rapidly process and analyze vast quantities of data, providing military personnel with actionable insights that were previously unattainable in real-time. This data-driven approach enables a more accurate assessment of situations, ranging from tactical engagements to strategic planning. A notable implementation of AI is Project Maven, which uses AI algorithms to analyze drone surveillance footage, enhancing the speed and accuracy of intelligence gathering and leading to more informed decisions on the battlefield.

Predictive Maintenance

Predictive maintenance, powered by AI, is revolutionizing military equipment maintenance. AI-driven predictive maintenance employs algorithms and machine learning to analyze data from equipment sensors, detecting patterns indicative of potential malfunctions. This proactive approach allows maintenance teams to address issues before they escalate, ensuring higher operational readiness and efficiency. An example is the Army's use of AI for predictive maintenance on UH-60 Black Hawk helicopters, optimizing maintenance resources and enhancing the lifecycle management of military assets.

Logistics and Supply Chain Optimization

AI plays a crucial role in optimizing military logistics and supply chain management. The Army's partnership with IBM's Watson AI in its Logistics Support Activity (LOGSA) exemplifies this transformation. Watson's AI capabilities enable LOGSA to predict equipment failures and optimize the supply chain, ensuring that the right parts and supplies are available when and where they are needed.

Health and Performance Monitoring

AI's application in health and performance monitoring marks a significant advancement in the care and management of military personnel. The U.S. Army Research Laboratory is developing AI-based tools that leverage data from wearable devices to predict and prevent injuries, enhancing the overall well-being and combat readiness of Soldiers. The Integrated Visual Augmentation System (IVAS) uses AI to provide real-time data and augmented reality directly in a Soldier's field of vision, enhancing training and operational effectiveness.

Autonomous Systems and Robotics

The use of autonomous systems and robotics, driven by AI, indicates a significant shift in modern warfare and defense strategy. The Army's Squad Multipurpose Equipment Transport (SMET) program, for example, demonstrates the deployment of robots designed to autonomously accompany infantry units, reducing the physical load on Soldiers. These advancements raise ethical, strategic, and operational questions, particularly regarding the delegation of critical decisions to machines.

Training and Simulation

The Army is increasingly utilizing AI, augmented reality (AR), and virtual reality (VR) in training and preparation. The Synthetic Training Environment (STE) and IVAS represent significant evolutions in military training methodologies, offering realistic and interactive training experiences that prepare soldiers for the unpredictability of real-world combat situations.

Cybersecurity and Intelligence Analysis

In cybersecurity, AI is emerging as a key tool in enhancing defense measures against cyber threats. Programs like DARPA's Cyber Hunting at Scale (CHASE) aim to develop AI-driven tools to counter sophisticated cyber threats in real-time. AI's role also extends to intelligence analysis, where it can sift through vast amounts of data to extract actionable insights, as seen in the U.S. military's Project Maven.

Language Translation and Cultural Awareness

AI-driven language learning tools and cultural training programs are becoming increasingly important in military operations. These tools facilitate efficient language acquisition and cultural understanding, essential for missions in non-English speaking regions. The Defense Language Institute Foreign Language Center (DLIFLC) and the Machine Foreign Language Translation System (MFLTS) are examples of AI applications in this domain.

Ethical and Legal Considerations

The incorporation of AI in military applications brings ethical and legal considerations, particularly concerning use of autonomous weapons and adherence to international humanitarian law.

The balance between technological advancement and ethical responsibilities is critical for maintaining international peace and security.

This illustration of Soldiers was created by the author using an AI-powered image generator known as DALL-E.

Integration Challenges and Training

Integrating AI into existing military systems presents technical and operational challenges, including ensuring compatibility with legacy equipment and substantial data requirements. Training personnel to operate and interact with AI systems is crucial, necessitating ongoing education and training programs.

Public Affairs and Social Media

AI technologies like Adobe Sensei in Adobe Photoshop are transforming Army public affairs and social media management, enhancing content creation, and offering valuable insights into audience engagement. These tools aid in crisis communication and ensure effective communication strategies.

Future Trends and Potential

The future potential of AI in military operations includes the increasing autonomy of AI systems, integration with cyber warfare capabilities, and its role in Soldier augmentation. These advancements, however, present challenges in global security dynamics, necessitating international agreements and cooperation.

Conclusion

The Army's integration of AI sets a new paradigm in military operations, reflecting the broader technological evolution in warfare and defense strategy. This journey, filled with opportunities and responsibilities, requires a commitment to ethical standards, legal compliance, and a focus on the well-being and training of military personnel. As AI technologies evolve, they present a transformative opportunity for the Army, redefining military operations and national defense in the 21st century.

The author, Maj. Jody Holeton, was commissioned as a signal officer in 2006 and served on active duty until 2021. He is currently in the U.S. Army Reserves.

College students visit signal facilities as part of grant

Bridging the gap

Article, photo by Laura Levering
U.S. Army Signal School

A group of 32 local college students received an inside look at the U.S. Army Signal and Cyber Schools on Dec. 7. The tour was made possible by the VICEROY grant, a program that supports experiential learning by providing students with exposure to job opportunities within Department of Defense.

Upon arrival, students from Augusta University (AU) and Mississippi State University (MSU) were transported by bus to Brant Hall, where they were greeted by Robert McDaniel, Information Technology Development College (ITDC) chief. McDaniel told the students and faculty that they "were in for a treat," referring to site tours and information discussions planned for the day. In his welcoming remarks, McDaniel gave an overview of the U.S. Army Signal School and shared a little of his background, to include how he got to where he is today. Enlisting straight out of high school in 1979, the Army veteran had earned an associate and bachelor's degree while on active duty.

"But the level of experience that I have – 44 years of service – easily translated into the job that I'm in today," McDaniel said.

Following McDaniel's welcome, students divided into two groups. Group 1 stayed in Brant Hall, where they were able to see various signal equipment up close, engage in conversation with signal Soldiers, and learn about signal curriculum. Group 2 walked to nearby facilities where they observed and learned about Cyber School training and curriculum. The groups reconvened for lunch and information discussions, which were led by Fort Eisenhower leadership and moderated by Michael Nowatkowski, a professor and head of AU's cyber programs of study. In the afternoon, Group 1 and Group 2 switched places, enabling each to experience what they missed earlier that morning.

Nowatkowski said the students were "fortunate" being so close to a military installation, emphasizing it has "so much to offer," especially considering most of them are computer science and engineering majors.

"Being this close to Fort Eisenhower and the facilities that are here, and the amount of access that we can get … it's just fantastic for the students, because it allows them to see some of the signal and cyber career opportunities with many of the organizations here," Nowatkowski said.

Students and faculty weren't the only ones who found the tour useful.

Staff Sgt. Derek Paeltz, network communication systems specialist (25H) instructor with the U.S. Army Signal School, said he enjoys the tours because they help showcase what the Army does, where it is heading, and "maybe build some interest" in either joining or working for DoD in some capacity, he said. For Paeltz, enlisting was one of the best decisions he made. But after eight years of service, he will begin transitioning out of the military in January due to an injury. Thankfully, he has already accepted a job offer with DoD; something he doesn't believe would have been possible without his military experience.

"I would not be prepared for that job if it hadn't been for the Army," Paeltz said. "I went to college for free in the Army, I got certifications for free in the Army … being a Signaleer in the Army, you don't have just one job; you do a whole lot of different jobs, which opens you up to a lot of different [opportunities]."

Staff Sgt. Derek Paeltz explains some of the signal equipment on display for visiting college students to explore at Brant Hall.

And while there's no denying military service can lead to promising job prospects, some DoD career fields are in high demand and hiring without military experience. That's where exposure through tours such as these can have a significant impact.

"Today really [focused] on ways that they – as graduates – can come in as civilians and do network and cyber defense for the nation," said Anne Bowman, Fort Eisenhower Garrison deputy public affairs officer. "The way to win is to collaborate, and that means input from everybody. Collaboration across academia, business and the military is a win-win for everyone."