

This article will revisit the origin of the term multi-domain operations, expand on NATO's current outlook on the concept, and explain the Joint Warfare Centre's (JWC) approach to implementing the concept into our exercises. The article was written in response to a growing interest in the topic among NATO stakeholders, including Headquarters Supreme Allied Commander Transformation (HQ SACT), after the publication of the previous article on multi-domain operations in the JWC's November 2020 issue of The Three Swords magazine.



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UNDERSTANDING MULTI-DOMAIN OPERATIONS IN NATO



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Photos by NATO



THE MULTI-DOMAIN APPROACH



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Genesis of Multi-Domain Operations Reviewed

The term multi-domain operations (MDO) was first used in the United States Army in 2018 as a national doctrinal concept. The term was mainly used to optimize ground combat power at the operational and tactical levels. The concept of multi-domain operations builds on the 1980s U.S. Army doctrine "Air-Land Battle", which was defined in an answer to the threat posed by the Soviet Red Army in the European theater. In either case, the challenge for the U.S. Army remained that of command and control (C2) of forces to defeat an enemy of the scale of the Soviet Red Army by integrating itself into the joint fight across the traditional physical maneuvering domains of air and land.

Eventually, the concept of multi-domain battle was established as a spiritual successor to Air-Land Battle. By 2018, "battle" was replaced with "domain", as this was more in line with how the Army envisioned joint warfighting.

By bringing to bear all of the firepower, the U.S. military could regain superiority in an ever more complex world. In other words, although the U.S. Army chose a different term for multi-domain battle, the idea remained the same as that of multi-domain operations: how does the U.S. Army integrate its ground combat power into the joint fight against highly capable near-peer adversaries?

Today, the MDO deals with the threat from the latest commercial technology and leveraging the same, as well as the most advanced technology, to improve command and control

of forces. This new threat is at the heart of the new Memorandum of Understanding between the U.S. Army and the Air Force, developed under the name Combined Joint All-Domain C2 (CJADC2).² For the U.S. Air Force, tackling the challenges of multi-domain operations is to be conducted through means of the best command, control, communications, intelligence, surveillance, and reconnaissance systems, that is, C4ISR, under the label of multi-domain command and control, or MDC2, and doctrinally as joint all-domain operations (JADO).

For the U.S. Joint Staff, the on-going effort to develop joint all-domain command and control (JADC2) integrates service initiatives such as MDC2, and the aforementioned CJADC2, into a joint effort to connect all the joint staff services.



Outside the U.S. military, specifically in NATO, the term MDO is more generic, and it is obvious that it means different things to different nations. There are also related concepts, such as the multi-domain combat cloud, which attempts to create a connection between manned and unmanned platforms and artificial intelligence (AI) support.³

Regardless of how the term MDO is used in NATO, or in the U.S. military, we may underscore a common theme. That theme is the desire by Allies and partner nations to keep up with, and stay ahead of, the challenge imposed by complex future warfare, through harnessing technology. The different interpretations and applications of the term MDO are a continuation of an idea as old as Sun Tzu that says to win the fight before it begins. This is why monitoring and countering commercial technology used by NATO's competitors is a must.

That being said, mastery and improvement of newer science, particularly information technology, must not happen at the expense of the art of command and control. Whatever technology does for blue forces, and whatever blue forces know about red threats and technology, a joint force commander will have to bring it all together.

How Does NATO View MDO?

The challenge in NATO lies in achieving joint proficiency across its headquarters. The challenges that traditional physical domains of air, land, and sea present to command and control are difficult enough, especially as SHAPE increasingly participates in the JWC-directed exercises as a strategic-level NATO headquarters, arbitrating and adjudicating precious finite resources between multiple operational-level NATO joint commanders.

Significantly, HQ SACT held warfare development talks specifically on the subject of MDO in June this year. The talks were held with syndicates whose output aligned with the new NATO Warfighting Capstone Concept (NWCC), as well as the new Concept for Deterrence and Defence of the Euro-Atlantic Area (DDA). During these talks, the JWC leadership emphasized the need for terminological clarity concerning MDO.

NATO needs a Bi-Strategic Command commitment to terminological clarity, as well as resourcing, which would facilitate joint operations in the space and cyber domains. Just as a joint force commander should have a subordinate joint force air component commander,

perhaps a joint cyber or space component might be a way to enhance Allied joint ability to conduct multi-domain operations. However, maybe not by owning a capability, as space and cyber capabilities are nation-dependent, but at least by identifying joint force commander requirements for operating in those domains.

Ultimately, implementing multi-domain operations, however eventually defined, concerns the whole of NATO. The challenge is to bring together information to the decision-makers, preferably in concert with newer technology, which would facilitate their decision-making. The better joint operations are led and executed, the better Allied forces within the NATO political framework can operate in all domains. Direction and guidance from our civilian political leaders is the beginning, but they must also have a common understanding of terms, which should be NATO-agreed in their definition.

Therefore, a draft definition of domain and multi-domain operations is fundamental. Having a common understanding of the theme of countering the proliferation of new commercial technology, while simultaneously improving interoperability, would also develop NATO's warfighting capability in the spirit of the NWCC and DDA.

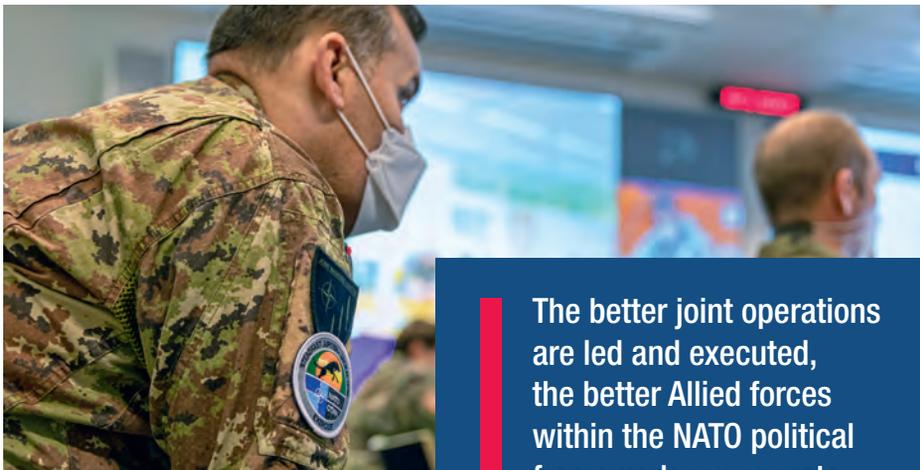
The JWC, in this sense, is a good testbed for the experimentation and implementation of any forthcoming NATO concepts for MDO.

The JWC's Integration of MDO

The JWC stands ever ready to assist with the delivery of tailored exercises to implement, and experiment with, the simulated conduct of operations in multiple domains. Compared to a national military exercise, where defeating another nation's military to achieve a specific military end-state in support of a national strategy is the norm, the JWC-directed exercises have a more comprehensive aspect.

The exercise scenarios incorporate operational dilemmas resulting from realistic political, economic, social, and cultural considerations and end-states. The Centre's joint, operational-level exercises incorporate the traditional physical domains, and the newer NATO recognized domains of space and cyber to collectively train joint commanders and their staff members in relevant command and control in joint operations.

BELOW: The JWC is NATO's premier training establishment at the operational and strategic levels. Photo by JWC PAO.



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Joint Intelligence, Surveillance and Reconnaissance (JISR)

Alliance Future Surveillance and Control

NATO Airborne Early Warning and Control

National Capabilities

Alliance Ground Surveillance



Photo by Forsvaret

“Once, MDO is defined in NATO, the JWC can look at **how to best implement them** in a setting, scenario, and content, for our **world-class comprehensive exercises.**”

Any staff officer in the joint headquarters of the NATO Command Structure or NATO Force Structure understands the complexity of command and control of forces to achieve an operational end-state in line with Allied strategic objectives. If you take a com-

mander or staff officer in the Allied Joint Force Command Brunssum and put them in NATO Rapid Deployable Corps-Spain, or vice versa, the officers would be able to work together effectively by speaking the same operational language. This is what the JWC can continue to provide for the Alliance in a comprehensive manner, while still addressing the challenges presented by the various concepts of multi-domain operations. The JWC does this thanks to clarity in its foundational documentation, the Bi-Strategic Command on Collective Training and Exercise Directive 75-3, the Allied Joint Publications, and the Allied Administrative Publication (AAP)-6 NATO Glossary of Terms and Definitions. In other words, terminological clarity is necessary.

Thus, MDO in NATO requires a top-down definition for the best implementation. Until this is achieved, the JWC exercises and the real-world NATO operations will continue to meet the challenges in a world where the harsh realities do not stand still. Likewise, military officers will continue their rotations in, and joint operations will always be needed, preferably creating training exercises with no-win Kobayashi Maru-like scenarios.⁴

In JWC-led exercises, a joint force commander faces operational dilemmas, which bring together all of his joint forces in a manner that addresses the operational challenge at

hand. This is harder than it looks to a person without experience in joint operations, especially in an international alliance. For anything NATO might define as multi-domain operations, our current five domains recognized in NATO is a starting point.

Once, MDO is defined in NATO, the JWC can look at how to best implement them in a setting, scenario, and content, for our world-class comprehensive exercises.

For now, as my previous article on MDO has reinforced exchanging ideas with ACT and Allied partners, it becomes necessary to implement the results from the discussions into the JWC-directed exercises. Should the unthinkable happen, it will be even more necessary for Allied military leaders to understand joint operations, how best to plan and conduct them, and how they relate to the domains (as NATO has accepted them), in order to be as interoperable as possible.

The J3 is where the direction of operations comes together in a joint staff. The collective training of such a staff at the operational level is something the JWC-directed exercises provide in a comprehensive manner to NATO joint headquarters. Future exercises, like STEADFAST JUPITER 2022, can help NATO military officers better understand how to conduct joint operations in different domains, and provide the intellectual stimulation, which would contribute to a needful terminological defining of MDO for the Alliance. †

ENDNOTES:

- 1 TRADOC Pamphlet 525-3-1, The U.S. Army in Multi-Domain Operations 2028, 6 December 2018, vi., 1.
- 2 Gwon, Yi Se. Operationalizing Joint All-Domain Transformation, May 26, 2021. <https://www.ousa.org/publications/operationalizing-joint-all-domain-transformation>.
- 3 Saur, Hubert. Multi-Domain Combat Cloud: A Vision for the Future Battlefield, p.112. 7-9 September 2021 Read-Ahead for Delivering NATO Air and Space Power at the Speed of Relevance, www.japcc.org.
- 4 The Kobayashi Maru scenario is a deliberate no-win situation displayed in the opening scene of the 1982 motion picture Star Trek II: The Wrath of Khan. It has become a pop cultural reference in the United States since then.