



## CONCEPTUAL, ORGANISATIONAL AND RELATIONAL APPROACHES TO MULTI-DOMAIN OPERATIONS

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*Military changes and transformations over the past decade have highlighted the rise of competitive manifestations of state actors with complex global claims to counter the normal economic and military conduct of the world's greatest power. To this end, US military specialists have developed the concept of “Multi-Domain Operations (MDO)” to implement all the requirements of countering the complex competitive actions of US adversaries globally.*

*This study provides a theoretical approach with applied impact, specific to the military operational sphere, containing information and reference data, revealed in a logical structural flow, centred on conceptual, organisational and relational elements specific to Multi-Domain Operations designed and implemented by the armed forces of the United States of America. The objective of the study is to highlight, from a theoretical point of view, with practical implications and a focus on modernity, the effectiveness and operational efficiency of the military organizations formed to act to implement the MDO concept. This objective has led to the scientific analysis and interpretation of a relevant approach aimed at highlighting the role and importance of MDO, as well as the organisational structures suitable for the implementation of the concept for the purpose of decisional and actional strengthening of joint (assembled) forces operational in areas/theatres of operations on national territory or in the area of national and/or NATO interest. In addition, this research will increase the number of specialised sources that can be used for future research in this field of interest.*

*Keywords: AirLand Battle; Multi-Domain Operations (MDO); Adverse Anti-Access/Area Denial (A2/AD) Systems; Multi-Domain Task Force; MDO specific support;*



## INTRODUCTION

The meaning of the concept of *Multi-Domain Operations* is based on the doctrinal provisions of the US Army specific to the “*AirLand Battle*” in the 1980s to respond to the threats of the Soviet Red Army in the European theatre perimeter, centred on the C2 mechanism in order to defeat the opposing forces through specific joint manoeuvre actions of integrated forces in the two traditional physical domains, namely air and land (Diaz, 2021, pp. 92-94).

*Multi-Domain Operations* is a new concept, with roots in the past, expressing real ways of countering or defeating, competitively or conflictedly, a state adversary's forces in the 2025-2050 timeframe, at near parity levels with the US in the five key domains: air; land; maritime; space and cyber (Feickert, 2021). In this conceptual and actionable framework, real-world ways of working based on artificial intelligence (AI), machine learning, autonomy, robotics, standards and joint architectures are incorporated for the purpose of rapid decision-making in the aforementioned areas of operations (Feickert, 2022, p. 6).

Studies and analyses in recent years have highlighted that military operations set to be deployed today are not fully integrated in relation to their layering or synchronization. The explanation is that the leadership and execution structures with responsibilities in the space and cyber domains usually exist at the strategic (national) level while the planning and action subsystems specific to air operations are integrated at the operational (joint) level. Under these conditions, the proper integrated understanding of the action mechanism encompassing all domains cannot be effectively realised, resulting in C2-related shortcomings and hence the lack of agility required to synchronise effects (Nettis, 2020).

The demands of the joint warfare of the future inevitably require the design and conduct of multi-domain operations, primarily in view of the requirements of *land, sea and air space*, as well as those of the indispensable new domains of *cyber, informational and space (cosmic)*.

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Last but not least, the new domains in the organic *Multi-Domain Operations* concept have been integrated into NATO member states' militaries, with only the modalities of functional inclusion differing based on their own levels of operationalisation (Jones, 2020, pp. 1-3).

According to the concept of transformation of the US Joint Task Forces, based on the requirements resulting from the implementation of the *Multi-Domain Operations* concept, the foundation and implementation of a "*Project Convergence*" for the full functioning of the "*Joint All Domain Command and Control (JADC2)*" has moved forward. To this end, the Department of Defense (DOD) has developed and implemented a plan to procure and connect sensors and weapon systems (required by tactical and operational (joint) structures in the categories of land, air, naval, space and special operations forces) within a single network with enhanced speed and efficiency characteristics, proven by the actions in response to threats from competing state forces (China and Russia). In order to achieve the requirements of the MDO, the Army Futures Command (AFC) intends that "*Project Convergence*" will be implemented and applied on an annual basis by focusing on five essential pillars, namely "*soldiers, weapons systems, command and control, information and terrain*" (Feickert, 2022, p. 6)<sup>1</sup>.

In order to achieve the purpose of our scientific study we have specified as research directions: *determining the fundamentals of Multi-Domain Operations; identifying organisational and support elements specific to Multi-Domain Operations; analysing the implications of Multi-Domain Operations within NATO*. All this was the basis for both the creation of the appropriate scientific content of the study sections and the connections between them.

The need to obtain, analyse, evaluate and interpret the data and information necessary to construct a balanced and original work has led us to use the specific applications of observation, comparative analysis, evaluation, interpretation, induction and deduction. In this way, these methods have allowed us to obtain a study that is as up-to-date as possible, allowing those interested to understand MDO and even generate ideas for scientific research of further interest.

<sup>1</sup> See also *Project Convergence 2022*, <https://armyfuturescommand.com/convergence/#pc22>, retrieved on 12 September 2022 (the five pillars of project convergence are: people, information, terrain, weapons, command&control).

## MULTI-DOMAIN OPERATIONS GENERATED BY THE NEW GLOBAL MILITARY CHALLENGES AND THREATS

In the US military doctrine, the perspective predictable outlook of 2028-2035 and beyond is highlighted, the military of the world's largest military power will be prepared to confront challenging adversaries in military deterrence, with very high lethal potential, operating in unpredictable operational environments (US Army, *Army Concept for Maneuver in Multi-Domain Operations*, 2020). This causes appropriate solutions to respond to threats from large post-industrial powers (through asymmetric approaches and actions) to require evolved capabilities, which underpins the US Army's application of the *Multi-Domain Operations* concept-specific procedure (US Army, *Army Modernization Strategy: Investing in the Future*, 2019, pp. 1-12).

In relation to the notion of "*Multi-Domain Operations*", of particular interest are some historical landmarks about the concept applied in the past by the US Army (about fourteen years ago), called "*AirLand Battle*", which made the transition from limited (low-intensity) operations conducted by small tactical structures to large-scale (decisive high-intensity) operations involving forces of adequate size. Significant, therefore, are the years 1982, 1986 and 1993, when this concept emerged and was applied, then developed, and then became the doctrinal basis for US and NATO active defence actions in a potential large-scale armed conflict, based on the principles of warfare developed by Carl von Clausewitz, particularly "*initiative, agility and timing*". From the revealed practice, it appears that the "*AirLand Battle*" doctrine has been focused, in periods of applicability, on technologically evolved combat systems, rapid and integrated air and ground maneuver actions in the specific conditions of the extended battlefield (King, 2019).

The emergence and operational introduction of the *Multi-Domain Operations* concept is the subject of 2015, with the need for its usefulness reinforced in 2016, and then implemented in 2017, with significant differentiations from the previously applied concepts of "*AirLand Battle*" and "*Full-Spectrum Operations*" respectively (Ib.). The purpose of applying (where appropriate) the doctrinal



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According to the provisions of the National Defense Strategy, the United States of America is meant to compete fiercely in a global socio-economic and military environment characterized by greater complexity, volatility, and turbulence, which leads it to be prepared to conduct with its own and allied forces, rapid and simultaneous (multi-domain) operations in several contested areas, as well as to counter threats to US forces in the electromagnetic, informational, cognitive environments.

and methodological framework associated with *Multi-Domain Operations* is to counter the increasingly advanced capabilities of adversary actors directed at denying and disrupting the US military's own and allied forces, including their freedom and maneuverability to operate at long (extended) ranges in the *air, land, sea, cosmos (space)* and *cyber domains* (White House, 2022, p. 22). Moreover, the term represents an operational concept focused on the actions of existing and potential adversaries with evolved capabilities to challenge, deter, and harm US strategic interests around the globe (TRADOC, 2018, pp. 5-48).

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Conceptually, an *integrated domain* term *Multi-Domain Operations* is a critically important space intended to achieve broad maneuver by achieving access, freedom of action, and operational superiority as required by the mission received by the joint force (Reilly, 2018).

*Multi-Domain Operations* involve a complex actionable mechanism that integrates an optimal combination of projections and capabilities (at the strategic, operational or joint, and, to a lesser extent, at tactical levels) that must respond to decisions to establish feasible and rapid solutions to threats and actions affecting US security, following the rapid unfolding of decision processes to leverage (actionable) situations dependent on *time and distance* factors (*Army Multi-Domain Transformation Ready to Win in Competition and Conflict*, 2021, pp. 5-6).

To this end *Multi-Domain Operations* are based on new strategies and tactics driven by technological and digital transformations, with appropriate reconfigurations of the manoeuvre schemes of the joint forces involved, but also of the associated plans, programmes and action orders (Nettis, 2020).

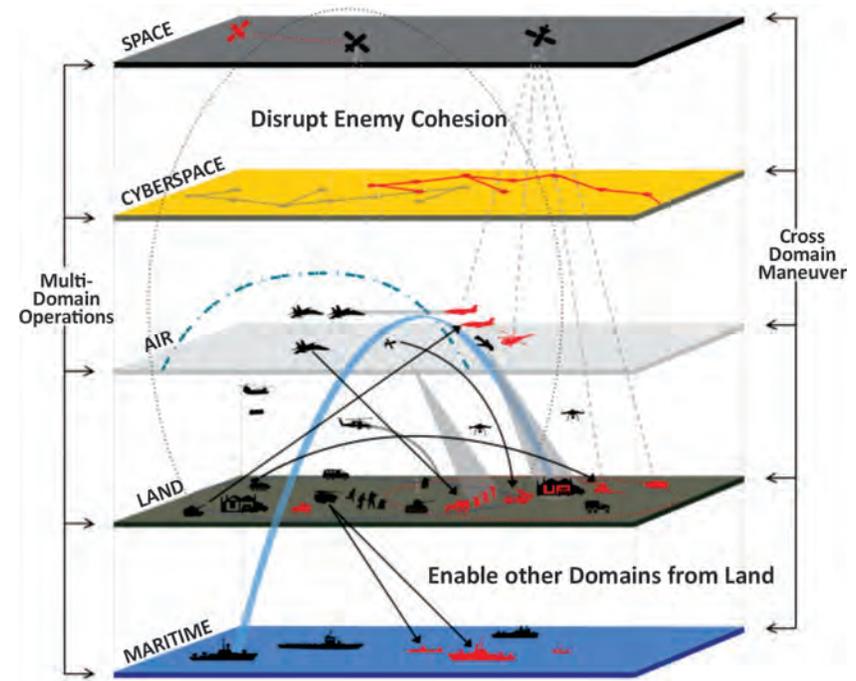


Figure 1: Overview of Multi-Domain Operations (America's Army: Ready Now, Investing in the Future, 2021, p. 6)

In our view, holistically, the effectiveness and efficiency of the MDO is given by the relational, integrative and complementary effect of the specific capabilities of the five domains thus:

$$MDO_E = f_H (LFC + AFC + NC + CC + SC),$$

where:

$MDO_E$  = MDO efficiency and effectiveness;

$f_H$  = holistic function given by the interrelation and integration of the domains;

LFC = land force specific capabilities;

AFC = air force specific capabilities;

NC = naval-specific capabilities;

CC = cyber-specific capabilities;

SC= space (cosmic) action force specific capabilities.

The above is shown in *figure 2*, where we summarise the combination of MDO components (domains) to achieve the *holistic effect* required by the joint/multi-domain force.



In order to operate efficiently and integrate properly in joint action processes, the (managerial and execution) structures that generate and conduct Multi-Domain Operations have at their disposal the most advanced technologies for the efficient and resilient realization of C2. Particularly relevant for this purpose is the Memorandum of Understanding (MOU) concluded between the US Army and their Air Force, called "Combined Joint All-Domain C2 (CJADC2)" (Gwon, 2021). Within this relational framework it was agreed that MDO-specific leadership processes would be based on the "C4ISR" system, under the name "multi-domain command and control or MDC", and "allied doctrine for joint all-domain operations (JADO)" (Diaz, 2021, pp. 92-94).

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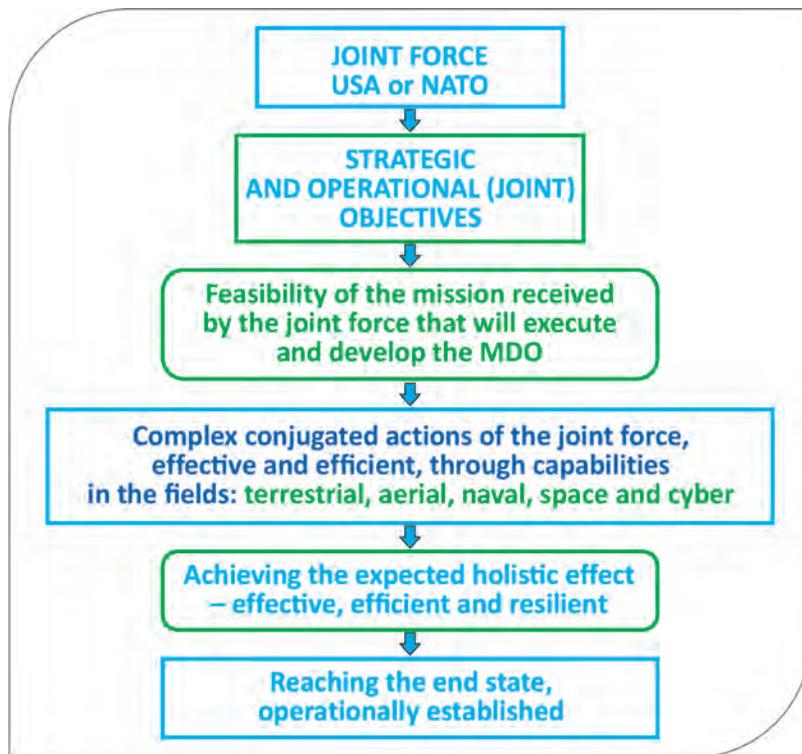


Figure 2: A view of the holistic effect of MDO

The actions specific to Multi-Domain Operations differ significantly from those once carried out under the concept of AirLand Battle. They mainly concern the organisation, preparation, provision of adequate logistic support, synchronisation and design of the joint force.



In this framework, the synchronisation of the planning and execution of military actions in several areas is dependent on the requirements of moving joint force structures over long distances, coupled with the need for rapid execution of manoeuvre in extended areas (theatres) of operations, according to the type of conflict and the configuration of the adopted combat posture (King, 2019).

Achieving the specific objectives of Multi-Domain Operations involves CFC ("Configured for Combat") structures and equipment designed to prepare and conduct rapid joint force design in theatre by applying resilience and appropriate risk management principles. In order to accomplish their missions, they will move rapidly to tactical staging areas, conducting pre-combat checks so that they can act immediately on the joint force commander's orders (Ib.).

### SPECIFIC ORGANISATIONAL AND SUPPORT APPROACHES TO MULTI-DOMAIN OPERATIONS

#### Organisational Elements

The MDO concept is intended to combine the complex and decisive efforts of the US military and joint forces to mitigate the manifestation of competing adversaries so that they are overcome through (cyclical) planning, rapid decision-making processes, and appropriate cognitive, physical, and virtual actions to deter, counter, and terminate operations or operations of a violent nature and to decisively defeat enemy forces when limited or extended armed conflict cannot be avoided. The implications of MDO cover all specific aspects of political, economic, doctrinal, strategic, operational and tactical military leadership. To this end hierarchical military leaders and led organisations require adequate training, operational experience, equipment, modern combat systems and actionable logistics to accomplish their assigned missions through timely, simultaneous, sequential and integrated execution of operations specific to all domains (Holshek, 2020).

According to doctrinal provisions and assertions of North American military experts, for the implementation of the MDO, categories of armed forces and joint bodies (structures) of the USA are involved. For example, for the disablement of adversary anti-access/area denial

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The MDO's purpose, objectives and strategy and the ways to achieve them are based on rapid technological developments in conjunction with the nature of the military threat, differentiated globally according to the specific command area of the two possible theatres of operations, with commands and force packages established for both Europe (The United States European Command – USEUCOM) and the Indo-Pacific (United States Indo-Pacific Command – USINDOPACOM).

A2/AD systems<sup>2</sup>, US military operational organizations (multi-domain forces and formations) act (according to the principle of freedom of maneuver) to achieve those successful strategic objectives, which will allow them to return more favorably in the competitive process (figures 3 and 4).

Thus, the multi-domain structures formed have adequate potential, revealed by those capabilities, agility and resilience needed to operate multi-domain at strategic distances against the forces and means of an adversary considered approximately equal. It requires the achievement of convergence objectives that call for rapid actions of immediate and continuous integration of all the capabilities specific to the established domains, under the conditions of ensuring an electromagnetic spectrum and information environment – easy to optimise the superiority action effects on the enemy's actual and potential manifestations. To this end, synergistic and complementary inter-domain options/actions (considering multiple forms of operation) will be materialized by the army command and/or multi-domain joint force under conditions of coherence, discipline, collaboration etc., according to the requirements established to achieve the optimal end-state parameters (Savin, 2022).

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In order to fulfil the mission requirements of a joint force operating in one of these two theatres of operations, a *Multi-Domain Task Force (MDTF)* – a brigade-sized structure that can operate simultaneously for thousands of miles (*Army Discloses Hypersonic LRHW Range Of 1,725 Miles; Watch Out China, 2021*), in multiple sustained phases

<sup>2</sup> It is the defensive device or strategy used to prevent, slow, restrict or endanger an adversary's forces acting to occupy or cross an area in land space, maritime or air space of interest.



of a major conflict, is intended to be variably organized, manned and framed (according to joint situation and action design) seamlessly integrated, functionally and continuously served by specialized intelligence, information, cyber, electronic warfare, and cosmos or space specific protection and action structures (12 CEWS), as well as long-range (lethal and non-lethal precision) strike capabilities in conjunction with multi-role platforms (*America's Army: Ready Now, Investing in the Future, 2021*) (figure 3).

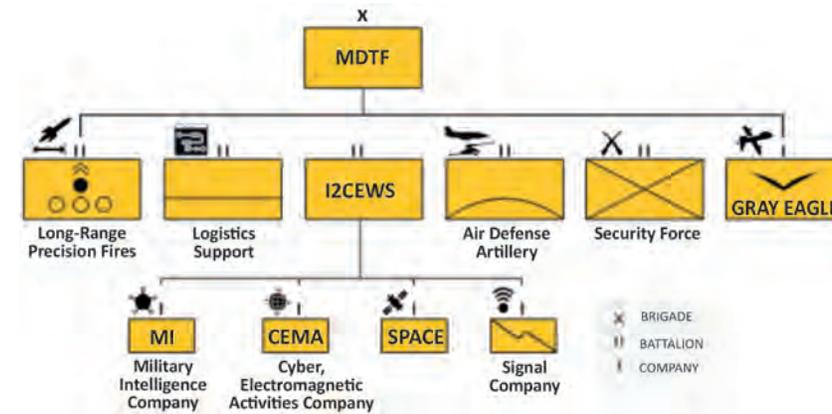


Figure 3: A Multi-Domain Operational Group (MDTF) (a variant) (*America's Army: Ready Now, Investing in the Future, 2021, p. 6; FM 1-02.2 Military Symbols, 2020*)

Legend:

- MDTF/BDE = Multi-Domain Task Force/BDE;
- Long-Range Precision Fires Battalion;
- 12 CEWS = Intelligence, Information, Cyber, Electronic Warfare, and Space Battalion;
- Air Defense Artillery Battalion;
- Security Force Battalion;
- "Gray Eagle" Unmanned Aircraft Structure;
- MI = Military Intelligence Company;
- CEMA = Cyber Electromagnetic Activities Company;
- Space Company;
- Signal Company.



In accordance with planned and programmed strategic and operational options, in 2017, the first joint force integrated MDTF was experimentally formed, based in Lewis-McChord, Washington. It was tasked to actively participate in several experiments and exercises for functional testing of specific capabilities, as well as to develop the potential and requirements suitable for joint force design. In keeping with the stated purpose for the establishment of an MDTF and its complex action within the joint force, as established, it must essentially enable: ensuring the maintenance and gaining of initiative with US adversaries and supporting the rapid transition to the crisis or conflict state; providing (flexible and effective) decisional and actional possibilities for response during a crisis for the joint force commander to deter the opposing forces and shape the operational environment (for the success of own forces); neutralising the A2/AD adversary's systems and networks during the emergence and conduct of a conflict so that the freedom of action of the joint force structures is ensured (Feickert, 2021).

Until contact is made/resumed with adjacent and supporting structures, multi-domain military organisations are self-sustaining and protect themselves through their own organic capabilities. Thus, some capabilities at their disposal would be: existence of sufficient electromagnetic facilities, redundant channels necessary to ensure augmented and resilient communications against adverse interference actions; reduced logistical support needs; high capabilities to perform medical care; existence of multiple support networks; robust capabilities to support multi-domain maneuver and operational functionalities (TRADOC, 2018, pp. 19-20).

During April 2021, the US Army revealed the functionality of an "EUCOM's Multi-domain task force" as well as a "Theater Fires Command" (intended to control and coordinate the mentioned structure by launching fires), which were deployed in the Wiesbaden area of Germany (Reorganization Plan of United States Army, 2022). At the same time, after the analysis of the functional value found during the complex exercises, in order to provide the immediate appropriate action response to a competitive adversary, USINDOPACOM requested 2 MDTFs, so they were made available during the summer of 2021

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(the first) and during the fall of 2022 (the second) (America's Army: Ready Now, Investing in the Future, 2021, p. 6) Furthermore, the US Army have made available (or are in the process of finalising this process) specific joint forces of "MDTF for the Arctic and 1 MDTF for global response" (figure 4), tailored (each) to operational requirements (Reorganization Plan of United States Army, 2022).

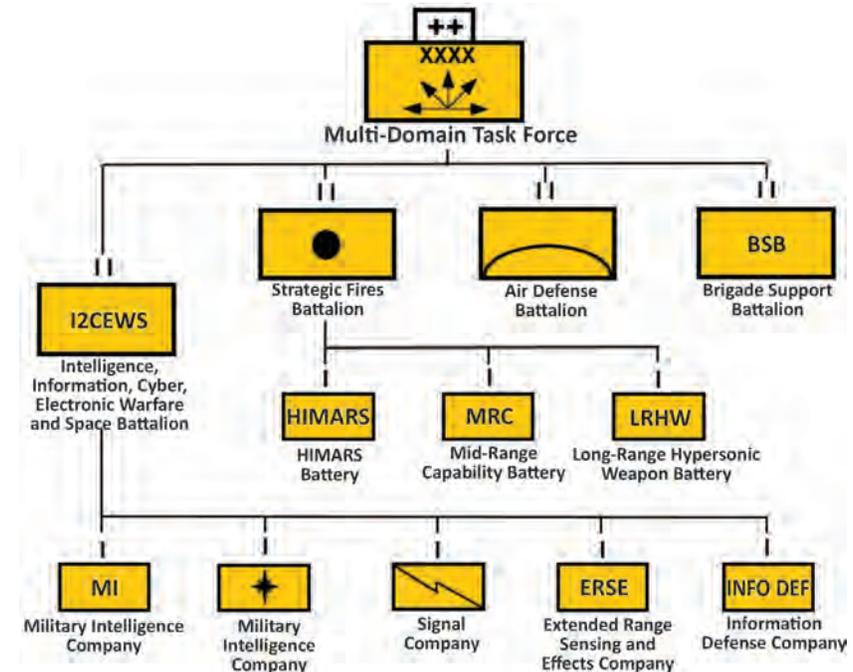


Figure 4: A generic model of MDTF organization for joint operational theater (US Army, 2021. Army Multi-Domain Transformation Ready to Win in Competition and Conflict, p. 12; FM 1-02.2 Military Symbols, 2020)

Legend:

- Multi-Domain Task Force/Div.;
- Intelligence, Information, Cyber, Electronic Warfare, and Space Battalion (12 CEWS);
- Strategic Fires Battalion;
- Air Defense Battalion;
- BSB = Brigade Support Battalion;
- HIMARS Battery;
- MRC = Mid-Range Capability Battery;
- LRHW = Long-Range Hypersonic Weapon Battery;



- MI = Military Intelligence Company;
- Signal Company;
- ERSE = Extended Range Sensing and Effects Company;
- INFO DEF = Information Defense Company.

Given the role of MDTFs for operational modernization, it is obvious that they are very important for the joint force both through maneuver and precision timing of actions and effects following the execution of precision strikes at particularly long ranges to neutralize (or mitigate the effects of) A2/AD networks of opposing forces in all areas. To this end, MDTFs are and will be sized and tailored (at joint and strategic theatre levels) to enable joint (supported) force commanders enhanced opportunities to plan, integrate, act, control, monitor and evaluate the effectiveness of (joint) capabilities against A2/AD systems (networks) (*Army Multi-Domain Transformation Ready to Win in Competition and Conflict*, 2021).

In line with the operational entities highlighted in figures 3 and 4, the beneficial functionality of MDTFs is given by the *joint functions of effects, fires, protection and sustainment*. Organisationally, although MDTFs have elements of similarity, each MDTF organically comprises those specific organisational structures appropriate to maximise their value for the area of operations in which they will operate, as decided by the joint force commander (McEnany, 2022). From our point of view, it therefore follows that MDTFs will be functionally related, in the integrative actional process, to the other structures of the joint force in order to achieve positions of advantage, relative to those of the adversary, assigned to the operational end state at the area of operations or theatre level.

#### Particularities in Supporting the Joint Force and Its MDTFs

In order to achieve the actionable objectives determined by the requirements of *Multi-Domain Operations*, joint efforts to extend the operational reach, resilience and freedom of action for US joint forces have been ongoing and continue. This requires particularly significant resources and efforts, primarily aimed at: *the development of modern military bases to support theatres of operations, to ensure the necessary*

*power projection at all times and to respond decisively in crisis or conflict situations; the development of resilient theatre architecture with additional facilities (such as: C2; appropriate network infrastructure; "Army Prepositioned Stocks-APS"; secret locations (caches) suitable for rapid combat power projection and sustainment, also hosted by participating partners and/or allies with capabilities at the established joint force (US Army, Army Multi-Domain Transformation Ready to Win in Competition and Conflict, 2021, pp. 17-22).*

Assured Rapid Power Projection (ARP) appropriate for military engagement in complex operations requires the implementation of the necessary components of force projection, i.e. the conduct of specific actions: *mobilisation; effective projection; sustainment of operations*. Therefore, the rapid projection of the joint force set to be engaged in *Multi-Domain Operations* is directly dependent on the resilient capabilities and facilities (of the military) made available in a timely manner, respectively: *Power "Projection Platforms" (PPPs); "Mobilization Force Generation Installations" (MFGIs); "Military Ocean Terminals" (MOTs); "Army Prepositioned Stocks" (APS); and "Supporting Commercial Facilities" (SCFs)*, including power sources and resilient capabilities of strategic embarkation/embarkation ports (lb.). According to military experts, the multi-domain joint force will proceed to consolidate the advantages of self-sustaining power during the execution of missions based on the establishment and use of new structures, formations and capabilities comprising human resources (leaders, chiefs and high-performance soldiers), adequate sources and materials, as well as positional advantages, compared to the potential of the adversaries (Ib., p. 19). (*figure 5*).

In line with the directions established for the design, implementation and development of multi-domain task forces at the level of the bodies with responsibilities in this sphere in the USA and NATO, competencies and responsibilities are established to provide the necessary logistic support for the combined and high-performance operation of new technologies and complex multi-functional systems to achieve the expected holistic effect of MDO in joint operations planned and executed by Alliance task forces (Col. McCoy E.A., 2021, pp. 22-27).



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In 2022 (February-March), the NATO Military Committee (through its organic structures) held discussions with specialists and experts from the armed forces of the Alliance member states with a view to achieving conceptual uniformity on Multi-Domain Operations within the framework of the appropriate process of integration and functional corroboration with diplomatic, informational and economic instruments, in order to increase the Alliance's operational power mechanism in the future.

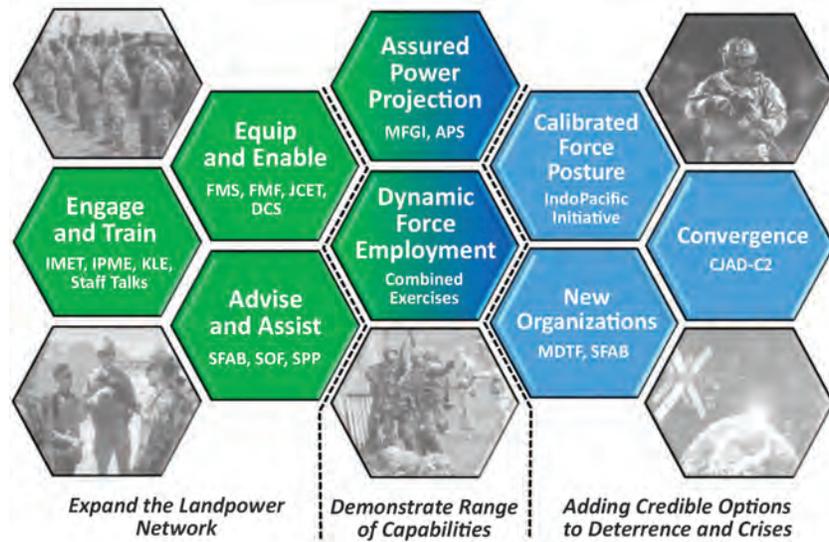


Figure 5: Elements of gaining relative positional advantage in Multi-Domain Operations (Ib.)

**Legend:**

- Engage and Train;
- Equip and Enable;
- Advise and Assist;
- Assured Power Projection;
- Dynamic Force Employment;
- Calibrated Force Posture;
- New Organizations;
- Convergence CJAD-C2 = Combined Joint All Domain Command and Control;
- Expand the Landpower Network;
- Demonstrate Range of Capabilities;
- Adding Credible Options to Deterrence and Crisis.

**ELEMENTS OF MULTI-DOMAIN OPERATIONS WITHIN NATO**

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instruments, in order to increase the Alliance's operational power mechanism in the future. At the same time, taking into account the evolution of the conflict in Ukraine, several lines of action have been established towards an adequate convergence of mental and cognitive training with the development of practical exercises in the sphere of *Multi-Domain Operations*, to be conducted in a phased manner by North Atlantic Alliance forces (*Multi-Domains Operations Conference – What We Are Learning*, 2022).

Concerning the establishment and integration of MDO bodies into NATO forces, this involves (for member nations) a series of joint actions aimed mainly at: *reviewing the resources of each national defence system with a view to identifying, procuring and optimising the capabilities needed to establish appropriate MDO structures (by echelons, according to new operational requirements) and integrating them into the planning and execution of future joint military exercises; adequate training for the conduct and execution of specific MDTF operations, taking into account the importance of the MDO discipline to be taught in courses for the further training of senior military personnel (inside or outside the NATO member state, according to Alliance collaborative formulas); integration and use of sensors installed on technical and weapon systems for decision making, control and monitoring of precision strike delivery (according to the US military model); continuous updating of national capability catalogues in the light of the specificity of each NATO member country's armed forces and performance requirements appropriate to the equipment and weapon systems to be procured and used; expansion of doctrinal updates, awareness of the importance and effectiveness of MDO and extensive and continuous training of personnel for these complex operations; involvement of representatives of national defence industries (from Alliance member states), scientists and business in specific actions of this transformation process, related to the implementation of MDO, in order to achieve future success of the armed forces by substantiating, making and developing certain (national) decisions of high joint operational and action value* (Palavenis, 2022).

Currently in both the UK and Germany, defence decision-makers are focusing on identifying, testing, experimenting, developing and deploying modern MDO-specific capabilities in a high-performance manner. In this specific framework of complex research in military

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operational technology, following the unfolding of the conflict in Ukraine, with multiple implications for the realisation of new innovations to be applied for the operationalisation of MDO, the procurement of advanced weapon systems and combat equipment with extensive digital, automated and robotic functions, functionally corroborated with modern IT capabilities, sensors, artificial intelligence etc. is (further) envisaged (TRADOC, 2017, pp. 5-17).

Increasing threats to NATO’s European space have prompted German and Dutch authorities (under Alliance coordination) to reorganise and modernise the German-Dutch Corps (GE/NL, established in 1995) in line with the requirements driven by the implementation of MDO (in conjunction with MDO capabilities deployed by the US Army in Alliance member state Germany) to conduct and execute extended operations against an adversary’s (equivalent or inferior) forces (figure 6). The purpose of this transformation was based on the Alliance’s core objectives of deterring and defending the Euro-Atlantic area, as set out in Article 5, in the event of the emergence and manifestation of a major conflict. At the same time, according to the options of the competent NATO bodies, the Corps (GE/NL) will have to meet all the conditions so that it can be effectively employed from 2023 as an operational (combat) corps and also as the land component of the NATO Response Force (NRF) (Marlow and Blythe, 2022, p. 2).

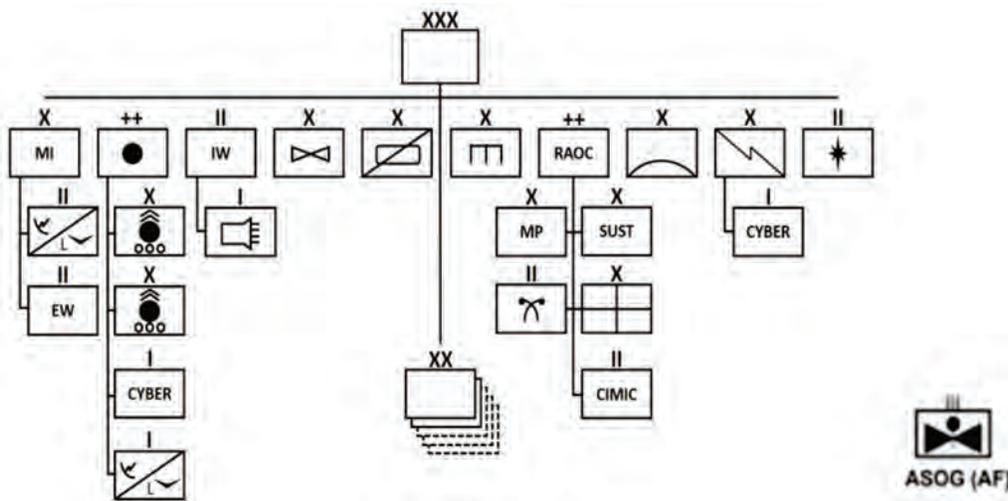


Figure 6: Scheme of the 1 (GE/NL) Corps Structure (Marlow and Blythe, 2022, p. 3; Palavenis, 2022; APP-6, 2017, NATO Joint Military Symbolology)



Notes

- a) “Ideally, a NATO corps capable of conducting multi-domain operations within the Euro-Atlantic area includes the following:
- 2 to 5 divisions
  - 1 military intelligence brigade
  - 1 intelligence, surveillance, and reconnaissance (ISR) battalion equipped with unmanned aircraft systems (UAS) and unattended ground sensors (UGS)
  - 1 electronic warfare battalion
  - 1 corps fires command
  - 2 long-range artillery brigades
  - 1 cyber company
  - 1 ISR/targeting battery equipped with UASs and UGSs
  - 1 aviation brigade
  - 1 armored reconnaissance and surveillance brigade
  - 1 information warfare battalion
  - 1 psyops company
  - 1 engineer brigade (including chemical, biological, radiological, and nuclear [CBRN] capacity)
  - 1 air defence brigade
  - 1 signal brigade with a dedicated cyber defense organization
  - 1 rear area operations command
  - 1 sustainment brigade
  - 1 medical brigade
  - 1 military police brigade
  - 1 CBRN defense battalion
  - 1 civil affairs battalion with a political liaison team
  - 1 space battalion (includes high altitude companies for use as ISR or signal platforms)
  - Other forces may be assigned, attached, under operational control to give the corps additional capabilities) or additional capacity”.

The scheme also provides for 1 ASOG (Air Support Operations Group).

- b) “This structure is detailed in the 1 (GE/NL) Corps discussion paper, 1 (GE/NL) Corps as a Warfighting Corps (7 April 2021) and was validated through the Quick Rider series of exercises and studies conducted by this”.



*In modern warfare, the successful implementation of specific MDO objectives is dependent on a combination of factors including: rapid technological innovation and development; a highly trained human resource able to act effectively in accordance with new requirements; the ability of commanders and planners to decide and design dynamic, sustained and victorious operations; efficient and resilient logistic structures.*

In the context of achieving performance-based operational goals, military experts are of the opinion that, to this end, the standardisation and implicit interoperability goals specific to MDO within NATO must be achieved (Palavenis, 2022). According to our assessment, this requires that in the process of implementing the MDO concept within the Alliance, actions of cohesion, commitment, investment in modernisation through the acquisition of advanced and compatible technological systems, adequate training of committed human resources, efficiency and convergence in continuous adaptation to future military challenges and threats are evident.

Together with other NATO armies, our army has already established priority directions and allocated adequate resources, necessary for future development, to achieve continuous operational modernization in the fields of action of the joint force (land, air, maritime and cyber), according to the requirements of the evolved battlefield (both in terms of highly technological equipment and the level of training of combat structures in all categories of armed forces), taking into account the requirements of the MDO.

## CONCLUSIONS

The role and importance of MDO is precisely the potential for operational leaders to plan and implement multiple options for rapid execution of all (domain-specific) operations in order to deter and/or achieve success in a conflict with a (competitive) adversary as a result of the appropriate facilities available to immediately exploit land, air, sea, cyber and space (cosmic) capabilities.

In modern warfare, the successful implementation of specific MDO objectives is dependent on a combination of factors including: rapid technological innovation and development; a highly trained human resource able to act effectively in accordance with new requirements; the ability of commanders and planners to decide and design dynamic, sustained and victorious operations; efficient and resilient logistic structures able to provide combatant organisations with the resources and services needed to sustain and regenerate the operational effort in a timely manner.

In order to achieve the required success, organisations designed to meet MDO requirements will employ the specific capabilities of each operational domain (land, sea, air, cyber and space) in dynamic,

effective, efficient and synergistic actions, while exploiting the weaknesses and vulnerabilities of opposing forces.

Structures specialised in planning and conducting specific MDO actions therefore have (and will have) those facilities that amplify ground power, which obviously creates asymmetric advantages for the components of their own joint force through communications, rapid and protected manoeuvre, increased potential to strike from a long distance etc. In this framework, the resilience of MDO forces will be ensured by the combination of mobility, cover, operational concealment and deception of the adversary's (aggressive) fighting structures. All this will lead to increased flexibility and agility both in planning and in preparing and conducting joint operations, precisely because of the facilities offered by organisations specialising in implementing MDO requirements.

In view of the initiation, development and evolution over time of the conflict in Ukraine, the need for multi-domain operational structures and the efficiency of the use of high-profile means (equipment and high-performance weapons systems) donated by economically and militarily developed Western states is obvious. This explains even more the meaning of the evolution of the further implementation of the MDO concept within the joint forces of the US and implicitly NATO.

## BIBLIOGRAPHY:

1. LTC De Leon, D.J. (2021). *United States Air Force Transformation Delivery Division NATO*. Joint Warfare Centre. *Understanding Multi-Domain Operations in NATO*. The Three Swords Magazine, 37/2021, pp. 92-94.
2. Feickert, A. (2021). *Defense Primer: Army Multi-Domain Operations (MDO)*. Congressional Research Service, 22 October 2021, <https://sgp.fas.org/crs/natsec/IF11409.pdf>, retrieved on 20 May 2022.
3. Feickert, A. (2021). *The Army's Multi-Domain Task Force (MDTF)*. In Congressional Research Service, <https://crsreports.congress.gov/>, retrieved on 30 May 2022.
4. Feickert, A. (2022). *The Army's Project Convergence*. Congressional Research Service, June, <https://crsreports.congress.gov/product/pdf/IF/IF11654/6>, retrieved on 5 June 2022.
5. Freedberg, Jr. S.J. (2020). *Army Rebuilds Artillery Arm for Large-Scale War. The service's new AimPoint plan builds very different forces for Europe and the Pacific-but new high-level artillery HQs are central to both*, <https://breakingdefense.com/2020/04/army-rebuilds-artillery-arm-for-large-scale-war/>, retrieved on 23 June 2022.



6. Gwon, Y.S. (2021). *Operationalizing Joint All-Domain Transformation*, 26 May 2021, <https://www.ausa.org/publications/operationalizing-joint-all-domain-transformation>, retrieved on 13 July 2022.
7. Col. Holshek, C. (USA Ret.) (2020). *Expanding Multi-Domain Operations to Win Moral Competition*. Association of the United States Army, 19 August 2020, <https://www.ausa.org/publications/expanding-multi-domain-operations-win-moral-competition>, retrieved on 20 July 2022.
8. Col. Jones, A.M. (United States Army) (2020), LTC De Leon, D.J. (United States Air Force). *Multi-Domain Operations. Awareness continues to spread about the importance of operating in multiple domains*. The Three Swords Magazine, no. 36, pp. 1-5.
9. Col. King, S. (US Army Ret.), Maj. Boykin, D.B. IV (US Army Ret.) (2018). *Different Doctrine: Why Multi-Domain Operations Isn't AirLand Battle National Defense Strategy of The United States of America: Sharpening the American Military's Competitive Edge*. Washington D.C.: Office of the Secretary of Defense, pp. 1-3.
10. Col. King, S. (US Army Ret.), Maj. Boykin, D.B. IV (US Army Ret.) (2019). *Different Doctrine: Why Multi-Domain Operations Isn't Air Land Battle 2.0*, Association of the United States Army. Wednesday, <https://www.ausa.org/articles/distinctly-different-doctrine-why-multi-domain-operations-isn%E2%80%99t-airland-battle-20>, retrieved on 25 July 2022.
11. LTG Marlow, A. (German Army), LTC Blythe, C.W. jr. (US Army) (2022). *Multi-Domain Warfighting in NATO The 1 German-Netherlands Corps View*. Military Review Online Exclusive, pp. 2-3.
12. Col. McCoy, E.A. (2021). *Developing Logistics Leaders for the Multi-Domain Environment*. Army Sustainment, vol. 53, no. 2, pp. 22-27.
13. McEnany, C. (2022). *Multi-Domain Task Forces: a Glimpse at the Army of 2035*. Association of the United States Army.
14. Minculete, Gh. (2023). *Determinări relaționale privind modernizarea logisticii operaționale*. Sibiu: Techno Media.
15. Maj. Nettis, K. (USAF). (2020). *Multi-Domain Operations: Bridging the Gaps for Dominance*. US Air University, <https://www.airuniversity.af.edu/Wild-Blue-Yonder/Article-Display/Article/2109784/multi-domain-operations-bridging-the-gaps-for-dominance/>, retrieved on 29 June 2022.
16. Maj. Nettis, K. (USAF). (2020). *Multi-Domain Operations: Bridging the Gaps for Dominance*. US Air University, <https://www.airuniversity.af.edu/Wild-Blue-Yonder/Article-Display/Article/2109784/multi-domain-operations-bridging-the-gaps-for-dominance/>, retrieved on 30 July 2022.
17. Maj. Palavenis, D. (2022). *Options for Small NATO Countries to Prepare for Multi-Domain Operations*. Small Wars Journal, 16 June 2022.

18. Reilly, J. (2018). *OTH Video: Beyond the Theory-A Framework for Multi-Domain Operations*, 13 April 2018.
19. Savin, L. (2022). *Key US Military Concepts*, USA, <https://katehon.com/en/article/key-us-military-concepts>, retrieved on 9 July 2022.
20. APP-6 (2017). *NATO Joint Military Symbolology*. D Ed., NATO STANDARDIZATION OFFICE (NSO): NATO/OTAN.
21. *Army Discloses Hypersonic LRHW Range Of 1,725 Miles; Watch Out China* (2021), <https://breakingdefense.com/2021/05/army-discloses-hypersonic-lrhw-range-of-1725-miles-watch-out-china/>, retrieved on 14 May 2022.
22. *America's Army: Ready Now, Investing in the Future* (2021), [https://www.army.mil/e2/downloads/rv7/about/usarmy\\_fy19\\_21\\_accomplishments\\_and\\_investment\\_plan.pdf](https://www.army.mil/e2/downloads/rv7/about/usarmy_fy19_21_accomplishments_and_investment_plan.pdf), p. 6, retrieved on 17 May 2022.
23. FM 1-02.2. *Military Symbols* (2020). Field Manual. Headquarters Department of the Army: Washington.
24. *Multi-Domains Operations Conference – What We Are Learning* (2022), <https://www.act.nato.int/articles/multi-domains-operations-lessons-learned>, retrieved on 27 August 2022.
25. *Reorganization plan of United States Army* (2022), [https://military-history.fandom.com/wiki/Reorganization\\_plan\\_of\\_United\\_States\\_Army](https://military-history.fandom.com/wiki/Reorganization_plan_of_United_States_Army), retrieved on 3 August 2022.
26. TRADOC (2017). *Multi-Domain Battle: Evolution of Combined Arms for the 21<sup>st</sup> Century 2025-2040*, pp. 1-3; 5-17.
27. TRADOC (2018). *Army in Multi-Domain Operations 2028*. US Army Training and Doctrine Command, 6 December 2018, pp. 5, 19-20, pp. 5-48.
28. US Army, Headquarters, Department of the Army (2021). *Army Multi-Domain Transformation Ready to Win in Competition and Conflict*, pp. 5-6, 12, 17-22.
29. US Army Futures Command (2020). Department of the Army Headquarters, Military Operations. *US Army Concept for Maneuver in Multi-Domain Operations*, pp. 5-14.
30. US Army. (2019). *Army Modernization Strategy: Investing in the Future*, pp. 1-12.
31. White House (October 2022). *National Security Strategy*. Washington.