

Cyber Center of Excellence and Army Transformation

By Retired Command Sgt. Maj. Michael K. Starrett

Guided by foundational doctrine, such as FM 3-0, the Army is investing in transforming its force structure, equipment, and training to achieve success in multi-domain operations (MDO).

The United States Army is often hailed as the premier fighting force in the world. This distinction is due to a combination of exceptional training and professionalism, advanced technology and equipment, and a global presence. However, maintaining this status requires constant evolution to address emerging threats and operational requirements. As the Army pivots from two decades of counterinsurgency (COIN) operations to prepare for large-scale combat operations (LSCO) against peer adversaries, modernization efforts are taking center stage.

The Shift to Multi-Domain Operations

FM 3-0, Operations, outlines the Army's approach to MDO, emphasizing operations across five domains: land, air, maritime, space, and cyberspace. These operations also span three dimensions—physical, informational, and human—to create a synchronized and comprehensive approach to warfare. LSCO amplifies this complexity, demanding the ability to integrate capabilities across domains to achieve strategic objectives. To meet these challenges, the Army launched a modernization campaign known as “Transformation in Contact” (TiC), intended to enhance its readiness and adaptability while maintaining global mission requirements.

The Cyber Center of Excellence (CCoE) at Fort Eisenhower, Georgia, is fully engaged in this modernization effort. The CCoE is preparing Soldiers to operate effectively in the high-stakes environment of LSCO by addressing force structure adjustments and advancing training initiatives.

Force Structure Modernization

MOS Convergence in the Signal Branch

One CCoE modernization effort involves Military Occupational Specialty (MOS) convergence within the Signal branch. This initiative consol-

idated 13 MOSs into seven, creating a more versatile and adaptable force. For example, the 25H, Network Communications Systems Specialist, merged four previous specialties: 25N (Nodal Network Systems Operator), 25Q (Multichannel Transmission System Operator), 25L (Cable Systems Operator/Maintainer), and 25W (Telecommunications Operations Chief). By formalizing cross-training practices that units have informally used for years, MOS convergence enhances the Army's flexibility and operational efficiency.

This restructuring streamlines the Signal Corps and provides Soldiers with a broader skill set. For instance, during a 2005-2006 deployment to Afghanistan, Soldiers from the 7th Signal Brigade cross-trained 25L Wire Systems Installer/Maintainers and 92G Culinary Specialists to operate Satellite Transportable Terminals (STT). Such adaptability, through informal cross-training, ensured that network capabilities were maintained in austere environments. Today's MOS convergence institutionalizes this approach, equipping the Army to meet the demands of the modern battlefield.

Growth of the Cyber Branch

Simultaneously, the Army is expanding the Cyber branch to address the growing importance of cyberspace and the electromagnetic spectrum in LSCO. Established in 2014, the Cyber branch (CMF-17) has grown rapidly, increasing authorizations by over 1,800 positions between 2016 to 2024, with plans to add another 500 by 2030. Much of this growth is concentrated in the 17E MOS, Electronic Warfare Specialist, reflecting the branch's focus on offensive and defensive cyber capabilities.

The Cyber branch mission includes enabling commanders to monitor friendly forces' electronic signatures for force protection and leveraging cyberspace to locate and neutralize adversaries. By integrating cyber and electromagnetic capabilities into operations, the Army can achieve superiority in these domains and gain a decisive advantage over peer threats.

Training Modernization

As the Army's force structure evolves, so too must its training programs. Preparing Soldiers and leaders for LSCO requires a paradigm shift in how the Army delivers education and technical skills development. Recognizing the rapid pace of technological advancement, the Army introduced the Mobile Advanced Readiness Training (MART) concept, which aims to bridge the gap between rapidly emerging technologies and operational readiness. The Army emphasizes leader development as a critical component to mission readiness and essential to fostering a resilient and adaptable force.

Mobile Advanced Readiness Training (MART)

Unveiled by COL Michael Wacker at the 2024 AFCEA TechNet Augusta, MART represents a flexible and adaptive training model designed to address rapidly changing technology. MART offers 13 lessons across four categories—foundational signal training, collective training, data training, and signal leader training. This structured approach focuses on delivering tailored instruction to meet the needs of operational units across all Army career management fields. The MART training approach ensures Soldiers are equipped to operate the latest systems and technologies, even as those technologies outpace traditional institutional training timelines.

The MART concept embodies the Army's commitment to adaptability. By integrating best practices and lessons learned from the field, MART ensures that training remains relevant and effective. This initiative reflects the Army's broader philosophy of preparing Soldiers to adapt and thrive in unpredictable environments.

Leadership Development

FM 6-22, Developing Leaders, underscores the importance of leadership in the Army's success. As the operational environment becomes increasingly complex, leaders must possess not only technical expertise but also critical thinking and decision-making skills. Modernization efforts in training also extend to leader development, ensuring that commanders at all levels can integrate capabilities across domains and dimensions. Leader development training emphasizing mis-

sion command, problem-solving, and ethical decision-making are central to this effort. An example of recently developed leader training is the Signal School's "Data for Leaders Course", emphasizing data analysis and interpretation, data driven decision making, and advanced data strategies.

The Role of Technology in Modernization

The Army's technological edge has long been a cornerstone of its effectiveness. Modernization efforts are focused on enhancing this advantage by developing cutting-edge weapons, vehicles, and communication systems. From hypersonic weapons to resilient communication networks and electromagnetic warfare capabilities, the Army's investment in technology is designed to provide superiority against any adversary.

Cyber and Electromagnetic Capabilities

FM 3-12, Cyberspace and Electromagnetic Warfare, highlights the critical role of these capabilities in LSCO. Army cyber modernization efforts, such as cyber ranges and the Integrated Tactical Network (ITN), aim to deliver both offensive and defensive effects and enable units to shape the battlefield through information dominance. By integrating cyber capabilities into joint and combined operations, the Army can disrupt adversary networks, protect its own systems, and enhance situational awareness.

Artificial Intelligence and Autonomous Systems

Emerging technologies such as artificial intelligence (AI) and autonomous systems are also transforming how the Army conducts operations and trains the force. AI-powered analytics provide commanders with actionable insights, while autonomous systems enhance reconnaissance, logistics, and combat capabilities. In November 2024, the Cyber Center of Excellence launched CamoGPT-CCoE, an AI tool designed to assist CCoE workforce with daily tasks such as developing Programs of Instruction (POI), creating lesson plans, checks-on-learning, and course exams. These advancements in AI increase institutional and operational tempo and reduce risks to Soldiers by delegating dangerous tasks to machines.

Continuous Transformation for Future Success

The U.S. Army's commitment to "continuous transformation" ensures that it remains prepared for future conflicts. This transformation encompasses force structure, training, and a cultural shift toward embracing innovation and adaptability. By fostering a culture of learning and agility, the Army can anticipate and quickly respond to the challenges of an ever-changing operational environment. The CCoE exemplifies commitment to transformation and remains at the forefront of preparing the ARMY for LSCO through MOS convergence, growing the Cyber branch, and developing the MART concept. By integrating lessons learned from past experiences with emerging technologies and best practices, the CCoE ensures that Soldiers are trained and equipped to fight and win in multi-domain environments

Strategic Partnerships



Sgt. 1st Class Pinto teams up with Industry partners to learn the capabilities of new equipment during Cyber Quest 24. (Photo by Lesli Ellis-Wouters, Cyber Center of Excellence)

Modernization efforts also benefit from collaboration and relationships with industry, academia, and allied forces. Collaboration with industry enables the Army to leverage cutting-edge innovations. A great example of collaborating with industry is the annual AFCEA TechNet Augusta Conference and Expo, where military and industry leaders come together to discuss defense modernization efforts and how industry can contribute. Joint training exercises with allies enhance interoperability and strengthen relation-

ships. These relationships are critical to ensuring the Army remains at the leading edge of military innovation.

Conclusion

The U.S. Army's modernization efforts are a testament to its dedication to maintaining superiority in an increasingly complex and contested world. By transforming force structure, enhancing training, and leveraging technology, the Army is preparing for the challenges of LSCO and MDO. Guided by foundational doctrine and driven by a commitment to adaptability, the Army ensures that it remains ready to deter aggression, defend the Nation, and secure victory in any domain.

As the United States Army celebrates 250 years of service to the Nation, its legacy of excellence continues to inspire confidence in its ability to meet the demands of future conflicts for decades to come.

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