

How the Army Fights in 2035:

Multi-Domain Operations

An Outline Concept

Record Version

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How the Army Fights in 2035 – MDO

Foreword

This document describes how the United States Army fights globally in 2035. The orientation of the principles and conceptual elements is on the Department of Defense priority theater in the Indo-Pacific. It outlines a future operational concept for multi-domain operations as an approach to major land actions that create a war-winning combined/joint all-domain campaign.

Army forces executing multi-domain operations reverses joint warfighting as it has been understood and practiced since the end of World War II. In 2035, the Army—prosecuting dominant land power—leads the Joint Force to penetrate complex, high-end adversary defensive systems. Ground forces decisively shape the first battle—through competitive access, presence, and influence—rapidly deliver capabilities in crisis, and win in conflict. Army forces leverage operational maneuver-strike teams to create corridors for air and maritime forces to exploit. In all domains, environments, and dimensions of military activity, Army capabilities sustain, enable, extend, and expand the reach of both defensive and offensive actions.

Maneuver in competition and first battles can be decisive. Winning the first battle will be necessary—to avoid costly loss exchange ratios in general war against a peer adversary. Multi-domain operations is a battle-focused concept for the Army that delivers war deterring, war winning outcomes for the Joint Force. Winning land battles is paramount to overall victory. The Army enables the Joint Force with ready and capable formations, enabled by technology, that surmount challenges faced by air and maritime forces in penetrating and surviving within threat anti-access, area denial zones. Army forces are resilient, mobile, survivable, and can strike in depth as well as conduct the close area fighting necessary to deliver battlefield victory and achieve policy objectives.

Given the prevalence of activities in the information environment, cyberspace, and space domains in which threat actions can occur quickly to influence strategic outcomes around the world, the Army postures tailored forces and capabilities forward through a mix of stationed, rotational, and exercising deployments. The Army calibrates its posture to create and sustain competitive advantage that can transition to crisis and provide prompt and multiple options that national military leaders can employ to restore deterrence. In the event of conflict, Army forces deliver war-winning capabilities through

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a combination of maneuver and strike on the land—and from the land. A superior multi-domain operations capability for the nonlinear battlefield supports any U.S./Coalition policy of deterrence.

Commanders need to plan for the possible employment of weapons of mass destruction. In multi-domain operations, Army forces are equipped, trained, and ready to integrate conventional and nuclear operations, and are able to operate in battlefield conditions characterized by chemical, biological, radiological, nuclear, and explosive devices (CBRNE) hazards. Army forces must expand the battle space to fight on the nonlinear battlefield and outflank the enemy, as well as to dominate engagements in close, deep maneuver, and operational deep fires areas. Army forces fight employing partner capabilities across domains.

Sustainment is critical to winning. Asset-visibility, forward stocks, and rapid movement of supplies are decisive to Army operations and strengthen the backbone of the Joint Force. Multi-domain operations begin at home stations in the strategic support area. Army installations must be capable of surviving homeland adversary attacks while aggregating Army formations to rapidly project power anywhere in the world. Army command and control must be data-enabled, cloud-based, and global in reach.

Multi-domain operations are the Army's contribution to Globally Integrated Operations (GIO) by the Joint Force. The decisive unit of action for Army GIO is the Corps. Army MDO Corps must be trained and equipped to command and control at extreme ranges across domains and with joint and multinational forces. Additionally, Army MDO Corps must optimize joint and national sensor-to-shooter kill chains and direct multiple tactical fights in separate close areas. Army MDO Corps conduct major operations in support of multinational/joint campaign objectives. MDO Corps influence a wide and deep Combined Joint Operational Area (CJOA) and maximize information, cyberspace, and space linkages to set conditions for decisive operations.

Army MDO Divisions fight close area combat. They conduct battles and engagements, and execute command and control for tactical forces. Divisions win in complex terrain. While they benefit from capabilities provided through GIO, MDO Divisions are long-range strike/raid "shooters" and "maneuverists" by design and purpose. MDO Divisions focus on dominating the land domain and delivering ground-based violence at the point of decision.

Director, Army Strategy, Plans & Policy (G35/5)

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1. Introduction.

a. Operating as the “stand in” force and complementing the U.S. Navy and the U.S. Air Force, the future Army provides an asymmetric counter to the challenges posed by the People’s Republic of China People’s Liberation Army and by other major power adversary militaries through unique, land-based, foundational capabilities essential to Joint Force winning in competition, crisis, and conflict. The Army’s asymmetric advantages are based on the ability of land power formations, acting in multiple warfighting domains, and the information environment, to maneuver, strike at operational range, and survive in complex terrain. With advances in fires and communications, Army MDO forces deliver high volumes of combat power at low force density.

b. Multi-domain operations are not new. This outline of a future operational concept for MDO is not based on novel ideas. As the basis for future operational level doctrine, it builds on a familiar, if not entirely well understood, analytical foundation. This proposed concept applies some of the most important Army and Joint conceptual work of the last four decades to the problems of major combat operations at the theater level and large-area compartmentalized terrain, and arrives at persistent strike/raiding as the overarching pattern of action that most effectively allows the Army to fulfill its Joint Force role. Persistent strike/raiding, which is a form of logistics raiding strategy, is possible using nonlinear operations and advisable against a major power adversary with a peer military.

c. This concept conceives of MDO in the context of major combat operations. Major combat operations are defined as the application of military force in support of strategic objectives to achieve an operational-level military end state. Major combat operations normally employ large-scale combat. While the focus of this concept is on major combat operations against a peer adversary, future Army doctrine will include three distinct bodies of practical knowledge for multi-domain, special, and stability mission environments. The idea of Army MDO as major combat operations is grounded in past Joint concept community work.

d. U.S. military power has been essentially joint for decades. Each service brings unique and powerful capabilities to bear in armed conflict, including concepts and doctrine relevant to a particular domain, and the Joint Force is as compelling as it is

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specifically because of this. Joint warfighting power cannot be fairly discounted, but this concept outline is based on the belief that the Army must re-found itself on an appreciation for land power at the higher operational level of war.

e. The implements of war in 2035 will be substantially the same as they are today. As such, Army tactical doctrine in 2035 will be essentially the same as it is today. The tactical tasks described herein will be familiar to Army planners. How MDO as described here will be executed by operational artists at multiple echelons above the brigade is what defines a new conceptual approach. This concept plan provides the broad outlines of a new formulation of operational doctrine based on major combat operations at the theater level.

f. With this vision of future operations the Army has its first higher operational concept that builds on different major operations types: cross-domain, nonlinear, and deep. This higher-order concept is flexible enough to apply to competition, crisis, and conflict environments, limited and unlimited armed conflict, and the different levels of war. This conception of MDO is also adaptable to hybrid war challenges.

g. Despite changes to the character of war, primarily in the ways that operations are carried out across domain boundaries and in the ways that human planning and deciding are augmented with artificial neural networks, the overriding qualities of conflict in 2035 will still be defined by fires and maneuver. The close fight will not be designed out of armed conflict through technology. To the contrary, with more active cross-domain actions possible, more assets that can be used across the domain boundaries, in relatively more complex terrain, it will take more specially educated, more technologically competent, and more highly trained commanders to prevail in multi-domain battle.

2. A Note on Terminology.

a. Current Army and Joint terminology is too limiting or not compatible enough for an analysis of the dynamics of operational warfare in the mid-2030s. This paper uses obsolete doctrinal terms in new ways, revises the usage of some existing doctrinal terms, and chooses to use certain constructs over others. The following are the most important examples of terminology used in the MDO concept that require explanation.

b. Overmatch. This term is defined in Merriam-Webster as: to be more than a match for. In Army doctrine, overmatch is defined at the tactical level 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. (TRADOC Pamphlet 525-3-1) The term does not currently have a meaning above the

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tactical level. This outline future operational concept proposes that overmatch be expanded to have an operational-strategic meaning: seizing, holding, and exploiting operational freedom of action and protection to allow for the full exercise of cross-domain, nonlinear, and deep operations.

c. Raid. Current Joint doctrine defines a raid as an operation to temporarily seize an area in order to secure information, confuse an adversary, capture personnel or equipment, or to destroy a capability culminating with a planned withdrawal. (JP 3-0) Future multi-domain operations, as envisioned by this paper, will employ operational raids as a dominant mission-task. Operational raids are similar to tactical raids in that they are directed to achieve limited strategic objectives. Operational raids do not specifically end with withdrawal, though operational raiding forces will usually reposition quickly for follow-on operations. In nonlinear operations, raiding forces may reposition “forward” toward enemy forces in preparation for another raid. Operational raids are applicable to the large area, complex operational environment of the Indo-Pacific, where rapid, precise, and bold actions are needed to exploit enemy vulnerabilities. Operational raids are aimed at achieving decisive results by leveraging the principles of objective, surprise, audacity, and simplicity.

d. Land power (two words) versus landpower (one word). Current Army doctrine defines landpower (one word) as the ability—by threat, force, or occupation—to gain, sustain, and exploit control over land, resources, and people. (ADP 3-0) This current doctrinal definition hinges on the action of control. A 1998 U.S. Army War College monograph defined land power (two words) as the ability in peace, crisis, and war to exert prompt and sustained influence on or from land. This is a broader idea based on the action of influence and corresponds more explicitly to today’s conceptions of competition, crisis, and conflict. This MDO concept paper uses the latter meaning and so uses the two-word term “land power.”

e. Battle space (two words) versus battlespace (one word). This paper uses the two-word “battle space,” as derived from common English and referring to a continuous area, physical, cognitive, and virtual, which is available for activities related to sustained fighting between organized armed forces. The meaning used here refers more directly to the (obsolete) doctrinal definition of “battle space” used in the 1995 edition of FM 100-7, Decisive Force: The Army In Theater Operations than to the latter term “battlespace.” FM 100-7/1995 defined battle space as the components determined by the maximum capabilities of a unit to acquire and dominate the enemy; includes areas beyond the area of operations; varies over time according to how the commander positions his assets. This same definition was used in the 1993 FM 100-5, Operations. Reviving and updating this older conception of battle space is important to future multi-domain operations because operational commanders will be exercising operational art at the higher end of the operational level of war in major combat operations. The one-

word “battlespace” is not currently part of Army doctrine although it still appears in some Army writing and in public remarks by service leaders.

f. Multinational/joint. This construct is used to be most inclusive of possible future conflict settings. Joint doctrine defines “multinational” as being between two or more forces or agencies of two or more nations or coalition partners. Multinational operations describe actions conducted by forces of two or more nations, usually undertaken within the structure of a coalition or alliance. This concept assumes future conflict settings where Army forces will be operating with other U.S. services, with some combination of partners and allies within an alliance or coalition. This includes possibilities where U.S. joint forces are operating only with one or more allies, or one or more partner nations.

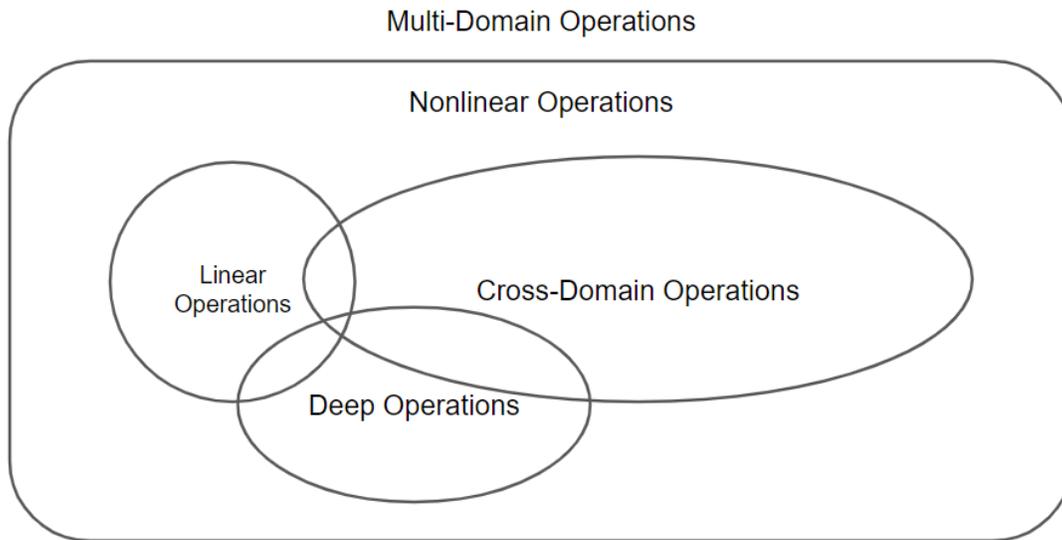
g. Split-based operations. Operations where only essential elements are deployed forward in operational areas while the remainder of the formation performs its function in the Continental United States or from a forward-presence location elsewhere in the theater or in another Geographic Combatant Command Area of Responsibility. This is derived and modified from a definition for split-based logistics operations that appeared in FM 100-7, Decisive Force: The Army In Theater Operations, now obsolete. To protect combat power, maximize the defensive advantages of distributed operations, and exploit advances along paths of least expectation, split-based operations will be a feature of cross-domain, nonlinear, and deep operations at theater scale against a peer enemy.

h. Operational concept versus operating concept. Army FM 1-02.1, Operational Terms defines operational concept as a fundamental statement that frames how Army forces, operating as part of a joint force, conduct operations. This paper presents MDO as a future operational concept as defined by Army doctrine and as distinct from the related but distinct term “operating concept.”

3. Point of Departure.

a. In conflict, multi-domain operations include cross-domain operations to quickly neutralize enemy layered fires and seize the initiative; nonlinear operations to maintain contact with the enemy, develop intelligence, and strike/raid vulnerable enemy forces; and deep operations to shape conditions for battlefield wins over time. Multi-domain operations are used in conflict to integrate cross-domain, nonlinear, and deep operations to win battles that support the multinational/joint all-domain campaign. Cross-domain, nonlinear, and deep operations may include constituent linear operations based on the operational environment.

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b. The Army's future MDO concept builds on three assertions:

1) Cross-domain attacks are essential to achieving battlefield victories. Cross-domain attacks are the superior form of offensive action against a peer adversary. Cross-domain attacks involve closely coordinated lethal and nonlethal cross-domain fires and cross-domain maneuver.

2) Cross-domain fights in the deep operational areas and close area fights will need to be closely linked and coordinated in time, space, and purpose, and will need to be integrated at the corps echelon or higher. This assertion has been substantially absent from Army doctrine since the 1980s.

3) Multinational/joint force commanders will need to plan for the possible employment of all assets available on the nonlinear battlefield from nuclear to information. This assertion builds on the 1980s idea of the integrated conventional-nuclear-chemical battlefield.

4. The Multi-Domain Operations Concept.

a. MDO context.

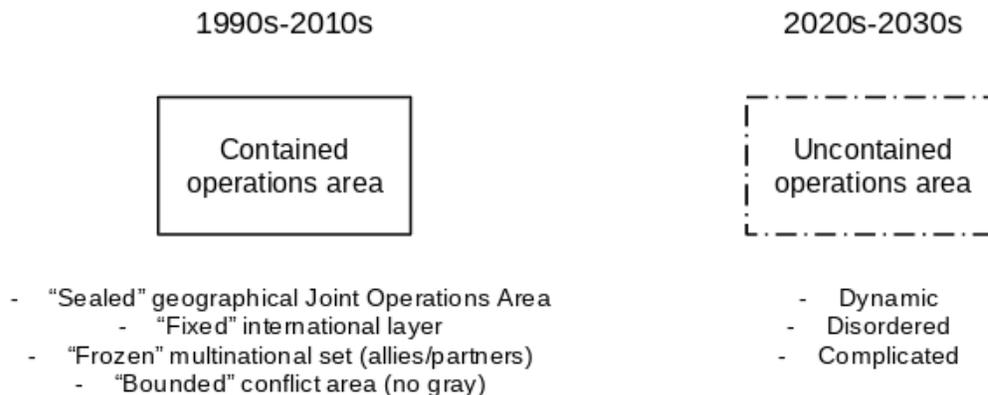
1) There are specific changes to the character of warfare that potentially impact the development of Army land power and MDO. Advances in fires and communications capabilities since the 1980s make it increasingly practical for Army forces to conduct operational strike warfare. As the range of all fires increases, including ground-, sea-, and air-launched, as well as non-lethal, the opportunities and options for

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cross-domain applications is multiplying. As the relative U.S. advantage in fires continues to erode, the importance of maneuver and information increases. While every technological capability to increase the scope for maneuver should be pursued, maneuver will likely be restored through a combination of non-materiel solutions including inculcating mission-type tactics, indirect approaches, and initiative at all echelons. Technological and societal changes in the information environment are making information warfare before the declaration of armed conflict an increasingly important component of land power.

2) Along with changes to the character of warfare, the emerging security environment is driving changes to the military strategic paradigm. The international system is becoming more congested and more conflictual. More powers are wielding more forms of strength in more arenas of lethal and nonlethal combat. The U.S. Joint Force can no longer rely on being able to quickly and reliably define a manageable joint operations area, marshal the preponderance of forces needed, line up desired international agreement, and a set of unchanging allies and partners. Instead, commanders of future major combat operations at the theater level will contend with changing operational boundaries, physical and virtual; overlapping competition, crisis, and conflict zones; and variable demands to link ends, ways, and means. The emerging strategic paradigm of the 2020s-2030s is reshaping major combat operations.

Comparison of Major Combat Operations



3) Based on changes to the character of warfare, the Army will have to design, develop, and field formations at multiple echelons that can reliably and rapidly counter peer anti-access, area denial strategies. Additionally, the Army needs formations that can develop, synchronize, and leverage intelligence capabilities across domains to identify enemy critical assets and target them, then employ cross-domain fires to allow for multinational/joint force exploitation. To execute these critical tasks against a peer adversary will require substantial advancements in operational protection

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and sustainment capabilities, cyber-electromagnetic activities, and space operations in support of multinational/joint force priorities. In the projected nonlinear operational environments of the future, and in the Indo-Pacific in particular, Army forces will be ineffective if they cannot generate the mobility, maneuverability, lethality, and survivability to create decisive effects that accomplish the multinational/joint all-domain campaign and enable the U.S. Armed Forces to fight and win the nation's wars.

Core elements of multi-domain operations:

- Cross-domain synergy
- On- and off-axis approaches
- Simultaneity

b. There are three key elements that define the Army's conception of future multi-domain operations:

1) Cross-domain synergy. To support the multinational/joint all-domain campaign against a peer adversary like the PLA, executing joint operations with numerical superiority, will require that Army forces are able to achieve cross-domain synergy with multinational/joint partners. Cross-domain synergy is joint synchronization taken to a qualitatively higher level. Cross-domain synergy is also the target of PLA modernization and evolving concepts.

2) On- and off-axis approaches. On-axis approaches are made up of axes of advance that are normally prepared for major operations and are generally the approaches of highest expectation. Off-axis approaches generally favor the indirect approach. Multinational/joint force commanders will use on- and off-axis approaches to systematically advance on and attack enemy centers of gravity while maintaining freedom of action. The use of off-axis approaches will provide the multinational/joint force with additional options for nonlinear operations than if only on-axis approaches were considered.

3) Simultaneity. The element of simultaneity can help the multinational/joint force achieve cross-domain synergy. Options for simultaneous operations are more likely in nonlinear warfare than linear warfare. The more multinational/joint force commanders are able to expand the battle space the more opportunities there will be for exploiting simultaneity. Simultaneity, especially when paired with deep operations, allows defeat of a numerically superior enemy. Combining deep operations and simultaneous attack using lethal and nonlethal means helps multinational/joint force commanders expand the battle space in space, time, and purpose. This in turn helps

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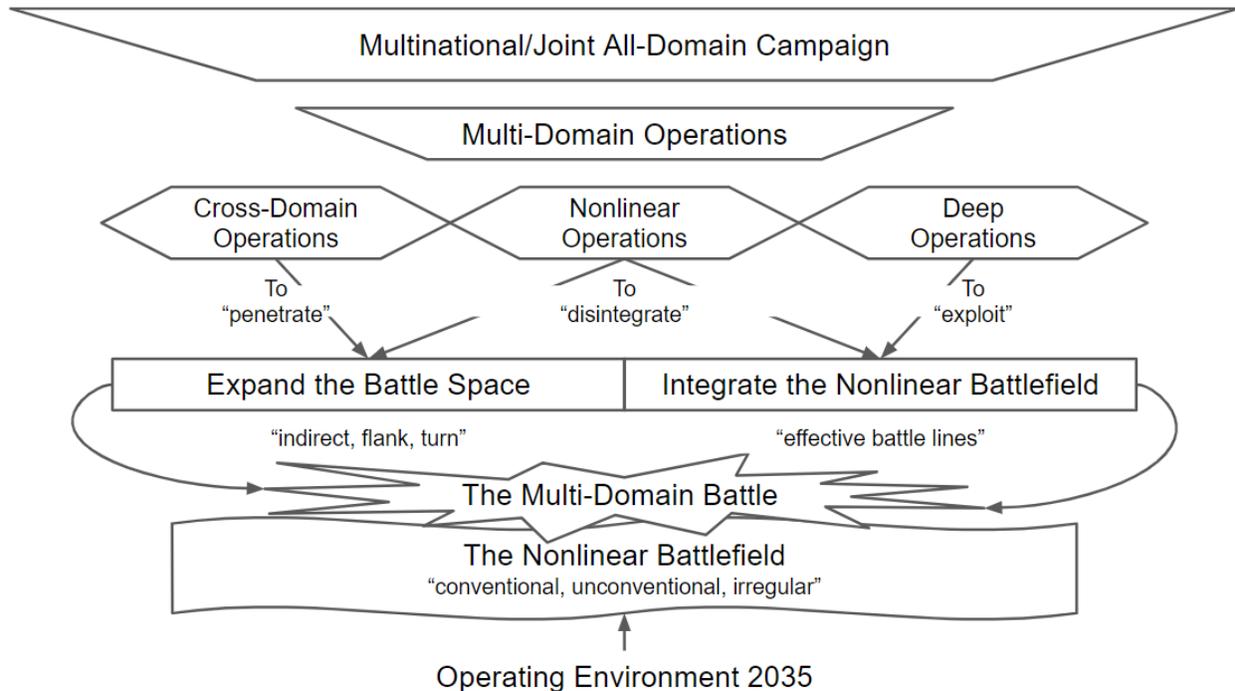
quicken the ability of friendly forces to shape the battle space, identify, move to, and attack an enemy center of gravity, and to increase tempo, which increases the momentum of the offense.

c. An overview of the MDO concept. The Army's contribution to future multinational/joint all-domain campaigns is multi-domain operations. Commanders conducting Army multi-domain operations will integrate cross-domain, nonlinear, and deep operations to expand the battle space and integrate the nonlinear battlefield.

1) Expanding the battle space allows for more options to exploit indirect approaches, flanking attacks, and turning maneuvers. To integrate the nonlinear battlefield means that commanders are able to create effective, if not actual, lines of operation and battle despite operational environments and correlations of opposing capabilities that demand nonlinear ways of warfare. Expanding the battle space and integrating the nonlinear battlefield are necessary to allow Army forces, as part of larger multinational/joint forces, to integrate the joint functions and win multi-domain battles on nonlinear battlefields.

2) The idea of the nonlinear battlefield refers to two characteristics. The first characteristic is geometrical and refers to the relative absence of identifiable lines in deployments, movements, and fields of fire. The second characteristic of the nonlinear battlefield refers to the non-geometrical interaction of factors present. This means that change in one battlefield factor or element does not create a direct, constant, and corresponding change in another factor. Critical factors on the nonlinear battlefield are interacting in substantially nonlinear ways.

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d. Operating Environment 2035. The Joint Force in 2035 must be capable of breaking or disrupting the power projection capabilities of a peer adversary like the Chinese PLA that will use massed mechanized forces on land, and advanced-capability forces at sea and in the skies, protected by electromagnetic jamming and spoofing capabilities, and in some cases, hypersonic and space-based attack weapons.

e. The Nonlinear Battlefield.

1) The nonlinear battlefield results from low force-to-space ratios, prevalence of high-technology forces on both sides, and proliferation of lethal and nonlethal weapons and other conflict capabilities in all warfighting domains.

2) The nonlinear battlefield will be impacted by higher levels of fog and friction than the more traditional linear battlefield because of the proliferation of conventional, unconventional, and mass casualty producing weapons, as well as cyberspace, space, and other conflict means.

3) The nonlinear battlefield is characterized by dispersion and steep demands for command and control, intelligence, mobility, and sustainment. Units will tend to have broad fronts and will rarely have secure flanks.

4) Tactical victory on the nonlinear battlefield will usually be defined by defeat of enemy forces and critical capabilities rather than retention of any geographical objective or specific terrain. Also critical to victory on the nonlinear battlefield will be the

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ability to threaten strategic targets in deep maneuver and operational deep fires areas.

5) Between peer adversary forces on the nonlinear battlefield, the ability of one side to bring complementary capabilities from allies and partners to bear will be decisive.

f. The Multi-Domain Battle.

1) The multi-domain battle is a complex of extremes: from set-piece long-range fires engagements to deep strike and maneuver offensives, and from large-scale destruction of units and equipment to digital firefights inside information systems.

2) The multi-domain battle requires a range of flexible and resilient ground formations that project combat power from land into other domains to enable multinational/joint force freedom of action, seize positions of relative advantage, maintain the initiative, and impose compounding losses on enemy forces.

3) Flexible and resilient formations will result from effective doctrine, organization, training, leadership, and capabilities, based on a projected enemy that is fully mechanized, joint, operating multi-domain, and enjoys advantages at the strategic, operational, and tactical levels of war.

4) Intensive close fights involving fast maneuver, high volumes of firepower, and an enveloping information environment crowded with input, manipulation, and deception will require mission command at every echelon to maintain shared understanding, provide clear intent, and trust, decentralization, and empowerment of subordinates to appropriately act at the speed of the problem. Higher echelon leaders will need to exercise operational art to manage high levels of fog and friction.

5) The core idea of the multi-domain battle is to win decisively, even if outnumbered, in a poor tactical position, or at a technological disadvantage, by integrating operations in multiple domains to present enemy leadership with compounding dilemmas. Compounding dilemmas are imposed on the enemy leadership through multinational/joint force commanders using operational art to orchestrate cross-domain attacks that undermine enemy strengths, find exploitable flanks, and place the multinational/joint force in positions of advantage.

6) Future multinational/joint force commanders will have access to an extreme depth and breadth of information and advanced capabilities providing cross-domain effects, maneuver, and fires. The ability to conduct sustained, successful cross-domain attacks for which the enemy is not fully prepared will help create the operations tempo and reach that progressively dominates the enemy leadership's decision cycle.

g. Expand the Battle Space.

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1) Expanding the battle space will be essential to winning in peer conflict. To maintain the initiative and retain tactical advantages in the multi-domain battle, future multinational/joint force commanders will need to expand the battle space and integrate the nonlinear battlefield. Expanding the battle space includes physical, cognitive, moral, information, and information/data network dimensions.

2) Based on new technological capabilities, organizations, training, and leadership, future multinational/joint force commanders will have to expand the battle space to encompass more physical and virtual terrain. Against a peer enemy, friendly forces will have to exploit indirect approaches through all domains rapidly until direct approaches can be employed for decisive action.

3) There will be more cyberspace and space tools, more adversaries with long-range strike, and more global interconnectedness. Engagements in the multi-domain battle will mix close combat with extreme long-range fires, and information attacks and defenses.

4) Engagements will be directly shaped by the real or threatened use of massed precision munitions, smart mines, robotic swarms, autonomous weapon systems, nuclear warfare, biological and chemical attack, and wide area electromagnetic manipulation.

5) Expanded battle space will allow for future multinational/joint force commanders to bring more weapon systems to bear simultaneously.

6) Improved intelligence and advanced information systems, and advanced-capability weapons, including those that are artificial intelligence-/machine learning-enabled, will allow future multinational/joint force commanders to expand the battle space of fires and maneuver formations beyond the capabilities of the enemy.

h. Integrate the Nonlinear Battlefield.

1) In addition to expanding the battle space, multinational/joint force commanders will need to integrate multiple means of warfare into the nonlinear battlefield.

2) The ability of multinational/joint force commanders to integrate available technologies across all domains, according to the tenets and principles of multi-domain operations, effectively and in a timely manner, will demonstrate the U.S./Coalition capability to dominate all forms of warfare on the nonlinear battlefield, including nuclear, conventional, unconventional, and digital.

3) The ability of multinational/joint force commanders to integrate the nonlinear battlefield will be the result of a methodical, multi-year program of extensive

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research and development into applications of weapon and other battle technologies, future wargames and experiments, modeling and simulations, extensive training and exercises, and field testing and evaluation.

4) Integrating the new means of warfare into the nonlinear battlefield begins with C4ISR that links direct and indirect fires; nonlethal fires; ground, archipelagic, and aviation maneuver; obstacles; and Air Force, Navy, and Space assets to produce high-impact operational level effects at decisive points in the multi-domain battle.

5) Integration of the nonlinear battlefield supports the production of an effective operational scheme, which when under the direction of the multinational/joint force Commander, embodies a unified purpose and can be executed even under conditions that degrade C4ISR.

6) The integral role of the commander in integrating the nonlinear battlefield calls for a revised understanding of operational art that covers both nonlinear warfare and the more traditional linear warfare.

i. Cross-Domain Operations.

1) Cross-domain operations bring together the advantages of forces and capabilities in all warfighting domains to produce the most promising conditions for fighting and winning the multi-domain battle.

2) Cross-domain operations against a peer enemy are essential and allow friendly forces to penetrate standoff defenses and neutralize anti-access, area denial systems and allow multinational/joint force attacks early in the major land operations of the multinational/joint all-domain campaign.

3) Cross-domain operations are not new, such as in the traditional examples of amphibious and airborne operations. Cross-domain operations are generally more complex than single-domain operations, requiring more resources, but they also tend to increase the chances for surprise, seizing the initiative, and bypassing superior defenses.

4) Cross-domain operations utilizing new capabilities through the cyberspace and space domains, and in the information environment, can also maximize opportunities to deceive enemy leadership, cause decision making delays, and miss identification of decisive points.

j. Nonlinear Operations.

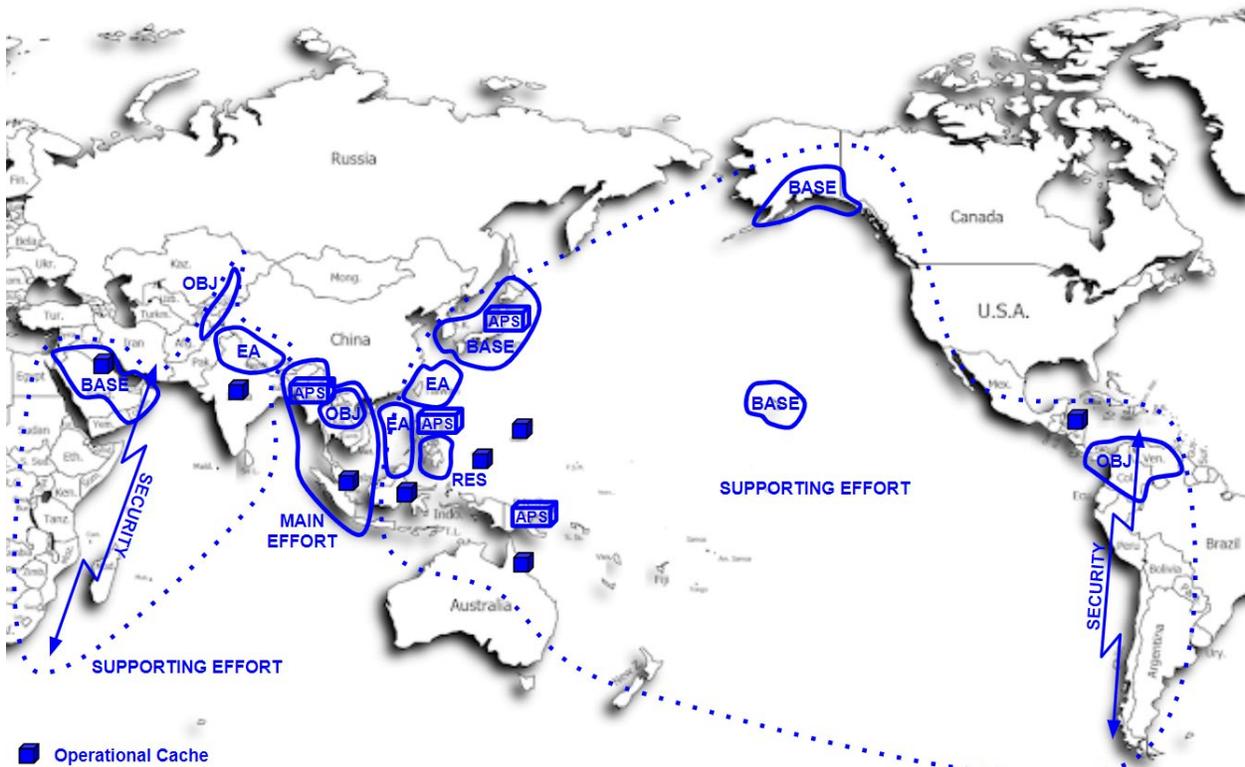
1) In nonlinear operations, multinational/joint forces orient more on their assigned objectives, including destroying an enemy force or seizing and controlling

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critical terrain or population centers, and less on their geographic relationship to other friendly forces.

2) Given the theater geometry, major combat operations by multinational/joint forces in the Indo-Pacific against the PLA will be predominantly nonlinear.

3) Nonlinear operations against the PLA in the Indo-Pacific in armed conflict will be organized around Army prepositioned stocks, operational caches, base areas, objective areas, engagement areas, reserve areas, a main effort area, and one or more supporting effort areas.



Representational depiction only; not for official use.

4) Nonlinear operations typically focus on creating specific effects on multiple and in some cases widely dispersed decisive points. Nonlinear operations maximize opportunities for deception.

5) Nonlinear operations emphasize simultaneous operations along multiple lines of operation from selected bases. The multinational/joint force will maneuver along a combination of exterior and interior lines.

6) In general, nonlinear operations increase the opportunities for achieving simultaneity. Simultaneity overwhelms opposing command and control, and allows the

multinational/joint force to retain the initiative.

k. Deep Operations.

1) Deep operations at strategic, operational, and tactical depth are essential against a peer enemy that enjoys superiority in numbers. Tactical level deep operations will reduce the combat effectiveness of enemy forces not yet in contact to allow for more favorable correlation of forces in the close area. Interdiction at operational and strategic depth will produce broad operational effects.

2) Deep operations allow multinational/joint forces to leverage surprise, simultaneity, rapidity, and the unique characteristics of unmanned systems. In order to strike targets of the highest operational value, those that are able to or preparing to launch decisive attacks, deep operations must maximize flexibility. Advances in ISR and artificial intelligence/machine learning capabilities will improve the ability of deep operations to be flexible and responsive.

3) Most importantly, deep operations are necessary to disrupt, desynchronize, and defeat the enemy's operational scheme. When properly arranged in time, space, and purpose, deep operations, including reconnaissance, raids, and attacks, are a way to arrange tactical actions to accomplish a strategic objective directly or support accomplishment of a multinational/joint all-domain campaign objective that in turn supports a strategic objective. (This calls for a new appreciation of operational art and a new way of considering operations.)

4) Deep operations help multinational/joint force commanders exploit vulnerabilities in the enemy's operational center of gravity. As such, deep operations attack command and control processes and systems, paralyzing combat support and combat service support systems, and interdicting forces that can affect upcoming close battles.

5) Deep operations help multinational/joint force commanders to isolate current battles in the close area (close fights), which is essential against a numerically superior enemy, and influence the conditions for subsequent battles. By progressively improving the conditions for subsequent battles, multinational/joint forces can erode the enemy leadership's will to fight.

l. Multi-Domain Operations.

1) Multi-domain operations integrate cross-domain, nonlinear, and deep operations in different operational areas, at different times, to achieve military objectives by overwhelming the enemy leadership with interlocking operational dilemmas. (Again, this points to the need for a reappraisal of operational art for major theater operations in

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conflict.)

2) Future multinational/joint force commanders, supported by their general staffs, executing multi-domain operations will need to present a cascade of interlocking operational dilemmas to the enemy leadership such that if they orient to resolve one dilemma they uncover themselves to the negative effects of another dilemma. The ability to do this will rest on integrated technological capabilities but will ultimately be the result of the proper application of operational art.

3) In a signals-communications denied operational environment and given the aggressive employment of deception by the enemy, multi-domain operations will be permeated with incomplete or inconclusive information. Multinational/joint force commanders will be continually fighting for situational understanding and seeking opportunities for launching cross-domain, nonlinear, and deep operations.

4) Fighting an enemy with sea, air, space, and cyberspace parity will challenge the multinational/joint force commander to find ways and assemble means quickly to create opportune conditions for subordinate units to engage in coordinated but distributed lethal actions.

5) While multi-domain operations have emerged due to technological advances, between peer adversaries, they will only increase the need for and value of operational art, estimation, and judgment.

6) Multi-domain operations will need to allow for forcible entry actions early in the start of hostilities.

7) Multi-domain operations, leveraging nonlinear approaches, will ensure sustainment for extended and distributed operations are integrated into the air and sea strike and assault operations to ensure that commanders employ forces and maneuver to assigned operational areas with the capability to continue fighting without unplanned operational pauses.

8) In multi-domain operations, multinational/joint force commanders will employ adaptive combinations of operational approaches: influencing and entry operations, operational maneuver from strategic distances, intra-theater operational maneuver, decisive maneuver to close areas, support to decisive close fights, concurrent and subsequent stability operations, and distributed support and sustainment.

9) To support the multinational/joint all-domain campaign, multi-domain operations will enable the multinational/joint force to seize the initiative early, transition rapidly to decisive operations, and sustain operations with the reach necessary to

achieve military objectives, consolidate gains, and allow for the advantageous return to competition.

m. Multinational/Joint All-Domain Campaign.

1) Multi-domain operations, as part of the multinational/joint all-domain campaign, help maneuver forces and capabilities to decisive points in the battle space to allow the multinational/joint force to attack enemy centers of gravity at all warfighting levels over time.

2) Employing mutually supporting forces along different axes to strike from unexpected directions creates dilemmas for enemy leadership, particularly when Army and joint capabilities converge effects against enemy forces in multiple domains simultaneously.

3) Joint capabilities are especially useful when subordinate formations operate in noncontiguous operational areas that place units beyond the supporting range of friendly fires or supporting distance of friendly maneuver units.

5. China and the Operational Environment in 2035.

a. At the international level, the desired situation between nation-states in 2035 and beyond is one of cooperation and competition, reinforced by a policy of deterring armed conflict. A U.S./Coalition policy of deterrence rests on, among other capabilities, a U.S. Army possessing superior multi-domain operations capability for the nonlinear battlefield.

b. By 2035, the PLA will be able to quickly seize objectives beyond their borders using conventional (mechanized combined arms) and unconventional forces, strategic capabilities, and proxy groups in joint operations. Once in control of an objective, the PLA will then deploy integrated and layered air defenses, advanced manned and unmanned systems, long-range ballistic and cruise missiles, hypersonic munitions, submarines, surface ships, electromagnetic jammers and spoofers, and anti-satellite and offensive cyberspace weapons to protect seized territory against rapid U.S./Coalition counterattacks.

c. Complementing the ability to seize and hold key terrain, some strike assets will be physically located within the Chinese homeland, raising the possibility of escalation to nuclear conflict if attacked by U.S./Coalition forces. This ability to consolidate hegemony on land will then give the People's Republic of China (PRC) the strategic depth to invest in the naval, air, cyberspace, space, and other capabilities necessary to build credible power projection and combat will-to-fight, and assert the interests of the

CCP even farther from their borders.

d. The PLA will approach the 2035 battlefield as a series of engagements between their and their opponent's major military systems, human and hardware. The PLA will employ systems warfare to identify and isolate critical subsystems or components that give friendly multinational/joint forces the capabilities they need to accomplish their mission. These will be the PLA's high-payoff targets. Based on the PLA's view of the future battlefield, its integrated ISR and fires complexes, and air defense systems represent a significant systems warfare capability.

e. Based on advantages in superior numbers, interior lines, and relatively short lines of communications, the Chinese theory of victory in 2035 is that a U.S.-led Coalition will fragment after the loss of high-profile, high-value battle systems including latest-generation aircraft and capital ships. The Chinese theory of victory will be based on rapid, joint operations against critical friendly battlefield systems, to create shock, force extended operational pauses in the U.S.-led Coalition, and reduce popular support for conflict through the information environment.

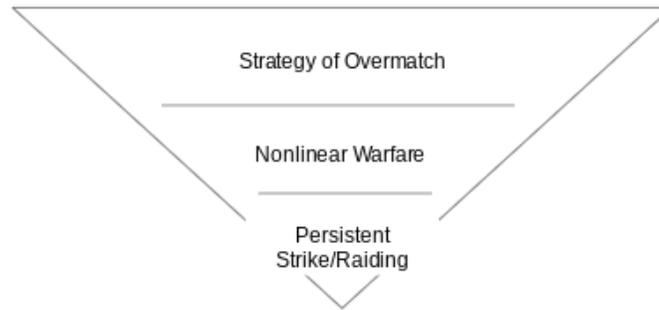
6. Strategic Approach and Operational Theory.

a. The U.S./Coalition theory of victory in 2035 is based on deterrence by denial. Alliance warfare provides the United States the means to withstand early Chinese offensives and it also provides the ability to continue deterrence by denial through the early stages of the conflict. This deterrence is aimed at shaping the CCP's perceptions about the advantages of escalating horizontally or vertically. U.S./Coalition military power, amplified through an alliance structure, will enable other grand strategic instruments to be brought to bear. The PRC will progressively lose their expeditionary, joint military capabilities while the U.S./Coalition maintains military power through the progressive addition of forces and capabilities from allies and partners.

b. The underlying strategic approach to multi-domain operations is overmatch. The Army's future strategic approach to operations is to develop forces, through advancements in doctrine, organization, training, leader development, and materiel, that demonstrate superiority in the core kinds of operations for major combat operations at the theater level against a peer adversary. The future force will rely on leaders using operational art to impose their will in overcoming the challenges of nonlinear warfare and in dominating the nonlinear battlefield. In exercising operational art for strategic overmatch, leaders will exploit enemy vulnerabilities using all available means. The need for overmatch stems from the prevalence of distributed nonlinear operations caused by the geopolitically complex, mixed and compartmentalized terrain, and expansive theater geometry of the Indo-Pacific, against a numerically superior

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adversary.



c. The Army's future strategic approach of overmatch may be described as:

- 1) Being overpowering on the nonlinear battlefield and in engagements.
- 2) Seizing the initiative early in the multinational/joint all-domain campaign and retaining the initiative so that multinational/joint forces can expand the battle space and integrate the nonlinear battlefield.
- 3) Retaining freedom of action to mass combat power against an enemy force or center of gravity, or influence the enemy to accept risk and move to a position of disadvantage.
- 4) Successfully protecting the force to enable cross-domain, nonlinear, and deep operations over a long enough duration to defeat the enemy's will to resist.
- 5) Leveraging multinational/joint capabilities as seamlessly as Army ones.

d. The enemy's will to resist is overmatched using mutually supporting, maneuverable operational battle positions. This operational approach of battle positions will rely on nonlinear warfare. The likelihood of decisive battles concentrated in space and time will be low. The relative importance of deep operations will be high. Long range fires will have to substitute for some of the effects of maneuver needed to sufficiently overmatch an enemy that enjoys superiority in numbers and large operational areas in which to maneuver.

e. With logistical stocks and limited C4ISR assets, operational battle positions in nonlinear warfare may also serve as partially fortified areas. Fortified areas have the advantage of being able to support both the defense, mobile and area, and the offense, movement to contact, attack, and exploitation. Fortified areas support deception, economy of force, and depth.

f. The product of strategic maneuver and movement from distributed bases of

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operations will lead to establishing or seizing positions of advantage from which the Army will provide long-range fires, strikes and direct attacks by Army conventional and special operations forces. The purpose of these actions is to restore maneuver to the battlefield, in all domains. Army formations maneuver to mutually supporting positions of advantage at a tempo that presents a continuous pattern of dilemmas to the enemy leadership.

g. By synthesizing the theoretical foundations of AirLand Battle, nonlinear operations, the Objective Force, and cross-domain synergy, the MDO concept is based on an operational theory of persistent strike/raiding. Multi-domain operations multiply the attack vectors along exterior lines, allowing multinational/joint forces to attack persistently against superior enemy numbers.

h. Army units conducting persistent strike/raiding builds on three concepts:

1) Overmatch matters. Persistent operations will contribute to both overmatch of the enemy and development of the best possible targeting information at the fastest pace possible against a peer adversary with numerical superiority on the battlefield and extensive warfighting capacity in the support areas.

2) Destroy from standoff. Striking will allow Army forces to generate the attrition necessary to force enemy formations to move and thus make themselves more vulnerable to cross-domain fires.

3) Nonlinear warfare is the rule. Linear warfare is the exception. Raiding in compartmentalized terrain will allow Army forces to seize and retain the initiative because enemy forces can more easily be isolated between numerous distributed battle positions using nonlinear warfare.

i. The operational theory of persistent strike/raiding may be further broken down into major operational phases using interior and exterior maneuvers.

1) First, maximizing cross-domain operations, multinational/joint forces maneuver on exterior lines in all domains to enter the theater of operations along paths of low resistance, while using maneuvers on exterior lines in the information environment to occupy dominant positions (diplomatically and with respect to the perceptions of key populations).

2) Second, maximizing nonlinear operations, multinational/joint forces maneuver on various combinations of interior and exterior lines to strike/raid policy-defined objectives to occupy progressively more dominant positions in the theater.

3) Third, maximizing deep operations, multinational/joint forces use ranged attacks to isolate enemy forces in the close area from their support areas. Reducing

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enemy forces in friendly deep maneuver and operational deep fires areas allows for progressively larger multi-domain battles to overmatch the PLA's will to defend and attack in large scale, enabling progressively more powerful air, maritime, cyberspace, and space offensives.

4) Persistent strike/raiding as part of maneuvers along interior and exterior lines is not based on light forces, but on leveraging the tactical defense to avoid costly and less-than-decisive battles, while exploiting enemy disintegration and transitioning to the operational offense.

5) The long-term occupation of territory, and control of populations and resources, will be done primarily by allied and partner nation forces.

Precepts of Multi-Domain Operations:

- See first
- Sense first
- Shoot first
- Sustain to purpose

j. Precepts of multi-domain operations. The following are general rules meant to govern the way Army forces think about and plan for persistent strike/raiding against a peer adversary:

1) See first. By seeing first, multinational/joint forces will be able to expand the battle space and integrate the nonlinear battlefield by detecting, identifying, and tracking enemy units before being detected by them. Seeing first will be accomplished using advanced technologies including artificial intelligence and machine learning; ground, air, and space sensors, including very small sensors; and intelligence, surveillance, and reconnaissance capabilities. Enablers for seeing first include combat identification systems; organic sensors that are robotic, semi- or fully-autonomous, multi-spectral, and disposable; unmanned systems; embedded C4ISR capabilities; long range and deep areas surveillance forces; and air and ground reconnaissance operations. Additionally, multinational/joint forces will be able to leverage shared information and data systems for common understanding, and techniques for blinding, deceiving, and distracting the enemy through the use of obscurants, jamming, signature reduction, deception, and pattern avoidance.

2) Sense first. The ability of multinational/joint forces to sense first means that forces act first, including shoot first, based on a rapid determination of the best

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possible course of action in a situation. Sensing first will have physical, informational, and cognitive dimensions. Sensing will include the ability of forces to understand themselves, the environment, and the enemy in time, space, and purpose. Sense first links see first and shoot first and makes the latter more timely, more effective. Sensing first is how multinational/joint force commanders act inside the enemy's decision cycles.

3) Shoot first. By seeing and sensing first, multinational/joint forces will gain the situational advantage necessary to engage the enemy on terms that are most favorable to winning engagements, and this includes being able to shoot before the enemy is able to threaten friendly combat forces. Leveraging a complex mix of command and control systems, digital capabilities, and mission command at echelon, multinational/joint force on the nonlinear battlefield will be able to move, maneuver, engage, shoot, reposition, and re-engage faster than the enemy. The ability to understand first, assess options, and act successfully will be primarily a function of mission command, mission-type orders, artificial intelligence-/machine learning-enable commander's intent, and technological capabilities.

4) Sustain to purpose. To fully leverage nonlinear operations, multinational/joint forces need to organize, equip, train, and follow doctrine for full-spectrum superiority, and this includes integrating sustainment into combat and combat support formations. To sustain multinational/joint forces on the nonlinear battlefield, in dispersed noncontiguous operational areas, will require that combat service support units move with and operate with maneuver units.

k. The multi-domain operations precepts suggest some broad future force attributes. To win at the tactical and operational levels, future Army forces must support joint operations; leverage all relevant sensors; leverage all relevant means of attack and defense; destroy enemy centers of gravity while protecting friendly ones; and combine decisive, precision, and overwhelming lethal and nonlethal effects at all echelons.

Future Force Attributes for Multi-Domain Operations:

- Lethality
- Operational maneuverability
- Adaptability
- Strategic deployability
- Multinational interoperability

1) Lethality. Against a numerically superior enemy force, the force attribute of

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lethality must be broadened beyond simple platform destruction. Future forces executing multi-domain operations must be able to almost continuously attack the enemy will to fight, frustrate the enemy leaderships' understanding of the situation, and confuse enemy systems' sensing of events.

2) Operational maneuverability. Operational maneuverability refers to the ability of close combat ready formations to execute intra-theater operational maneuver by ground, air, and sea to extend the reach of the multinational/joint force, enable the force to exploit opportunity, and generate dislocating and disintegrating effects through the direct engagement of decisive points.

3) Adaptability. Organizational and operational adaptability will allow multinational/joint forces in multi-domain operations to anticipate the need for cross-domain, nonlinear, and deep operations based on fast-changing operational and tactical environments. Against a peer adversary, these environments will be under almost constant influence by lethal and nonlethal enemy effects.

4) Strategic deployability. Multi-domain operations require that a ground force be deployed into theater and ready for combat operations in a time frame that allows U.S./Coalition forces to prevent the enemy from achieving their operational and strategic objectives. Strategic deployability refers to the ability to form and prepare for operations, move to operational areas, and begin operations with little delay. This attribute includes the ability to reorient and begin operations in an unanticipated direction or area from any point along the movement from home station.

5) Multinational interoperability. To achieve the U.S./Coalition theory of victory, U.S., allied, and partner forces will need to be interoperable from language, culture, practice, and doctrine to information and communications systems. The core capabilities for cross-domain, nonlinear, and deep operations will need to operate seamlessly and rapidly.

l. The Army will not have forces in sufficient numbers, properly designed, and postured for strategic deployability against a peer adversary. Allied and partner forces will need to fill part of the strategic deployability requirement. Additionally, the multinational/joint force will need to substitute information and effects through the space and cyberspace domains for some of the mass that should be forward in key geographical locations.

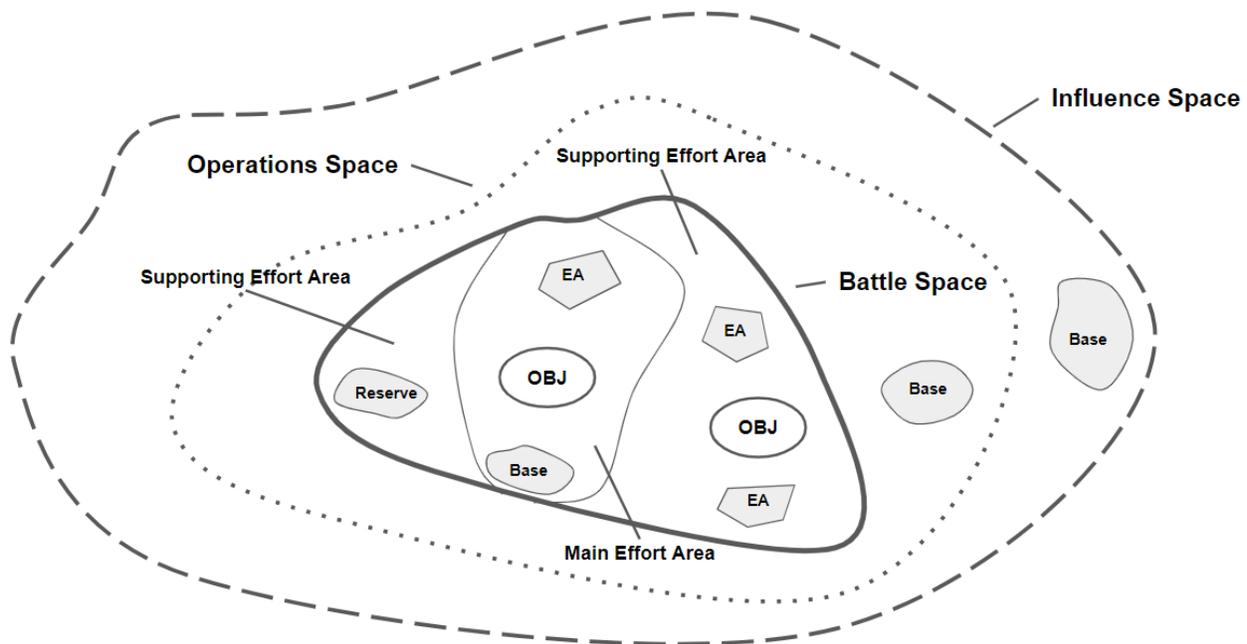
m. Given the emerging operational environment of 2035, the specific threats that the PLA will be able to bring to the future battlefield, and the core future force attributes needed to execute multi-domain operations, the Army will also need to be expandable.

n. As part of the Joint Force, the Army will be expected to bring campaign-scale

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logistics and sustainment to multiple operational areas across the Indo-Pacific. This warfighting functional architecture will provide a ready network of strike/raid platforms to multinational/joint forces in the land domain. The operational theory of the MDO concept complements a major component of the Army's Joint Force role.

o. A multi-domain operations spatial framework of main effort and supporting effort operations areas allow Army planners to describe the substantially different conditions within each of the areas, which require different forms of organization, offense and defense, and capability. At the highest level, these operational distinctions may be described as cross-domain, nonlinear, and deep. Each area may include a variable mix of cross-domain, nonlinear, and deep operations at any particular time. The multinational/joint force must win in each of the relevant areas to prevail in conflict against a peer adversary.



p. While speed, mass, and shock will remain important principles, the primary challenge will be to achieve these in what are physically compartmentalized operational areas.

- 1) Compartmentalization will be caused by large archipelagic regions, sprawling built up areas, and megacities.
- 2) To overcome the tactical challenges caused by this compartmentalization will require multi-domain operations based on cross-domain attacks.
- 3) At times multinational/joint forces will need to launch highly concentrated high-volume attacks across domain boundaries.

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4) This will be all the harder because multinational/joint forces must assume that they will not have unbroken or protected C4ISR.

5) This also suggests that the primary fighting command and control echelon will be the corps. In certain contexts, in a major war with the PLA, the field army could also be required to command and control decisive operations.

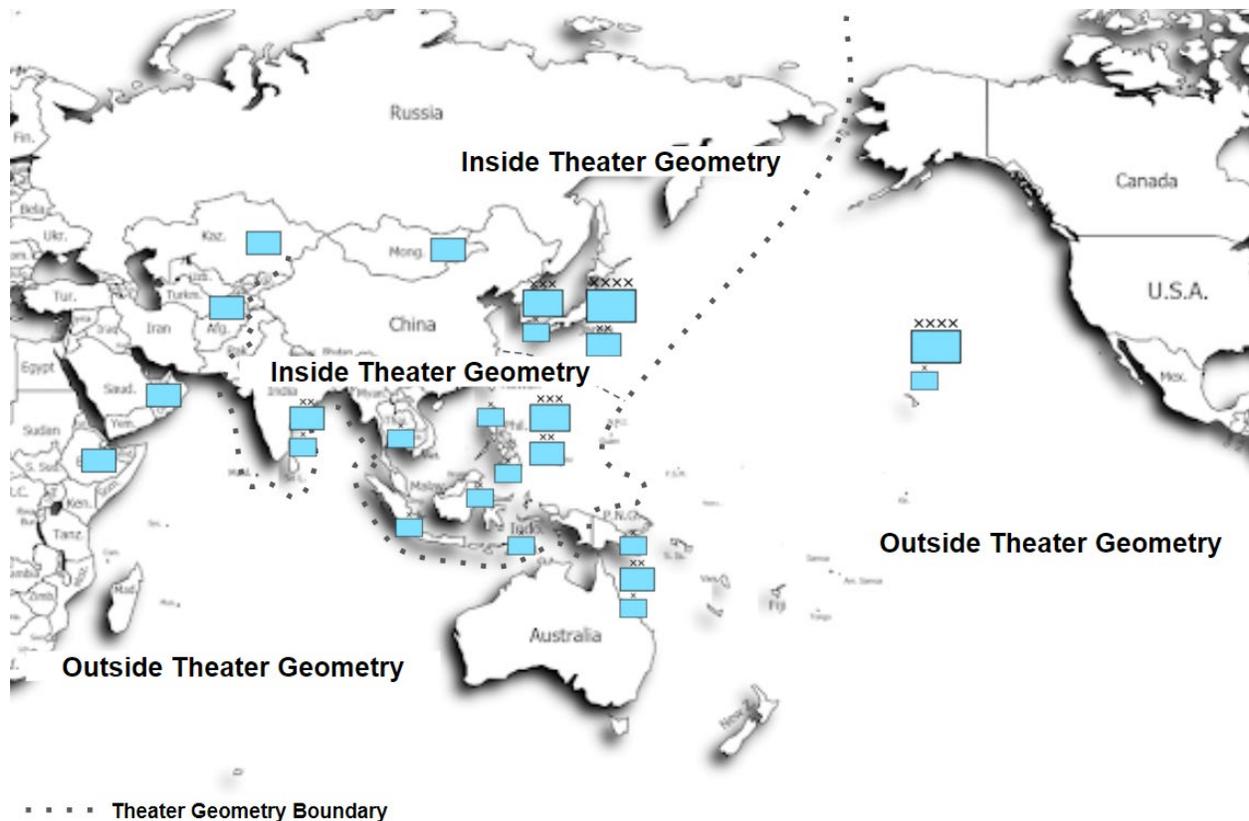
q. Except for the introduction of some robotics and autonomous systems as well as some machine learning, the ways of fighting engagements will likely remain essentially unchanged for the foreseeable future.

r. What is changing more is the wider competition-conflict environment and the resulting battle spaces that the multinational/joint force can expect in the near- to mid-term. The emerging competition-conflict environment potentially encompasses all means of destruction and all parts of competing-belligerent societies. Future battle spaces are likely to mix firefights on the ground, various kinds of strikes, threats delivered across information systems, with actions in social cyberspace communities, and space.

7. The Operational Level Fight.

a. As the Army transforms for future operations, it will need to adjust all dimensions of force development and force design for a higher echelon of warfighting campaign direction. This will be at the corps echelon or higher. In order to understand the complexity of integrated campaigns of decisive and shaping operations over extensive operational areas, and expansive and complex battle spaces, the MDO concept uses a framework of inside and outside theater geometry, explained through the Joint functions and key operational-conflict tasks.

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b. Scheme of action for forces in the inside theater battle space geometry in armed conflict.

1) One field-operational echelon commands multiple corps, or comparable formations, and enablers to threaten destruction of enemy decisive warfighting systems, to seize objectives that reduce the enemy's belief in the superiority of their warfighting approaches, and to enable an effective multinational/joint all-domain campaign. The field-operational echelon must maintain allied/partner assurance necessary to protect vital U.S./Coalition interests.

2) One corps echelon influences key populations in the information environment and assures allies in Japan and on the Korean Peninsula, in a Northern Corps-Operational Area. Additionally, this corps echelon enables multinational/joint forces to execute operational deep fires. One division echelon commands multinational/joint forces, converges cross-domain capabilities to influence fights in the close area for more decisive friendly cross-domain attacks.

3) One corps echelon near the South China Sea coordinates deep operations in a Southern Corps-Operational Area. One division echelon operates in and near the Philippines to maintain multinational/joint force initiative and freedom of action

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to maneuver against key enemy forces and territory. Another division echelon operates along west-to-east lines of operation to enable allies and partner forces and assure U.S./Coalition commitment to resolve the conflict and return to competition on terms more favorable than ante bellum circumstances.

4) Echelons that are part of the inside theater geometry will need to engage with key actors and populations to positively influence perceptions of U.S./Coalition military actions and reduce support for enemy actions. Division and corps echelons will need to dedicate significant resources including combat formations to information collection (integrated with multinational/joint intelligence, surveillance, and reconnaissance capabilities) to build and maintain situational understanding of the deep maneuver area.

5) Forces in the inside theater battle space provide the persistent presence to conduct continuous intelligence, surveillance, and reconnaissance activities for targeting, control or deny sea and air space for multinational/joint forces, and enhance situational awareness. This posture is optimized to host low-signature forward force capabilities on a more ambiguous, distributed, and hard-to-target infrastructure. All echelons operate to provide continuous cross-domain surveillance.

6) Especially in the nonlinear operations envisioned by persistent strike/raiding, the demands on division and corps echelons to coordinate and integrate fire support will be significantly more than current doctrine allows for. On the nonlinear battlefield, division and corps echelons will need to quickly and effectively nominate targets of highest value to shape the close area, but that cannot be serviced by corps and below, for execution by multinational/joint assets.

7) Divisions and corps echelons conduct deep operations against uncommitted enemy forces, maximizing cross-domain attacks with multinational/joint forces, to set the conditions for subordinate formations to conduct operations in the close area. Division echelons converge cross-domain multinational/joint capabilities to dominate the close fight through primarily cross-domain attacks, and conduct integrated cross-domain multinational/joint maneuver to close with the enemy with surprise and shock. These echelons focus on massing effects in the close area and interdicting in the deep maneuver area.

8) Army echelons, as part of multinational/joint forces, will need to defend, seize the local initiative, and fight forward at times to establish protected operational corridors for air, maritime, and follow-on ground forces to maneuver and strike key enemy capabilities. This multinational/joint breaching and exploitation at the operational level increases the survivability of ground forces by disrupting enemy offensive power in the close area.

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9) Logistical operations for forces that are part of the inside theater geometry will be more challenging on the nonlinear battlefield. Multinational/joint forces will need to leverage advanced technologies, self-monitoring systems, demand reduction capabilities and strategies, to reduce the need for unnecessary sustainment activities in or near the close area. To consolidate gains in compartmentalized terrain and noncontiguous operational areas will be more resource intensive.

c. Scheme of action for forces in the outside theater battle space geometry in armed conflict.

1) One theater-operational echelon provides persistent command and control, fires, maneuver, protection, and sustainment capabilities in the capacity necessary for land dominance, full-spectrum superiority, and joint all-domain operations. The theater-operational echelon must influence allies, partners, and third-party countries, as well as the enemy's civilian population in such a way that maximizes the abilities of the field-operational, corps, and division echelons to maintain initiative, launch offensives, and consolidate battlefield gains. The theater-operational echelon deters escalation of the conflict to allow multinational/joint forces to win on the battlefield.

2) The theater-operational echelon is the warfighting center of gravity and commands forces to ensure battlefield outcomes support U.S./Coalition policy objectives. The theater-operational echelon acts and conducts operations to ensure that the field-operational echelon and subordinate corps and below forces have all the resources and warfighting capabilities that they need to execute comprehensive nonlinear operations and win on the battlefield. At the same time, the theater-operational echelon works with coalition, joint, interorganizational, and multinational partners to contain the conflict, culminate in decisive operations, support U.S./Coalition interests, and prevent unnecessary horizontal and vertical escalation.

3) The theater-operational echelon conducts information warfare to counter the enemy's attempts to dominate in the information environment using cyber capabilities to generate societal, political, and economic disorder for his operational advantage. Additionally, the theater-operational echelon must protect friendly information and information systems to enable weapons technology, sensors, communications, and information-processing capabilities. The theater-operational echelon attacks the enemy's will to resist, and establishes and defends U.S./Coalition legitimacy to operate and support nonlinear warfare over multiple, at times noncontiguous, operational areas.

4) The theater-operational echelon coordinates intelligence collection, analysis, integration, synchronization, and dissemination with other theater-focused

agencies. Additionally, the echelon provides intelligence support to deep operations.

5) Theater-operational echelon fires target enemy high-value, strategic, and operational deep fires area formations and systems. Through reach-back to national-strategic capabilities, the theater-operational echelon facilitates multi-domain influencing in the operational deep fires area.

6) The theater-operational echelon is the primary means by which multinational/joint maneuver is synchronized outside key operational areas. One division echelon commands and controls maneuver units and enablers to interdict enemy forces attacking into tactical and operational support areas.

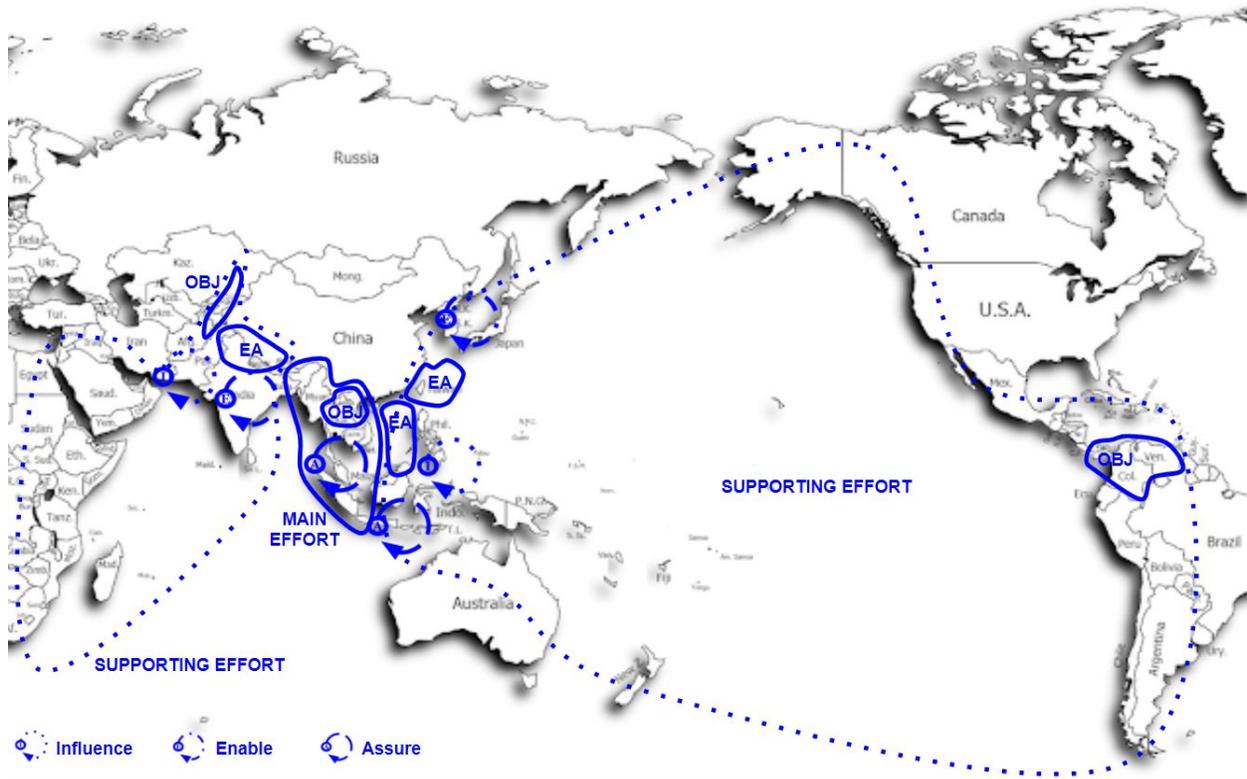
7) To protect multinational/joint forces from enemy air and ballistic missile forces, the theater-operational echelon provides theater ballistic missile defense (missile, EW, and directed energy) protection in operational support areas. In operational support areas, the theater-operational echelon protects key command and control nodes, ISR capabilities, joint RSOI locations, theater sustainment locations and activities, and theater stocks through an integrated air and missile defense network, and local and area security multinational/joint operations to defeat enemy long-range missile defense network and fires, special forces, irregular threats, and air interdiction by enemy long-range attack aircraft.

8) The theater-operational echelon maintains designated aerial and sea ports of debarkation, operational staging areas, supporting operational battle positions, and lines of communication to facilitate reception, staging, onward movement, and integration (RSOI) of multinational/joint forces. One division echelon ensures continuous theater army support to other services forward to key operational areas to sustain multinational/joint operations tempo while protecting and repositioning key sustainment facilities and capabilities.

8. Tactical Actions That Drive the Operational Fight.

a. Key inside theater battle space geometry tasks. The primary operational-conflict tasks for forces in the inside theater battle space geometry in armed conflict are influence, enable, and assure.

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1) Influence is the secondary supporting operational-conflict task for forces in the inside theater battle space geometry in armed conflict.

a) The corps echelon develops and communicates credible narratives in the area of operations to specific audiences to prevent interference and generate support for friendly operations. Continuously assess the effectiveness of ongoing information operations and influence activities to ensure that these efforts support the multinational/joint all-domain campaign. Isolate the adversary in the information environment. Identify and secure key cyberspace terrain for friendly advantage. Support timely decision making in the conduct of operations to shape perceptions of the conflict and the nonlinear battlefield.

b) Support deterrence directly through physical destruction and offsetting threat capabilities. Enable deterrence by denial by raising the prospective cost of an aggressor operation to unacceptable levels. Maintain forward presence and sustained engagement with allied and partner land forces.

c) Maneuver units build situational understanding including popular perceptions, local grievances, economic and social conditions, and cultural and political dynamics. Conduct exercises or other show of force demonstrations to display multinational/joint strategic military capabilities or show resolve to influence world and

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regional perceptions of U.S./Coalition potential and resolve to meet the specified strategic end-state.

d) Identify and reduce friendly vulnerability to hostile acts, influence, or surprise, and protect forces and means to conduct multinational/joint operations. Establish a forward network of scalable logistics nodes that can support dispersed units conducting changing missions. Full use will be made of prepositioned stocks and caches near projected objectives in key operational areas.

2) Enable is the primary supporting operational-conflict task for forces in the inside theater battle space geometry in armed conflict.

a) Strengthen relationships and arrange the authorities and means for allies and partner militaries to provide the U.S. access to territory, infrastructure, information, and resources consistent with national interests. Build and apply allied and partner capacity and capabilities consistent with U.S. defense objectives.

b) Collect, process, assess, and share details about internal security challenges to allied and partner governments. Collect, process, assess, and share actionable intelligence in support of multinational/joint operations. Identify, prepare, and assure access to important fire support areas in support of multinational/joint operations. Provide the means for allies and key partners to execute multinational combined arms all-domain maneuver and fires.

c) Enhance freedom of action by identifying and reducing friendly vulnerability to hostile acts, influence, or surprise. This includes measures to protect from surprise, observation, detection, interference, espionage, terrorism, and sabotage. This task includes actions for protecting and securing the flanks and rear area of operational formations, and protecting and securing critical installations, facilities, systems and air, land, and sea LOCs.

d) Pursue and secure enabling multinational agreements that support the conduct of multinational/joint operations. Prioritize acquisition and cross-servicing agreements (ACSAs) to enable logistics process integration and interoperability for multinational/joint operations.

3) Assure is the decisive operational-conflict task for forces in the inside theater battle space geometry in armed conflict.

a) Provide unique land power capabilities, including security force assistance and regionally aligned forces, that allow multinational/joint force commanders to reassure allies and partners and deter aggression while establishing conditions that support the potential employment of multinational/joint forces in

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competition-conflict. Establish hardened communications infrastructure that is not dependent on vulnerable satellites in key locations to strengthen allied/partner command and control.

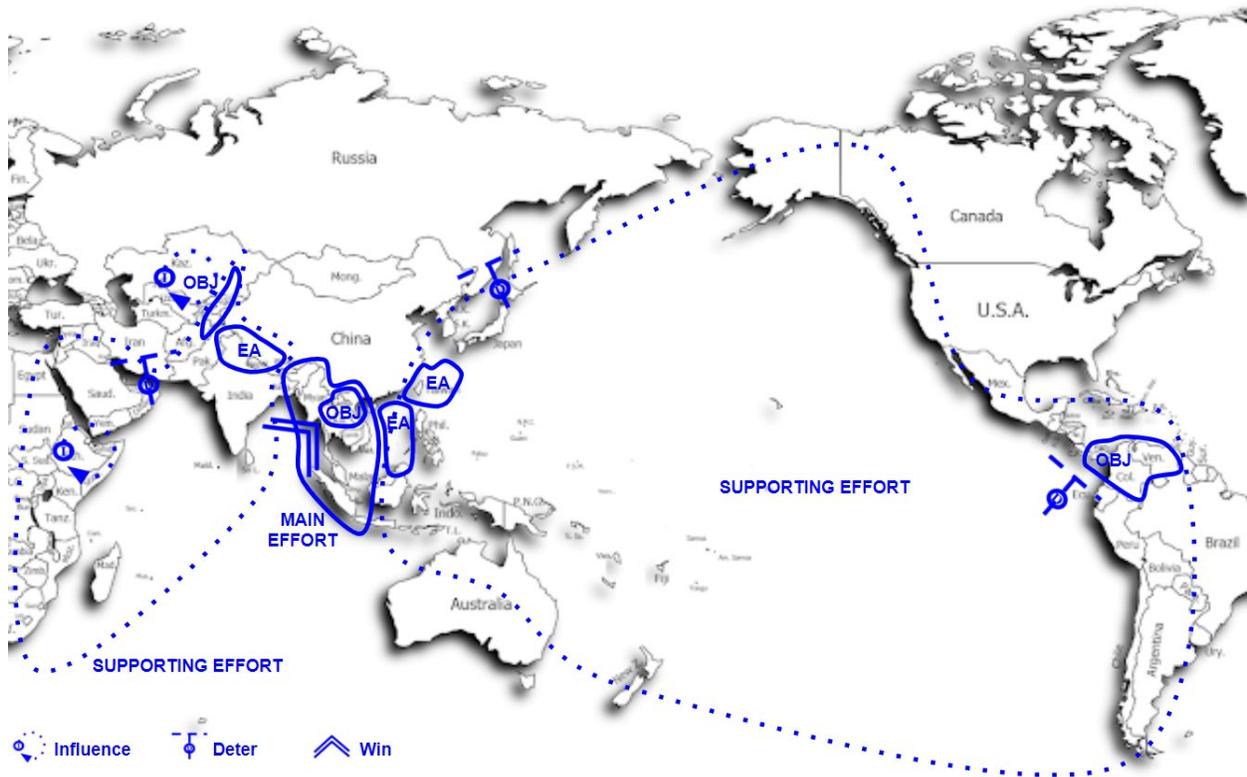
b) Incorporate information operations to allow for split-based, off-axis approaches and operations. Manipulate enemy perceptions about friendly force intentions, positions, and timing based on relevant intelligence. Identify appropriate deception targets, develop credible supporting stories, and determine the effectiveness of deception efforts. Support establishment of and operations through a multinational/joint intelligence center. Contribute to a timely multinational/joint force common operating picture that supports operations in close and deep areas.

c) Reinforce allied and partner resolve to defend possible U.S./Coalition interests by arranging for the deployment of land-based anti-air and anti-ship missile units on allied/partner territory. Demonstrate capabilities and capacity for integrated multinational/joint defensive operations to preserve friendly territory from enemy attack and seizure. Expand access to basing that increases options for multinational/joint force commanders.

d) Provide humanitarian assistance and disaster relief to preserve allied and partner capacity. Establish sustainment bases of various sizes arranged in clusters to support distributed operations and a rapid tempo. Secure and operate exterior lines of communications for multinational/joint all-domain operations.

b. Key outside theater battle space geometry tasks. The primary operational-conflict tasks for forces in the outside theater battle space geometry in armed conflict are influence, deter, and win.

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1) Influence is the secondary supporting operational-conflict task for forces in the outside theater battle space geometry in armed conflict.

a) Synchronize operational movement, fires, and support in a series of operational maneuvers that provide the theater-operational-level commander and subordinate commanders with the necessary advantage to influence the battle space to gain, retain, and sustain the initiative. The theater-operational-level commander synchronizes attacks on the enemy through centers of gravity throughout the battlefield to counter known or anticipated enemy efforts, to exploit success, and to hasten the total collapse of enemy force defenses. Synchronize themes, messages, and actions with operations to inform the United States and global audiences; influence foreign audiences, including friendly, neutral, and enemy-leaning; and affect enemy and enemy-allied decision making.

b) Provide needed information-related capabilities to subordinate units for the conduct influence operations at the regional level. Plan and execute operations to convey selected information and indicators to foreign audiences in the operational area to influence their emotions, motives, objective reasoning, and ultimately the behavior of foreign governments, organizations, groups, and individuals.

c) Continuously track forces, operations, total asset visibility, and

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ongoing intelligence preparation of the theater, enabling commanders at all echelons to anticipate changes, adapt to new threats, and maximize freedom of action.

d) Conduct operational fires organic to the multinational/joint force to protect base areas from ground threats. A Counter adversary propaganda with accurate, timely, verifiable, and relevant information.

e) Affiliate global land power forces to one network for globally integrated operations. Develop global, regional, and local partnerships and networks that enable the full range of options in support of strategic objectives.

f) Conduct effective theater air and missile defenses to provide force protection and ensure the security of assembly, attack, and lodgment areas, and protection of multinational/joint forces and U.S./Coalition interests. Provide protection and security for deploying theater forces. Protect lines of communications between support areas, bases of operation, and maneuvering forces. Generate and reconstitute decisive combat power.

2) Deter is the primary supporting operational-conflict task for forces in the outside theater battle space geometry in armed conflict.

a) Provide credible combat-ready ground forces and ground-based capabilities to reinforce U.S./Coalition coercive diplomatic efforts in support of strategic objectives. Conduct theater activities that help discourage enemy leadership from expanding hostilities to unengaged countries and from expanding hostile means to WMD including nuclear. To support escalation stability, provide resilient information and communications system/network architectures that enable persistent and survival operations despite debilitating cyberspace and electronic warfare attacks.

b) Conduct distributed ISR operations, leveraging non-traditional means, to collect, process, and assess actionable intelligence and quickly disseminate to warfighters and operational decision makers. Fuse actionable intelligence to provide a dynamic view of enemy leadership's intent and readiness to horizontally or vertically escalate the conflict.

c) Neutralize ballistic missiles, long-range air defenses, long-range surveillance radar, and anti-ship cruise missiles that are part of enemy anti-access, area denial complexes to preserve friendly freedom of maneuver and reduce the incentive for enemy escalation. Position forces and capabilities, and conduct operations and activities that maximize multinational/joint movement and maneuver in all warfighting domains.

d) Secure ground-based long range precision fires capabilities that

can be used to threaten enemy strategic targets of the highest value to enemy leadership. Synchronize ground efforts from each service to provide air and missile defense for multinational/joint assets at ports, airfields, and key transportation hubs. Consolidate resource planning but distribute resource stocks and activities to provide theater-level logistics support and sustainment capabilities to the multinational/joint force.

3) Win is the decisive operational-conflict task for forces in the outside theater battle space geometry in armed conflict.

a) Concentrate forces and materiel resources aligned to strategic aims so that the right force is available at the designated times and places to conduct decisive, winning operations. Maintain multinational/joint command relationships that support decisive operations and maintain operational reserves. Collect, process, assess, protect, and disseminate to multinational/joint force elements key information for the exercise of operational battle command.

b) Employ all military intelligence means to focus, leverage, and protect the combat power and supporting resources of the multinational/joint force and ensure decisive outcomes on the nonlinear battlefield. Employ strategic fires and effects to isolate the battlefield in key operational areas. Employ a variety of firepower means to divert, disrupt, delay, damage, or destroy the enemy's air, surface, subsurface, cyberspace, and space military potential.

c) Position decisive combat power to resolve the conflict rapidly by synchronizing and simultaneously engaging enemy forces throughout the depth and space of the operational area. Secure military objectives. Support accomplishment of the strategic aim.

d) Provide operational air and missile defense to preserve multinational/joint force combat power. Conducting deception operations. Protect operational forces and means for decisive actions. Provide security for forces and means in a manner that supports the conduct of distributed operations on the nonlinear battlefield. Secure and operate exterior lines of communications for multinational/joint all-domain operations.

9. Attack of Follow-on Enemy Forces.

a. For multi-domain operations to be most effective, its constituent cross-domain, nonlinear, and deep operations will need to maximize the successful attack of enemy follow-on forces. Critical to the multi-domain battle on the nonlinear battlefield will be the attack of follow-on enemy forces in and across all domains as part of deep operations.

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b. The PLA style of military operations may be characterized by some recognizable patterns:

- 1) Reliance on and preference for mass, momentum, and shock-based tactics.
- 2) Pursuit of surprise as essential for seizing initiative early.
- 3) Importance of attacks designed to prevent the multinational/joint force from integrating multinational/domain operations.

c. The need for cross-domain attacks emerges from the operational approach of the PLA and similarly designed potential enemy armed forces. The PLA's superiority in numbers permits them to keep a significant portion of their forces out of the close fight. The existence of these follow-on forces and the freedom to act that they provide gives the enemy tactical options, a decided advantage in the close fight, and the initiative which multinational/joint forces will have to seize from him and exploit in order to win.

d. In competition, it will be important to train and exercise large formations to successfully attack follow-on forces across domain boundaries. In addition, it will be important to practice acquiring and targeting potential enemy forces so that multinational/joint forces will be prepared to attack them in conflict. This should be done as part of joint intelligence preparation of the operational environment and should lead to comprehensive lists of high value targets for use in conflict.

e. A core tactical problem which will need to be overcome is how to conduct multi-domain battle on large areas of compartmentalized terrain. This type of terrain will complicate maneuver, targeting, and command and control. At the same time, our tactics will need to focus on how to disperse, isolate, and neutralize enemy forces and reach the close fight based on a battlefield geometry characterized by compartmentalized spaces across the land and maritime domains.

f. Cross-domain attacks will be necessary to deprive the enemy of his flexibility, initiative, and momentum using several tools:

- 1) Interdiction, including cross-domain.
- 2) Counter and offensive information, cyberspace, electronic warfare, and space.
- 3) Camouflage, concealment, and deception.

g. Interdiction, principally cross-domain interdiction, is the primary tool of cross-domain attacks in the multi-domain battle. The primary means of cross-domain attacks are missiles, long-range hypersonic weapons, other fires, and offensive

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information/cyberspace/space. The desired approach is to use cross-domain attacks to destroy or neutralize enemy forces before they can reach the close fight. The nature of high-end peer-to-peer armed conflict is such that this desired approach will not be practical at all times.

h. Friendly multinational/joint forces will still need to be designed primarily for shooting, moving, and communicating in the close fight. In the multi-domain battle against a peer adversary, delay and disruption will not be achieved to levels sufficient to secure battlefield wins. Cross-domain attacks will need to be focused in such a way as to create enough opportunities for essential friendly action, to attack, counter-attack, and reconstitute without surrendering key terrain or the initiative. A potential challenge will be to launch cross-domain attacks at sufficient scale to decisively influence the course of multi-domain operations.

i. In multi-domain battles, the role of commanders, and especially commanders at higher echelons, will rise to levels not appreciated by current doctrine. While there is no realistic expectation that commanders well-versed in operational art for integrated campaigning will be rendered obsolete by the complexity of the multi-domain battle, multinational/joint forces will need to exploit the assistance of artificial intelligence/machine learning better than potential enemies.

j. At this point, given the most important potential conflict areas in the Indo-Pacific, it is important to point out that multinational/joint force commanders on land will need to bring together movement and maneuver, fires, and sustainment in essentially nonlinear operations involving mostly distributed forces.

k. Despite the prevalence of nonlinear operations with distributed forces, multinational/joint forces will still need to move and maneuver to close fight areas. At this stage in multi-domain operations, the ability to sense, discriminate, target, engage, and neutralize enemy forces faster than the adversary will increasingly determine the battlefield winner.

l. In multi-domain battle between peers, every opportunity to achieve disruption, degradation, and destruction will need to be taken and in as many cross-domain attacks as possible. It will only be by the cumulative effects of slowing the enemy's momentum, dispersing the effects of enemy fires, and confusing the perceptions of enemy leadership that the enemy's will to continue the fight can be reduced to a point that it may be collapsed with a coup de grâce.

m. The general patterns of military technological advancement suggest that many operational tasks that used to have to be done sequentially may soon be able to be done in a more nearly simultaneous manner. Put another way, the means to execute more parallel operations appear to be on the horizon. These advanced technologies are

not silver bullets as we must assume that adversaries will have or will quickly acquire comparable capabilities. But in high-stakes conflict with peer adversaries in multi-domain operations, the logic of exploiting every manner of advantage will drive our future force development.

n. It would appear that interdiction, especially in the form of cross-domain attacks, is key to achieving battlefield wins. For the most part, these battlefield wins are only valuable in reducing the enemy's ability to mass and maneuver, and with time, eroding his momentum and thus slowing his achievement of objectives.

o. It is through cross-domain interdiction that we are able to target enemy forces and cause the disruption and destruction necessary to shape the correlation of combat power in the close fights. So our cross-domain interdiction will focus on the enemy's most lethal close fight capabilities that are moving to and preparing to join the close fights ongoing or about to begin.

p. This idea of operational interdiction for tactical effects is almost certainly going to be vastly more complicated than current doctrine suggests. Greatly expanded battlefields with air, space, cyberspace, and information attacks and defenses suggest that interdiction and counter interdiction operations will be fought at higher echelons and for these operations to be most successful they will need to be tightly linked to lower echelon actions and objectives.

q. If the multi-domain battle can be fully realized by 2035 then cross-domain interdiction will be one area where artificial intelligence/machine learning may be most decisively applied. Artificial intelligence/machine learning can help multinational/joint force commanders apply their most effective assets to the highest payoff targets at a rate faster than an opposing leadership that is not artificial intelligence-/machine learning-enabled, or is enabled to a lesser degree.

r. In the cross-domain interdiction battle, artificial intelligence/machine learning can help integrate and sequence targets to achieve the highest probability of cumulative operational success to a level not able to be achieved by human/mental processing alone.

10. Operations for Limited Objectives.

a. Current operational doctrine reflects the prevailing view of U.S. military dominance expressed in Army concepts since the mid-1990s. Considering a peer adversary in 2035 will require the Army to revisit major combat operations for more limited objectives. This is already reflected in national and defense strategic direction but not in doctrine. Doctrine needs updating to reflect the range of military operations

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types and scales that the United States is likely to need to conduct in the future. This reconsideration of doctrine needs to fully account for deterrence by denial as part of alliance warfare.

b. Current U.S. doctrine is unsuitable for future conflicts involving major combat operations for limited objectives because it reflects the American strategic culture of overwhelming force. This culture has been reinforced by three decades of quick and often relatively bloodless battlefield victories against substantially less-capable enemies and subsequent protracted but not especially costly stability operations. Current doctrine does not reflect the strategic direction to be prepared to pursue the limited aim of denying a highly militarily-capable adversary their objectives.

c. Against a peer adversary like the PLA in 2035, the Army must be prepared to fight with the full range of available means and using all practical ways, but for limited objectives. This eventuality is made more likely by the fact that the PRC is a nuclear-armed state.

d. One key purpose of MDO is to broadcast to the PLA leadership that the Army is developing future doctrine that brings the strength of U.S. military arms on land to decisive points in a way that makes unlimited conflicts losing propositions. Superior land-based doctrine reinforces deterrence by denial.

e. Significant parts of the MDO outline concept, including nonlinear operations, distributed deployments, and split-basing, will be compatible with Army forces in conflicts over limited objectives.

11. War Termination and Return to Competition.

a. The MDO concept emphasizes that competition-conflict is based on political bargaining.

1) Once the military tool has been employed in competition-conflict, the aim is to win something of political value that helps skew the conflict bargaining in favor of U.S./Coalition interest.

2) In unlimited conflict, the purpose of military operations must be to win what is vital to the national interest.

3) In competition, wins are achieved without reliance on destroying adversary military forces, whereas in armed conflict, the central aim is destruction of military means. In limited armed conflict, destruction of military means may or may not be pursued.

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b. In competition, the purpose of military forces is to reduce to a minimum whatever incentives the competitor leadership might perceive as favorable to seeking military solutions to political problems. In conflict, the purpose of military forces is to reinforce the perception in the minds of adversary leadership that the aggression they initiated will be resolved on terms that are better for the U.S./Coalition than before conflict.

c. As the balance of power between the United States and the PRC grows more unstable, even volatile, so will the Chinese Communist Party leaderships' perceptions of their own freedom of action at the theater of operations level, with conventional and nuclear means.

d. Increasing bi-polar competition and conflict with the PRC dictates that U.S./Coalition strategy is designed to manage PLA conventional, chemical, biological, nuclear, electronic, and nonlinear battle space threats.

e. U.S./Coalition strategy must be designed to preserve friendly control over territory, resources, and critical facilities needed for maintaining defenses and mounting counter offensives.

1) Reseizing territory lost to the enemy will be especially costly in both human and political terms due to the intersocietal links associated with globalization.

2) In none of the critical regions of the world, to which multinational/joint forces are likely to be committed, is there sufficient maneuver room to accommodate an effective defense in depth or is there sufficient political will to allow for an effective forward defense.

3) The defense will have to begin from distant positions, fight forward to create operational mobility corridors, at the same time that forces are slowing, disrupting, dispersing, or destroying follow-on adversary forces across domains to quickly seize the initiative and go on the offense as soon as possible.

4) To conduct a forward-mobile defense in multi-domain operations will require operational maneuver from strategic distances, combining global force projection with maneuver against an operationally significant objective. Operational maneuver from strategic distances requires forces that are in continuous operational-tactical contact, in multiple domains, creating strategic, operational, and tactical effects as required in multinational/joint operations.

f. The principal tactics by which multinational/joint forces implement multi-domain operations must provide for quick resolution of battles under circumstances that will allow political authorities to negotiate with adversary leadership from a position of strength. One purpose of multi-domain operations must be to preempt a prolonged

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conflict. The principal tactics will also need to simultaneously:

- 1) Deny the enemy access to objectives he requires for victory.
- 2) Prevent enemy forces from massing for assaults and for continuous combat operations.
- 3) Find the opportunity to seize the initiative to commence offenses that break the integrity of the enemy operational scheme, forcing him to suspend the attack or risk decisive defeat.

g. The principal tactics of multi-domain operations which support an integrated defense are:

- 1) See deep and wide, and begin early to disrupt, delay, and destroy enemy forces in multiple domains.
- 2) Move fast against enemy assaulting forces, preferably across domain boundaries.
- 3) Strike assaulting forces quickly so as to prevent them from achieving their objectives.
- 4) Finish the opening fights against assaulting and follow-on forces rapidly so as to go on the attack and finish the battle against the enemy's lead forces.

h. The overarching goal of collapsing the enemy's will to fight will remain even with changes in technology and societal dynamics.

1) The conflict between opposing military powers will require the U.S. Army to integrate a wide range of diverse organizations, systems, and capabilities on a battlefield which is far wider and more complex than envisioned by current doctrine. At the same time, the 2030s battlefield will still look similar to what we would recognize today.

2) Behind the overarching goal is the motivation to pull together the clearest and most promising ideas about how to fight across all domains simultaneously and confuse, disrupt, and destroy enough opposing forces that the adversary political leadership chooses to return to competition on terms more favorable to U.S./Coalition interests.

12. Needed Capabilities.

- a. Multinational/joint force commanders in the land domain in 2035 will need to

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maximize the operational capabilities of all subordinate forces.

b. Unit capability requirements:

- 1) React to rapid changes in tempo.
- 2) Operate in a distributed, decentralized, noncontiguous manner.
- 3) Operate according to rapidly changing demands for speed, shock, and precision based on strategic, operational, and tactical direction.
- 4) Operate in multinational and joint teams.
- 5) Rapidly deploy, in unanticipated force mixes, and begin executing missions across the conflict spectrum in degraded conditions with minimum delay.

c. Capability requirements by joint function, plus engagement and influence:

1) Command and Control. The multi-domain operations concept requires a capability to exercise mission command at all echelons in all conditions including denied and/or degraded conditions, including disruptions to satellite, line-of-sight, and beyond-line-of-site communications, and PNT data to command and control distributed operations and dispersed forces.

2) Information. To effectively operate and influence in the information environment, the multinational/joint force will need to be able to persistently monitor the information environment, counter malign narratives, generate an overwhelming friendly narrative, and ubiquitously participate in public forums to accurately gauge the cognitive effect such initiatives have on the perceptions and behaviors of friendly, hostile, and neutral actors.

3) Intelligence. The concept requires a capability to maintain the necessary situational understanding at the point of decision in all environments to enable making informed, sound decisions rapidly.

4) Fires. The multi-domain operations concept is based on a capability to converge, integrate, and synchronize cross-domain fires at the operational and tactical levels to create windows of advantage to achieve friendly objectives, create dilemmas for enemy leadership, or defeat enemy systems.

5) Movement and Maneuver. MDO-centric operations will require a capability to conduct and support strategic, operational, and tactical maneuver along multiple axes of advance across and between all domains to contest aggression, reverse aggressor gains, and defeat the enemy.

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6) Protection. The multinational/joint force will need the operational capability to protect the force, designated populations, and critical resources from the enemy's systems by countering or mitigating those threats to retain combat power and defeat efforts to disrupt or reduce friendly capabilities and/or will to fight.

7) Sustainment. The multinational/joint force will need a capability to deploy and sustain forces through a global network of fixed and mobile bases and logistical operating sites to enable sustained operations at the necessary scale, tempo, and duration to overmatch the enemy.

8) Engagement. The multinational/joint force will still need a capability to employ physical, virtual, and cognitive actions to build and buttress partner relationships or influence key actors' decision making (in the moral and cognitive dimensions).

9) Influence. The multinational/joint force will need the ability to build, operate, maintain, and defend friendly cyberspace, shape neutral cyberspace, and influence, attack, and exploit threat cyberspace to enable mission command and other network-based activities during multinational/joint operations.

13. Terms and Definitions.

a. Competition: The condition when two or more actors in the international system have incompatible interests but neither seeks to escalate to open conflict in pursuit of those interests. While violence is not the adversary's primary instrument in competition, challenges may include a range of violent instruments including conventional forces with uncertain attribution to the state sponsor. (JCIC)

b. Win: Overcoming of an enemy; achievement of success in a struggle or contest. (Merriam-Webster) For the Army, winning involves both accomplishing campaign objectives and protecting U.S. national interests. (TRADOC Pamphlet 525-3-1)

c. 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. (JOAC)

d. Cross-domain operations: Operations that inherently rely on capabilities in and between all warfighting domains. (TRADOC Pamphlet 525-3-1) Cross-domain operations are based on the concepts of joint operational access, air-sea battle, and joint forcible entry.

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- e. Nonlinear operations: In nonlinear operations forces orient on objectives without geographic reference to adjacent forces. Nonlinear operations typically focus on creating specific effects on multiple decisive points. Nonlinear operations emphasize simultaneous operations along multiple lines of operation from selected bases (ashore or afloat). Simultaneity overwhelms opposing command and control and allows the JFC to retain the initiative. (JP 3-0)
- f. Deep operations: Deep operations are combined arms operations directed against uncommitted enemy forces or capabilities before they can engage friendly forces in the close fight. Deep operations are not simply attacking an enemy force in depth. Instead, they are the sum of all activities that influence when, where, and in what condition enemy forces can be committed into the close and support area. (ATP 3-94.2)
- g. Interdiction: An action to divert, disrupt, delay, or destroy the enemy's military surface capability before it can be used effectively against friendly forces, or to achieve enemy objectives. (JP 3-03)
- h. Strike: An attack to damage or destroy an objective or a capability. (JP 3-0)
- i. Operational area: An overarching term encompassing more descriptive terms (such as area of responsibility and joint operations area) for geographic areas in which military operations are conducted. (JP 3-0)
- j. Operational environment: A composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander. Also called OE. (JP 3-0)
- k. Operational art: The cognitive approach by commanders and staffs—supported by their skill, knowledge, experience, creativity, and judgment—to develop strategies, campaigns, and operations to organize and employ military forces by integrating ends, ways, and means. (JP 3-0)
- l. Joint functions: Related capabilities and activities placed into seven basic groups of command and control, information, intelligence, fires, movement and maneuver, protection, and sustainment to help joint force commanders synchronize, integrate, and direct joint operations. (JP 3-0)
- m. Theater of operations: An operational area defined by the geographic combatant commander for the conduct or support of specific military operations. (JP 3-0)
- n. Force: An aggregation of military personnel, weapon systems, equipment, and necessary support, or combination thereof. (JP 1)
- o. Echelon: Separate level of command. (FM 1-02.1)

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- p. Center of gravity: The source of power that provides moral or physical strength, freedom of action, or will to act. (JP 5-0)
- q. Axis of advance: The general area through which the bulk of a unit's combat power must move. (ADP 3-90)
- r. Tempo: The relative speed and rhythm of military operations over time with respect to the enemy. (ADP 3-0)
- s. Line of operation: A line that defines the interior or exterior orientation of the force in relation to the enemy or that connects actions on nodes and/or decisive points related in time and space to an objective(s). (JP 5-0)
- t. Exterior lines: Lines on which a force operates when its operations converge on the enemy. (ADP 3-0)
- u. Interior lines: Lines on which a force operates when its operations diverge from a central point. (ADP 3-0)
- v. Decisive point: A geographic place, specific key event, critical factor, or function that, when acted upon, allows commanders to gain a marked advantage over an enemy or contribute materially to achieving success. (JP 5-0)
- w. Line of communications (LOC): A route, either land, water, and/or air, that connects an operating military force with a base of operations and along which supplies and military forces move. (JP 2-01.3)
- x. Full-spectrum superiority: The cumulative effect of dominance in the air, land, maritime, and space domains; electromagnetic spectrum; and information environment (which includes cyberspace) that permits the conduct of joint operations without effective opposition or prohibitive interference. (JP 3-0)
- y. Simultaneity: The act of doing multiple things at the same time. The purpose of simultaneity during decisive action is to create multiple dilemmas that overwhelm an adversary or enemy's ability to effectively respond. (ADP3-0)
- z. C4ISR: Is a general military acronym that stands for Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance. (Used in U.S. Air Force doctrine, Annex 3-99, Department of the Air Force Role in Joint All-Domain Operations)
- aa. Artificial intelligence: Capability of computer systems to perform tasks that normally require human intelligence such as perception, conversation, and decision-making. (The U.S. Army Robotic and Autonomous Systems Strategy)

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bb. Machine learning: A statistical process that starts with a body of data and tries to derive a rule or procedure that explains the data or can predict future data. (“Preparing for the Future of Artificial Intelligence,” Executive Office of the President, National Science and Technology Council)

cc. Neural Networks: An approach to computational problem solving using a bottom-up methodology in building artificial intelligence (AI). Neural networks are designed to mimic the basic qualities of the human brain, which has an ability to continue functioning with noisy, contaminated, or incomplete information; has high fault tolerance; has highly developed pattern recognition; and has high adaptability to changing environments through learning. (CRM 96-68/July 1996, Land Warfare and Complexity, Part II: An Assessment of the Applicability of Nonlinear Dynamic and Complex Systems Theory to the Study of Land Warfare, Center for Naval Analyses)

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