

MH-60S Seahawk helicopter, assigned to “Tridents” of Helicopter Sea Combat Squadron 9, takes off from aircraft carrier USS *Gerald R. Ford* as it prepares to conduct vertical replenishment with *Ticonderoga*-class guided-missile cruiser USS *Normandy*, May 12, 2023, in Atlantic Ocean (U.S. Navy/Malachi Lakey)



A Symphony of Capabilities

How the Joint Warfighting Concept Guides Service Force Design and Development

By Thomas A. Walsh and Alexandra L. Huber

The United States today faces complex global challenges, including long-term strategic competition with major powers such as

Colonel Thomas A. Walsh, USAF, is Chief of the Strategic Engagement Office, Joint Staff J7. Alexandra L. Huber is an Analyst with the Office of the Secretary of Defense.

China and Russia, rogue states pursuing nuclear proliferation, and violent extremist organizations bent on sowing chaos. Rapidly evolving technologies—from generative artificial intelligence systems to advancements in human-machine teaming—are changing the character of warfare, and we are only just beginning to understand the implica-

tions of these changes. History shows that in times like this, nations that best capitalize on these changes create the greatest advantages in battle. Adapting to this evolving landscape requires the joint force—Army, Marine Corps, Navy, Air Force, and Space Force—to integrate capabilities and synchronize effects fluidly across domains. The

opportunity for the joint force, as it looks forward to a future still blurred by the implications of rapid change, is to balance readiness for today's warfare with preparation for the warfare of the future.

Roadmap to the Future

In 1958, President Dwight D. Eisenhower, commenting on the Defense Reorganization Act, emphasized that “separate ground, sea, and air warfare is gone forever. If ever again we should be involved in war, we will fight in all elements, with all services, as one single concentrated effort.”¹ Reinforcing this idea, the 2022 National Defense Strategy (NDS) states that the United States “will disrupt competitor warfighting advantages while reinforcing our own, and enhance interoperability and access.”² The NDS's central tenet is the idea of integrated deterrence: “working seamlessly across warfighting domains, theaters, the spectrum of conflict, all instruments of U.S. national power, and our network of Alliances and partnerships.”³

The joint force's answer to the NDS call and the current shift in the character of war is the Joint Warfighting Concept (JWC). Former Chairman of the Joint Chiefs of Staff General Mark A. Milley has called the JWC our “roadmap to the future.”⁴ It is a threat-informed, operational concept that provides an overarching approach to how the joint force will fight in the future, culminating nearly a decade of focused development, wargaming, and experimentation.⁵ The JWC articulates a strategic vision for how the U.S. military will operate and fight as an integrated joint team across all domains. By guiding and shaping Service force design and development efforts, the JWC stands as a roadmap to ensure the joint force maintains advantage.

Joint Force Design and Development

The JWC does not chart a singular path through a landscape of budgetary and operational choices, as a roadmap through geographic terrain would. Rather, the JWC guides numerous

operations, activities, and investments throughout the Department of Defense (DOD) by providing a common goal toward which the military Services strive. Additionally, the JWC informs how DOD partners in industry and the interagency community can support the joint warfighting effort. The JWC articulates a “deep understanding of the changing character of warfare, anticipates the operating environment, and guides how the joint force organizes, trains, and equips for future competition and conflict.”⁶ Perhaps not as detailed as a map or as specific as turn-by-turn directions, the JWC offers a shared vision of the terrain and common destination. In this way, the JWC provides alignment and flexibility to Service force development and design efforts. The ability of the JWC to guide preparation for contemporary warfare and balance modernization for future warfare is one of the reasons General Milley refers to the JWC as our “North Star.”⁷ The opportunity for the joint force now is to synchronize and integrate its various approaches, guided by the JWC, such that the right force is ready at the right time to compete with, deter, or defeat any adversary.

A Symphony of Capabilities

Some consider American jazz music as “America's classical music.”⁸ Improvisation is an important part of jazz, and in most performances, players perform solos they create on the spot. Because improvisation is so central to jazz, jazz musicians are tremendously creative, and they produce a wide variety of music. As a result, one might listen to many different jazz recordings of the same song, but none will sound identical.⁹ The musicians' playing styles and the improvised solos combine to make something different. Jazz is about making something shared—a song everyone knows—into something personal.¹⁰ To be able to improvise, however, a musician first needs to learn the basic musical scales, which provide a common foundation of knowledge. For the joint force, the JWC provides this foundation.

In a sense, each of the military Services exhibits similar creativity and improvisation as it makes something shared, like joint operations, into something personal, such as Service-led organization, training, and equipping of forces for those operations. Each of the military Services approaches force design and development in the manner it believes leverages its unique cultures and experiences and best prepares it for its missions. The Army, for example, uses the concept of Multidomain Operations (MDO) as a guide. The Air Force pursues force design in line with its Future Operating Concept. The Marine Corps looks to its own Force Design 2030 as it readies its Marines for the future. The Navy's Navigation Plan guides its force design efforts.

Integration among the Services, capitalizing on each Service's unique capabilities, perspective, and experience, strengthens the joint force. In combination with a high focus on adaptation and informed decisionmaking down to the lowest possible level, the U.S. military aims to maintain existing advantages in modern warfighting and combine them with human ingenuity and creativity to produce enduring advantage for the joint warfighter. By providing a common goal and vision of the future, the JWC harmonizes Service-led force design and development activities into a symphony of capabilities.

Tenets of the JWC

In July 2023, General Milley introduced the key tenets of the JWC, which seek to reinforce the NDS force development priorities: “infrastructure, logistics, command and control, dispersal and relocation, and mobilization.”¹¹ The JWC tenets are:

- Integrated, combined joint force: Seamless integration of all military Services across all warfighting domains, enabling them to function as a unified force. This involves synchronized planning, shared situational awareness, and effective communication across different Services, fully aligned and interoperable with key allies and partners.

- Expanded maneuver: Fluidly moving through space and time, including but not limited to maneuvering through land, sea, air, space, cyber, the electromagnetic spectrum, information space, and the cognitive realm.
- Pulsed operations: A type of joint all-domain operation characterized by the deliberate application of joint force strength to generate or exploit advantages over an adversary.
- Integrated command, agile control: Seamless command and control (C2) across all domains, integrating sensors, platforms, and decisionmaking processes to achieve real-time battlespace awareness and enable rapid decisionmaking.
- Global fires: Integration of kinetic and nonkinetic fires to deliver precise, synchronized global effects across all domains and multiple areas of responsibility.
- Information advantage: The rapid collection, analysis, and dissemination of information using advanced technologies to enable decisionmaking superiority and action.
- Resilient logistics: The rapid movement of personnel and equipment to places and times of our choosing.¹²

These tenets serve like musical scales for jazz musicians, guiding the design and development activities of the respective military Services. They not only provide a common foundation but also allow for the creativity and improvisation necessary for each Service to optimize its operations, activities, and investments in line with its mission areas. These tenets can be found in each Service's force design and development efforts, and vice versa. In recent conversations, every Service's senior-most leader emphasized this point in describing how the Service is adapting for the future.

Army

In the past century, land has constituted a primary warfighting domain in major U.S. conflicts, resulting in many land-centric lessons that have been integrated across the joint force. Over the

last 12 months, the Army has continued to transform the ways and means of its approach to warfare. From weapon and battle management systems to updated doctrine, today's Army is readying itself to compete, deter adversaries, and prevail in 21st-century warfare. This sweeping modernization effort reflects the tenets of the JWC.

Capability Modernization. The 2022 NDS states the need to support integrated deterrence through the idea of "deterrence by denial"¹³—the ability to withstand and quickly recover from multidomain attacks. Supporting this idea, Army fielding priorities center on multidomain, interoperable capabilities. By the end of fiscal year 2023, the Army will have fielded 24 new combat systems. These systems include long-range precision strike weapons, mobility systems, and an updated battle management C2 network.¹⁴ Notably, in April 2023, the Army approved for full production the Integrated Battle Command System, which integrates multidomain sensors to create a holistic image of the battlefield and identify the best shooter to defend against incoming threats, quickly closing the sensor-to-shooter loop.¹⁵

The Army's new fires, maneuver, and C2 systems represent an ambitious modernization effort and shift in perspective regarding modernization altogether, emphasizing continual adaptation. According to Chief of Staff of the Army General Randy George, today's Army embraces "continuous transformation, where we are constantly evolving and improving not just material capabilities, but also the tactics, techniques, and procedures needed to optimize those capabilities."¹⁶ New Army doctrine reflects this effort and describes the way the Service applies those capabilities in its approach to 21st-century warfare, which is informed by consistent experimentation across the enterprise, such as Army Futures Command, Service component commands, and cross-functional teams.

Multidomain Operations. In October 2022, the Army published Field Manual (FM) 3-0, *Operations*, solidifying the Army's concept of multidomain

operations into doctrine. The concept, in the words of former Army Chief of Staff General James McConville, is "shaping the Army and transforming our people, readiness, and modernization efforts to meet current and future challenges and define the Army of 2030."¹⁷ FM 3-0 defines *MDO* as "the combined arms employment of joint and Army capabilities to create and exploit relative advantages that achieve objectives, defeat enemy forces, and consolidate gains on behalf of joint force commanders."¹⁸ *All operations, it highlights, are multidomain operations.*

MDO are at the heart of the JWC and underscore the tenets of expanded maneuver and pulsed operations. General Randy George notes that the evolution in the Army's doctrine optimizes it for pulsed operations through capabilities such as long-range precision fires, integrated air and missile defense, and close combat forces. Pulsed operations, in his view, are about using Army capabilities to "create openings in space and time for different components of the joint force to exploit, and vice versa. Those pulses make expanded maneuver possible."¹⁹ Operators and formations need to sense, make sense, and act in the operational environment faster than ever before. This requires a leaner, more mobile, and more networked Army.

Through capabilities and doctrine, today's Army is adapting to a modernized way of war for the 21st century. Land operations remain central to Army force design and development, and those efforts increasingly reflect the necessity to integrate and synchronize effects across domains, which is the heart of the JWC. In this sense, the Army is using the musical scales provided by the JWC and other concepts to leverage its own part of the orchestra, strengthening the symphony as a whole. Whether in space or undersea, in the Pacific or elsewhere, "every theater," General George highlights, "is joint."²⁰

Marine Corps

When it comes to force design and development, the Marine Corps is prioritizing speed, initiative, and current advantages. While the Marine Corps has drawn criticism from some retired



Marine Corps Marine Unmanned Aerial Vehicle Squadron 3, Marine Aircraft Group 24, maneuvers MQ-9A down flight line on Marine Corps Air Station Kaneohe Bay, Hawaii, June 20, 2023 (U.S. Marine Corps/Cody Purcell)

ranks because of its rapidly divesting legacy materiel, these divestitures have better prepared the Corps for future warfare and the tenets of the JWC.²¹ According to the Corps' senior-most Marines, the changes are vital to ensuring the Marine Corps is ready to meet 21st-century challenges.

Force Design 2030. In March 2020, the Marine Corps announced a major force design initiative called Force Design 2030.²² The initiative, planned to take place over the following 10 years, aims to redesign the Service for naval expeditionary warfare to better align itself with the NDS and address the challenges identified therein. Since 2020, the Marine Corps has eliminated and reorganized units in accordance with the concept and has divested several capabilities, such as heavy armor. The Service has also fielded new capabilities and task units, including unmanned aerial vehicle squadrons with its first MQ-9As in Hawaii, Marine Corps Information Command, and the 3rd Marine Littoral Regiment.²³

Designed at the same time as early iterations of the JWC, Force Design 2030 addresses the Service-specific requirements for force design and adaptation to modern warfare. These efforts remain tightly aligned with joint force goals outlined in the NDS and JWC. The JWC, according to General Eric Smith, Commandant of the U.S. Marine Corps, “is the vehicle by which we show our jointness.”²⁴

A New Paradigm. Deeper integration and synchronization of these modernization efforts with the other Services is central to Marine Corps force transformation. As General Smith notes, this integration “significantly increases the capability, lethality, and effectiveness of the joint force.”²⁵ Reflecting the JWC's tenet of an integrated, combined joint force, Force Design 2030 emphasizes that Marine Air-to-Ground Task Force C2 capabilities must rapidly transition across the competition continuum “to enable all-domain joint and combined kill webs.”²⁶ To do this, Force Design 2030

calls for a shift away from legacy air-land battle paradigms to a 21st-century, all-domain, joint battle mindset. According to General Smith, the key to this joint mindedness is striking the proper balance between top-level guidance and Service-level efforts to innovate, adapt, and transform for the future.

The Marine Corps' Stand-in Forces (SIF) and Expeditionary Advanced Basing Operations (EABO) concepts puts these ideas into practice. The SIF concept envisions a consistent Marine presence west of the international date-line to provide constant forward-based sustainment and counter-C2, computing, communications, cyber, intelligence, surveillance, reconnaissance, and targeting (C5ISR) capabilities designed to enable the first pulse of JWC's pulsed operations.²⁷ General Smith highlights that the SIF concept enables Marines to create an opportunity for other forces to enter the theater by “opening the door from the inside.”²⁸ Currently, the Corps has over 28,000 Marines stationed in this region

Marine Corps F-35B Lightning IIs, assigned to Marine Fighter Attack Squadron 121 from Marine Corps Air Station Iwakuni, fly alongside Air Force KC-135 Stratotanker over Pacific Ocean, January 19, 2023 (U.S. Air Force/Tylir Meyer)







Servicemembers review data at Schriever Space Force Base, Colorado, December 19, 2022 (U.S. Space Force/Dennis Rogers)

to maintain presence, support regional allies and partners, and “open the door” for the rest of the joint force in the case of a contingency.²⁹ As the 2022 NDS prioritizes key infrastructure investments and continued collaboration with allies and partners in the Indo-Pacific region, the Marine presence in the region will endure.³⁰

To refine the Marine concept of EABO and the JWC, General Smith emphasizes the importance of experimentation, exercising, and testing—in particular, nesting experimentation within larger exercise campaigns. Modern Great Power competition requires the joint force to accelerate experimentation efforts and, where needed, accept greater risk. According to General Smith, the joint force must “boldly move toward the future.”³¹ Since 2021, the Marines

have embarked on a mission to conduct “near-constant” experimentation in EABO operations and training, integrating new technology, materiel, and tactics.³² In the metaphor of a jazz ensemble, the Marines have embraced improvisation in new and experimental ways. These experiments will inform future EABO operations and Marine Corps concepts, accelerating overall joint force development and strengthening the Marines’ role in joint warfighting.

The most critical part of the JWC—and all Service concepts—is, according to General Smith, ensuring that all warfighters understand the role their Service plays in the joint force.³³ All Services should maintain their unique capabilities and perspectives, which have been hard-earned over time and in battle. These are vital to the Services’ respective strengths.

The JWC helps maximize those strengths by integrating them into a cohesive, credible, and adaptive joint force. As Force Design 2030 acknowledges, only by expanding integration and creating new advantages when we sense changes in the operating environment will the Marine Corps remain “most ready, when the Nation is least ready.”³⁴

Navy

The Navy’s overarching contribution to the JWC is Distributed Maritime Operations (DMO), the Navy’s central organizing concept for its future operations. DMO increase naval lethality and survivability while providing operational advantage to the joint force. The Navy’s Navigation Plan focuses Navy’s capability investments to support DMO, focusing on six force design imperatives:

- expand distance
- leverage deception
- harden defense
- increase distribution
- ensure delivery
- generate decision advantage.³⁵

The Navy’s strategic guidance and supporting concepts fully align to the JWC and its tenets, integrating with the joint force symphony while supporting the NDS foundational priority of integrated deterrence.

Adaptation Through Cross-Force Integration. Vice Chief of Naval Operations Admiral Lisa Franchetti emphasizes the centrality of cross-force integration in naval development. According to Admiral Franchetti, “supporting integrated deterrence and the Joint Warfighting Concept guides the Navy’s investment and acquisition priorities.” One of the Navy’s core functions is strategic deterrence, which supports the JWC by providing the ultimate backstop to integrated deterrence. Beyond strategic deterrence, the JWC provides the framework for the Navy to integrate with joint force counterparts, allies, and partner nations to “develop future operational concepts that capitalize on each other’s strengths and maximize delivery of effects as a joint and combined force.”³⁶ To ensure current concept implementation and future concept development efforts remain aligned across all stakeholders, the Navy leverages the NDS and JWC as guides, thus “looking at Distributed Maritime Operations in different geographic contexts and time epochs.”³⁷ In other words, the Navy uses the NDS priorities and JWC tenets to employ DMO and create advantages for the entire joint and combined force.

A key aspect of this approach is continued engagement at the senior-leader level. According to Admiral Franchetti, continued leadership engagement in forums such as the Globally Integrated Wargame and Large Scale [Global] Exercises “yields deep understanding of joint concept and capability development.”³⁸ This engagement at all levels of the force ensures the Navy’s development

remains relevant across the joint force, and by pursuing alignment with all Services, the Navy ensures cohesive joint capabilities. In support of its Navigation Plan, the Navy instituted the NAVPLAN Implementation Framework (NIF) to drive joint force–relevant capability development that anticipates and responds to fellow Service efforts.

Technology and Capability Development. The Navy’s ongoing NIF and Force Design 2045 efforts prioritize capabilities with the most promise to fulfill JWC tenets. To deliver on its six force design imperatives, the Navy established objectives for long-range fires; terminal defense; C5ISR; unmanned systems; AI; and Naval Operational Architecture (Overmatch) to support the JWC tenets of regarding global fires and integrated command, agile control. Specific to naval-enabled logistics, contested logistics and end-to-end supply chain objectives demonstrate how the Navy will help the joint force maneuver into and within the theater of operations.

Furthermore, when planning or fielding these future systems and platforms, the Navy prioritizes agility and multifunctional capabilities, keeping “modernization in mind” throughout the planning cycle.³⁹ Reflecting the rapid pace of technological change, Admiral Franchetti states that “it is necessary for us to build systems that offer flexibility and can adapt to both changing environments and operational imperatives.”⁴⁰ As with concept development, capability fielding incorporates joint force, allies, and partner nation equities from the inception, seeking a final product that will benefit forces across domains, Services, and partners.

Air Force

The Air Force Future Operating Concept (AFFOC), designed to align with the JWC, centers on five core functions:

- air superiority
- global strike
- global mobility
- intelligence, surveillance, and reconnaissance (ISR)
- integrated C2.⁴¹

In a discussion of the AFFOC and JWC, Vice Chief of Staff of the Air Force General David Allvin emphasized the need to expand joint force unity. Continual adaptation, agility, flexibility, and alignment must be central to the joint force’s mindset as it responds to the changing character of war.

Synchronization and Agility.

General Allvin observed that the JWC has provided the Air Force (and joint force) a common baseline from which to develop future concepts, ensuring that all Services remain aligned while fulfilling their respective functions. Synchronizing across the joint force requires an active joint mindset. General Allvin highlights that we “can’t be satisfied with what [modernization] does for the Air Force—we need to see how it plugs into the joint force.”⁴² Creating joint-mindedness is critical to ensuring that the NDS priorities, JWC tenets, and the AFFOC functions are fulfilled, ensuring the Services are able to use each other’s strengths to create a stronger whole.

Fulfilling the JWC tenets and AFFOC functions centers on the ideas of agility and adaptation to today’s rapidly changing operating environment. This includes JWC’s “agile control” and expands beyond it to include systems, materiel, and Airmen. General Allvin advocates for capabilities that can fulfill many functions and requirements, noting the Air Force “should never take in another system without factoring in agility and the rapid pace of change.”⁴³ In the past decade, the Air Force has pivoted to seeking agile capabilities that can be employed in many ways and adapted quickly, reducing the need to field new equipment in the future. The idea of agility does not just apply to equipment, though—agile Airmen are vital to mission success.

The Air Force’s multicapable-Airmen initiative seeks to create Airmen who can employ a variety of basic skills outside their specialty code, allowing them to respond quickly and efficiently in unfamiliar situations or environments.⁴⁴ General Allvin notes that mental agility is equally critical and is a central idea in the Air Force’s pivot to mission command,

which “empowers Airmen to operate in uncertain, complex, and rapidly changing environments through trust, shared awareness, and understanding of the commander’s intent.”⁴⁵ In combination, multicapable Airmen and a mission command approach enhance autonomy and the speed of decisionmaking.

Expanded Maneuver and Pulsed Operations in Airpower. The AFFOC argues that winning the air fight centers on “pulsed airpower”—that is, periods of temporary air superiority to create opportunity for the entire joint force to fight.⁴⁶ This idea, which echoes the JWC tenets of expanded maneuver and pulsed operations, characterizes the Air Force’s enduring role in joint warfighting. To be effective, General Allvin describes the need for a unique tempo in pulsed operations (or pulsed airpower): If a typical pulse can be compared to a heartbeat that is steady and predictable, then the Air Force’s pulse must have an “arrhythmia” that the joint force knows and an adversary cannot predict. In other words, only the orchestra should know what the tune will be.

Finally, the future force must use agility and adaptability to maintain an open mind and flexibility to change. As General Allvin states, agility means that “you know you won’t [always] be right, but when you’re wrong, you can get right quicker.”⁴⁷ This kind of rapid iteration, and the decisionmaking that accompanies it, require the joint force to establish and maintain information advantage over competitors and adversaries. And just as a jazz musician uses a finely tuned ear to improvise and adapt, the joint force must perceive changes in the operational environment faster, and more accurately than others, and then optimally respond to those changes.

Space Force

As the U.S. military’s newest Service, the Space Force faces the unique challenge of establishing its place among the Services while working to adapt to the current and future operating environments. Chief of Space Operations General B. Chance Saltzman outlines three lines of effort to pursue

the Space Force’s critical areas: fielding combat-ready forces, amplifying the Guardian spirit, and partnering to win.⁴⁸ These priorities allow the Space Force to pursue Service-specific responsibilities and capabilities and ensure that jointness is an inherent attribute of Space Force functions and development.

A Guiding Star for Force Development. The USSF was established in 2019 as the joint force was grappling with the changing character of modern war. Because of this, the Space Force is a future-facing organization by design. According to former Vice Chief of Space Operations General David Thompson, the JWC and its tenets describe what future warfighting will look like, guiding the Space Force through a common future picture across the joint force. “The JWC,” General Thompson stated, “is the guiding star for how the Space Force needs to develop and integrate capabilities.”⁴⁹ For a Service whose business is space, the analogy is apt.

In turn, Space Force doctrine and strategy add context and detail to the Service’s aim to enable greater skill and integration across the joint force. In addition to the Chief of Space Operations’ priorities, the Space Force’s core competencies encompass space security, combat power projection, space mobility and logistics, information mobility, and space domain awareness.⁵⁰ These competencies will not only enable more secure communications and global mobility for the joint force but also reinforce and strengthen each key tenet of the JWC.

Synchronizing and Accelerating. The 2022 NDS states that “[b]ecause the cyber and space domains empower the entire joint force, we will prioritize building resilience in these areas.”⁵¹ As such, prioritizing joint alignment and interoperability is an inherent Space Force priority. In a symphony, the Space Force may be the overarching acoustical infrastructure, amplifying and supporting the capabilities of other Services. Since its inception in 2019, the Space Force has stood up multiple organizations meant to integrate cross-DOD perspectives in every stage of planning and problem-solving. The Space



Warfighting Analysis Center (SWAC) stands as a central example: equities from across the Services and combatant commands are represented in the SWAC analytic process, creating solutions acceptable for the entire joint force.

In addition to interoperability, General Thompson emphasizes the criticality of synchronizing timelines and generational technology across the joint force. The Space Force has significantly less legacy materiel and equipment than its counterparts, meaning it does not need to divest large amounts of equipment to create room for modernization. However, as all Services rely on space architecture, Space Force planners must remain conscious of how legacy capabilities and new capabilities, such as an integrated space data network, interact to ensure that the joint force remains fully connected during periods of transition. This, General Thompson highlights, is the crucial role the Joint Requirements Oversight Council (JROC) plays in force



Secretary of Defense Lloyd J. Austin III delivers remarks at Air Force B-21 Raider unveiling ceremony, in Palmdale, California, December 2, 2022 (DOD/Chad J. McNeeley)

design and development. By integrating joint space requirements, the JROC helps ensure the future force is an integrated joint force.⁵²

All Services share the imperative to successfully adapt to the changing character of war. Adaptation involves risk. The joint force, General Thompson notes, must be willing to accept risk as it accelerates for design and development because the modern competitive environment “does not allow for risk aversion.” The consequences of moving slowly are, in General Thompson’s view, just as risky as those of moving too fast. The crucial factor for the joint force is adapting together. “Every single one of us,” General Thompson points out, “must adapt to the changing character of war, both individually and collectively, in every Service and every domain, to achieve the vision of the JWC, or we will lose.”⁵³

National Guard Bureau

The National Guard Bureau (NGB), as 20 percent of the U.S. military, represents a vital component of DOD readiness.⁵⁴ Guardsmen study, train, and exercise using the same concepts and strategy as their Active-duty counterparts and thus align with Service and joint concepts. Vice Chief of the National Guard Bureau Lieutenant General Marc Sasseville emphasizes that National Guard leadership has a special responsibility to disseminate and explain the JWC to Soldiers and Airmen throughout the Guard so that they understand their role “in joint operations both now and in the future execution of the JWC.”⁵⁵

Learning the JWC Through Practice. In a discussion on the JWC and its tenets, Lieutenant General Sasseville stated that the “capabilities and capacities of the National Guard, and the Reserve

components in general, need to be considered early in the planning and concept development process.”⁵⁶ Furthermore, Lieutenant General Sasseville emphasizes the importance of Guardsmen experiencing the JWC and its tenets through practice and execution. The JWC, he highlights, “must become integrated with and eventually foundational to our training programs.”⁵⁷ The best learning will occur, according to Lieutenant General Sasseville, “with the infusion of the JWC into war planning and scenario-driven objectives into Service and joint training exercises.”⁵⁸ In other words, although jazz is largely improvisation, practicing to ensure cohesiveness among the players is critical.

Guardsmen regularly participate in Active-duty exercises and training to maintain cohesion across the force. In May 2023, for example, members of the Kentucky and Michigan National

Guards made history during Exercise Agile Chariot, a large-scale training event focused on improving Total Force Agile Combat Employment (ACE) capacity. Combat controllers from Kentucky parachuted from an MC-130J and secured a highway landing zone for incoming aircraft on a Wyoming asphalt roadway. Following this, Active component Airmen from Hurlburt Field established a forward area refueling point to quickly refuel a pair of Michigan National Guard A-10 Warthogs and an MQ-9 Reaper, operated by the Air Force Reserve, demonstrating joint force interoperability and ACE's effectiveness in a contested zone.⁵⁹ Exercises like these showcase the value of combat-ready Guard and Reserve forces and highlight the Total Force integration necessary to successfully implement key elements of the JWC.

Indispensable Partnerships.

According to Lieutenant General Sasseville, exercises like Agile Chariot are particularly crucial for the NGB, as they allow Guardsmen to ensure their current capabilities continue to align with the Services. Large-scale global exercises expand knowledge of the JWC across the NGB. Guardsmen have already begun working on internal NGB and cross-Service lines of effort to rehearse and test the JWC's pulsed operations, successfully using the Air Force's ACE and the Army's MDO concepts as vectors.

The 2022 NDS states that “[m]utually beneficial [a]lliances and partnerships are our greatest global strategic advantage.”⁶⁰ Beyond the joint force, the National Guard ensures interoperability and alignment with America's vast network of allies and partners through its unique State Partnership Program. This program, which has established partnerships with over 50 percent of the world's nations, affords the NGB a uniquely vast network of allies and partners with which to practice and train. In 2023 alone, Lieutenant General Sasseville notes, the NGB “participated in more than 1,500 engagements with 100 partner nations in every . . . combatant commander's [area of operations].”⁶¹ In June 2023, more than 2,500 National Guard Airmen and 100 aircraft from 35 states participated in the

German-led Air Defender 2023 exercise. This exercise brought together more than 20 allied nations to test interoperability and strengthen security cooperation. In July 2023, the Washington National Guard and the Canadian Air Force were able to execute ACE tactics of small, maneuverable basing to “complicate adversary targeting of logistical footprints,” according to Lieutenant General Sasseville.⁶² As the JWC becomes more widespread across the force, NGB leadership hopes to use exercises like Air Defender to train U.S. allies and partners on the tenets as well, maintaining and strengthening critical U.S. relationships.

Conclusion

Each Service's force design and development efforts nests within the JWC. By providing the fundamental scales of joint warfighting at a time characterized by rapid changes in the character of war, the JWC provides the alignment and flexibility needed for each Service to develop, integrate, and synchronize joint capabilities. Within Service concepts, the JWC tenets remain consistent, demonstrating the operational need to remain connected and aligned throughout modernization processes. Most prominent are the tenets of *expanded maneuver* and *pulsed operations*, which in tandem create expanded, dispersed presence in theater and across domains, leveraging Service strengths to create episodic superiority throughout a conflict.

Service acquisition has shifted to focus on multiuse capabilities that span domains and adapt to a rapidly shifting battlespace, maintaining an *integrated, combined joint force*. In 21st-century warfare, agility is crucial for success. Physical agility—small, light, maneuverable units—is central to ACE, EABO, and DMO, and all Service concepts acknowledge the need for mental and cross-domain agility. The Services have focused future operations on understanding how Service-specific capabilities support the entire joint force and enable all-domain, synchronized operations to further cross-force integration. Agility is key to ensuring

synchronized effects. Servicemembers must be able to operate in a variety of situations and environments and communicate across systems and domains to ensure all operate as one joint force.

The 2022 NDS states that the “current system is too slow and too focused on acquiring systems not designed to address the most critical challenges.”⁶³ As such, speed and enhanced risk tolerance are critical to a superior joint force, enabling *information advantage* and *resilient logistics*. Primary characteristics of the modern and future operating environments are accelerated decisionmaking and rapid operations. The organizational and technological efforts currently being explored by the joint force enable fast decisionmaking at the lowest possible level to provide necessary advantages in future warfighting. The combination of speed and risk tolerance is crucial to ensure the timely delivery of needed materiel, disseminate critical information to warfighters, and make decisions on the battlefield. Risk tolerance may rise or fall in different circumstances. Creating shared understanding of fluid acceptable levels of risk enables faster operations, allowing the joint force to gain and maintain advantage at critical junctures.

Technology development and its integration into the joint force must keep pace with peer and near-peer actors. While the human element remains the core of U.S. warfighting, integrating advanced technology to assist and support warfighters allows the United States to maintain its current advantages. Today's operational environment requires greater integration and the infusion of emerging technology to enable integrated C2, global fires, sensing, sense-making, and decisionmaking. As seen in individual operating concepts, the Services prioritize joint applicability and cross-domain effects in capability development and fielding, ensuring that new capabilities further enable cross-Service integration and cooperation.

Finally, enabling and maintaining joint mindedness across the force is vital to fulfilling the JWC tenets and implementing the NDS's integrated deterrence. Ensuring that exercises,

training, and education address the jointness of Service concepts further inculcates a joint mindset in individual warfighters. To successfully implement joint and Service concepts, the Services must understand each of their individual contributions to the symphony of capabilities that 21st-century warfighting requires. The scales of the JWC are what allow the future joint force to use these capabilities as a cohesive whole. In other words, the JWC keeps the joint force on the same sheet of music, and as General Smith observes, “every Service needs to understand their part to play.”⁶⁴ JFQ

Notes

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