

Multi-Domain Battle: Combined Arms for the 21st Century

Purpose and Scope

The *Multi-Domain Battle: Combined Arms for the 21st Century* white paper describes an approach for ground combat operations against a sophisticated peer enemy threat in the 2025-2040 timeframe. Adversary developments, as outlined below, necessitate a reexamination of the method for operating against a peer adversary. The Multi-Domain Battle white paper is intended to promote thought and discussion concerning the methods and capabilities required to address these developments. It offers specific hypotheses to inform further concept development, wargaming, experimentation, and capability development. This paper encompasses the views of the Army and Marine Corps regarding an endeavor that involves the entire Joint Force. It is therefore published with the expectation that the ideas in the Multi-Domain Battle white paper will, in concert with the other Services, be refined and expanded into appropriate concepts.¹

Background

To address challenges of defeating a numerically superior and increasingly sophisticated adversary, the U.S. Army and U.S. Air Force began development of the AirLand Battle concept in the late 1970s. Among its key characteristics were the notions of Integrated Battle and the Extended Battlefield. Integrated Battle necessitated that every asset of the air-ground team at a commander's disposal be employed together to achieve defeat of the enemy while the Extended Battlefield embraced the concept of simultaneously attacking all echelons of the enemy's formations.²

The U.S. military successfully applied the capabilities, doctrine, and organizations built to execute Integrated Battle on the Extended Battlefield against several lesser opponents throughout the 1990s. Due to the remarkable efficiency of these operations, however, potential adversaries analyzed the manner in which U.S. armed forces deployed combat power and initiated development of methods for countering American advantages. These adversaries learned to attack the air, maritime, space, and cyberspace domain superiority premises of Army and Joint doctrine and challenge the U.S. military's ability to achieve political objectives.

While adversaries evolved to exploit Joint Force vulnerabilities, the U.S. military conducted combat-intensive counterinsurgency campaigns that did not necessitate the procurement of a new generation of ground combat platforms because the adversary was not technologically advanced. The focus of training and equipping the force shifted from defeating a peer adversary to defeating an asymmetrical threat. A decade and a half of counterinsurgency campaigns eroded the ability of the U.S. military to confront emerging peer threats who developed effective countermeasures to Joint Force advantages.

*Enemy capabilities now threaten Joint Force interdependence, which turns long-assumed strengths into weaknesses.*³ As a result, the Joint Force can no longer assume continuous superiority in any domain.⁴ U.S. forces now confront sensor-rich militaries of peer states and

¹ The Joint Operational Access Concept (JOAC) identifies the problem of projecting military force into an operational area and sustaining it in the face of armed opposition by increasingly capable enemies and within contested domains. The JOAC proposes employing cross-domain synergy – the complementary vice merely additive employment of capabilities in different domains such that each enhances the effectiveness and compensates for the vulnerabilities of the others— to establish superiority in some combination of domains that will provide the freedom of action required by the mission.

² John Romjue, *From Active Defense to AirLand Battle: The Development of Army Doctrine, 1973-1982*, pp. 23-44. Douglas Skinner, *AirLand Battle Doctrine*. Professional Paper 463 September 1988, Center For Naval Analysis, pp 17-20.

³ D. E. Johnson, (Jan 2016). "The Challenges of the "Now" and Their Implications to the U.S. Army," RAND.

⁴ The Joint services recognize five domains – air, land, maritime, space, and cyberspace. This paper highlights the electromagnetic spectrum, information environment, and cognitive dimension of warfare as additional contested areas that must be addressed by U.S. forces.

proxies who will employ precision-guided munitions that make modern battlefields highly lethal and restrict Joint Force freedom of maneuver and action. Adversaries will counter U.S. strengths such as air and maritime superiority, and degrade key capabilities by limiting access to space, cyberspace, and the electromagnetic spectrum. Adversaries will also exploit perceived U.S. weaknesses such as time and distance for force deployment and vulnerable logistics nodes and command and control networks. These adversaries can disrupt the coordination of technical reconnaissance, satellite-based communications, and air and maritime power that the Joint Force currently uses to enable ground freedom of maneuver.⁵

The Emerging Operational Environment

Studies of the emerging operational environment describe a future of contested norms and persistent disorder.⁶ Currently, Russia, China and other revisionist states seek to alter the post-Cold War security order by coercing neutrals, partners, and allies through economic pressure, disinformation, subversion, and the threat of military force. These actions succeed by creating a *fait accompli* before the Joint Force can react or by operating under the threshold that triggers a decisive U.S. counteraction. Potential enemies use deception, surprise, and speed of action to achieve their objectives while integrating a combination of economic, political, technological, informational, and military means to exploit seams within established U.S. operating methods. Moreover, these adversaries may use, or threaten use of, nuclear weapons and other weapons of mass disruption or destruction to manipulate the risks of escalation.

Adversary operational methods take advantage of modernized integrated air defenses and long-range precision strike capabilities to secure a series of limited objective operations against effective Joint Force response. Russia and China continue to improve and export integrated air defense systems that provide protection under which their ground forces can operate more freely from the persistent effects of Joint Force standoff targeting and strike capabilities. These integrated air defense networks complicate Joint operations because hidden, lethal, and dispersed air defenses can allow the enemy to establish air superiority from the ground and take away an essential condition for effective Joint Force operations.

Advanced integrated air defenses also protect enemy surface-to-surface missile capabilities which enable enemy deep strikes on friendly assets without reliance on aircraft. Improved ballistic and cruise missiles in growing numbers threaten command and control nodes as well as maneuver on land, at sea, and in the air. To conduct campaigns, ground forces designed under the assumption of friendly air and maritime supremacy currently require large-signature sustainment facilities and command nodes vulnerable to such missile systems. By extension, adversary missile capabilities also threaten maritime maneuver by placing valuable naval assets at risk and can engage large and fixed airbases at increasing ranges, further limiting the ability to project power in the air domain. Adversary artillery and missile threats protected by effective air defense network compel the Joint Force to operate more dispersed and places a greater premium on assured command and control to coordinate effective operations.

⁵ Overmatch is defined as the application of capabilities or unique tactics either directly or indirectly, with the intent to prevent or mitigate opposing forces from using their current or projected equipment or tactics.

⁶ Contested norms involves increasingly powerful revisionist states and select non-state actors using any and all elements of power to establish their own set of rules unfavorable to the United States and its interests. Persistent disorder is characterized by an array of weak states that become increasingly incapable of maintaining domestic order or good governance. Publications supporting this assessment include *the Joint Operating Environment 2035*; Worldwide Threat Assessment of the U.S. Intelligence Community, Senate Select Committee on Intelligence, Feb 2016; Military and Security Developments Involving the People's Republic of China 2015, Annual Report to Congress; RAND, The Challenges of the "Now" and Their Implications for the U.S. Army.

Yet the Joint Force cannot assume command and control systems fielded over two decades of assured access to space, cyberspace, and the electromagnetic spectrum will suffice now and into the future. Adversaries can challenge access to these domains with attacks that will severely degrade the synchronization critical to effective operations because the Joint Force currently possesses limited countermeasures and interdependent capabilities with few redundancies. As a result, the Joint Force should anticipate disrupted deployment and sustainment operations and degraded effectiveness of the stand-off targeting and strikes currently required to gain access and seize the initiative.

Operationally and tactically, adversaries limit Joint Force battlespace awareness by winning the reconnaissance/counter-reconnaissance fight. Enemy all-domain reconnaissance and counter-reconnaissance capabilities challenge the Joint Force's ability to gain an accurate understanding of the enemy's dispositions. By coupling inexpensive unmanned aerial vehicles and other reconnaissance assets with indirect fires assets now increasingly free from Joint Force airstrikes and counter-fire, enemies can inflict significant damage to friendly forces even when out of direct contact. Enemy ground formations now have parity or overmatch with U.S. forces in many weapons systems' range, lethality, protection, and mobility. For example, the latest generation of Russian and Chinese combat vehicles and artillery offer equivalent and in some cases superior protection, range, and lethality to U.S. tanks, fighting and amphibious vehicles, and indirect fires systems. These developments in ground systems match similar qualitative improvements in enemy air, maritime, space, and cyberspace capabilities.

To address these challenges, the Army and Marine Corps are developing the Multi-Domain Battle concept. A Joint Force built to execute the Multi-Domain Battle concept will provide commanders the multiple options required to deter and defeat highly-capable peer enemies. At its core, Multi-Domain Battle requires flexible and resilient ground formations that project combat power from land into other domains to enable Joint Force freedom of action, as well as seize positions of relative advantage and control key terrain to consolidate gains.

Implications of the operational environment

Over the last 25 years, assumptions of air, land, maritime, space, and cyberspace domain superiority drove the doctrine, equipment, and posture of U.S. forces. These assumptions are proving to be invalid in light of recent changes to adversary capabilities, capacities, and approaches. Potential adversaries now possess capabilities that allow them to contest both the deployment and employment of U.S. forces in greatly expanded areas of operation, interest, and influence. U.S. forces are not organized, trained, equipped, and postured to properly contest emerging and potential threats. As a result, the freedom of action required to support U.S. policy, by deterring, and if necessary, defeating potential enemies is at risk.

Military problem

U.S. ground combat forces, operating as part of a joint, interorganizational, and multinational teams, are currently not sufficiently trained, organized, equipped, nor postured to deter or defeat highly capable peer enemies to win in future war.⁷

⁷ Interorganizational refers to elements of U.S. government agencies; state, territorial, local, and tribal agencies; foreign government agencies; intergovernmental, nongovernmental and commercial organizations. (Does not include forces). (Derived from JP 3-08).

Solution synopsis

Multi-Domain Battle: Combined Arms for the 21st Century requires ready and resilient Army and Marine Corps combat forces capable of outmaneuvering adversaries physically and cognitively through the extension of combined arms across all domains.⁸ Through credible forward presence and resilient battle formations, future Army and Marine Corps forces integrate and synchronize capabilities as part of a joint team to create temporary windows of superiority across multiple domains and throughout the depth of the battlefield in order to seize, retain, and exploit the initiative; defeat enemies; and achieve military objectives.

Implementing Multi-Domain Battle entails three components: creating and exploiting temporary windows of advantage; restoring capability balance and building flexible, resilient formations in the Joint Force; and altering force posture to enhance deterrence. Employing combined arms principles to create and exploit temporary windows of advantage across all domains is now a prerequisite for effective maneuver on the modern battlefield. Combined arms integrates capabilities in such a way that to counteract one, the adversary must become more vulnerable to another.⁹ Multi-Domain Battle evolves combined arms methodology to include not only those capabilities of the physical domains, but also greater emphasis on space, cyberspace, and other contested areas such as the electromagnetic spectrum, the information environment, and the cognitive dimension of warfare. In executing this concept, air, ground and maritime forces project power from air, land, and sea into other domains and contested spaces to support U.S. freedom of action. Thus, U.S. forces strive to affect an adversary in both the physical and abstract domains creating dilemmas too numerous to counter.

Units empowered with the capabilities to detect, open, and exploit domain windows can operate in a decentralized manner according to the principles of mission command in an increasingly contested operational environment. To execute this concept, Joint Forces combine reconnaissance, movement, fires, and information holistically to avoid enemy strengths and identify, create, and exploit windows of advantage throughout the breadth and depth of the battlefield to seize increasingly decisive positions of relative advantage. Joint Forces simultaneously use signature control, defensive systems, and overwatching fires to establish temporary zones of protection for friendly forces to operate.

Finally, placing these ready and resilient formations capable of executing Multi-Domain Battle in theater prior to hostilities deters aggressive enemy action, generates better options for decision makers, and reduces operational risk in the event of hostilities by disrupting enemy defensive networks and turning denied spaces into contested spaces.

Conclusion

Modernized militaries enable aggressive policies of revisionist states by challenging U.S. forces in all domains, the electromagnetic spectrum, the information environment, and the cognitive dimension of warfare. Additionally, U.S. comparative military advantage and the capacity to conduct operations against a sophisticated enemy have diminished. The Multi-Domain Battle white paper is intended to promote discussion on solutions to overcome the problems of future conflict in 2025-2040, provide insights to address current capability gaps, inform the development of a future warfighting concept, and drive experimentation and refinement of these solutions.

⁸ Outmaneuvering adversaries in the cognitive dimension is the use of information to confound the enemy's situational understanding and decision making, thereby creating advantage for the joint force.

⁹ Combined arms is the synchronized and simultaneous application of arms to achieve effect greater than if each arm was used separately or sequentially.