

# What Constitutes a Capability?



## Leveraging the Ukraine Experience to Define an Overused Term

Lt. Col. Kyle J. Hatzinger, PhD, U.S. Army

Lt. Col. Molly J. Schaefer, U.S. Army Reserve

*Words mean things.*

—Everyone, all the time

The staccato of 25 mm Bushmaster rounds pierced the air above Stepove’s snow-covered ground northeast of Donetsk, Ukraine, in January 2024. Two U.S. Bradley Fighting Vehicles assigned to the Ukrainian 47th Mechanized Brigade were locked in a close quarters engagement with a Russian T-90M Proryv Main Battle Tank. A main gun salvo from the T-90 sailed by as the nimbler Bradley zipped amongst the remaining structures of Stepove. While the T-90M reloaded its main gun, the Bradley peppered the tank in such a way that blinded it by destroying its gun sights and striking one of its weak points between the hull and turret. The T90M’s turret began to spin uncontrollably as it came to rest in a ditch.

A slew of articles and analyses have lauded the improbable achievements of this Ukrainian Bradley crew in slaying a most formidable battlefield opponent.<sup>1</sup> Before 2021, many observers might have been quick to give the advantage in this engagement to the Russians, given that their most advanced tank was essentially

fighting a lone Bradley after the latter’s wingman broke contact. The head of the 47th Mechanized Brigade’s public relations service stated, “[The video] with the destroyed tank has probably been seen by the whole world, and [people wonder] how it was possible.”<sup>2</sup> Great credit is deservedly given to the crew for their heroic actions as well as to the Bradley Fighting Vehicle itself. The 25 mm Bushmaster chain gun, its various types of ammunition, the vehicle’s speed, and its armor have all been cited as reasons this engagement turned out as it did. In a Ukrainian TV interview with the two-man crew, the men were asked how they pulled off such an improbable feat. The gunner, Serhiy, recalled how he knew where the respected T90 was vulnerable: “But as I played video games, I remembered everything. Both how to hit them and where,” he told the reporter.<sup>3</sup>

Many have referenced Serhiy’s video game line to help explain the crew’s improbable success in Stepove. It certainly makes for a good story, and there was likely an element of truth because at the iron moment, Serhiy drew upon that knowledge to place effective fire on the T-90M’s vulnerable spots. The reporter conducting the interview with the Bradley crew, however, made an offhand but telling comment that likely revealed where the seeds of this victory were sowed. The men had only



In drone footage released by the Ministry of Defence of Ukraine in January 2024, two U.S.-supplied M2 Bradley Fighting Vehicles, operated by the Ukrainian 47th Mechanized Brigade, can be seen engaging and ultimately destroying one of Russia’s most capable main battle tanks, the T-90M. (Screenshots from the Ministry of Defence of Ukraine)

days before returned from Germany where they had undergone training on the Bradley Fighting Vehicle.

U.S. President Joseph Biden first ordered Bradley Fighting Vehicles to Ukraine on 5 January 2023 as part of a larger aid package to the country. By April, the first Bradleys began arriving in Europe amidst serious discussions as to whether such a move would escalate the war and whether the Bradley could be considered a tank. One year later in Stepove, the Bradley would prove its mettle against the most advanced tank in the Russian arsenal, the T-90M.

The advantage that January day was with the Ukrainians—not solely because of the hardware they drove but because of the full capability brought to the battlefield. The reader might wonder whether the terms “hardware” (i.e., the Bradley) and “capability” are synonymous, but there is a key difference between a piece of hardware and a capability: DOTMLPF-P domain integration. The war in Ukraine continually demonstrates the importance of tying together doctrine, organization, training, materiel, leader development and education, personnel, facilities, and policy (the aforementioned DOTMLPF-P) to achieve battlefield success. The Army—and joint force—tend to look heavily at materiel solutions alone as the key to addressing an operational gap. Yet, Ukraine illustrates that the materiel and nonmateriel domains are interdependent. Casually citing a “capability” without considering the full complement of personnel and equipment—organized, trained, led, and maintained to operate with shared understanding of doctrine and

policy limitations—assumes away the most complicated aspects of building an Army both within the United States and with partners through foreign assistance.

We believe that redefining (or perhaps simply defining) the overused term “capability” as the convergence of all DOTMLPF-P domains on the battlefield would add precision to a word with a multi-billion-dollar price tag while guiding force managers, security assistance practitioners, and senior decision-makers toward more effective investments.<sup>4</sup> We are not the first to make this recommendation, but it deserves reinforcement and further evidence of its effectiveness through the Ukraine case study, which we aim to provide in these pages.<sup>5</sup>

## The Capability Conundrum

Two key Army references introduce and illustrate the fuzziness of the term “capability.” Army Regulation 525-30, *Army Strategic and Operational Readiness*, defines capability as “the Army’s ability to achieve desired effects with ready units, organizations, and systems to meet the requirements of the National Military Strategy.”<sup>6</sup> This broad definition is not only tautological but also allows for a variety of interpretations, which we see in the Army’s management handbook, *How the Army Runs*. The term “capability” appears 1,171 times in the 2022 edition, but it is notably absent from the glossary.<sup>7</sup> “Capability” appears on page iii of the book to tangentially describe the full spectrum of DOTMLPF-P domains (“Capabilities Integration and Development”) but goes on to focus specifically on materiel solutions (“Major Capability Acquisitions”).





Stevedore drivers work through the night to load Bradley Fighting Vehicles onto the ARC *Integrity* (vehicle carrier) on 25 January 2023 at the Transportation Core Dock in North Charleston, South Carolina. More than sixty Bradleys were shipped by U.S. Transportation Command as part of the U.S. military aid package to Ukraine. (Photo by Oz Suguitan, U.S. Transportation Command)

Meanwhile, the Defense Security Cooperation Agency (DSCA) employs its own definition and framework, titled full-spectrum capability development, which aims to merge a variety of considerations from the tactical to the institutional into final outputs.<sup>8</sup> This conflict of definitions explains the imprecise use of the word, not just within the reference documents but in practice across the Army, not to mention the joint force and the security cooperation community.

In his final think piece as chairman of the Joint Chiefs of Staff, Gen. Mark Milley noted, “As aspects of the [Joint Warfighting Concept] are validated through rigorous experimentation and analysis, those pieces of the concept must be translated into military requirements, both materiel and nonmateriel. Moreover, they must be fully integrated across DOTMLPF-P before we achieve a true operational capability.”<sup>9</sup> Similarly, the Security Assistance Group–Ukraine (SAG-U) deputy

commanding general–training, Canadian Brig. Gen. Mason Stalker, noted during the 2023 Association of the U.S. Army convention, “A piece of equipment without a competent operator will not give the advantage that is required for Ukraine to fight and win ... understanding how to operate, integrate, maintain and how to conduct combined arms maneuver is where that advantage is created.”<sup>10</sup> Although key leaders endorse this view, formalizing “capability” into a term of art in order to standardize its usage and conceptualization throughout the entire force must occur. We aim to leverage ongoing efforts in Ukraine to illustrate the necessity of thinking through the DOTMLPF-P framework when developing and delivering capabilities within our own or partner forces.

### **A Terrible Acronym for a Terrific Idea**

If the term “capability” is abused because of its apparent plain English, the acronym DOTMLPF-P

suffers the opposite problem. Because of its intractability (seriously, try saying dot-mil-pee-eff-pee if you haven't done so recently), this acronym is quickly dismissed as cumbersome force management-ese rather than embraced as a fundamental concept that must be realized in day-to-day operations, not only within the force management community but also by leaders at every echelon throughout the force.

The concept underpinning DOTMLPF-P predates the acronym. Previously titled DTLOMS from the mid-1970s until 9/11, the Army focused on doctrine, training, leader development, organization, materiel, and soldier support.<sup>11</sup> As the Requirements Generation System gave way to the Joint Capabilities Integration and Development System (JCIDS) in 2003, DTLOMS expanded to include personnel, facilities, and policy while removing soldier support. Both acronyms, however, reflect the general position that "all components ... must develop synchronously for the Army to be effective."<sup>12</sup>

But what do these clunky acronyms actually mean? Again, we risk plain English obscuring or clouding terms of art:

*Doctrine* defines how we fight, such as by emphasizing combined arms, multidomain operations, or maneuver warfare. Doctrine also includes basic guidelines for day-to-day operations. While individual units develop tactics, techniques, and procedures and standard operating procedures unique to their respective missions or areas of responsibilities, doctrine aims to guide all units toward similar, standardized operating practices. Doctrine is a shared frame of reference.

*Organization*, also called organizational structure or just structure, describes how we organize our forces to fight or respond to contingencies. This includes the unit's primary mission, its size, the number and type of occupational specialties required, and the authoritative relationships within the unit and between the unit and its parent, sister, and subordinate units.

*Training* describes how we prepare to fight tactically. Training ranges from basic training to advanced individual training, small team and collective unit training, joint exercises, and a variety of specialty skill courses.

*Materiel* includes all the "stuff" necessary to equip our forces. This includes anything from highly technical armored vehicles to small arms, spare parts, and individual combat gear.

*Leader development and education* describes how we prepare our leaders to lead the fight through professional military education. Note that the joint term is "leadership and education."

*Personnel* reflects the availability of qualified people for peacetime, wartime, and contingency operations. Recruiting and end strength considerations, alongside the array of specialties the force requires, fall into this category.

*Facilities* include real property, installations, and industrial facilities (e.g., training areas, ranges, barracks, and organic industrial base assets like government-owned ammunition production facilities).

*Policy* refers to DOD, interagency, or international constraints that impact the other seven domains. These constraints may affect the ability to use a particular weapon in certain circumstances, or the standards for how frequently a unit or soldier can be operationally deployed.<sup>13</sup>

Each of the eight domains intersects with the others, some more obviously. Yet, thinking deliberately about each domain on its own helps to illuminate assumptions or gaps that would undermine the desired capability.

## Transforming an Army in Contact

Back to Ukraine. Hardware support to the Ukrainian military has garnered significant media coverage since 2022, but the supporting activities have not been publicized to the same level, a shortcoming that leads to the misguided thinking that merely providing hardware can translate to battlefield success. Is this because nonmateriel support is overlooked or is there some other reason? The nuances of support to Ukraine are hard to parse mostly because the United States and its allies are arming an army in contact. The troops on the ground reportedly have little bandwidth to provide deliberate feedback or lessons learned, especially as it relates to combined arms operations.

Open-source reporting and discussions with security cooperation practitioners enable us to map U.S. efforts to support Ukraine across the full spectrum of DOTMLPF-P. Our analysis illustrates how vital the holistic approach has been to Ukraine's performance on the battlefield. We also highlight areas where a delayed or absent component has had deleterious results. We include activities conducted by the U.S.





Secretary of Defense Lloyd J. Austin III and Gen. Darryl Williams, commanding general of U.S. Army Europe and Africa, meet with soldiers assigned to 2nd Brigade Combat Team, 1st Infantry Division, and U.S. Army Europe and Africa's 7th Army Training Command on 17 February 2023 in Grafenwoehr, Germany. The U.S. forces were supporting combined arms training of Ukrainian armed forces battalions, and their training on the M2 Bradley Fighting Vehicle represented the continuation of a worldwide effort led by the United States and supported by more than fifty nations to help Ukraine defend itself from Russian aggression. (Photo by Staff Sgt. Jordan Sivayavirojna, U.S. National Guard)

European Command (EUCOM) via the Ukraine Security Assistance Initiative, the U.S. Army in Europe (USAREUR), the Joint Multinational Training Group–Ukraine (JMTG-U), the Security Assistance Group–Ukraine (SAG-U), the Security Assistance Training Management Organization (SATMO), and others. Our analysis emphasizes U.S.-led assistance but, as we will discuss later, the broader efforts by NATO and other partners both reinforce and complicate the pursuit of Ukrainian battlefield capabilities.

**Doctrine.** Both the United States and NATO employ an overarching doctrine of combined arms, which brings together multiple types of combat units to achieve complementary effects. Western militaries developed this approach during the Cold War as a means of advantage against a larger, more hierarchical, and siloed Soviet military. It is within this doctrine that the

Bradley Fighting Vehicle entered service and through which it excelled during Operation Desert Storm and the 2003 invasion of Iraq. Because of Ukraine's Soviet legacy, their combined arms doctrine remains in its early stages.

Since 1994, when Ukraine became a Partnership for Peace member, the United States and other NATO partners have worked with Ukraine to reform their military, including a shift away from Soviet doctrine. Russia's invasion of Crimea in 2014 galvanized Ukraine's interest in defense reform, and with the help of SATMO's Doctrine Education Advisory Group, change has been underway.<sup>14</sup> This relationship continues despite the Russian invasion as SATMO advisors endeavor to get Ukraine's doctrine and way of war to a NATO standard. "The doctrine advisers trained Ukraine's own doctrine writers, working from NATO

operating concepts, and assisted in establishing a major training center in the country's west," SATMO commander Col. Andrew Clark stated. "Other members of the team went to the country's National Defence University and helped standardize the logistics curriculum in addition to teaching classes there."<sup>15</sup> SATMO doctrine writers have their work cut out for them trying to document a new way of fighting while seamlessly integrating the various hardware provided from across NATO. This work, however, will be fundamental in ensuring Ukraine maximizes the potential of their new hardware and can fight alongside NATO partners in the future.

**Organization.** With the Bradleys inbound for Ukraine, organizations needed to be created or modified to accept the new equipment. Ukraine possessed mechanized brigades, which proved a common landing spot for Bradleys, but many of these organizations were employed under more Soviet-style principles. As the first Bradley M2s made their way across the Atlantic, Ukraine created the 47th Assault Brigade, which was heralded as Ukraine's pivot toward a modern, NATO-influenced force. The brigade consisted of all volunteers equipped with U.S. rifles, tanks from Slovenia remounted with British guns, and the Bradley Fighting Vehicle.<sup>16</sup> These new organizations would lead integration of the new hardware with trained personnel and leadership that understood how to operate under the combined arms doctrine professed by SATMO.

**Training.** U.S.-led training has encompassed a wide variety of platform-specific training over the last two years. In addition to the Bradley, other high-profile systems training such as that of the High Mobility Artillery Rocket System (HIMARS) along with other combat vehicles, radars, artillery pieces, antitank weapons, unmanned aircraft systems, and air defense systems, among others, have occurred both in Europe and in the United States. JMTG-U has trained fifteen battalion tactical groups in Grafenwoehr, Germany.<sup>17</sup> SAG-U members trained over seven thousand Ukrainian soldiers within the first year of the war, with another eleven thousand in the pipeline, a figure that has grown steadily since.<sup>18</sup> The first battalion level certification occurred at Grafenwoehr in February 2023 when 635 Ukrainian soldiers completed a five-week period of instruction beginning with basic soldier tasks through collective training at the platoon and company

levels before culminating with a battalion force-on-force exercise. Another 1,600 soldiers were in the Grafenwoehr pipeline at that time as well.<sup>19</sup>

Platform-specific training has proven a cornerstone to the hardware sent to Ukraine. SAG-U has facilitated training on three pieces of hardware—specifically the Bradley, the F-16 fighter aircraft, and the HIMARS—training almost three hundred soldiers to operate these platforms.<sup>20</sup> This investment ensures that the Ukrainians are able to use their received hardware to its fullest potential but also keep it on the battlefield. Pentagon press secretary then-Brig. Gen. Pat Ryder detailed the necessity of such training in an exchange with reporters, saying, "[This] is a logical next step in our ongoing training efforts, which began in 2014, to build the Ukrainian armed forces capacity. While there's an understandable focus on the equipment being provided to Ukraine, training is and has been essential to ensuring Ukraine has the skilled forces necessary to better defend themselves."<sup>21</sup>

**Materiel.** The United States has provided well over 145,000 pieces of equipment, systems, and major platforms with associated equipment and ammunition through December 2023. This hardware—in the form of air defense systems, fires, ground maneuver, aircraft and unmanned aircraft systems, antiarmor weapons, and small arms—ranges from legacy systems to some of the best the United States has to offer.<sup>22</sup> As already mentioned, the Ukrainian army would face a significant challenge to accept this deluge of hardware without the DOTMLPF-P integration that would ensure that hardware is leveraged to its fullest potential on the battlefield. The correct doctrine with which to operate this hardware must be harmonious with organizations built to use the equipment properly. Training at individual through collective tasks ensures those organizations can fight and win on the battlefield.

Even so, the Ukraine case continues to illustrate how adaptation under fire generates novel techniques that can undermine any materiel advantage in unexpected ways. Reports from Ukrainian military officials in summer 2024 detail how the M982 Excalibur munitions are no longer employed thanks to Russian electronic warfare capabilities. Other precision-guided munitions, like those launched by the HIMARS and the new Ground-Launched Small Diameter Bomb, face similar electronic warfare threats that the Ukrainians



are actively working to address. Former USAREUR commander Lt. Gen. Ben Hodges was quoted as saying, “We have probably made some bad assumptions because over the last 20 years we were launching precision weapons against people that could not do anything about it ... now we are doing it against a peer opponent.”<sup>23</sup> Because of this, singular reliance on materiel solutions has grown even more precarious.

**Leader development and education.** Lack of initiative is a hallmark of the Russian military and Soviet legacy. As a former Soviet-bloc member, the Ukrainian officer corps suffered under Soviet doctrine.<sup>24</sup> Even with substantial combat experience, junior leaders often lack training in the fundamentals, which compounds as personnel are rapidly promoted to replace combat losses. As Western countries have helped rewrite Ukraine’s doctrine, they have also developed leaders at all levels to operate in a more proactive manner under Western doctrine. Clark’s SATMO team has helped Ukrainian leaders embrace decentralized decision-making and the use of commander’s intent executed through individual initiative.<sup>25</sup> SATMO also advises the Ukrainian military on professional military education reform, linking their doctrine-advising efforts into curriculum development as well as strategic planning.<sup>26</sup> These efforts ensure Ukraine’s systematic military reform takes root and can continue under the country’s own direction.

Lt. Gen. Andreas Marlow, vice chief of the German army, stated, “The training of sergeants and officers is what moves the Ukrainians most because the professional soldiers have been fighting this war for one and a half years now, and many have died or been wounded—so they need a fresh supply of military leaders.”<sup>27</sup> Through mid-2024, SAG-U has trained over fourteen thousand leaders in specific courses for noncommissioned officers at the squad and platoon levels, officers at the platoon and company levels and battalion staff assignments, along with instructors to build the program from within Ukraine’s own ranks.<sup>28</sup>

**Personnel.** The right personnel possessing the knowledge, skills, and behaviors required to operate on the modern battlefield are critical. One can imagine the military occupational specialties within the U.S. military and how many of those are essentially needed in the Ukrainian military to operate and maintain the plethora of hardware delivered since

2022. Whether military manning occurs through conscription or a volunteer force, the personnel requirements remain the same.

Due to the sweeping changes underway in Ukraine’s military, ensuring the right personnel fill the right billets is an end-to-end process. Especially as the conscription window expands and service qualifications relax, training grows in importance. As such, SAG-U’s training program begins with basic military training followed by the aforementioned platform training and leadership training to help proliferate the required knowledge, skills, and behaviors throughout the force. Additionally, SAG-U conducts specialized training for the likes of medics, chaplains, explosive ordnance disposal experts, marksman, legal personnel, and more.<sup>29</sup>

**Facilities.** Facilities for housing, training, maintenance, and planning are critical to a military’s continuous and effective operation. With Russia’s invasion and subsequent ability to strike almost anywhere in the country, many military facilities were destroyed or displaced. As an example, the Joint Multinational Training Group–Ukraine (JMTG-U) stood up in 2015 at Yavoriv, Ukraine, just outside Lviv. While the land has been used for military training since at least the 1940s, it became a Partnership for Peace training center in 2003 and steadily expanded its mission until the Russian invasion.<sup>30</sup>

**Lt. Col. Kyle J. Hatzinger, PhD, U.S. Army,** is an FA50 (force management) instructor at the Command and General Staff School. He received his PhD in history from the University of North Texas in 2020. Hatzinger deployed in support of Operation Iraqi Freedom and Operation New Dawn and previously served with the 101st Airborne Division (AASLT), the 1st Cavalry Division, the Futures and Concepts Center, and the U.S. Military Academy Department of History.

**Lt. Col. Molly J. Schaefer, U.S. Army Reserve,** is a logistician and foreign area officer activated to serve in the National Capital Region. As a civilian, she is an assistant professor at the Command and General Staff School. Schaefer is a graduate of the Eisenhower School for National Security and Resource Strategy and is a PhD candidate in security studies at Kansas State University. She has completed tours in Europe, Africa, and the Middle East.

Following a series of successful Russian strikes in February 2022, JMTG-U relocated to Grafenwoehr and resumed training operations.<sup>31</sup>

Moving facilities outside of Ukraine enabled training and maintenance to continue, but that distance from the battlefield extended the time to get trained soldiers and repaired vehicles back to the front. Two years into the war, a German firm became one of the first to establish a facility within Ukraine itself. Whereas the German Leopard tanks were previously sent to Lithuania for repair, the western Ukraine facility's establishment cut the supply line by hundreds of miles. Ukrainian Deputy Defense Minister Dmytro Klimentov lauded the news, saying, "This facility will allow us to ensure quick repairs and maintenance of German equipment on Ukrainian soil, significantly enhancing the efficiency of our Armed Forces."<sup>32</sup>

**Policy.** In June 2024, the United States changed a long-standing policy by permitting Ukraine to use U.S. weapons to strike inside Russian territory.<sup>33</sup> Initially scoped only to targets over the border close to Kharkiv, the policy soon evolved to allow for targets anywhere "that Russian forces are coming across the border from the Russian side to try to take additional Ukrainian territory," as stated by national security adviser Jake Sullivan.<sup>34</sup> The United States has clear policies on end-use monitoring (EUM), specifically for equipment transferred to partners under the Arms Export Control Act, although EUM compliance relies on personnel physically inspecting the equipment and has therefore been difficult given the limited staff on-ground in Ukraine.<sup>35</sup> It also adheres to the so-called "Leahy Law," which requires vetting of any foreign security force member prior to receiving training, equipping, or other assistance.<sup>36</sup>

More broadly, the policy domain has the potential to shape the other seven domains. This domain also comes closest to addressing the overarching process that enables capability development through the DOTMLPF-P framework. The U.S. Army calls this force management, while the security cooperation community thinks in similar (but unhelpfully different) terms, that is, full-spectrum capability development (see figure 1).

Among the range of security cooperation activities, institutional capacity building (ICB) is the most likely medium for collaboration on capability development,

whether using the DSCA framework or DOTMLPF-P. By design, ICB programs focus on security sector governance and core management competencies necessary to achieve shared security objectives.

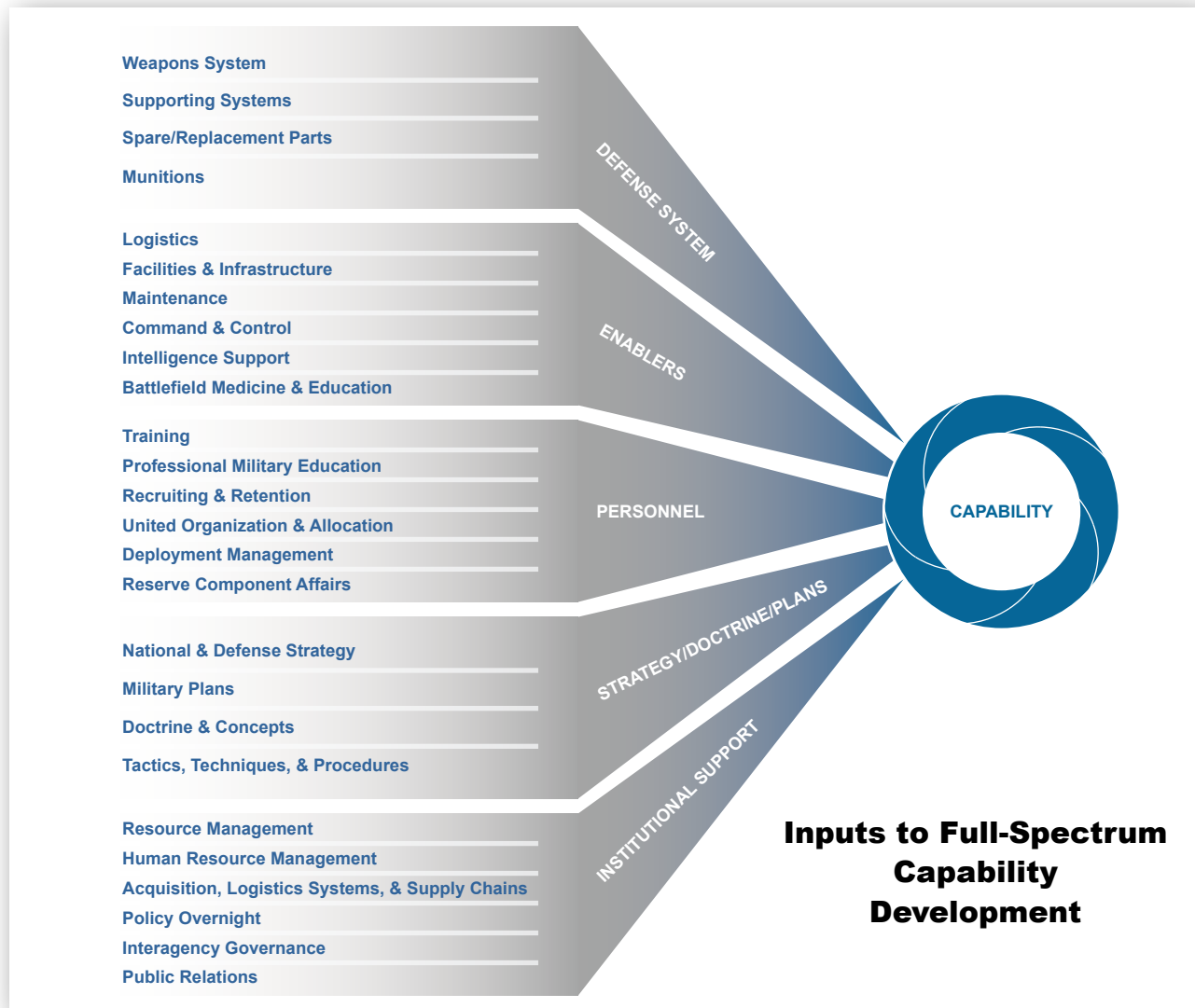
ICB assists allies and partners in examining and addressing broader, systemic factors essential to delivering what is needed (e.g., money, things, people, ideas, decisions) to:

1. Understand requirements, develop forces, and purchase or obtain the articles and services as required to develop, employ, and sustain required capabilities;
2. Successfully absorb and integrate fully developed capabilities into their existing security forces;
3. Effectively and responsibly employ those capabilities in the pursuit of common objectives between the U.S. and the ally or partner; and
4. Adequately staff, sustain, and maintain those capabilities throughout their lifecycle and eventually retire them when appropriate.<sup>37</sup>

The United States has worked with Ukraine on defense reform through various ICB programs, including the Ministry of Defense Advisor Program, but perhaps unsurprisingly, these efforts have taken a backseat to the needs of the ongoing conflict.

Looking across this DOTMLPF-P review of U.S. support to Ukraine, the reader might notice an imbalance of sorts among the substance addressed within each domain. For instance, the evidence of training support far outpaces that of facilities support. Yet, considering the dynamics on the ground, such imbalances reflect the realities of developing different capabilities in different contexts. Within Ukraine, an army trying to rewrite its doctrine while accepting hardware from many different sources must emphasize training along with leader education domains over restructuring the force. Organizational changes are necessary but somewhat inconsequential if they happen without the training and education to make them lethal on the battlefield. Risk can be accepted in other domains as limited resources—time, money, and force structure—require prioritization. Throughout, changes must be orchestrated through the institutional processes that set policy to achieve larger objectives.





(Figure from Defense Security Cooperation Agency [DCSA], *Transparency Handbook*)

## Figure 1. DSCA Full-Spectrum Capability Defined

### A Missing Piece—Sustainment

Sustainment, while not a component of the DOTMLPF-P framework, serves as a cross-cutting theme. Sustainment refers to “the related tasks and systems that provide support and services to ensure freedom of action, extend operational reach, and pro-long endurance.”<sup>38</sup> This warfighting function includes logistics, financial management, personnel services, and health service support. Whether maintaining equipment, reconstituting depleted formations, providing battlefield medicine to troops, or supporting the financial transactions that underpin operations, the sustainment warfighting function can make

or break even the most comprehensively designed capabilities.

As a case in point, in 2022, Army Execution Orders 230-22 and 293-22 directed that equipment from Army Prepositioned Stock-5 (APS-5) in Kuwait be sent to Ukraine. A DOD inspector general audit in 2023 revealed that the HMMWVs and M777 howitzers slated for Ukraine had not been maintained to mission-ready standards. To avoid delaying shipment from Kuwait to EUCOM, the report showed that APS-5 contractors cannibalized parts from working equipment, which enabled them to fulfill the order for EUCOM, but degraded the readiness of those items meant to stay

in the APS-5 stock. A mobile repair team rushed to Kuwait and inspected equipment the contractors had deemed fully capable, finding instead issues that “would have killed somebody” in the current condition.<sup>39</sup> Even after corrective actions in Kuwait, equipment arrived in Poland with critical maintenance faults; notably, the team in Poland reported that all six M777 howitzers shipped from Kuwait had faults rendering them nonmission capable, while twenty-five of twenty-nine HMMWVs required tire replacements.<sup>40</sup>

Between Kuwait and Poland, efforts to bring the equipment to usable standards cost the Army \$173,524 for labor and materiel just to replace the tires, not to mention the opportunity costs of redirecting soldiers away from their primary duties.<sup>41</sup> Yet, had these corrective actions not been taken, Ukrainian soldiers would have risked life and safety by operating faulty equipment. At a minimum, the Ukrainian military would have had to perform maintenance earlier than normally expected, thereby distracting from the fight.

The case touches all four pillars of sustainment. Logistics, specifically the maintenance of APS-5, had been shortchanged for years, arguably thanks to a complicated contracting relationship and unclear standards and funding for maintenance activity.<sup>42</sup> The unexpected, urgent requirements for maintenance in Kuwait and Poland affected both the financial management and personnel aspects of sustainment, as undue budget demands and the redirection of personnel for normal duties to critical maintenance duties triggered gaps in other operational requirements. Finally, while no injuries were reported because of the maintenance issues, the inspector general audit highlighted the risk and potential loss of life, which would have created an unnecessary and avoidable health service support requirement for the Ukrainian military.

While the APS-5 case reflects poorly on the Army’s maintenance protocols, it reveals a broader trend in the multinational effort to equip Ukraine. Many countries have leveraged excess or older equipment models, using Ukraine as a clearinghouse to make room for their own modernization initiatives.<sup>43</sup> While the clearinghouse approach puts weapons into Ukrainian hands much more quickly than new production would, it raises the likelihood of maintenance lapses and the unavailability of spare and replacement parts. The diversity of equipment flowing into Ukraine complicates maintenance

operations even more.<sup>44</sup> Moreover, it reinforces our argument that supplying hardware is not the “fire and forget” proposition many imagine.<sup>45</sup>

Bright spots exist, though. Since May 2022, the Army has operated the Remote Maintenance Distribution Cell-Ukraine out of southeastern Poland, enabling virtual maintenance support to operators in Ukraine. Given the limitations on U.S. personnel in the country, this creative solution allowed Ukrainian soldiers continuous access to maintenance expertise, supported by video footage of the problems on the ground, that would otherwise have been impossible.<sup>46</sup> While the United States maintains only a light presence in the country (via the U.S. Embassy in Kyiv), Germany has taken an important step toward in-country support. Rheinmetall, the producer of Leopard main battle tanks and other defense articles, opened the first maintenance and repair center physically located in Ukraine in June 2024.<sup>47</sup>

Accordingly, just as we advocate for a holistic, DOTMLPF-P-driven approach to capability development, we must advocate for proactive consideration of maintenance specifically and sustainment broadly. Each capability introduces its own sustainment implications, and despite improvisation being a principle of sustainment, it should not be the principle of first resort.

## Peacetime Priorities

Our discussion thus far has focused almost exclusively on efforts to support Ukraine since February 2022, with some activities dating back to the March 2014 Russian invasion of Crimea. Yet, if arming an army in contact is complex to the point of ineffectiveness or wastefulness, that places even greater weight on the efforts undertaken during peacetime.

To be fair, the JCIDS already accounts for the DOTMLPF-P domains as part of the Capabilities Based Assessment.<sup>48</sup> The Capabilities Based Assessment not only considers whether a nonmateriel solution could fill the operational gap but also provides a first-round appraisal of the impact of a change in one domain on the others. This analysis is revisited throughout the force management process but shifts in terminology from DOTMLPF-P analysis to force integration functional area analysis. This shift suggests that the initial DOTMLPF-P analysis sufficiently captured

Domain	U.S. Army Responsible Parties	Security Cooperation Resources and Programs
Doctrine	Training and Doctrine Command (TRADOC) Combined Arms Center (CAC) U.S. Army Training Center (USATC)	Security Assistance Training Management Organization (SATMO) Doctrine and Education Advisory Group (DEAG)
Organization	Army Staff U.S. Army Force Management Support Agency TRADOC Centers of Excellence Army Futures Command	Indirect through Institutional Capacity Building
Training	TRADOC CAC USATC	Joint Exercises State Partnership Program Security Force Assistance Brigades
Materiel	Assistant Secretary of the Army for Acquisitions, Technology, and Logistics Army Staff Army Futures Command/Program Executive Offices	Foreign Military Sales (or Financing) Presidential Drawdown Authority Excess Defense Articles
Leader Development & Education	TRADOC CAC USATC	International Military Education and Training SATMO DEAG
Personnel	Army G-1 Human Resources Command U.S. Army Recruiting Command ROTC USATC	Indirect through Institutional Capacity Building
Facilities	Army Materiel Command Installation Management Command	Indirect through Institutional Capacity Building
Policy	Secretary of the Army Army Staff	Indirect through Institutional Capacity Building

(Figure by authors)

## Figure 2. Comparison of DOTMLPF-P Domain Leads in U.S. Army Compared to Institutional Capacity Building

the intersections between domains and the associated implications of changes or new investments, and only integration issues remain. However, integration assumes the right components exist and simply require orchestration; Ukraine has illustrated that this assumption often fails to hold.

Reimagining the force management model exceeds the scope of this project, but our overall advocacy for elevating the DOTMLPF-P framework stands, most impactfully in the realm of security cooperation as demonstrated in Ukraine. Currently, when a partner requests materiel support, the DSCA via security cooperation practitioners in the appropriate combatant command assess the partner's "absorptive

capacity." As DSCA defines it on the initial requirements checklist, this assessment considers whether "the proposed recipient [has] the resources (financial, educational, doctrinal, etc.) to purchase, maintain, employ, and sustain the system in accordance with its intended end use."<sup>49</sup> DOD Instruction 5132.14, *Assessment, Monitoring, and Evaluation Policy for the Security Cooperation Enterprise*, lays out the information requirement much more clearly:

The extent to which an allied or partner nation shares relevant strategic objectives with the United States, as well as the partner's current ability to contribute to missions to address such shared objectives, *based on*



detailed holistic analysis of relevant partner capabilities such as through application of the doctrine, organizational structure, training, materiel, leadership and education, personnel, facilities, and policy framework [emphasis added by author] referenced in the Joint Capabilities Integration and Development System, as established by CJCS Instruction 3170.01I.<sup>50</sup>

This instruction offers yet another example of high-level direction to think about capabilities through the DOTMLPF-P framework, yet in practice, the holistic approach is routinely shortchanged or overlooked entirely. Our personal experiences echo commentary from colleagues currently working on security cooperation issues, specifically vis-à-vis Ukraine: monitoring and evaluation, not to mention long-term planning, are commonly trumped by whatever short-term crisis emerges. Yet this trend undermines the longer-term benefit of whatever assistance the United States provides.

Let's take one more tour of the acronym, this time looking at the tools and security cooperation programs available to affect the recipient partner's absorptive capacity (see figure 2). The most direct support the United States or any partner can provide is through training and equipment. However, as discussed, ICB efforts offer enormous potential to raise absorptive capacity by guiding the partner's approach to force management, hence the recurring theme.

## A Call for DOTMLPF-P Integration

As we endeavor to draw the right lessons from Ukraine, one such takeaway is the necessity of DOTMLPF-P (and sustainment) integration. The Army, and ideally, the DOD, must accept as a formal definition that a capability is the convergence of doctrine, organization, training, materiel, leader development and education, personnel, facilities, and policy, all underpinned by sustainment, on the battlefield. By formal definition, we mean inclusion in the *DOD Dictionary of Military and Associated Terms*, inclusion in the *How the Army Runs* glossary, and standardization throughout joint and Army doctrinal and reference publications. We also advocate for aligning the security cooperation definition and approach with DOTMLPF-P, even if security cooperation practitioners must also consider factors beyond the initial framework. While this will not fix the real problem of developing and delivering comprehensive capabilities, adjusting our thinking on the topic is an important first step. Moreover, we can collectively calibrate our expectations of even the most exquisite equipment, helping our leaders, our partners, and our taxpayers understand what equipment investments can and cannot deliver on the battlefield. We maintain that words mean things, and in this case, clarifying the meaning of *capability* can only strengthen our own forces and our support to partners around the world by unity of effort through a common language. ■

---

## Notes

**Epigraph.** The common phrase "words mean things" is most likely derived from Lewis Carroll, *Through the Looking-Glass and What Alice Found There*, ed. Florence Milner (Rand McNally, 1917), 99, [https://archive.org/details/ThroughTheLookingGlass\\_201303/page/n105/mode/2up](https://archive.org/details/ThroughTheLookingGlass_201303/page/n105/mode/2up).

1. Varied analyses can be found at "Ukrainian Bradley Battles Russian T90M Tank near Avdiivka," posted 13 February 2024 by Task and Purpose, YouTube, <https://www.youtube.com/watch?v=khXMPpxdxg>; Alia Shoaib, "Ukrainian Bradley Crew Members Described the Heart-Stopping Battle in Which They Overwhelmed a Powerful Russian T-90M Tank," Business Insider, 20 January 2024, <https://www.businessinsider.com/ukrainian-bradley-crew-describes-how-beat-russian-t-90m-tank-2024-1>; Bohdan Tuzov, "Analysis: How Ukraine's M2 Bradleys Take Out Russia's Best T-90 Tanks," *Kyiv Post*, 20 January 2024 <https://www.kyivpost.com/analysis/26992>.

2. Alona Sonko, "47th Brigade Praises 'Audacious' Young Bradley Crew's Tactics Against Russian T-90 Proryv Tank," NV, 28 January 2024, <https://english.nv.ua/nation/ukraine-military-explains-how-one-bradley-crew-destroyed-russian-t-90-tank-in-viral-video-50387859.html>.

3. "UKRAINE: Interview with the Crew of the Ukrainian Bradley Which Took on a Russian T-90M," posted 19 January 2024 by Military and Conflict, YouTube, 00:50, [https://www.youtube.com/watch?v=w\\_wGNqBHO4w](https://www.youtube.com/watch?v=w_wGNqBHO4w).

4. "Fact Sheet on U.S. Security Assistance to Ukraine," U.S. Department of Defense (DOD), 24 April 2024, [https://media.defense.gov/2024/Apr/24/2003448840/-1/-1/1/20240424\\_UKRAINE\\_FACT\\_SHEET.PDF](https://media.defense.gov/2024/Apr/24/2003448840/-1/-1/1/20240424_UKRAINE_FACT_SHEET.PDF). As of April 2024, the United States has provided Ukraine more than \$44.9 billion in security assistance, of which individual equipment and munitions are considered "capabilities." The extent to which these summaries and dollar figures account for the nonmateriel aspects of security assistance remains unclear.

5. Aaron C. Taliaferro et al., "What Is a Capability, and What Are the Components of Capability?," in *Defense Governance and Management: Improving the Defense Management Capabilities of Foreign Defense Institutions A Guide to Capability-Based Planning (CBP)* (Institute for Defense Analyses, 2019), 5–12, <http://www.jstor.org/stable/resrep22853.5>.

6. Army Regulation 525-30, *Army Strategic and Operational Readiness* (U.S. Government Publishing Office [GPO], 2020), 27.

7. U.S. Army War College, *How the Army Runs: A Senior Leader Reference Handbook* (U.S. Army War College, 2022), <https://warroom.armywarcollege.edu/wp-content/uploads/2021-2022/HTAR.pdf>.

8. Defense Security Cooperation Agency (DSCA), introduction to *Transparency Handbook* (DSCA, 2017), <https://www.dsca.mil/dsca-transparency-handbook/introduction>.

9. Mark Milley, "Strategic Inflection Point: The Most Historically Significant and Fundamental Change in the Character of War Is Happening Now—While the Future Is Clouded in Mist and Uncertainty," *Joint Force Quarterly* 110 (3rd Quarter, 2023): 12, [https://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-110/jfq-110\\_6-15\\_Milley.pdf?ver=XE5o7a8f80Ro99ue8Vh-IQ%3d%3d](https://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-110/jfq-110_6-15_Milley.pdf?ver=XE5o7a8f80Ro99ue8Vh-IQ%3d%3d).

10. Mason Stalker, quoted in SAG-U Public Affairs, "As Long as It Takes: Sag-U's AUSA Presentation Focuses on Training and Sustainment," Army.mil, 21 October 2023, [https://www.army.mil/article/270996/as\\_long\\_as\\_it\\_takes\\_sag\\_us\\_ausa\\_presentation\\_focuses\\_on\\_training\\_and\\_sustainment](https://www.army.mil/article/270996/as_long_as_it_takes_sag_us_ausa_presentation_focuses_on_training_and_sustainment).

11. Terrence K. Kelly, "Transformation and Homeland Security: Dual Challenges for the U.S. Army," *Parameters* 33, no. 2 (Summer 2003): 37, <https://press.armywarcollege.edu/cgi/viewcontent.cgi?article=2148&context=parameters>.

12. *Ibid.*, 49.

13. "Non-Materiel (DOTMLPF-F) Analysis and Documentation," Defense Acquisition University, accessed 30 December 2024, <https://www.dau.edu/acquipedia-article/non-materiel-dot-mlpf-p-analysis-and-documentation-dcr>. The security cooperation community nominally does this through full-spectrum capability integration, but in practice, both requests from partners and offers by the United States tend to focus on training and/or equipment.

14. Mackenzie Deal, "Ukraine's Readiness Supported by U.S. Army Security Assistance Experts," Army.mil, 7 February 2022, [https://www.army.mil/article/253753/ukraines\\_readiness\\_supported\\_by\\_us\\_army\\_security\\_assistance\\_experts](https://www.army.mil/article/253753/ukraines_readiness_supported_by_us_army_security_assistance_experts).

15. Davis Winkie, "How US Trainers Helped Ukraine Reinvent Its Doctrine," *Defense News*, 28 March 2023, <https://www.defensenews.com/land/2023/03/28/how-us-trainers-helped-ukraine-reinvent-its-doctrine/>.

16. David Axe, "It Took Just Two Weeks for One of the Ukrainian Army's Newest Brigades to Get American-Made M-2 Fighting Vehicles," *Forbes*, 15 January 2023, <https://www.forbes.com/sites/davidaxe/2023/01/15/it-took-just-two-weeks-for-one-of-the-ukrainian-armys-newest-brigades-to-get-american-made-m-2-fighting-vehicles/?sh=71cfa949510c>.

17. "Ukrainian Fighters in Yavoriv Trained in Line with JMTG-U Program," *Ukrinform*, 27 March 2018, <https://www.ukrinform.net/rubric-defense/2430205-ukrainian-fighters-in-yavoriv-trained-in-line-with-jmtgu-program.html>; William Trout, "First Brigade Level Training Event at JMTG-U," *Defense Visual Information Distribution Service*, 4 May 2019, <https://www.dvidshub.net/news/printable/323018>.

18. Todd Lopez, "DOD Official Says Training for Ukrainians Is Ongoing," *DOD News*, 30 March 2023, <https://www.defense.gov/News/News-Stories/Article/Article/3347269/dod-official-says-training-for-ukrainians-is-ongoing/>.

19. Meghann Myers, "Ukrainian Battalion Completes First Combined-Arms Training in Germany," *Defense News*, 17 February 2023, <https://www.defensenews.com/news/your-army/2023/02/17/ukrainian-battalion-completes-first-combined-arms-training-in-germany/>.

20. Special Inspector General for Operation Atlantic Resolve, *Operation Atlantic Resolve: Including U.S. Government Activities Related to Ukraine* (U.S. DOD, 14 November 2024), [https://media.defense.gov/2024/Nov/13/2003583230-1-1/1/OAR\\_Q4\\_SEP2024\\_FINAL\\_508.PDF](https://media.defense.gov/2024/Nov/13/2003583230-1-1/1/OAR_Q4_SEP2024_FINAL_508.PDF).

21. Todd Lopez, "U.S. Plans Combined Arms Training for Ukrainian Soldiers," *DOD News*, 15 December 2022, <https://www.defense.gov/News/News-Stories/Article/Article/3248075/us-plans-combined-arms-training-for-ukrainian-soldiers/>.

22. U.S. DOD, "Fact Sheet on U.S. Security Assistance to Ukraine."

23. Yaroslav Trofimov, "High-Tech American Weapons Work Against Russia—Until They Don't," *Wall Street Journal*, 10 July 2024, <https://www.wsj.com/world/us-weapons-russia-ukraine-0eed240c>.

24. *Ibid.*

25. Jack Detsch, "How Ukraine Learned to Fight," *Foreign Policy*, 1 March 2023, <https://foreignpolicy.com/2023/03/01/how-ukraine-learned-to-fight/>.

26. Sam Skove, "Some Ukrainian Troops Are Still Using Soviet Methods, Despite U.S. Training," *Defense One*, 7 April 2023, <https://www.defenseone.com/threats/2023/04/some-ukrainian-troops-are-still-using-soviet-methods-despite-us-training/384967/>.

27. Deal, "Ukraine's Readiness Supported by US Army Security Assistance Experts"

28. Sabine Siebold, "Offensive Tactics and Leadership Rise to Top of Kyiv's Training Wish List," *Reuters*, 17 August 2023, <https://www.reuters.com/world/europe/offensive-tactics-leadership-rise-top-kyivs-training-wish-list-2023-08-17/>.

29. Special Inspector General for Operation Atlantic Resolve, *Operation Atlantic Resolve*.

30. "Ukrainian PFP Training Centre," NATO, 20 October 2023, <https://www.nato.int/structur/nmlo/links/yavoriv-training-centre.pdf>.

31. "Joint Multinational Training Group-Ukraine," 7th Army Training Command, accessed 30 January 2024, <https://www.7atc.army.mil/JMTGU/>.

32. Sam Skove, "Rheinmetall Opens Repair Center for Armored Vehicles in Ukraine," *Defense One*, 11 June 2024, <https://www.defenseone.com/business/2024/06/rheinmetall-opens-repair-center-armored-vehicles-ukraine/397283/>.

33. Alex Marquardt, Jennifer Hansler, and Kylie Atwood, "Biden Gives Ukraine Permission to Carry Out Limited Strikes with in Russia Using US Weapons," *CNN*, 31 May 2024, <https://www.cnn.com/2024/05/30/politics/biden-ukraine-limited-strikes-russia/index.html>.

34. Jake Sullivan, "Sullivan: Hamas Cease-Fire Response Has Both 'Understandable' and 'Out of Step' Proposals," interview by Nick Schiffrin, *PBS NewsHour*, 17 June 2024, <https://www.pbs.org/newshour/show/sullivan-hamas-cease-fire-response-has-both-understandable-and-out-of-step-proposals>.

35. DSCA, "End Use Monitoring," chap. 8 in *Security Assistance Management Manual* (DSCA, 2012), accessed 30 December 2024, <https://samm.dsca.mil/chapter/chapter-8#C8.2>.

36. "About the Leahy Law," U.S. Department of State, 20 January 2021, <https://www.state.gov>

[key-topics-bureau-of-democracy-human-rights-and-labor/human-rights/leahy-law-fact-sheet/](#)

37. "Institutional Capacity Building," DSCA, accessed 30 December 2024, <https://www.dsca.mil/institutional-capacity-building>.

38. Field Manual 4-0, *Sustainment Operations* (U.S. GPO, 2024), 1.

39. Inspector General, U.S. DOD (DODIG), *Management Advisory: Maintenance Concerns for the Army's Prepositioned Stock-5 Equipment Designated for Ukraine* (DODIG, 23 May 2023), 4, <https://media.defense.gov/2023/May/25/2003230073/-1/-1/1/DODIG-2023-076.PDF>.

40. *Ibid.*, 4–5.

41. *Ibid.*, 7.

42. Alison Bath, "Maintenance Failures on Army Equipment Stored at Kuwait Base Posed Deadly Risk, IG Says," *Stars and Stripes*, 1 June 2023, <https://www.stripes.com/branches/army/2023-06-01/army-ukraine-howitzer-humvee-kuwait-10302759.html>.

43. Sam Skove, "Army Orders Another \$0.75 Billion Worth of Armored Multi-Purpose Vehicles," *Defense One*, 14 March 2024, <https://www.defenseone.com/business/2024/03/army-orders-another-075-billion-worth-armored-multi-purpose-vehicles/394953/>.

44. Jeff Schogol, "How Ukraine Might Maintain Its Abrams, Challenger, and Leopard Tanks to Fight Russia," *Task and Purpose*, 27 January 2023, <https://taskandpurpose.com/news/ukraine-us-british-german-tanks>.

45. Matthew Olay, "Austin to Convene Ukraine Coalition Group to Map Country's Future Defense Needs, Objectives," *DOD News*, 7 January 2025, [https://www.defense.gov/News/News-Stories/Article/](https://www.defense.gov/News/News-Stories/Article/Article/4023442/austin-to-convene-ukraine-coalition-group-to-map-countrys-future-defense-needs/)

[Article/4023442/austin-to-convene-ukraine-coalition-group-to-map-countrys-future-defense-needs/](#). The Ukraine Defense Contact Group comprises over fifty countries committed to equipping Ukraine and serves as the coordinating mechanism for equipment inflows. While this article does not outline the details and variety of support into the country, the very composition of the organization illustrates how complicated the equipping, sustaining, and remaining DOTMLPF-P (doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy) domains can be.

46. Natalie Weaver, "Remote Maintenance Soldiers Establish Personal Ties with Ukraine Armed Forces," *Army.mil*, 30 October 2023, [https://www.army.mil/article/271255/remote\\_maintenance\\_soldiers\\_establish\\_personal\\_ties\\_with\\_ukraine\\_armed\\_forces](https://www.army.mil/article/271255/remote_maintenance_soldiers_establish_personal_ties_with_ukraine_armed_forces).

47. "Opening of the Maintenance and Repair Centre in Ukraine with Political Support," *Rheinmetall*, 10 June 2024, <https://www.rheinmetall.com/en/media/news-watch/news/2024/06/2024-06-11-rheinmetall-ukrainian-defense-industry-repair-hub>.

48. "Capabilities Based Assessment (CBA)," *Defense Acquisition University*, accessed 31 December 2024, <https://www.dau.edu/acquimedia-article/capabilities-based-assessment-cba>.

49. DSCA, "Technology Transfer and Disclosure," chap. 3 in *Security Assistance Management Manual*, accessed 30 December 2024, <https://samm.dsca.mil/chapter/chapter-3>.

50. DOD Instruction 5132.14, *Assessment, Monitoring, and Evaluation Policy for the Security Cooperation Enterprise* (Office of the Under Secretary of Defense for Policy, 13 January 2017), 13–14, [https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/513214\\_dodi\\_2017.pdf](https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/513214_dodi_2017.pdf).

## Coming Soon from the AUP Research and Books Team

### *From the Art of War Scholars Series—March 2025 Digital Publication*

#### *Art of War Papers*

"An Extremely Nebulous and Complex Task:"  
Doctrine and Curriculum Development at the  
Command and General Staff College,  
1946–1960



Jesse A. Faugstad, Major, US Army



Army University Press  
US Army Combined Arms Center  
Fort Leavenworth, Kansas

***"An Extremely Nebulous and Complex Task": Doctrine and Curriculum Development at the Command and General Staff College, 1946–1960***  
Maj. Jesse A. Faugstad, U.S. Army

From 1946 to 1960, leaders at the Command and General Staff College debated how to develop doctrine for the atomic age. Consensus, however, remained as elusive in 1960 as it did in 1946. In this *Art of War Scholars Series* publication, Maj. Jesse A. Faugstad investigates and engages doctrine development within the college as a microcosm of the debate among senior leaders of the U.S. Army. Examining the complex and nebulous nature of doctrine development in the 1950s demonstrates the important connection between tactical doctrine and strategic context, and how professional military education supports that connect.

To read more *Art of War Papers*, visit <https://www.armyupress.army.mil/Books/CSI-Press-Publications/Art-of-War-Papers/>.