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ALLIED MULTI-DOMAIN OPERATIONS AND CANADIAN ARMY MODERNIZATION

AIM

1. The Canadian Army (CA) has recently released *Advancing with Purpose: The Canadian Army Modernization Strategy*¹. This strategy discusses the requirement for the CA to operate in the pan-domain environment. To be effective, the CA must align its efforts with its allies to establish successful integration and interoperability. The purpose of this paper is to compare the implementation of Multi-Domain force elements across United States (US), British, and Australian land forces and identify critical elements of success that the CA could implement. A recommendation for the continued development of Multi-Domain capacity within the CA will be provided based on this analysis.

INTRODUCTION

2. In the last decade, allied armed forces have shifted their focus from fighting irregular forces in various theatres to increased attention towards great power competition. Russia's action in Crimea and China's more aggressive posture in Asia has led to a realignment of national strategies. The US 2018 National Defense Strategy was an essential driver in the US Training and Doctrine Command's publication of the *US Army in Multi-Domain Operation 2018*.²

3. Although no standard definition exists among NATO allies, the key elements of Multi-Domain Operations (MDO) include simultaneous and sequenced actions in the air, land, maritime, cyber and space domains. The objective is to provide an advantage over the enemy by establishing overwhelming threats to its capability to operate in the battlespace.³

4. This paper will compare the implementation of land-based MDO elements from the US, UK and Australian forces. This comparison will examine individual national MDO doctrine and will provide an overview of fielded and future capabilities. The advantages and disadvantages of each approach will be analyzed. This analysis will enable the development of a recommendation for a potential approach that the CA could use in developing purpose-built MDO forces.

¹ Canada, "Advancing with Purpose: The Canadian Army Modernization Strategy," Canadian Army (Ottawa, December 2020), 1–62.

² Andrew Feickert, "Defense Primer: Army Multi-Domain Operations," Congressional Research Service, December 8, 2020, 1, <https://fas.org/sgp/crs/natsec/IF11409.pdf>.

³ *Ibid.*, 1.

DISCUSSION

5. An analysis of the contribution of allies to MDO is essential. Although the US has established itself as a leader in this field, interoperability and integration with its allies will be crucial. Geographic, financial, technological, legal and force development and training requirements are key constraints preventing the US from being the exclusive practitioner of MDO.⁴ Smaller states are also not likely to deploy all MDO capabilities independently. However, if a threat materializes in the European theatre, geographical realities and the time required for US forces' deployment will require smaller states' contribution.⁵

US Army and Multi-Domain Operations

6. The US Army has been the main contributor of the theoretical and doctrinal components of MDO, and it sees Army elements applying MDO through four axes: Penetrate enemy defences to promote large scale manoeuvre, Disintegrate enemy defences to allow access to tactical elements, Exploit maneuver and defeat the enemy, and Re-compete by returning the situation to more favourable conditions.⁶ To ensure that MDO maintains its momentum, the US Army has established a separate command focused on implementing future concepts. The US Army Futures Command objective is "to provide future warfighters with the concepts, capabilities and organizational structures they need to dominate a future battlefield".⁷

7. Army Futures Command has determined that warfare's critical changes will be at the operational and strategic level, and the US Army has fielded MDO Task Forces (MDTF) to enable its combatant commanders in the Indo-Pacific region.⁸ However, MDO capabilities will be most present above Brigade level.⁹ Therefore, manoeuvre at the Battalion and Company level is likely to remain the same in 2038.¹⁰ Although implementing a combat cloud could assist tactical units in improving situational awareness and access to various effects, bandwidth issues are likely to remain at the tactical level.¹¹

8. The key elements of the US Army's implementation of MDO are long-range precision fires, next generation combat vehicles, future vertical lift, army network, air and missile defence and soldier lethality.¹² This broad menu of capabilities should not signal

⁴ Jack Watling and Daniel Roper, "European Allies in US Multi-Domain Operations," Royal United Services Institute (London: Royal United Services Institute, October 2019), 13, <https://rusi.org/publication/occasional-papers/european-allies-us-multi-domain-operations>.

⁵ Ibid., 13.

⁶ Feickert, "Defense Primer: Army Multi-Domain Operations," 1.

⁷ United States, "US Army Futures Command," accessed February 7, 2021, <https://www.army.mil/futures>.

⁸ Todd South, "This 3-Star Army General Explains What Multi-Domain Operations Mean for You," Army Times, 2019, <https://www.armytimes.com/news/your-army/2019/08/11/this-3-star-army-general-explains-what-multi-domain-operations-mean-for-you/>.

⁹ Watling and Roper, "European Allies in US Multi-Domain Operations," 7.

¹⁰ South, "This 3-Star Army General Explains What Multi-Domain Operations Mean for You."

¹¹ Ibid.

¹² Watling and Roper, "European Allies in US Multi-Domain Operations," 6.

smaller states such as Canada to implement all capabilities. However, it could be used as a starting point to select specific capability areas that could augment US capabilities and ensure CA's effective participation in MDO.

9. The US approach's main advantage is a commitment to continuing the development of MDO doctrine and the initial establishment of MDTFs. The institutionalization of MDO is on solid footing under US Army Futures Command. However, a weakness of US MDO is that it does not thoroughly discuss the extreme challenge posed by the requirement to conduct operations over large geographical areas.¹³ It also does not consider previously documented issues with shortages in stocks of precision-guided munitions (PGMs) within US inventory during Operation INHERENT RESOLVE.¹⁴ Limitation in PGMs is likely to become a limiting factor in high-intensity MDO against a modern adversary.

10. Also, the US Army has been identified as one of the only major western powers with the economies of scale required to properly implement a large volume of capabilities.¹⁵ Smaller states cannot easily scale down US Army MDO and these should focus on ensuring the interoperability of select components within their area of expertise.¹⁶

US Marine Corps and Force Design 2030

11. The United States Marine Corps (USMC) is not a strictly land-based force as it holds integral air and aviation assets and has been operating with maritime assets since its inception. However, it is essential to study its implementation of MDO concepts as it has recently taken drastic measures in force development.

12. The USMC's 39th Commandant clearly outlined the changing nature of the adversarial threat and its impact on USMC force development in his Planning Guidance.¹⁷ Force development was highlighted as his main priority. His renewed focus on supporting the US Navy in its sea control and sea denial activities in the Indo-Pacific region is an explicit acknowledgment of the requirement for greater cooperation and integration across domains.¹⁸

13. Understanding that increases in financial resources are not likely, the USMC was willing to trade the resources required for maintaining industrial age capabilities and

¹³ Amos Fox, "Getting Multi-Domain Operations Right: Two Critical Flaws in the US Army's Multi-Domain Operations Concept," The Association of the United States Army, June 2020, 7, <https://www.ausa.org/publications/getting-multi-domain-operations-right-two-critical-flaws-us-armys-multi-domain>.

¹⁴ Ibid., 10.

¹⁵ Elizabeth Quintana, Joanne Mackowski, and Adam Smith, "Cross-Domain Operations and Interoperability," Royal United Services Institute (London, July 2012), 1, https://rusi.org/sites/default/files/201206_op_cross-domain_operations_and_interoperability.pdf.

¹⁶ Ibid., 3.

¹⁷ General David H. Berger, "Commandant's Planning Guidance," United States Marine Corps, n.d., 1.

¹⁸ Ibid., 2.

reinvest them immediately towards modern capabilities.¹⁹ However, its requirement for innovation is balanced with a focus on the short-term integration of proven technology.²⁰ The results of the USMC's Force Design 2030 and the implementation of the Objective Force study were clear and uncompromising in the requirement to divest legacy platforms and units.²¹ Three months after the publication of Force Design 2030, the USMC disbanded all tank and most cannon artillery units.²² The intent is to introduce other capabilities including rocket-propelled artillery, armed drones and light reconnaissance elements.

14. The USMC understood and demonstrated that rapid change was required to re-align its force. An accelerated transformation has the benefit of making doctrinal concepts and force development studies relevant. It also sends a clear message to the force that they are part of the future. The USMC's divestment of armoured capabilities still includes a requirement to obtain support from US Army armoured elements if future operations require it. It also indicates the requirement to conduct combined arms training across services, and it may be more challenging to align such training with other USMC priorities. Smaller nations such as Canada that do not have a separate amphibious force may not be willing to take such a risk.

British Army and the Integrated Operating Concept 2025

15. The UK Ministry of Defence (MOD) describes MDO as Integrated Operating Concept 2025 (IOC). This document defines the requirement to continue focusing on its people, allies, innovation and experimentation, and respect for the rule of law.²³ The overarching theme is much greater integration across all operational domains. Contrary to US MDO, it calls explicitly for integration beyond joint operations down to the tactical level instead of solely operational. The British Army also understands that there are already components within the MOD such as the Royal Marines and Fleet Air Arm that could increase its familiarity with integration and interoperability.²⁴

16. The British Army has implemented the concepts described in IOC by completing a significant rebalancing effort in 2019.²⁵ It has established 1st Division as a lighter force focused on security force capacity building and humanitarian assistance, 3rd Division as

¹⁹ Ibid.

²⁰ Ibid., 14.

²¹ United States, "United States Marine Corps Force Design 2030," United States Marine Corps, March 2020, 7.

²² Chad Garland, "A Farewell to Armor: Marine Corps Shuts down Tank Units, Hauls Away M1A1s," Stars and Stripes, July 30, 2020, <https://www.stripes.com/news/marine-corps/a-farewell-to-armor-marine-corps-shuts-down-tank-units-hauls-away-m1a1s-1.639355>.

²³ United Kingdom, "Introducing the Integrated Operating Concept," Ministry of Defense (Bristol, UK, September 30, 2020), 7.

²⁴ James Bosbotinis, "Multi-Domain Operations and Defence Capability Development," Defence IQ, March 23, 2020, <https://www.defenceiq.com/air-land-and-sea-defence-services/articles/multi-domain-operations-and-defence-capability-development>.

²⁵ United Kingdom, "Army Restructures to Confront Evolving Threats," accessed February 7, 2021, <https://www.army.mod.uk/news-and-events/news/2019/08/army-restructures-to-confront-evolving-threats/>.

its conventional armoured force and 6th Division as its newest organization.²⁶ 6th Division's role is to "orchestrate intelligence, counter-intelligence, cyber, electronic warfare, information operations and unconventional warfare".²⁷ In its announcement, the UK MOD has also stated that no additional locations, personnel or funding will be provided for this effort.

17. Due to its smaller size compared to the US Army, the British Army has implemented the equivalent of an MDTF at a tactical level. This could facilitate the employment of IOC in smaller-scale exercises or operations. A specially designated Division could also ensure that advanced assets, knowledge and skills required for IOC employment are maintained within a single organization clearly focused towards IOC. It could also benefit from optimizing limited resources through central control and a decentralized execution employment model.

18. The disadvantage is that implementation of IOC elements at the tactical level but within complementary Divisions could suffer from friction due to the requirement to coordinate training and employment across divisional headquarters. Issues with culture, command relationships, and cohesion could likely arise as the British Army explores the employment concept for its specialized assets. Although the British Army has identified an organization responsible for cyber operations, there is still conflict between the tactical, operational, strategic and political levels regarding the authorities required to employ these capabilities at a low level.²⁸

Australian Army and Accelerated Warfare

19. The Australian Army describes its vision of the elements of MDO in Army in Motion: Accelerated Warfare Statement.²⁹ The Australian Army works towards implementing Accelerated Warfare elements through its ongoing integration of various elements within its three brigades.³⁰ A focus on cooperation and interoperability are key elements of Accelerated Warfare.

20. The Australian Army has performed an analysis of US MDO to apply the same process as the study of AirLand Battle doctrine, which led to the adoption of mission command and manoeuvre warfare.³¹ Although it can adopt some MDO elements, its smaller size and Australian geography make it more challenging to implement all aspects of US MDO. Australian Army leaders have identified which MDO capabilities could

²⁶ Ibid.

²⁷ United Kingdom, "6th (United Kingdom) Division," accessed February 7, 2021, <https://www.army.mod.uk/who-we-are/formations-divisions-brigades/6th-united-kingdom-division/>.

²⁸ Franz-Stefan Gady and Alexander Stronell, "Cyber Capabilities and MultiDomain Operations in Future-Intensity Warfare in 2030," NATO Cooperative Cyber Defence Centre of Excellence, December 2020, 163.

²⁹ Australia, "Army in Motion: Accelerated Warfare Statement," Australian Army, n.d., 1–2.

³⁰ Stephen Kuper, "Accelerated Warfare Key to Enhancing the Tactical and Strategic Capacity of Future Army," September 9, 2019, <https://www.defenceconnect.com.au/land-amphibious/4733-accelerated-warfare-key-to-enhancing-the-tactical-and-strategic-capacity-of-future-army>.

³¹ Mark Mankowski, "Does the Australian Army Need Multi-Domain Operations?," The Cove (The Cove, September 24, 2019), <https://cove.army.gov.au/article/does-the-australian-army-need-multi-domain-operations>.

defend against enemy penetration and project limited Anti-Access Area Denial (A2/AD) from a land base.³² Its small force size makes the implementation of the offensive MDO functions against enemy A2/AD less feasible. This aspect demonstrates more commonality with the USMC in its focus on projecting land power towards critical maritime approaches.

21. Australia's approach on focusing on defensive and limited MDO elements is a rational and realistic approach based on national and geographic characteristics. It intends to leverage its historic ability to cooperate with allies and specifically the US, to enable it to become a relevant actor in US-led MDO. Given this focus, Australia will have to continue to be closely aligned and integrated with the US. Therefore, Accelerated Warfare is not likely to provide it with the ability to conduct tasks related to its national security independently.

22. The Australian perspective highlights that smaller states should also focus on implementing defensive or disruptive technologies while larger allies focus on implementing MDO assets on a larger scale. For example, instead of implementing complex and costly armed autonomous aerial systems, smaller states should focus on mastering the employment of crewed surveillance assets.³³

CONCLUSION

23. Canada's allies have implemented their own interpretation of MDO tailored to their particular national security policy, legacy force structure, geographical, economic, cultural and demographic factors. Common elements exist between MDO doctrines but significant differences remain. Integration and interoperability among allies is a common feature and key to the success of MDO operations as even the US Army will require the assistance of smaller allies at the initiation of a conflict in the European or Indo-Pacific regions.

24. A great power such as the United States can establish MDO elements at strategic and operational levels. It also can develop and field a large variety of modern capabilities across its force. The British Army has significantly reduced military capabilities compared to the US Army and has decided to establish its IOC at the tactical level through its Field Army's rebalancing. The establishment of complementary divisions allows it to optimize the introduction of new capabilities with limited resources. The Australian Army has developed Accelerated Warfare and identified potential areas to complement US capacity in the Indo-Pacific region. It has performed a realistic analysis of its ability to perform mostly defensive A2/AD operations and limited A2/AD projection from land bases.

³² Ibid.

³³ Quintana, Mackowski, and Smith, "Cross-Domain Operations and Interoperability," 5.

RECOMMENDATIONS

25. The CA has clearly documented the requirement to operate across multiple domains in its modernization strategy. It has also acknowledged the requirement to operate across multiple domains tactically at the Brigade level.³⁴ It has established the Canadian Combat Support Brigade as the formation responsible for information operations, electronic warfare and cyber capabilities.³⁵ However, it should leverage key elements from its allies to further refine its capabilities and ensure they remain relevant both against threats and in a multinational context.

Establish Defensive and Specialized Offensive MDO Capability

26. The CA should identify which of the four elements of MDO are the most essential based on its national characteristics. Australia's focus on defending its territory against adversarial MDO is an indicator of a possible way ahead. Canada's Arctic is likely to become a contested area in the future with Russia and China likely to increase their presence. The CA can increase its self-reliance by contributing to the projection of A2/AD capabilities from a land base in this area. Alternatively, the CA may choose to augment allied capabilities through the provision of specialized offensive MDO capabilities such as cyber operations or improved crewed reconnaissance assets.

Increase the Visibility and Capabilities of the CSSB

27. The CA should continue to promote and enable the CSSB to act as a specialized organization focused on MDO. Although several CSSB units participate in major Brigade collective training events such as Ex UNIFIED RESOLVE and EX MAPLE RESOLVE, its capabilities should also be implemented more regularly at the unit level. Greater visibility would enable CA units to develop an improved understanding and closer integration of multi-domain capabilities.

Divestment of Legacy Capabilities

28. The CA modernization strategy maintains the requirement for a legacy heavy capability to enable its medium-weight capabilities and maintain expertise. However, maintaining this capability is likely to slow down the implementation of more relevant MDO assets. The opportunity cost of maintaining expertise on legacy platforms must be re-assessed given our allies divestment actions towards their heavy capabilities. The CA should follow the USMC's lead and take action in divesting legacy assets to improve the capacity of a formation such as the CSSB.

³⁴ Canada, "Advancing with Purpose: The Canadian Army Modernization Strategy," 17.

³⁵ National Defence Government of Canada, "Canadian Combat Support Brigade - Canadian Army," June 29, 2016, <http://www.army-armee.forces.gc.ca/en/5-canadian-division/canadian-combat-support-brigade/index.page>.

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