



October 2019

# The Army and Multi-Domain Operations: Moving Beyond AirLand Battle

COL Dennis Wille

## **Acknowledgments**

The author would like to thank the leadership, program directors, and staff of New America for their guidance and support throughout this inaugural Army fellowship opportunity. I am especially grateful for the mentorship of Peter Singer, Peter Bergen, and Sharon Burke as they shaped my overall experience.

Thanks are also owed to two extraordinary members of New America's International Security Program, Melissa Salyk-Virk and David Sterman, who provided constant administrative support and editorial review for this and other projects during the fellowship.

Additional thanks to Phil Evans, Kelly Ivanoff, and the entire U.S. Army War College team for providing me with excellent support throughout the fellowship year.

This paper, and the entire fellowship experience, would not be what it is without the extensive advice and help of so many people. All errors of fact or interpretation are, of course, the author's alone.

## **About the Author(s)**

Colonel Dennis Wille was a U.S. Army Fellow at New America. He has been an active duty member of the United States Army for more than 23 years.

## **About New America**

We are dedicated to renewing America by continuing the quest to realize our nation's highest ideals, honestly confronting the challenges caused by rapid technological and social change, and seizing the opportunities those changes create.

## **About International Security**

The International Security program aims to provide evidence-based analysis of some of the thorniest questions facing American policymakers and the public. We are focused on South Asia and the Middle East, extremist groups such as ISIS, al Qaeda and allied groups, the proliferation of drones, homeland security, and the activities of U.S. Special Forces and the CIA.

## **Contents**

Executive Summary	5
Introduction	7
A Summary of Multi-Domain Operations	9
Lead a Renaissance in Great Power Competition Doctrine	13
Establish the Twenty-First Century National Training Center	17
Dedicate a Brigade-level Experimental Task Force to Army Futures Command	22
Conclusion	26

## Executive Summary

The U.S. Army's latest concept document, *The Army in Multi-Domain Operations – 2028*, seeks to push the Army squarely into the twenty-first century. In many ways, it seeks to do for the future force what AirLand Battle did for the Army a generation back, setting a new vision for itself in a period of both technologic and geopolitical change. And yet, a review of the Army's history of modernization, especially the periods between World War I and World War II and following the Vietnam War, warns that Multi-Domain Operations (MDO) will fall short of that vision if the Army doesn't take three key actions.

First, the Army needs to lead a doctrinal renaissance focused on its role in great power competition. History is full of inflection points that inspire analysis into how and why militaries around the world adapted to changes in the strategic environment. The 2018 National Defense Strategy provides a contemporary inflection point by shifting the nation's security focus towards great power competition. The existing Joint and Army doctrine for expanding the competitive space can be found in publications that discuss security cooperation. As the Army considers how to transition the MDO concept into MDO doctrine, it must first rewrite Field Manual 3-22: Security Cooperation, so as to more explicitly define how the Army contributes to great power competition.

Second, the Army needs to create the twenty-first century version of the National Training Center and elevate its establishment at or near the top of an updated modernization priority list. Prior to World War II, the Army conducted the Louisiana Maneuvers, which provided the opportunity to evaluate new equipment, new concepts of operation, and the people that would lead the rapidly growing Army. Similarly, and in concert with the development of AirLand Battle doctrine following the Vietnam War, the Army established the National Training Center in the Mojave Desert as the place where it could iterate and experiment with its new weapon systems and AirLand Battle doctrine. One of the Army's eight cross-functional teams, the Synthetic Training Environment represents the twenty-first century equivalent of such efforts.

Third, the Army needs to dedicate a brigade-level experimental task force to Army Futures Command. The MDO concept presents the Army with an opportunity to think far more deeply about its force structure and avoid the fate of past militaries that failed to adapt faster than their adversaries. In *The Innovator's Dilemma*, Clayton Christensen makes recommendations for large organizations trying to adapt to disruptive change. New technology and concepts enable both sustaining and disruptive innovation, and large organizations must experiment appropriately to take advantage of both. The Army cycles back and forth between conducting experimentation internal to deployable units and dedicating a unit solely to experimentation. Doing the latter at the brigade level will demonstrate how serious the Army is in addressing disruptive technologies,

and help to prevent it from becoming the next example in a long military history of a forces failing to adapt to disruptive change.

## Introduction

The U.S. Army's latest concept document, *The Army in Multi-Domain Operations – 2028*, seeks to turn the page on the AirLand Battle era and push the Army squarely into the twenty-first century. And yet, multi-domain operations (MDO) will fall short of that vision if the Army doesn't take three key actions. By reviewing the history of AirLand Battle, as well as other notable transition periods in military history, the Army can avoid the pitfalls that have prevented success in the past.

As a doctrine for military operations, AirLand Battle has become legendary in Army circles. It represents the American exemplar for how an army can redefine itself following perceived failure, and then demonstrate that turn around with magnificent battlefield success. Twenty years after the outcome of the Vietnam War, the Army's tactical dominance during the Persian Gulf War (1990-91) validated AirLand Battle as well as years of initiatives in training and materiel modernization.

Following the end of the Cold War, the Army has tried to build upon the AirLand Battle era. The Army's Training and Doctrine Command published a series of concept documents under the umbrella known as the Army Concept Framework. The "Quality of Firsts" concept led the way in 2005 by promising to lift the fog of war, and espoused much of the promise of network centric warfare. Its oversimplified summary argued that the Army would "see first, decide first, act first, and finish decisively."<sup>1</sup> However, the realities on the ground in Iraq and Afghanistan, combined with the cancellation of the Army's Future Combat System program, pushed senior leaders away from network centric warfare and towards modernizing an army that can operate in an uncertain environment. Combined arms maneuver, wide area security, and full spectrum operations became the Army's watchwords.<sup>2</sup> MDO replaces the 2014 version that sought to "win in a complex world," which proposed using multiple options to create multiple dilemmas in multiple domains with multiple partners.<sup>3</sup> Today, the official Army operations doctrine is known as "Unified Land Operations," but the aura of AirLand Battle remains.<sup>4</sup>

Predicting when, where, and how future wars will be fought is hard. Charting the path of modernization for an organization as big as the U.S. Army against that unpredictable backdrop is even harder. Yet, the success of AirLand Battle continues to serve as a source of inspiration to the current generation of Army leadership. It is possible to replicate the successes from the 1980s. The following sections will first summarize multi-domain operations and then provide three recommendations to help achieve its vision.

---

→ **RECOMMENDATIONS**

- Lead a renaissance in great power competition doctrine
  - Establish the twenty-first century national training center
  - Dedicate a brigade-level experimental task force
-



## A Summary of Multi-Domain Operations

As is the case for most military concepts, MDO requires some explanation.

Like many previous concepts, MDO describes the threats and components of the future operational environment in order to make a strong case for initiating significant changes. In the same way that the National Defense Strategy identifies China and Russia as strategic competitors, the MDO concept describes how those actors are impacting the operational environment today and into the future. The concept places significant emphasis on how Russia has demonstrated its willingness to stress the international order as it competes below the traditional threshold of armed conflict.<sup>5</sup>



U.S. Army Lt. Col. Douglas Massey, the commander for 127th Airborne Enabler Battalion, the 1st Brigade Combat Team, 82nd Airborne Division, briefs the brigade staff during a combined arms rehearsal as part of the decisive action rotation

*Source: SGT Michelle Blesam, DVIDS*

The concept describes three so-called tenets of MDO that help solve the problem that every military faces: How does a joint force compete militarily prior to armed conflict, penetrate and then dis-integrate an enemy's anti-access and aerial denial systems, exploit the resulting freedom of maneuver, and finally, return to a period of strategic competition following the war?<sup>6</sup> The tenets are calibrated force posture, multi-domain formations, and convergence. Collectively, these

tenets describe an army organized and authorized to plan and conduct tactical operations in all five military domains, even before the onset of armed conflict.<sup>7</sup>

Calibrated force posture describes the Army's worldwide footprint and mirrors the 2018 National Defense Strategy's global operating model.<sup>8</sup> This tenet calls for greater decentralized authorities and access to tightly controlled national capabilities that would allow the Army to better compete against adversaries prior to armed conflict.<sup>9</sup>

Multi-domain formations describe Army combat organizations that conduct operations in all domains at increasingly lower echelons. A far-reaching element of this tenet is the idea that soldiers will achieve greater levels of individual performance through machine learning, artificial intelligence support systems, and biotechnical sensors.<sup>10</sup>

The tenet of convergence asserts that through cross-domain synergy, layered options, and mission command, the Army will impose complexity on the enemy in ways not achievable through single domain alternatives. As the Army explores how to achieve this tenet, it must develop systems and processes that help manage the commander's increased span of control of a diverse collection of capabilities and weave them together on the unit's synchronization matrix.<sup>11</sup>

---

#### → TENETS OF MDO

- Calibrated force posture
  - Forward presence forces
  - Expeditionary forces
  - National-level capabilities
  - Authorities
- Multi-domain formations
  - Conduct independent maneuver
  - Employ cross-domain fires
  - Maximize human potential

- Convergence
    - Cross-domain synergy
    - Layered options
    - Mission command
- 

Besides publishing this concept, the Army has taken a number of modernization initiatives. Beginning in 2017, the Army leadership issued a new vision<sup>12</sup> and six modernization priorities<sup>13</sup> that set the tone for all modernization efforts. To disrupt the status quo of the acquisition process, the leadership established eight cross-functional teams (CFTs), managed by a new four-star command.<sup>14</sup> The Army also created an Artificial Intelligence Task Force<sup>15</sup> and a Talent Management Task Force<sup>16</sup> to study and develop information age systems and capabilities that inform the Army's transition away from legacy Cold War approaches to warfare. Collectively, these initiatives attempt to kick start the Army on the path towards achieving the future described in the MDO concept. The Army leadership recognizes that changes in the character of warfare will take place, and that these changes are unpredictable. The goal of the modernization strategy is to set the conditions for the Army to adapt to those changes better than any possible rival.

---

#### → THE ARMY'S EIGHT CROSS-FUNCTIONAL TEAMS

- Long range precision fires
- Next generation combat vehicle
- Future vertical lift
- Army network
- Air and missile defense

- Soldier lethality
  - Synthetic training environment
  - Assured position, navigation, and timing
-

## Lead a Renaissance in Great Power Competition Doctrine

History is full of inflection points that inspire analysis into how and why militaries around the world adapted to changes in the strategic environment. In the American context, the interwar period between World War I and World War II and the post-Vietnam era are well documented case studies that frequently inspire modern leaders when they face contemporary challenges. Revising doctrine provides an opportunity for military theorists and practitioners to shift away from the past and towards either a preferred or pragmatic vision of how the military should operate in the future. Publishing the MDO concept sets in motion the Army's doctrine revision process, opening the door to replicate past successes in rewriting doctrine.



Sgt. Logan Hall, a U.S. Army Reserve Soldier with the 200th Military Police Command, inspects the seal of a protective mask during formation during a field training exercise

*Source: MSG Michel Sauret, DVIDS*

The 2018 National Defense Strategy (NDS) provides a contemporary inflection point and declares that “inter-state strategic competition, not terrorism, is now the primary concern in U.S. national security.”<sup>17</sup> Competition between states has been present throughout history, but the growing influence of countries like Russia and China have highlighted how states can achieve their strategic

objectives just short of the threshold of armed conflict. The NDS sets the tone for the entire Joint Force as it shifts towards a world dominated by great power competition.

The evolution of AirLand Battle doctrine took place during a similar period in American history. Following the withdrawal of American forces in Vietnam and shifting its attention to the Soviet threat in Central Europe, the Army found itself looking for new ideas about how to rebuild. In 1973, the Army established a new four-star command known as Training and Doctrine Command (TRADOC). It's first two commanders, Gen. William E. DePuy and Gen. Donn A. Starry, led the evolution of Army doctrine that came to be known as AirLand Battle.<sup>18</sup> The official Army operations doctrine in 1976 was known as "Active Defense," and it focused more on not losing a war than on achieving decisive outcomes.<sup>19</sup> To many, fighting to win was more inspiring than fighting not to lose. Starry assumed command of TRADOC in 1977 and sought to remedy the shortcomings of Active Defense by facilitating a doctrinal debate that focused on firepower and maneuver.<sup>20</sup> The outcome of this debate was the 1982 version of Field Manual 100-5, the first Army operations doctrine to be known as AirLand Battle. The Army published a revised version in 1986, but the point at which AirLand Battle became legendary wasn't until 1991, after the decisive defeat of Iraqi forces during the Persian Gulf War. The application of AirLand Battle doctrine against the Iraqis resulted in such an overwhelming military victory that validated more than 15 years of doctrinal evolution and left deep imprints on the generals that lead the Army today.

The growing insurgencies in Iraq and Afghanistan compelled the Army to think hard about its doctrine and face the reality that it needed to change. The Combined Arms Center at Fort Leavenworth, home of the Army's Command and General Staff College and Combined Arms Doctrine Directorate, is responsible for updating the Army's doctrinal manuals. Under the leadership of Gen. David Petraeus, the Combined Arms Center initiated a comprehensive review of Army Field Manual 3-24: Counterinsurgency (FM 3-24), and through the efforts of a strong team of counterinsurgency experts, published the updated doctrine in December 2006. In the process of revising FM 3-24, the Army leadership gave this initiative the attention and priority necessary to motivate the entire Army to study counterinsurgency, which allowed for a quick pivot towards applying the updated doctrine.

In conjunction with the publication of FM 3-24, *Military Review* (the professional journal of the U.S. Army based at Fort Leavenworth) published a special edition with nearly 200 pages of articles discussing best practices and historical case studies.<sup>21</sup> Two years later, *Military Review* published an equally comprehensive special edition that documented much of the new doctrine's success on the ground in Iraq.<sup>22</sup> Leaders spoke of the updated doctrine at every opportunity. The Army's embrace of counterinsurgency doctrine was swift and complete. General Petraeus assumed command of the fight in Iraq and received credit for turning

the tide of that conflict by applying the new counterinsurgency doctrine. A similar revitalization of doctrine is needed today.

The 2018 NDS defines a strategic approach that expands the competitive space from a position of strength by seeking opportunities for cooperation with competitors and adversaries.<sup>23</sup> The existing Joint and Army doctrine for expanding the competitive space can be found in publications that discuss security cooperation.

Joint Publication 3-20, Security Cooperation - Security cooperation (SC) encompasses all Department of Defense (DOD) interactions, programs, and activities with foreign security forces (FSF) and their institutions to build relationships that help promote US interests; enable partner nations (PNs) to provide the US access to territory, infrastructure, information, and resources; and/or to build and apply their capacity and capabilities consistent with US defense objectives. It includes, but is not limited to, military engagements with foreign defense and security establishments (including those governmental organizations that primarily perform disaster or emergency response functions), DOD-administered security assistance (SA) programs, combined exercises, international armaments cooperation, and information sharing and collaboration.<sup>24</sup>

The Army's complementary doctrine is Field Manual 3-22: Security Cooperation, which outlines the legal and planning considerations for executing the tasks related to security cooperation. In the back of the manual, written in 2013, is a chapter that discusses considerations for working with foreign security forces, a critical component to conducting any sort of military activities outside of the sovereign confines of the United States.<sup>25</sup>

As the Army considers how to transition the MDO concept into MDO doctrine, it must first rewrite FM 3-22 so as to more explicitly define how the Army contributes to great power competition. In the same way that Petraeus and the Combined Arms Center used the revision of FM 3-24 to help transform operations in Iraq in 2006, the Army can inspire theorists and practitioners to think hard about how the United States uses its military to achieve its strategic objectives without resorting to armed conflict. *Military Review* should publish a "Competition Reader" that provides theory, best practices, and case studies that discuss past, present, and future security cooperation. The MDO concept is clear that "Army forces...conduct multi-domain operations to prevail in competition."

<sup>26</sup> The best way to keep MDO central to Army modernization, and to keep it nested within the National Defense Strategy, is to publish new security cooperation doctrine that helps the Army understand how it enables the nation to win in great power competition.

**Immediate Tasks:**

- Initiate a review of Field Manual 3-22: Security Cooperation (TRADOC)
- Identify mission essential tasks related to competition (FORSCOM)
- Establish a series of competition-focused wargames (AFC)
- Establish a series of writing competitions that focus on future warfare (AFC)



## Establish the Twenty-First Century National Training Center

Prior to World War II, the Army conducted the Louisiana Maneuvers, which provided the opportunity to evaluate new equipment, new concepts of operation, and the people that would lead the rapidly growing Army. From 1939 to 1941, the Army was able to modernize and begin creating combat ready units under the War Department's Protective Mobilization Plan.<sup>27</sup> A key element of this plan was the multi-corps field maneuvers that took place in May of 1940 and from August through November 1941.<sup>28</sup> Army leaders used the insights from the maneuvers to transform into a modern combat force. However, the insights were not limited to understanding the role of technology in future war. Similar to the way the Department of Defense uses the DOTMLPF-P<sup>29</sup> modernization approach today, the Army used the maneuvers to develop doctrine, training standards, and organizations that would enable further rapid expansion. Also, the maneuvers provided the Army with a deeper understanding of the quality of the officer corps, which allowed for informed talent management when deciding which officers should be promoted and which should be retired.<sup>30</sup>

In concert with the development of AirLand Battle doctrine, the Army established the National Training Center (NTC) in the California Mojave Desert at Fort Irwin. Following the Vietnam conflict, the Army recognized how inadequate its home station training facilities were in preparing large units for combat. Beyond just a facilities problem, events such as the 1973 Arab-Israeli War sparked action to ensure deployable units conducted training in as close to combat conditions as possible. The concept of a dedicated training center "where Army battalion-sized units could engage an opposing force in a realistic battlefield environment" gained traction in the mid-1970s.<sup>31</sup> By 1984, the National Training Center had conducted three years of full operations, trained 50 battalions, and fulfilled the original concept. "The NTC had also begun to demonstrate an impressive potential for the validation of training, doctrine, equipment, organization, and readiness."<sup>32</sup> More than anything else, the NTC became the place where the Army was able to iterate and experiment with its new weapon systems and AirLand Battle doctrine.



Maj. James Avrams, operations officer for the 2nd Infantry Brigade Combat Team (2nd IBCT), 34th Infantry Division, points out unit locations on a map to Lt. Gen. Thomas James Jr., commander of First Army, during an aerial tour of Camp Ripley Training Cent

*Source: SGT Tawny Schmit, DVIDS*

Over time, the Army expanded the dedicated training center concept to Fort Polk, Louisiana (the Joint Readiness Training Center) and Hohenfels, Germany (now known as the Joint Multinational Readiness Center). In addition to the three physical training centers, the Army uses the Mission Command Training Program, headquartered at Fort Leavenworth, Kansas, to train higher headquarters staffs on operations that require echelons above a brigade.<sup>33</sup> Collectively, these sites and organizations are known as the Army's Combat Training Centers (CTCs).

The history and success of the maneuvers within the Protective Mobilization Plan and the success of the CTCs inspired Gen. Gordon Sullivan, chief of staff of the Army from 1991 to 1995, to initiate a modern Louisiana Maneuvers program. Sullivan, having witnessed the Army's recent performance in both Panama (Operation Just Cause) and Kuwait (Operation Desert Storm), recognized the need to adapt to a post-Cold War environment and used the modern Louisiana Maneuvers as a tool to conduct "iterative experimentation that would make extensive use of computer-based simulations to test proposed doctrine, procedures, organizations, and equipment."<sup>34</sup> Sullivan used this initiative to chart

a course for the Army to modernize as it entered the 21st century. Eventually, the modernization initiative became known as Force XXI.

Today, one of the eight CFTs represents the new “place” for experimentation. Similar to the way the CTCs enabled the Army to experiment with AirLand Battle in the 1980s, the Synthetic Training Environment CFT will develop a capability that allows Soldiers to experiment with new equipment, capabilities, and organizations during the type of conditions outlined in the MDO concept.<sup>35</sup> Simulations will never replace a live training environment, and yet, without a modernized simulated environment, the Army will miss opportunities to prepare for the changes in warfare today and ten years from now. More specifically, the scale and distance of armed conflict outlined in the MDO concept exceeds the capacity of even the largest physical combat training centers. Incorporating cannons that can fire a thousand miles or electronic warfare jammers that interfere with all parts of the electromagnetic spectrum create challenges with realistic field training. The training ranges that currently satisfy these capabilities are not adequate to provide training opportunities at the frequency needed for brigades to remain ready for combat. For the scenarios outlined in the MDO concept, only a modern simulated environment will ensure the Army achieves convergence.



Paratroopers assigned to Echo Battery, 3rd Battalion, 4th Air Defense Artillery Regiment conduct stinger missile training using the Virtual Stinger Dome  
*Source: SPC Houston T Graham, DVIDS*

The Army established the six modernization priorities in October 2017. The Synthetic Training Environment is a CFT embedded in the Soldier Lethality priority, currently number six on the list. Commanders and their staffs know that it is prudent to periodically revisit their priorities and assumptions in order to ensure they remain valid. As the two-year mark for establishing the priorities gets closer, the Army should review the six modernization priorities, expand the list to include the Synthetic Training Environment and Assured Position, Navigation, and Timing CFTs, and objectively consider the Synthetic Training Environment as the number one priority for Army modernization.

The Synthetic Training Environment represents the twenty-first century equivalent of the National Training Center. The days when three Army corps could fight simulated battles on private property across multiple states are far behind us. The tenets of MDO demand that the Army of 2028 have a world-class training environment that allows leaders to both focus on traditional small unit tactics and also on multi-division operations across all five military domains. Putting the Synthetic Training Environment at or near the top of a revised

modernization priority list makes sense as the Army takes a broad approach to modernization.

**Immediate Tasks:**

- Review progress and revise the modernization priorities (SECARMY / CSA)
- Establish the synthetic training environment as the top modernization priority (SECARMY / CSA)
- Initiate the twenty-first century Louisiana Maneuvers (SECARMY / CSA)

## Dedicate a Brigade-level Experimental Task Force to Army Futures Command

In the preface of the MDO concept, Gen. Stephen Townsend (Commander of U.S. Army Training and Doctrine Command) wrote that, “To win tomorrow, we [the Army] must evolve how we organize and integrate the Army as part of the joint force.”<sup>36</sup> He further emphasized the need to “deepen the operational integration of general purpose and special operations forces.”<sup>37</sup> This call to change the way the Army organizes is definitely not a simple undertaking. In most cases, significant changes to Army organizations, especially at the battalion level and above, take years to study and implement. More importantly, the way the Army organizes, also known as its force structure, is a key element of the Army’s overall culture.<sup>38</sup>

The MDO concept presents the Army with an opportunity to think far more deeply about its force structure. As large and successful organizations go, the Army is an excellent example of one that faces the innovator’s dilemma. Clayton Christensen’s book, *The Innovator’s Dilemma*, describes how successful, well-managed companies fail in the face of disruptive change.<sup>39</sup> A well-known example of this dilemma from military history is the case of the French having the best trained and equipped military in Europe in 1940, and yet the Germans developed tactics and organizations, frequently referred to as Blitzkrieg, that overwhelmed the French defenses. The Army’s overall modernization purpose is to prevent it from becoming the next example in military history of a force that failed to adapt to disruptive change.

While primarily focused on the world of business, *The Innovator’s Dilemma* makes recommendations to large organizations trying to adapt to disruptive change. With some paraphrasing, the Army can examine Christensen’s three primary options for large organizations trying to create new capabilities.

The first option recommends acquiring an external, existing organization that already accomplishes the new tasks. This option is not feasible for the Army, due to the fact that no such organization exists. In theory, if the Marine Corps had already solved how to conduct multi-domain operations in the way that the concept describes, then the Army could replicate that solution. Unfortunately, both services are on the same quest to improve their capabilities to meet future threats.<sup>40</sup>

The second option recommends creating new capabilities internally. In many cases, sustaining technologies create innovations within existing organizations or systems through incremental change.<sup>41</sup> Christensen argues that companies attempting to experiment with sustaining technologies should use this option, which is the Army’s chosen approach.<sup>42</sup> From 2010 to 2016, one of the Army’s



armored brigade combat teams (ABCT) served at Fort Bliss, Texas as the Army Evaluation Task Force (AETF).<sup>43</sup> In this role, the AETF's top priority was to help the Army experiment with new equipment and new concepts of operation. However, the Army reassigned the ABCT to become a part of the pool of deployable units, effectively eliminating a dedicated brigade-sized, experimental unit from the force.<sup>44</sup> Today, U.S. Army Forces Command and U.S. Army Futures Command will need to create partnerships between Cross Functional Teams and deployable units to conduct experimentation.



A Soldier assigned to the 143rd Sustainment Command carries a mock injured Soldier to a first aid station for medical treatment after an attack at Combat Support Training Exercise 86-19-04 conducted at Fort McCoy, Wisconsin.

*Source: SGT David Lietz, DVIDS*

Christensen's third option recommends creating capabilities by spinning out a new organization. For the Army, this represents a return to a dedicated experimental force. In the 1990s, the Army used the 1st Brigade of the 4th Infantry Division at Fort Hood, Texas as an experimental force under the Force XXI initiative, which was the last major attempt by the Army to examine its organizational structure in the face of a potential disruptive change.<sup>45</sup> The AETF at Fort Bliss, from 2010 to 2016, also served in a dedicated, experimental capacity. The Army should return to this model and dedicate one of its brigade-level organizations to serve as the experimental force.

In parallel with the establishment of the CFTs, the Army began experimenting with a new organization called the Multi-Domain Task Force (MDTF). The MDTF seeks to understand how to speed up the integration of the capabilities provided by the intelligence, cyber, electronic warfare, space, and information communities. The Army established the MDTF at Joint Base Lewis-McChord and focused its developmental efforts on military challenges in the Pacific region. The MDTF demonstrates organizational innovation by combining these capabilities within a single battalion. The Intelligence, Information, Cyber, Electronic Warfare, and Space (I2CEWS) battalion, which is currently organized within an Army Fires Brigade, is an example of the type of capability that fulfills all three tenets of the MDO concept.<sup>46</sup> The experimental unit has shown enough promise during USINDOPACOM area exercises that the Army has decided to establish a second unit in Germany.<sup>47</sup> The MDTF represents a great step towards experimenting on the ideas within the MDO concept, however, by assigning these battalions within readiness-centric fires brigades, the priority towards experimentation will diminish.

The Army cycles back and forth between conducting experimentation internal to deployable units or dedicating a unit solely to experimentation. During the Cold War, the Army dedicated combat units to Combat Developments Command (1962-1973) and Combat Developments Experimentation Command (1974-1988), which provided a centralized structure to the Army's capability development organizations and processes.<sup>48</sup> As the Army explored AirLand Battle, deployable combat organizations located at TRADOC installations served as the capability development community's experimental force.

One of the key reasons for establishing an experimental force is the recognition that potentially disruptive technologies and concepts will impact the Army's force structure. Christensen recommends that the most promising approach to addressing disruptive change is to place responsibility to address disruptive technologies in small organizations whose performance meaningfully affects the whole Army's outcomes.<sup>49</sup> A brigade is not exactly small as far as Army organizations go, but its performance definitely affects the Army's outcomes.

Across the Army's six modernization priorities, the work of the CFTs is to find sustaining technologies that make each focus area better. Small units can test a better cannon or helicopter or armored vehicle without sacrificing their emphasis on readiness. However, to address disruptive technologies, the Army has to think bigger.

#### **Immediate Tasks:**

- Identify a brigade-level organization to serve as an experimental task force for a period of two years (FORSCOM)



- Conduct a series of wargames that objectively measure and compare current and future organizations at all echelons (AFC)
- Establish a series of writing competitions that focus on future warfare (AFC)

## Conclusion

The Army is on a solid path towards achieving twenty-first century modernization, but more still needs to be done. A deeper examination of previous efforts to modernize the military in the face of disruptive change will highlight where the Army needs to place additional emphasis. The interwar period, the post-Vietnam era, and other key inflection points provide excellent examples for senior leaders to consider. By revisiting the origins of the Louisiana Maneuvers, the National Training Center, and the development of counterinsurgency doctrine, the Army can compare and contrast how old ideas can become new again.

The tenets of multi-domain operations – calibrated force posture, multi-domain formations, and convergence – may not be the right solutions, but the multi-domain operations concept helps initiate the conversation towards finding the right solutions. In order for MDO to truly replace AirLand Battle, the Army must do three things. First, it must revise its security cooperation doctrine and make that revision a central conversation about how our nation uses its military to prevail in great power competition. Second, it must elevate the Synthetic Training Environment to the top of the modernization priority list in order to ensure the Army has a place to comprehensively test and train on multi-domain operations. Third, the Army must identify a brigade-level unit to serve as its experimental task force in examining possible force structure changes for the twenty-first century. Taking these three steps will complement all of the great work that the Army has already accomplished, and will ensure that multi-domain operations takes its place in the history of great military innovation.

## Notes

- 1 TRADOC Pamphlet 525-7-1, *The United States Army Concept Capability Plan for Unit Protection for the Future Modular Force, 2012-2024, Version 1.0* (Fort Eustis, VA: TRADOC, 28 February 2007), 4. <https://adminpubs.tradoc.army.mil/pamphlets/TP525-7-1.pdf>
- 2 TRADOC Pamphlet 525-3-1, *The United States Army Operating Concept, 2016-2028*, (Fort Eustis, VA: TRADOC, 19 AUG 2010), 11. <https://fas.org/irp/doddir/army/opcon.pdf>
- 3 TRADOC Pamphlet 525-3-1 *The United States Army Operating Concept: Win in a Complex World, 2020-2040*, (Fort Eustis, VA: TRADOC, 7 OCT 2014), iii-v. <https://usacac.army.mil/sites/default/files/publications/Army%20Operating%20Concept%202014%20%28TP525-3-1%29.pdf>
- 4 Department of the Army, *Army Doctrine Publication 3-0, Operations*, (Washington, DC, 6 October 2017), page 1. <https://fas.org/irp/doddir/army/adp3-0.pdf>
- 5 TRADOC Pamphlet 525-3-1, *The U.S. Army in Multi-Domain Operations - 2028*, (Fort Belvoir, VA: TRADOC, 6 December 2018), 6-7. <https://adminpubs.tradoc.army.mil/pamphlets/TP525-3-1.pdf>
- 6 *The U.S. Army in Multi-Domain Operations - 2028*, page viii-ix.
- 7 *The U.S. Army in Multi-Domain Operations - 2028*, 17.
- 8 Mattis, James. *Summary of the National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge*, (Washington, DC, January 2018), 7. <https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf>
- 9 *The U.S. Army in Multi-Domain Operations - 2028*, page 17-18.
- 10 *The U.S. Army in Multi-Domain Operations - 2028*, page 19-20.
- 11 *The U.S. Army in Multi-Domain Operations - 2028*, page 20-24.
- 12 Esper, Mark T. and Mark A. Milley, "The Army Vision," (Washington, DC, June 2018). [https://www.army.mil/e2/downloads/rv7/vision/the\\_army\\_vision.pdf](https://www.army.mil/e2/downloads/rv7/vision/the_army_vision.pdf).
- 13 McCarthy, Ryan D. and Mark A. Milley, "Modernization Priorities for the United States Army," (Washington, DC, 3 October 2017). <https://admin.govexec.com/media/untitled.pdf>.
- 14 "STAND-TO!: Army Futures Command" *Www.army.mil*, Army Futures Command Task Force, 28 Mar. 2018, [www.army.mil/standto/2018-03-28](http://www.army.mil/standto/2018-03-28). <https://www.army.mil/standto/2018-03-28>.
- 15 Esper, Mark T. "Army Directive 2018-18 (Army Artificial Intelligence Task Force in Support of the Department of Defense Joint Artificial Intelligence Center)," (Washington, DC, 2 October 2018). [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/pdf/web/ARN13011\\_AD2018\\_18\\_Final.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN13011_AD2018_18_Final.pdf).
- 16 "STAND-TO!: Army Talent Management Task Force." *www.army.mil*, Army G1, 11 Aug. 2016, [www.army.mil/standto/archive\\_2016-08-11](http://www.army.mil/standto/archive_2016-08-11). [https://www.army.mil/standto/archive\\_2016-08-11](https://www.army.mil/standto/archive_2016-08-11).
- 17 Mattis, *National Defense Strategy* (2018), 1.
- 18 Skinner, Douglas W. *AirLand Battle Doctrine*, (Center for Naval Analyses, Alexandria, VA, 1993), 4-5. <https://apps.dtic.mil/dtic/tr/fulltext/u2/a202888.pdf>
- 19 Skinner, 3.
- 20 Skinner, 5.

- 21 *Special Edition – Counterinsurgency Reader, Military Review*, (Fort Leavenworth, Kansas, October 2006). [https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/MilitaryReview\\_2006CR1031\\_art001.pdf](https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/MilitaryReview_2006CR1031_art001.pdf)
- 22 *Special Edition – Counterinsurgency Reader II, Military Review*, (Fort Leavenworth, Kansas, August 2008). [https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/MilitaryReview\\_2008CR110831\\_art001.pdf](https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/MilitaryReview_2008CR110831_art001.pdf)
- 23 Mattis, *National Defense Strategy* (2018), 4-5.
- 24 Chairman of the Joint Chiefs of Staff, Department of Defense, *Joint Publication 3-20: Security Cooperation*, (Washington, DC, 23 May 2017), v. [https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3\\_20\\_20172305.pdf](https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_20_20172305.pdf)
- 25 Headquarters, Department of the Army, *Field Manual 3-22: Security Cooperation*, (Washington, DC, 22 January 2013) 6-1.
- 26 *The U.S. Army in Multi-Domain Operations - 2028*, page vii.
- 27 Gabel, Christopher R. *The U.S. Army GHQ Maneuvers of 1941*, (Center of Military History, United States Army, Washington, DC, 1992), 9. [https://history.army.mil/html/books/070/70-41-1/CMH\\_Pub\\_70-41-1.pdf](https://history.army.mil/html/books/070/70-41-1/CMH_Pub_70-41-1.pdf)
- 28 Citino, Robert. “The Louisiana Maneuvers.” The National WWII Museum | New Orleans, The National World War II Museum, 11 July 2017, [www.nationalww2museum.org/war/articles/louisiana-maneuvers](http://www.nationalww2museum.org/war/articles/louisiana-maneuvers). <https://www.nationalww2museum.org/war/articles/louisiana-maneuvers>; Gabel, *The U.S. Army GHQ Maneuvers of 1941*.
- 29 DOTMLPF-P stands for Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities, and Policy and represents a holistic approach to modernization beyond just better equipment.
- 30 Gabel, *The U.S. Army GHQ Maneuvers of 1941*, 115-129.
- 31 Chapman, Anne W. *The Origins and Development of the National Training Center – 1976 – 1984*, (Center of Military History, United States Army, Washington, DC, 2010), 13.
- 32 Chapman, *The Origins and Development of the National Training Center – 1976 – 1984*, 141.
- 33 “Combat Training Center Directorate.” United States Army Combined Arms Center, U.S. Army, 8 July 2014, [usacac.army.mil/organizations/cact/ctcd](http://usacac.army.mil/organizations/cact/ctcd).
- 34 Yarrison, James L. *The Modern Louisiana Maneuvers*, (Center of Military History, United States Army, Washington, DC, 1999), vi. [https://history.army.mil/html/books/Modern\\_Louisiana\\_Maneuvers/The\\_Modern\\_Louisiana\\_Maneuvers.pdf](https://history.army.mil/html/books/Modern_Louisiana_Maneuvers/The_Modern_Louisiana_Maneuvers.pdf)
- 35 Judson, Jen, “Army creating virtual world for multidomain battle training,” *Defense News*, 26 March, 2016. <https://www.defensenews.com/digital-show-dailies/global-force-symposium/2018/03/26/army-creating-virtual-world-for-multidomain-battle-training/>
- 36 *The U.S. Army in Multi-Domain Operations - 2028*, iii.
- 37 *The U.S. Army in Multi-Domain Operations - 2028*, iii.
- 38 Zimmerman, S. Rebecca, Kimberly Jackson, Natasha Lander, Colin Roberts, Dan Madden, and Rebeca Orrie, *Movement and Maneuver: Culture and the Competition for Influence Among the U.S. Military Services*. Santa Monica, CA: RAND Corporation, 2019. [https://www.rand.org/pubs/research\\_reports/RR2270.html](https://www.rand.org/pubs/research_reports/RR2270.html). Also available in print form., 31-32.

- 39 Christensen, Clayton M. *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*. Harvard Business Review Press, 2016., Introduction.
- 40 Christensen, Chapter 8.
- 41 Christensen, Introduction.
- 42 Christensen, Chapter 8.
- 43 "Brigade Modernization Command." *Www.army.mil*, U.S. Army, 15 Feb. 2011, [www.army.mil/article/51926/brigade\\_modernization\\_command](http://www.army.mil/article/51926/brigade_modernization_command).
- 44 "Units/Tenants." *2nd BCT, 1st Armored Division:: Fort Bliss*, U.S. Army, 9 Jan. 2019, [home.army.mil/bliss/index.php/units-tenants/1st-armored-division/2nd-bct-1st-armored-division](http://home.army.mil/bliss/index.php/units-tenants/1st-armored-division/2nd-bct-1st-armored-division).
- 45 Donnelly, William M. *Transforming an Army at War: Designing the Modular Force – 1991-2005*, (Center for Military History, (Washington, DC, 2007), 6. [https://history.army.mil/html/books/transforming\\_an\\_army/CMH\\_70-108-1.pdf](https://history.army.mil/html/books/transforming_an_army/CMH_70-108-1.pdf); Hanna, Mark. "Task Force XXI: The Army's Digital Experiment," *Strategic Forum*, (Institute for National Strategic Studies, National Defense University, Washington, DC, July 1997). <https://apps.dtic.mil/dtic/tr/fulltext/u2/a394389.pdf>
- 46 Wendland, Christopher, "Multi-Domain Task Force Takes on Near-Peer Operations," *Fires*, (Fires Center of Excellence, Fort Sill, Oklahoma, May-June 2018). [https://sill-www.army.mil/firesbulletin/archives/2018/may-jun/articles/18-3\\_7\\_Wendland.pdf](https://sill-www.army.mil/firesbulletin/archives/2018/may-jun/articles/18-3_7_Wendland.pdf)
- 47 Kimmons, Sean. "Second Phase of Multi-Domain Task Force Pilot Headed to Europe." *Www.army.mil*, U.S. Army, Army News Service, 11 Oct. 2018, [www.army.mil/article/212342/second\\_phase\\_of\\_multi\\_domain\\_task\\_force\\_pilot\\_headed\\_to\\_europe](http://www.army.mil/article/212342/second_phase_of_multi_domain_task_force_pilot_headed_to_europe).
- 48 Kamara, Hassan, "Army Combat Developments Command: A Way to Modernize Better and Faster than the Competition," *The Land Warfare Papers*, (Institute for Land Warfare, Association of the United States Army, Arlington, VA, July 2018). <https://www.ausa.org/sites/default/files/publications/LWP-119-Army-Combat-Developments-Command-A-Way-to-Modernize-Better-and-Faster-than-the-Competition.pdf>; Department of the Army: United States Army Combat Developments Experimentation Command (USACDEC), *USACDEC Experimentation Manual*, (Fort Ord, CA, 1981), 1-3 – 1-9. <https://apps.dtic.mil/dtic/tr/fulltext/u2/a124297.pdf>
- 49 Christensen, Chapter 6.



This report carries a Creative Commons Attribution 4.0 International license, which permits re-use of New America content when proper attribution is provided. This means you are free to share and adapt New America’s work, or include our content in derivative works, under the following conditions:

- **Attribution.** You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

For the full legal code of this Creative Commons license, please visit **[creativecommons.org](https://creativecommons.org)**.

If you have any questions about citing or reusing New America content, please visit **[www.newamerica.org](https://www.newamerica.org)**.

All photos in this report are supplied by, and licensed to, **[shutterstock.com](https://www.shutterstock.com)** unless otherwise stated. Photos from federal government sources are used under section 105 of the Copyright Act.