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Occasional Paper

# European Allies in US Multi-Domain Operations

Jack Watling and Daniel Roper

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RUSI Occasional Paper, October 2019



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RUSI Occasional Paper, October 2019. ISSN 2397-0286 (Online); ISSN 2397-0278 (Print).

Printed in the UK by Stephen Austin & Sons Ltd. and in the US by Master Print.

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# Executive Summary

**R**USSIAN AND CHINESE long-range fires, combined with non-lethal standoff able to shape the operational environment prior to conflict, have led the US Army to conclude that AirLand Battle – the underlying doctrine for its operations – has been ‘fractured’. Under its current posture, US forces would struggle to enter theatre within a politically relevant timeframe, and US sustainment capabilities would be under serious threat, if Russia were to launch an incursion into Eastern Europe. In response, the US Army has developed a new operating concept, ‘Multi-Domain Operations’ (MDO). This concept calls for US forces to have a calibrated force posture, with forward and rotational deployments, and pre-positioned stock, so that the US can compete and deter adversaries below the threshold of armed conflict and be ready to fight if necessary. The second tenet of MDO is that the US military must maintain multi-domain formations, capable of operating across land, sea, air, space and cyberspace, conduct information operations, and contest the electromagnetic spectrum (EMS). MDO describes manoeuvring across these domains as convergence, with tactical commanders needing to understand how their actions shape other domains, and exploiting successes, or guarding against vulnerabilities that may emerge in them. By manoeuvring across domains, US forces seek to penetrate enemy anti-access and area denial (A2AD) systems, disintegrate them, exploit the breakdown of enemy cohesion to defeat their units in detail, and then set the terms to return to competition in a favourable position.

There are a large number of dependencies upon allies embedded within this concept of operations, from the permissions required to maintain a calibrated force posture, to critical expertise in order to effectively compete below the threshold of armed conflict. The US Army has taken a methodical approach to developing the concept, first engaging stakeholders within the Army, then across the Joint Force, before entering discussions with US allies. US allies have been developing their own operational concepts, however, and embarking upon much-needed modernisation efforts, in response to a growing threat from Russia. There is a risk that if the US does not engage its allies early, and maintain a dialogue about MDO, US capabilities will diverge from allied systems, making the level of integration necessary to achieve convergence unworkable. Given that the US Army does not anticipate gaining all relevant MDO capabilities by 2028, ensuring interoperability with allies is essential.

The challenges of integrating allies with MDO may be split into two broad categories: capability gaps; and policy hurdles. To begin with capabilities, there is an underlying problem with language. The US and its allies do not have a consistent way of describing the multi-domain environment. Without this common nomenclature it is difficult to have a common understanding of the battlespace. The language barrier also extends to systems. Many of the elements of a common operating picture – critical to converging effects – are derived from sensors, with data fusion increasingly automated. Without a common operating system underpinning allied artificial intelligence and autonomous platforms, however, existing parallel paths of development risk

being incompatible. The second major capability gap is in the capacity of smaller allied states, deploying forces no larger than brigades, to support operations at echelon. As these states may not possess advanced cyber capabilities, or long-range precision fires, it is difficult for them to know what information is relevant to a US Multi-Domain Formation, or what effects may be available to them. Finally, the training burden created by MDO, and the need to train with electronic warfare capabilities, is both prohibitively expensive to some allies, and difficult to carry out when there are not appropriately sized training grounds. The US will likely need to support this training effort. Conversely, the US will not understand how best to use allied expertise in the competition space if it does not train with its allies in conducting MDO.

The policy hurdles to MDO are in some respects more critical. In the first place, MDO is premised on the US needing to confront China and Russia simultaneously. European allies, however, do not necessarily see China as a competitor. There is a risk that Russian information operations framing MDO as increasing tensions in Europe to enable the US to confront China could gain traction, and make supporting the US calibrated force posture politically difficult. Furthermore, long-range precision fires – likely to bring about a threat from comparable Russian capabilities – may see European allies unwilling to host such systems. While the US may be able to find allies, such as Poland, willing to maintain such capabilities, this could imperil the progress of agreements aimed at improving military mobility across Europe, which would need German support. The issue of permissions is also a significant challenge in the development of cyber capabilities. To conduct cyber reconnaissance on allied soil will need the approval of the allied government. However, if this is being engaged in during peacetime with the object of competing with Russia, then the US must work to ensure that there is sufficient trust and understanding of the activity to avoid a hostile public reaction.

The challenges to integrating allies with MDO outlined in this paper are not insurmountable, but they suggest that allies need to be engaged throughout the process as MDO is transformed from concept to doctrine.

# Introduction

**T**HE US AND its NATO allies have enjoyed recognised military dominance against the regular formations of other states since the defeat of the Iraqi military in Operation *Desert Storm* in 1991.<sup>1</sup> The doctrine for the military machine that brought about that victory was AirLand Battle. General Donn A Starry – commanding general of the US Army’s Training and Doctrine Command (TRADOC) – oversaw the drafting and publication of ‘FM 100-5 Operations 1982’, which set out a transformative new way of fighting. AirLand Battle recognised that ascending echelons – brigades, divisions and corps – were not only separated by distance, but by reaction time. It called for special forces, airpower and artillery to penetrate to the enemy’s divisional and corps-level infrastructure, and thereby destroy and dislocate enemy command and control and logistical capabilities, slowing their response times, fixing enemy brigades in place and allowing them to be defeated in detail.<sup>2</sup> Although the US has continued to update its doctrine, the fundamentals of AirLand Battle have remained. Adversaries, however, have not been idle.

Over the following two decades, US adversaries developed sophisticated, integrated and layered long-range standoff capabilities<sup>3</sup> that threaten to dislocate the deployment of US forces across time, space and function, preventing the US from bringing sufficient forces to bear quickly enough to deter military action. The US Army has concluded that adversaries have ‘developed a systematic approach to “fracture” AirLand Battle’,<sup>4</sup> rendering established doctrine inadequate to meet the challenges posed by emerging Russian and Chinese capabilities and concepts of operation. As was demonstrated in Crimea in 2014, the Russian Federation is willing to use force to advance its interests if it perceives its adversaries as unwilling or unable to respond.<sup>5</sup> Since a long response time risks the dissipation of the national will to fight, standoff capabilities threaten the US’s ability to contest the expansion of adversary influence. In the competition, rather than conflict space, the Chinese dispersion of lily-pad bases across the South China Sea underscores the US’s limited options to prevent the expansion of adversary anti-access

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1. Peter de la Billière, ‘The Gulf Conflict: Planning and Execution’, *RUSI Journal* (Vol. 136, No. 4, 1991), pp. 7–12.
  2. US Army Training and Doctrine Command (TRADOC), ‘FM 100-5 Operations 1982’, 1982.
  3. Adam Cabot, ‘Fortress Russia: How Can NATO Defeat Moscow’s A2/AD Strategy and Air Defenses?’, *National Interest*, 3 November 2018.
  4. US Army, ‘The US Army in Multi-Domain Operations 2028’, TRADOC Pamphlet 525-3-1, 6 December 2018, p. vii.
  5. Mark Carleton-Smith, ‘General Mark Carleton-Smith, Chief of the General Staff: RUSI Land Warfare Conference 2018’, 19:00, <<https://www.youtube.com/watch?v=jurJ4hHpDAY>>, accessed 16 March 2019.

and area denial (A2AD) systems<sup>6</sup> without triggering an escalation cycle by moving warfighting capabilities into theatre.

The US Army's response to this emerging challenge is described in a new US Army operating concept: multi-domain operations (MDO). This concept provides a vision for where the force needs to be in the future to drive learning, experimentation, future force structure and battlefield doctrine. MDO envisages an ambitious modernisation plan and a comprehensive restructuring of the US Army, including fielding theatre armies to simultaneously compete with, deter aggression from, and if necessary fight and win against Russia and China in the 2028–35 timeframe. The concept proposes that US Regular Army end strength should increase from 480,000 to 660,000<sup>7</sup> to be able to fight a high-intensity conflict across five critical domains of warfare – land, sea, air, space, and cyberspace. The bi-partisan congressionally-directed 2018 Commission on the National Defense Strategy of the United States found that 'a two-war force sizing construct makes more strategic sense today than at any previous point in the post-Cold War era'.<sup>8</sup> Nevertheless, it is unlikely that US Army strength will meet these levels,<sup>9</sup> making allied contributions critical to MDO's viability. The concept also contains numerous dependencies on allied forces to enable theatre entry and subsequent intra-theatre movement. MDO is premised on a significant recalibration of force posture, with the aim of accelerating US Field Army build-up in the European theatre from 140 days<sup>10</sup> to 21,<sup>11</sup> undermining Russian fait accompli operations, designed to be completed within 30 days.<sup>12</sup>

The success of an operating concept or doctrine does not only depend on its merits. The US Army's 1976 Active Defense doctrine<sup>13</sup> was criticised on publication for being overly defensive, lacking consideration of the psychological dimension of warfare and for being Eurocentric.<sup>14</sup> The negative reception was not just about the specific details of the doctrine, however; it also reflected TRADOC's not adequately engaging relevant stakeholders across the force prior to publication. Starry managed to avoid this when publishing AirLand Battle, and TRADOC and Futures Command have been proactive in explaining MDO during its drafting, to mitigate this

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6. Toshi Yoshihara and James R Holmes, *Red Star Over the Pacific: China's Rise and the Challenge to U.S. Maritime Strategy*, 2<sup>nd</sup> edition (Annapolis, MD: Naval Institute Press, 2018), pp. 220–47.
  7. Author interview with Futures Command official, London, May 2019.
  8. United States Institute of Peace, 'Providing for the Common Defense: The Assessment and Recommendations of the National Defense Strategy Commission', 2018, p. 35.
  9. Eric J Wesley, 'AUSA Global Force Symposium: Day 3 – Opening Remarks and Keynote Speaker', 28 March 2019, <<https://www.dvidshub.net/video/668339/ausa-global-force-symposium-day-3-opening-remarks-and-keynote-speaker>>, accessed 26 May 2019.
  10. Author interview with a senior US Army Futures Command officer, London, February 2019.
  11. Author interviews with two senior US Army TRADOC officers, London, April 2019.
  12. Jack Watling and Justin Bronk, 'Strike: From Concept to Force', *RUSI Occasional Papers* (June 2019), p. 11.
  13. TRADOC, 'FM 100-5 Operations 1976', 1976.
  14. Paul H Herbert, 'Deciding What Has to be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations', *Leavenworth Papers* No. 16, Combat Studies Institute, 1988, p. 96.

risk. Engagement with partners and allies, however, has not been carried out at the same pace. Operation *Unified Quest*, designed to inform the whole force about MDO, ran its events with No Foreign Nationals (NOFORN) present until April 2019. During the development of AirLand Battle US planners could be confident that allies would integrate with it, although its aggressive emphasis prevented it from becoming official NATO doctrine.<sup>15</sup> While MDO may be as transformative as AirLand Battle, it is being developed in a vastly different context. It cannot be assumed by the US, therefore, that its allies will adopt MDO's tenets, as with AirLand Battle, which described an approach to defeating massed Soviet armour, poised to invade Western Europe. In 1982, NATO allies recognised the threat. The threat from Russia – and especially from China – is less clear today, and allies perceive these states very differently. Although it is not stated in the concept document, a key assumption in MDO, readily conceded by its authors, is that fighting will take place on allied soil, and that allies will play a critical role in the shaping phase of a conflict. Allies are therefore critical to MDO's success in both competition and conflict phases, since they must provide mass, and permissions, to enable the concept to be implemented.

While attempting to significantly reduce the time to move from concept to doctrine, the US Army should not take the traditional sequential approach to engagement, which is, first, convincing stakeholders within the Army, then across the Joint Force, before presenting a unified front to allies. There is the potential that this approach is too slow. US allies have similarly been reacting to developments in Russian capabilities.<sup>16</sup> The British Army, for example, is in the process of developing a new Army Operating Concept that will inform key procurement decisions to be delivered from 2023 to 2029. Given the complexity of MDO, and requirements for shared cross-domain situational awareness, the compatibility with MDO of new allied systems and structures is critical to ensuring that the concept can be implemented. If the US leaves it too long to engage, it could miss a critical window of opportunity. If US allies are not brought into the process, they will have already spent scarce resources on modernisation, and MDO will have to be adapted to fit the force available, rather than shaping allied requirements.

The need for extensive consultation with US allies is also critical because allies have very different doctrinal processes than the US Army. The US Army modernises through its doctrine, and senior officers across the force are actively engaged in implementing new concepts. By contrast, for much of the 20<sup>th</sup> century the British Army, for example, had no official doctrine. Methods of fighting were largely informed by experience. Thus, British forces landing at Normandy had three fundamentally different approaches to integrating armour and infantry.<sup>17</sup> The first attempts by the British Army to write operating concepts to create new doctrine –

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15. Jeffrey W Long, 'The Evolution of US Army Doctrine: From Active Defense to AirLand Battle and Beyond', thesis presented at Fort Leavenworth, 1991, p. 27.

16. For an outline of Russian capabilities, see Igor Sutyagin with Justin Bronk, *Russia's New Ground Forces: Capabilities, Limitations and Implications for International Security*, RUSI Whitehall Paper 89 (London: Taylor and Francis, 2017).

17. John Buckley, 'Session Ten: Historians' Analysis of OVERLORD', presentation at RUSI Land Warfare Conference 2019: Securing Competitive Advantage, 5 June 2019, 12:00–1400, <[https://www.youtube.com/watch?v=WAH2c\\_vgw7Q](https://www.youtube.com/watch?v=WAH2c_vgw7Q)>, accessed 7 August 2019.

rather than printing manuals that described existing practice – were in the 1980s.<sup>18</sup> While doctrine informs training, it does not represent a blueprint for future operations in British Army culture. Britain established the Development, Concepts and Doctrine Centre (DCDC) in 1998, but this is referred to as the Army's 'think tank', serving a fundamentally different purpose to the US Army's TRADOC,<sup>19</sup> and tactical commanders have significant leeway in adapting their approaches. Although the British approach has been praised by American officers for its agility and adaptability,<sup>20</sup> the sophistication of integration that MDO demands requires the US Army to engage widely with UK tactical commanders for British formations to become compatible with the MDO concept. Similar differences are reflected in other allied militaries.

This paper is an assessment of the challenges in achieving allied integration into US MDO. It seeks to outline what the US military is likely to need from its allies in implementing MDO, the capability gaps that will make integration difficult, and the policy challenges for the US and its allies in selling the concept and its associated policies. Some of the challenges raised, especially those regarding permissions, are not amenable to technical solutions, and must be resolved through discussions between the US and its allies. Some may require adjustments to the concept.

The methodology for this paper has been consultative. The authors have interviewed a wide range of experts across allied forces and US services, including Army Futures Command, US Army Europe, Forces Command, Central Command, US Army Pacific, and the US Marine Corps, to discuss the role of allies in MDO. The authors held discussions with concepts branches in several allied forces. The paper also draws on a review of relevant US and allied doctrinal materials.

It is important to note what this paper does not address. It neither seeks to judge the merits of MDO, nor to consider alternatives. Nor does it seek to resolve many of the challenges highlighted. While pointing to possible lines of enquiry, bridging the gaps between US ambitions and allied capability must be conducted through bilateral and multilateral negotiation.

The paper is structured in three chapters. The first provides an outline of MDO's key tenets, what it means for the US military, and how its architects expect allies to contribute. The second explores the technical compatibility of key allies in the European theatre, and where either parallel developments or gaps will present challenges in integrating allied forces into MDO. The third considers political and policy hurdles for MDO to be implemented. Although the challenges presented in this paper are outlined collectively, steps to become MDO-capable are underway and will be implemented over the next decade. Thus, many of the challenges highlighted will not arrive simultaneously, and some can be resolved in sequence, if the US Army is proactive in engaging with its allies.

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18. British Military Doctrine was first published in 1989, while British Defence Doctrine was first published in 1996.

19. UK Government, 'Development, Concepts and Doctrine Centre', <<https://www.gov.uk/government/groups/development-concepts-and-doctrine-centre>>, accessed 7 August 2019.

20. John Nagl, *Learning to Eat Soup With A Knife: Counterinsurgency Lessons from Malaya and Vietnam* (Chicago, IL: University of Chicago Press, 2005).

# I. Unpacking Multi-Domain Operations

**I**N MARCH 2014, Russia seized the Crimean Peninsula. Irrespective of whether Western governments wished to react militarily, it became rapidly apparent that no sufficient force packages were able to reach the area within a politically relevant timeframe. Russia presented a *fait accompli*. During Russia's subsequent operations in the Donbas, on 11 July 2014 near Zelenopillya, Russian forces used electronic warfare capabilities and unmanned aerial vehicles (UAVs) to locate a Ukrainian manoeuvre formation. Russian forces fixed the Ukrainians by denying their communications and navigation equipment, and then engaged with indirect fires, destroying the formation in under five minutes.<sup>21</sup>

These events highlighted two challenges to US observers. The first was that a highly capable warfighting force was not relevant if it could not deploy, either because of political opposition – which adversaries could exacerbate through information operations – or because it could not enter the theatre within a politically or militarily meaningful timeframe. Second, it was apparent that adversaries were able to bring to bear systems with the potential to disrupt kill chains by contesting the electromagnetic spectrum (EMS) and denying logistics and sustainment formations access to the battlespace. These events refocused the US on how it should compete with, deter, and if necessary fight, near-peer adversaries. The US military is on the cusp of implementing its solution, and the conclusions it has reached require the restructuring of the force, and how it fights.

In March 2018, the US Army announced its intent to create Army Futures Command (AFC) for the purpose of overseeing modernisation efforts, signifying its biggest institutional restructuring since the establishment of Forces Command (FORSCOM) and TRADOC in 1973. AFC is responsible for developing the future force by introducing new capabilities and proposing new formations that address modernisation priorities. AFC provides oversight of the acquisition process, aiming to improve the coherence of procurement across the force,<sup>22</sup> and was given a mandate to bring decisions about future capability under one command, so that proposals were not delayed by bureaucratic inertia.<sup>23</sup> As then Army Chief of Staff General Mark Milley explained:

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21. US Army, 'FM 3-0, Operations', 6 October 2017, pp. 1–3.

22. Mark T Esper and Mark A Milley, 'Statement Before the Senate Armed Services Committee, Second Session 115<sup>th</sup> Congress, on the Posture of the United States Army', 12 April 2018, <[https://www.armed-services.senate.gov/imo/media/doc/Esper-Milley\\_04-12-18.pdf](https://www.armed-services.senate.gov/imo/media/doc/Esper-Milley_04-12-18.pdf)>, accessed 22 August 2019.

23. Daniel S Roper and Jessica Grasseti, 'Seizing the High Ground – United States Army Futures Command', Institute of Land Warfare Spotlight, October 2018.

We are in the midst of a change in the very character of war ... And we ... didn't have the organization solely dedicated to that. ... We needed to dedicate a single organization to [modernisation] and thereby streamline and consolidate and bring unity of command and purpose to the Army for the development of our future capabilities.<sup>24</sup>

AFC Commander General Mike Murray observed in testimony to the House Armed Services Committee:

The world has changed since our current ground combat systems were designed and built in the 1970s and 1980s; the rapid pace of technological change, coupled with the speed of innovation we see in the world today, demands that the Army make changes in the way we develop and deliver concepts and capability for our soldiers.<sup>25</sup>

There are three interconnected pillars to the US Army's modernisation effort. The first is the 2018 National Defense Strategy (NDS), which defines the context and sets the objectives for the military.<sup>26</sup> The second is MDO, the Army operating concept, which describes how the Army intends to operate in conjunction with joint and multinational partners to achieve the policy objectives outlined in the NDS. The third is the Modernisation Strategy, which describes how the US Army will change its doctrine, organisation, training, materiel, leadership, personnel, facilities, and policy to operate in accordance with the MDO concept. The MDO concept describes the US Army in 2028, although some of the capabilities described will not be fully fielded across the force by then.<sup>27</sup> The US Army established six modernisation priorities it assesses to be critical to the implementation of MDO. In priority order they are:

1. Long-range precision fires.
2. Next generation combat vehicle.
3. Future vertical lift.
4. Army network.
5. Air and missile defence.
6. Soldier lethality.

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24. Jen Judson, 'Why the Army Picked Austin for Futures Command', *Defense News*, 13 July 2018.

25. Matthew Cox, 'Head of Army Futures Command Fields Tough Questions from Congress', *Military.com*, 14 September 2018.

26. Department of Defense, 'Summary of the 2018 National Defense Strategy of The United States of America: Sharpening the American Military's Competitive Edge', 19 January 2018, <<http://www.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf>>, accessed 22 August 2019.

27. US Army, 'The US Army in Multi-Domain Operations 2028', p. 1.

With the evolving MDO concept, these prioritised capability areas should be useful to allies and partners since they depict how the US Army sees itself needing to fill critical capability gaps.

Unlike previous operating concepts MDO describes how the Army will operate both below and above the threshold of direct-armed conflict. The concept describes both Russia and China's strategy as the application of layered stand-off to deter US forces from reacting, slowing down theatre entry, and dislocating US operations so that US forces cannot achieve localised overmatch. Milley has stated that 'the military problem we face is defeating multiple layers of stand-off in all domains in order to maintain the coherence of our operations'.<sup>28</sup>

The solution to this challenge is addressed through three tenets: calibrated force posture; multi-domain formations; and convergence. *Calibrated force posture* means having a force that can deliver effects because it is appropriately positioned, with the necessary capabilities and permissions, and at sufficient readiness to act within a politically relevant timeframe. If forces are not pre-positioned either by forward deployment or rotational deployment, they require an executable plan for entering theatre. *Multi-domain formations* comprise the expanding range of capabilities that must now be a core component of land forces. The force must be equipped to operate in space and cyberspace, in the EMS, and conduct information operations. Underpinning the development of MDO is the idea that no one service or capability will be sufficient to operate effectively in the complex and lethal security environment described by the 2018 NDS. Beyond simply striving for Jointness – activities, operations and organisations in which elements of two or more military departments participate<sup>29</sup> – MDO requires the US Army, in conjunction with its Joint, interagency and allied partners, to rapidly and continuously integrate capabilities across the five critical domains of warfare (air, land, sea, space and cyber) in the operational tenet of *convergence*.<sup>30</sup>

At the Association of the United States Army (AUSA) Global Force Symposium in March 2019, the AFC Deputy Commanding General, Futures and Concepts, Lieutenant General Eric Wesley, introduced some draft organisation charts depicting unconstrained force packages that would be tailored for Europe and the Indo-Pacific.<sup>31</sup> Many of the organisations are at echelons above brigade, including at the theatre army and field army level. The force packages are intended to provide 'an azimuth' towards the future, but the future force 'will not look like this in the end'.<sup>32</sup> MDO may require calibration of US Army force posture geographically across all components – Regular Army, Army National Guard and Army Reserve – to accelerate access to critical capabilities needed to defeat Chinese and Russian offensive operations. This aligns

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28. US Army, 'The US Army in Multi-Domain Operations 2028', Foreword.

29. US Joint Staff, 'Joint Publication 1, Doctrine for the Armed Forces of the United States, 25 March 2013 Incorporating Change 1 12 July 2017', p. GL-8.

30. US Army, 'The US Army in Multi-Domain Operations 2028', p. vi.

31. The force package slides are not releasable at the time of writing as they are works in progress. Author conversation with Deputy Commander, AFC Futures and Concepts, 5 August 2019.

32. Sydney J Freedberg Jr, 'How Army's Multi-Domain Overhaul May Impact The National Guard', *Breaking Defense*, 3 April 2019.

with the idea of ‘forming operationally coherent joint and combined forces’ described in the Joint Concept for Rapid Aggregation.<sup>33</sup> Were the US Army to build these force packages, the active component would grow from 480,000 to 660,000 soldiers. The units envisioned in these unconstrained force packages fall into three categories: those that will receive equipment from the top six modernisation initiatives; those that may move from the National Guard or Reserve to the Active component; and those that do not yet exist. Some of these capabilities could come from allies in theatre, initially integrated with a Multi-Domain Task Force (MDTF) and ultimately with more permanent multi-domain-capable formations.

The US Army is making several fundamental assumptions in the development of the MDO concept. Among these are that US and partner political authorities will authorise sufficient force posture and readiness levels to respond to and defeat near-peer adversaries if deterrence fails to keep competition below the threshold of direct armed conflict. In a July 2018 visit to the US Army’s prototype MDTF during Exercise *Rimpac*, the US Army Chief of Staff stressed that MDTFs need to be forward stationed prior to hostilities to serve as a deterrent, conduct Operational Preparation of the Environment (OPE), and most importantly be operationally responsive to enable survivable land-based long-range strategic fires.<sup>34</sup> Permissions to operate therefore need to be granted prior to escalation. This was reinforced by the Commander of US Army Pacific (USARPAC), General Robert Brown, who is overseeing the initial MDTF, at the March 2019 Global Force Symposium in stating that the MDTF ‘must be present in the competition phase’.<sup>35</sup> Another assumption is that US and partner governments will provide authorities for friendly forces to conduct OPE, as well as offensive activity in the EMS, cyberspace, space, unconventional warfare and information operations to deter and defeat adversaries. The US Army also assumes that partner government agencies, headquarters and fielded forces will develop and sustain sufficient interoperability between services, government agencies and allies to conduct combined operations.<sup>36</sup> Without sustained efforts by both the US and partner governments, these assumptions cannot be realised. To make MDO operable the US must therefore convince its allies that compatibility with MDO ought to be a priority.

While fully acknowledging that the US Army operates with allies, a close reading of MDO as articulated in ‘The US Army in Multi-Domain Operations 2028’ suggests a somewhat binary view of the operating environment between friendly and hostile forces. MDO is at present a US Army concept; it cannot therefore *prescribe* the precise role and contributions of its joint and international partners. Informed by contributions from other services and partners, the concept describes Army contributions to and requirements for a joint campaign conducted with

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33. US Joint Chiefs of Staff, ‘Joint Concept for Rapid Aggregation’, 22 May 2015, <[https://www.jcs.mil/Portals/36/Documents/Doctrine/concepts/joint\\_concept\\_rapid\\_aggregation.pdf?ver=2017-12-28-162030-587](https://www.jcs.mil/Portals/36/Documents/Doctrine/concepts/joint_concept_rapid_aggregation.pdf?ver=2017-12-28-162030-587)>, accessed 2 September 2019.

34. US Army, ‘CSA Visit to the Multi-Domain Task Force (MDTF) in Hawaii, RIMPAC 2018’, Information Paper, 28 July 2018.

35. Robert Brown, Keynote Presentation at the Association of the United States Army Global Force Symposium and Exposition, Huntsville, Alabama, 27 March 2019.

36. US Army, ‘The US Army in Multi-Domain Operations 2028’, p. A-1.

partners against near-peer adversaries. Future iterations of MDO will test the ideas embedded in the concept with increased involvement from joint and multinational partners.<sup>37</sup> While this use of the operational concept builds outwards – from Army to Joint to Multinational – the process may need to be adapted to account for the unprecedented degree of integration of actions across domains embedded in MDO. If US allies are to develop capabilities that are MDO compatible it is necessary for the US Army to bring them into the concept's development as early as possible.

Integration of allies with US operations is a stated ambition in a wide range of US Army publications. The US Army Strategy is clear that: 'The Army will train and fight as a member of the Joint and Multinational Team. Our doctrine, tactics, and equipment must be complementary to and interoperable with our sister services, allies, and partners'.<sup>38</sup> US Army Strategy's 'Line of Effort 4, Strengthen Alliances and Partnerships' is more precise: 'The Army will continue to train and fight with allies and partners, and therefore, we must strive to integrate them further into our operations to increase interoperability'.<sup>39</sup> If this line of effort is not fully acted on as a core component of the development process in MDO, the US could find that its capabilities are diverging from its allies', to the detriment of interoperability.

Clearly, interoperability – the 'ability to act together coherently, effectively, and efficiently to achieve tactical, operational, and strategic objectives'<sup>40</sup> – with allies is key to achieving the US Army's vision. As Milley observed, 'We must establish a common recognition among allies and partners of the collective problems we face and the best way ahead. We always fight as a Joint force and we are most successful when we fight as part of a combined multinational team'.<sup>41</sup> US Joint Publication 3-16, 'Multinational Operations', stresses that international rationalisation, standardisation and interoperability (RSI) is important for achieving practical cooperation in ensuring efficient use of research, development, procurement, support, and production resources.<sup>42</sup> One critical priority for the RSI budget, if the US military is serious about its intent to integrate allies into multi-domain formations, is command-and-control architectures to enable the multinational force to leverage multi-domain capabilities. Without a common secure command net, it will be very difficult for allied forces to integrate with US multi-domain formations.

Interoperability requires investment and must be a fundamental, measured component of unit equipping, training and readiness. This interoperability, extended across allies and partners,

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37. *Ibid.*, p. 48.

38. U.S. Army, 'The Army Strategy', 23 October 2018, p. 1.

39. *Ibid.*, p. 10.

40. US Joint Staff, 'Joint Publication, 3-0, Joint Operations, 17 January 2017 Incorporating Change 1 22 October 2018', p. GL-10.

41. Mark A Milley, 'Changing Nature of War Won't Change Our Purpose', US Army, 4 October 2016, <[https://www.army.mil/article/175469/changing\\_nature\\_of\\_war\\_wont\\_change\\_our\\_purpose](https://www.army.mil/article/175469/changing_nature_of_war_wont_change_our_purpose)>, accessed 23 August 2019.

42. US Joint Chiefs of Staff, 'Joint Publication 3-16, Multinational Operations', 1 March 2019, p. I-8.

gives echelons above brigade-level essential to MDO the ability to partner with friendly and neutral nations while maintaining and persistently competing below the threshold of armed conflict.<sup>43</sup> The importance of allies has been confirmed in US Army experimentation. In sharing his thoughts from two years of experience experimenting with the MDO concept, primarily through the MDTF formed around the 17<sup>th</sup> Field Artillery Brigade, USARPAC Commander General Robert Brown stated that ‘allies and partners have a much bigger role’ and stressed that the US Army must include them in all aspects of MDO in order to achieve a sensor and platform agnostic capability. ‘Leaders must understand the capabilities of their partners to include the policies and authorities relative to their employment. In some cases, partner nations have capabilities that exceed those of the US Army and also may have lower thresholds limiting their use’.<sup>44</sup> In discussing interoperability with allies and partners, Murray stated that there are many ways to enhance interoperability, including equipment, training and exercises, observing that ‘we’re going to have to get the fires piece of it nailed’.<sup>45</sup> This would suggest that anything that enables long-range precision fires (LRPF) – the US Army’s top modernisation priority – would be a welcome allied contribution to US multi-domain formations.

Collectively, these observations from senior US Army leaders suggest that expectations of allies fall broadly into three categories: readiness; modernisation; and force structure. Readiness addresses not just combined training and interoperability but also access, permissions and authorities that are critical to the Joint Force’s ability to operate in the poorly defined competitive space. Overly optimistic assumptions about the certainty of obtaining desired access, permissions and authorities, as well as host nation support to facilitate theatre entry and subsequent movement, could put any operational plans at risk. Modernisation addresses acquisition of key capabilities and experimentation. Viewing the US Army’s six modernisation priorities as indicators of critical gaps highlights where allied capabilities could add particular value to multi-domain formations. Force structure contributions are comprised of in-theatre contact forces likely to be among the first units engaged should the threshold from competition to conflict be crossed, as well as niche-capability formations in areas such as intelligence, cyber operations and fires.

The US has a robust architecture in Europe for engaging and coordinating with allies through US Army Europe (USAREUR) and NATO LANDCOM. USAREUR seeks to assist allies and partners to develop and preserve capabilities for regional security while ensuring that they are interoperable with US forces. NATO LANDCOM has infrastructure to support the coordination of operations by echelons above division.<sup>46</sup> The US has committed to expanding the requisite infrastructure

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43. TRADOC, ‘TRADOC Pamphlet 525-3-8 – U.S. Army Concept: Multi-Domain Combined Arms Operations at Echelons Above Brigade 2025-2045’, December 2018, p. 28.

44. Brown, Keynote Presentation at the Association of the United States Army Global Force Symposium and Exposition.

45. Ashley Roque, ‘US Army Including Foreign Allies in Modernisation Efforts, Tackling Interoperability Challenges’, *Jane’s Defence Weekly*, 7 May 2019.

46. NATO, ‘Allied Land Command for the Soldier’, <<https://lc.nato.int/>>, accessed 5 September 2019.

in the theatre through the European Deterrence Initiative (EDI), currently set at \$6.5 billion<sup>47</sup> – although the figure will fluctuate from year to year, depending on appropriations from Congress. However, drawing on the progress made by USARPAC in experimenting with the MDTF, it seems critical to MDO's success that USAREUR is provided with a mandate to support allies in preparing for multi-domain operations, and incorporating allies into experimentation. Without building understanding among allies, USAREUR may struggle to obtain requisite permissions to establish basing and access rights, pre-position equipment and supplies, conduct preparatory intelligence activities, and map EMS and computer networks, which will be critical in enabling MDO.

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47. Congressional Research Service, 'The European Deterrence Initiative: A Budgetary Overview', 8 August 2018, <<https://fas.org/sgp/crs/natsec/IF10946.pdf>>, accessed 9 September 2019.



## II. Capability Challenges in Integrating Allies into MDO

For the United Kingdom the pacing threat is not necessarily Russia or China ... the pacing threat is actually with you and whether you are now accelerating into the future at a pace and a rate that we will never be able to sustain and keep up with.<sup>48</sup>

**T**HE US ARMY recognises that there is likely to be a gap between the ambitions outlined in MDO, and what US forces look like by 2028.<sup>49</sup> As allies will provide the bulk of forces in competition and in the early stages of any conflict, the viability of MDO depends in no small part on the capabilities of allied formations. It is important to recognise that European allies are in a fundamentally different position to the US. US defence spending has increased substantially from 2017<sup>50</sup> to a higher level than the Department of Defense had requested.<sup>51</sup> It has continued to rise to \$738 billion.<sup>52</sup> Beyond the economies of scale made possible by the size of the US military, the significant funding increase is an extraordinary opportunity that is unlikely to be repeated. That opportunity has also accelerated US Army modernisation. While defence spending has risen across Europe,<sup>53</sup> that rise has been small, and does little more than make up for widespread underfunding over the past three decades. The existing capability gap is widening between the US and its allies. This gap is most evident in the air domain. There is a significant gap between the UK versus the US's ability to leverage the data obtained from the F-35s Joint Strike Fighter, or RC135 Rivet Joint surveillance aircraft. France and other countries without fifth-generation aircraft not only lack the capabilities, but also have less familiarity with how these types of planes operate, and consequently a lower capacity to integrate with

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48. Mark Carleton-Smith, 73<sup>rd</sup> Kermit Roosevelt Lecture, Fort Leavenworth, 7 March 2019, 01:06:00, <<https://www.youtube.com/watch?v=bL3JYU1b2l8>>, accessed 26 May 2019.

49. Wesley, 'AUSA Global Force Symposium'.

50. Office of the Under-Secretary of Defense (Comptroller) Chief Financial Officer, 'Defense Budget Overview: United States Department of Defense Fiscal Year 2019 Budget Request', February 2018, <<https://dod.defense.gov/Portals/1/Documents/pubs/FY2019-Budget-Request-Overview-Book.pdf>>, accessed 6 July 2019.

51. Sheryl Gay Stolberg, 'Senate Passes \$700 Billion Pentagon Bill, More Money Than Trump Sought', *New York Times*, 18 September 2017.

52. US Department of Defense, 'DOD Releases Fiscal Year 2020 Budget Proposal', press release, 12 March 2019, <<https://dod.defense.gov/News/News-Releases/News-Release-View/Article/1782623/dod-releases-fiscal-year-2020-budget-proposal/>>, accessed 6 July 2019.

53. Lucie Béraud-Sudreau, 'On the Up: Western Defence Spending in 2018', IISS Military Balance Blog, 15 February 2019, <<https://www.iiss.org/blogs/military-balance/2019/02/european-nato-defence-spending-up>>, accessed 6 July 2019.

operations involving fifth-generation platforms.<sup>54</sup> Yet while European countries are still coming to terms with the implications of fifth-generation aircraft, the US is already looking to move to the next generation of capabilities.

Not all allies require the same level of sophisticated equipment to contribute to MDO, but there are three critical challenges to be addressed: shared situational awareness; coordinating synchronic operations at echelon; and the training burden created by the demands of MDO.

## Shared Situational Awareness

MDO calls for the *convergence* of cross-domain capabilities. By manoeuvring across domains, the US Army seeks to be able to find points of vulnerability in enemy formations and then use those points to maximise the effects deliverable across the Joint Force. It is important to visualise what this means in practice. A ground unit, for example, in penetrating an enemy front line to manoeuvre friendly artillery within range of key enemy assets, may force that enemy to relocate anti-aircraft systems in its deep battle area. If elements of the anti-aircraft system were unable to engage targets while moving, this action could open a window of opportunity for air assets to penetrate key terrain and prosecute strikes, knocking out enemy armour and enablers, thereby helping other ground forces to achieve localised overmatch – more firepower in a limited area. The purpose of the operation outlined above could have been to create a gap in enemy air defences, or the gap could be a by-product of independent ground operations, creating an opportunity that can only be capitalised on if the movement of enemy air-defence systems (observed by friendly troops) can be shared with higher echelons in time for air assets to respond.

The scenario outlined above considers two domains, although in practice space and EW capabilities would also be used. To appreciate the complexity of operating across five domains, consider instead an operation in which ground forces seize an urban area. By securing communication nodes the force might deny adversary access to ISR from civilian infrastructure. Combined with jamming in the EMS and a cyber attack to deny adversary space-based observation, the force could create in a limited area and for a limited duration an unobserved battlespace. Rapidly repositioning, and leaving in place complex decoys, this could allow the force to dislocate and surprise an enemy counterattacking force. Having dislocated the enemy advance, the force might then call upon LRFs to destroy bridges, severing enemy lines of withdrawal so that they can be decisively defeated.

The doctrinal principle of *synchronisation* – critical to AirLand Battle – is insufficient in delivering these kinds of operations because it requires detailed pre-planning and sequencing. The 1991 Gulf War is the pre-eminent case study. Planning for the liberation of Kuwait took months, and progressed from the suppression of Iraqi air defences to the disintegration of Iraqi command

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54. Justin Bronk, 'The Future of Airpower in NATO', *Whitehall Report* (forthcoming).

and control and logistical infrastructure<sup>55</sup> to the defeat of Saddam Hussein's army.<sup>56</sup> Despite the overwhelming success of the campaign, it is important to recognise that it could have had a very different outcome. Saddam Hussein ceded military initiative following his occupation of Kuwait. Had he attacked during Operation *Desert Shield* the conflict could have been disastrous.<sup>57</sup> Envisage a battlefield in which an adversary is contesting all domains, using initiative, and able to use multiple layers of stand-off, combined with wide area jamming and denial of communications to dislocate NATO forces across time, space and function. It is hard to see how operations could be conducted effectively if the operating concept underpinning them is premised on centralised coordination. Instead, commanders who can communicate will need to be able to act to maximise one another's capabilities, exploit opportunities, and mitigate vulnerabilities. To *converge* effects therefore requires two critical elements: timely and verified information describing the operating environment across all domains; and commanders who can understand the multi-domain battlespace and shape their operations to maximise their contribution to the fight across them.

The challenge of aggregating and fusing information across an alliance begins with language. There is a proliferating set of approaches to describing the multi-domain environment. Norway, for instance, has an advanced set of concepts for what it terms '*gjennomgripende operasjoner*', or 'holistic operations'<sup>58</sup> encapsulating the need for soldiers to be able to understand how their actions in one domain may shape another. In France, there is much discussion of *combat collaboratif*, although this term stems from industry rather than the French army.<sup>59</sup> The proliferation of conceptual terminology indicates that there is not yet a unified language or framework for describing the practical details of cross-domain activity. It is probably too ambitious to have an alliance with a common operating picture. However, even shared situational awareness requires a uniform approach to describing cross-domain activity, and for officers to have a common understanding of terms. Developing shared situational awareness must be built upon compatibility of personnel and concepts before aiming for integration of systems.

The approach taken within national forces is often to automate this process and integrate information directly from sensors. Systems integration across the alliance will be uneven,

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55. William F Andrews, *Airpower Against an Army: Challenge and Response in CENTAF's Duel with the Republican Guard* (Maxwell Air Force Base, Montgomery, AL: Air University Press, 1998).

56. Consider the length of time ground units took in pre-positioning while the air campaign progressed, critically shaping subsequent ground operations, see Mike Guardia, *The Fires of Babylon: Eagle Troop and the Battle of 73 Easting* (New York, NY: Casemate Books, 2015).

57. John Matsumura et al., *Lightning Over Water: Sharpening America's Light Forces for Rapid Reaction Missions* (Santa Monica, CA: RAND Corporation, 2000), pp. 15–32.

58. Rune Jakobsen, speech to the Army Summit, Oslo, 2015; see Haeren, 'Visjon 2035' ['Vision 2035'], 2015, p. 61, <[https://forsvaret.no/aktuelt\\_/ForsvaretDocuments/Hærens%20Visjon%202035.pdf](https://forsvaret.no/aktuelt_/ForsvaretDocuments/Hærens%20Visjon%202035.pdf)>, accessed 6 September 2019.

59. Thales, 'For Collaborative Combat, the Future is Now', 29 June 2018, <<https://www.thalesgroup.com/en/worldwide-defence/radiocom/news/collaborative-combat-future-now>>, accessed 6 July 2019.

however. The US military has many systems to aggregate and fuse information to contribute to shared situational awareness, from the US Air Force's Advanced Battle Management System (ABMS)<sup>60</sup> to the Navy's Naval Integrated Fire Control–Counter Air (NIFC-CA)<sup>61</sup> to the Army and Marine Corps Advanced Field Artillery Tactical Data System (AFATDS). France is modernising its systems architecture for information management, in Project *Scorpion*, launched in 2014 to experiment with, refine, and procure new land systems.<sup>62</sup> Project *Scorpion* is also reshaping French doctrine.<sup>63</sup> The Netherlands has come to the view that robotic systems can compensate for its lack of mass, and is pursuing automation.<sup>64</sup> The UK, meanwhile, informed by the 'Future Operating Environment 2035'<sup>65</sup> – published in 2014 – and inspired by the Conceptual Force Land 2035,<sup>66</sup> is experimenting with introducing autonomous systems through Exercise *Autonomous Warrior*.<sup>67</sup> Similarly, the US Army's Next Generation Combat Vehicle programme is pursuing a considerable degree of automation, with the requirement that it be optionally manned.<sup>68</sup> None of these programmes, however, is premised upon a common operating system, or underpinning digital architecture across the alliance. Integrating these parallel systems is likely to be imperfect, expensive, complex, and slow. Other members of the alliance, meanwhile – notably Germany – are strongly opposed to the development of autonomous military systems. Even among allies that accept the premise of the system of systems and automated information management there may be reluctance to integrate. From Washington's perspective, allies with more vulnerable systems could create threat vectors for the security of US data, if their sensors are integrated directly with US battle-management networks. Conversely, many allies are likely to be reluctant to render their systems dependent on the US to function and will be sceptical of systems that export large quantities of data to foreign countries.

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60. Kris Osborn, 'The Air Force is Creating a System to Manage the Military's Forces in War', *National Interest*, 1 March 2018.

61. Tom Rowden, 'Navy and Marines Demonstrate Integrated Fire Control', *America's Navy* (No. 52, Fall 2016).

62. Nick de Larrinaga, 'Enter the Scorpion: French Army Vehicle Fleet Modernisation', *Jane's Defence Weekly*, <[https://www.janes.com/images/assets/594/60594/Enter\\_the\\_Scorpion\\_French\\_Army\\_vehicle\\_fleet\\_modernisation.pdf](https://www.janes.com/images/assets/594/60594/Enter_the_Scorpion_French_Army_vehicle_fleet_modernisation.pdf)>, accessed 6 September 2019.

63. Pierre Bertrand (ed.), 'Les Attendus de Scorpion', *Revue de Doctrine des Forces Terrestres* (Paris: Laboratoire du Combat, 2019).

64. Royal Netherlands Army, 'Security Through Foresight: The Royal Netherlands Army Vision of the Future', November 2018.

65. Ministry of Defence, 'Strategic Trends Programme: Future Operating Environment 2035', First Edition, November 2014.

66. Ministry of Defence, 'Joint Concept Note 1/17: Future Force Concept', July 2017.

67. Ministry of Defence, 'DE&S Supports Autonomous Technology Trials', <<https://des.mod.uk/des-supports-autonomous-technology-trials-2>>, accessed 6 September 2019.

68. Andrew Fieckert, 'The Army's Optionally Manned Fighting Vehicle (OMFV) Program: Background and Issues for Congress', CRS Report 45519, Congressional Research Service, updated 21 June 2019, <<https://fas.org/sgp/crs/weapons/R45519.pdf>>, accessed 6 July 2019.

Since complete systems integration is not likely to be achievable, developing a common language for describing the multi-domain environment is critical to MDO. The US Army is beginning to build a map of EMS and cyber infrastructure in partnership with allies. Once that map is built, it will be necessary to have a standardised way of communicating changes. Within a cyber context, it will be necessary for countries across the alliance to be able to share information on the threats to and attacks on their cyber infrastructure. This demands a common language for reporting cyber threats. Such languages exist. In industry, Structured Threat Information eXpression (STIX)<sup>69</sup> and its successors are becoming a common language within cyber threat intelligence. This allows different organisations to collect information from multiple sources and turn it into a standardised format that can then be compared and analysed, or shared. Similar standards for NATO would enable the alliance to maintain shared situational awareness within cyberspace. Standardising the language used to describe one domain, however, must then be translated so that commanders with backgrounds in other domains can, if not fully understand, then at least remain aware of developments within cyberspace.

## Coordinating Synchronic Operations at Echelon

MDO redraws the battlefield framework articulated in AirLand Battle and its distinctions between the close, deep and rear battle. Rather than divisions and Brigade Combat Teams (BCTs) being the critical warfighting formations, MDO envisages all echelons from BCT to field army being simultaneously engaged in manoeuvre and cross-domain fires. Moreover, since cyber and space capabilities are liable to be controlled at the field army or national level, yet BCT operations may be aimed at maximising advantage in these domains, the idea that higher echelons support the close fight could be reversed, so that in certain situations BCTs directly support the field army fight. Senior political and military leaders have repeatedly identified the lack of authorities at lower echelons to conduct space, cyberspace, information, and electronic warfare operations as a matter of critical concern. Admiral Michael Rogers, former Commander of USCYBERCOM, for example, reported that ‘many have indicated that the authorities in cyberspace from a military perspective are too slow and not deliberate enough’.<sup>70</sup>

Which echelon is supporting, which is supported, and which domain and echelon comprises the main effort, is likely to fluctuate. This reinforces the need for shared situational awareness. It also presents a challenge for allies whose country’s largest force packages are brigade strength. This does not just include small countries such as the Baltic states, as larger militaries may struggle to deliver force packages larger than brigades in the early stages of conflict.<sup>71</sup> Many countries do not have the capabilities to shape the fight at higher echelons. Although the UK, France and the Netherlands have significant offensive cyber capabilities, they are not

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69. MITRE, ‘Structured Threat Information eXpression – STIX™: A Structured Language for Cyber Threat Intelligence Information’, <<https://makingsecuritymeasurable.mitre.org/docs/stix-intro-handout.pdf>>, accessed 6 July 2019.

70. Mark Pomerleau, ‘6 Priorities on Cyber Command’s Extensive To-Do List’, *Real Clear Defense*, 10 May 2017.

71. Watling and Bronk, ‘Strike: From Concept to Force’, pp. 1–4.

integrated, and so even where there is conceptual understanding, operational cooperation is challenging. For countries without significant cyber warfare capabilities, the capacity to support higher echelons will be difficult. Yet in the early stages of a conflict, it would likely be precisely these states with the greatest initial mass in the field. The fluctuation of initiative and support between echelons – with the level of mission command necessary to take advantage of such opportunities – also poses a challenge with regard to permissions. While counterinsurgency forced a great deal of cross-government cooperation, the emphasis on security in the face of modern terrorism has spurred a trend towards centralised decision-making, as typified by the UK's Fusion Doctrine,<sup>72</sup> which raises decision-making authority to higher echelons that could be overwhelmed in a major conflict.

The viability of briefing many alliance members on some of the more sensitive capabilities held at higher echelons is limited. Consequently, it will be necessary to take a different approach to improve the coordination of synchronic operations at echelon. The use of US liaison officers in allied brigade headquarters could help to provide greater awareness of options available through multi-domain capabilities and reporting on the multi-domain environment to higher echelons. Certain allies could also play a role in helping with this liaison function. The Netherlands, for example, working extensively across Europe to improve cyber security,<sup>73</sup> could help to both build understanding and act as a liaison, since many states would find sharing details of cyber infrastructure with the Netherlands less politically sensitive than with the US.<sup>74</sup> The UK's Specialised Infantry Group, with teams potentially embedded with partnered forces, could also provide a liaison function since there is a high degree of integration – and consequently awareness – between UK and US intelligence and cyber capabilities. Canada, given its membership of Five Eyes,<sup>75</sup> may similarly provide an effective liaison function between brigades and the MDTF through its leadership of an Enhanced Forward Presence battlegroup in Latvia. Making MDO work may involve using operating concepts from allied states. The UK's Integrated Operating Concept, for example, argues that British forces must operate across the spectrum from protect and engage to constrain and fight.<sup>76</sup> Securing information and cyber architecture, and engaging with local partners, are both functions that can help build resilient links for coordinating operations at different echelons.

A further potential avenue for integrating allies with MDO is to take specific allied units and train with them to conduct tasks of particular relevance to the MDTF. Many European brigades would have standard warfighting tasks to hold critical ground. Others might have additional missions

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72. William McKeran, 'Fusion Doctrine: One Year On', *RUSI Commentary*, 8 March 2019.

73. Government of the Netherlands, 'Building Digital Bridges: International Cyber Strategy Towards an Integrated International Cyber Policy', AVT17/BZ122203, 12 February 2017.

74. This is due to the highly consultative approach the Netherlands has taken in developing cyber-warfare governance, see Alexander Claver, 'Governance of Cyber Warfare in the Netherlands: An Explanatory Investigation', *International Journal of Intelligence, Security, and Public Affairs* (Vol. 20, No. 2, 2018), pp. 155–80.

75. Australia, Canada, New Zealand, the UK, and the US.

76. Development, Concepts, and Doctrine Centre, 'Integrated Operating Concept.'

to support conflict undertaken at higher echelons. An example of this would be the UK Strike Brigades. If they are delivered along the lines currently envisaged by the Strike Experimentation Group, this mobile force would contain a high level of ISR capabilities, and the training and mandate to operationally penetrate enemy forces.<sup>77</sup> The force might therefore be able to channel critical information on enemy anti-aircraft systems to higher echelons to allow them to conduct strikes, whether via electronic warfare, cyber capabilities, or LRPF. Another group of formations that could contribute to this function are Baltic naval forces, especially those of Sweden. The small Baltic fleets have limited strike capabilities by themselves. However, with two Russian *Kilo*-class submarines based in Kaliningrad, a substantial threat from air-launched and ground-based fires, and limited sea room in which to hide, entering the Baltics in the early stages of a conflict would be highly risky for large NATO surface combatants. Given Russia's interest in conserving missiles for high-value targets and the fact that they would already be in place, Baltic fleets could provide high levels of valuable ISR and conduct disruptive operations in support of higher echelon efforts to break down Russian C2 and A2AD systems.

## Training to Fight MDO

Developing understanding of the capabilities to be fought by higher echelons and using formations that can best support MDO requires realistic and demanding training. Current training for headquarters is unlikely to be sufficient to support these efforts. There are critical elements of MDO – especially operations in the EMS – that are difficult to train for in Europe. If the US is to have allies that can support MDO, the US Army will likely need to support additional training for European forces. Significant progress has already been made in this during the Joint Warfighting Experiment 2019, in which allies operated as part of a US Corps.<sup>78</sup>

NATO has an expanding number of two-star headquarters across Europe. This expansion fragments authority and is disproportionate to the number of divisions fieldable by the alliance. It is also evident that while the exercises conducted by these headquarters may train the staff for high-end warfighting, the fact that NATO countries struggle to maintain Combat Service Support (CSS) capabilities able to sustain more than a division<sup>79</sup> means that large-scale exercises for two-star headquarters are usually virtual. These virtual exercises, however, are one-way, in that the decisions of the headquarters affect the simulation, but the absence of real troops at the other end does not replicate junior officers forcing decisions on the headquarters. Virtual exercises rarely enable training for the interactions between brigade and corps that MDO demands. A solution would be to conduct brigade exercises paired with high echelon exercises in which the virtual corps or field army battle is directly shaped by opportunities or vulnerabilities created by the actions of the exercising brigade. For European partners whose whole force is little more

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77. Watling and Bronk, 'Strike: From Concept to Force'.

78. John Mead, 'Winning the Firefight on the "Road to Warfighter"', *British Army Review* (Vol. 175, Summer 2019), pp. 65–73.

79. As demonstrated when Norway used its powers to mobilise civilian companies and national infrastructure to support Exercise *Trident Juncture* but were still only able to sustain a division; After Action Review received by the author from NATO officials, June 2019.

than a brigade, the cost of mobilising for a brigade exercise could be prohibitively expensive, especially when the capabilities that shape the exercise are not employable by their own forces. Nevertheless, such exercises, by embedding observers from the brigade into the MDTF, could help to improve understanding at the tactical level of the fight at higher echelons.

For such exercises to be valuable there will need to be a change in the cultural approach taken. At present, NATO exercises, and joint exercises between European and US forces, are inflexible and overly scripted, for several reasons. One is that NATO allies are reluctant to have their limitations demonstrated in front of US partners. Very little is trained to the point of failure. This limits the training value of these exercises. Scripting is also pushed by NATO, which wishes such activities to be used to bolster its image internally, and its deterrence posture externally. This makes failure unacceptable. While the exercises contribute to assurance of allies and deterrence of potential adversaries, NATO leaders must focus on the actual capabilities undergirding them and reduce emphasis on overly optimistic outcomes routinely lauded on Distinguished Visitors Days.

A further complication is that there are few areas in a densely populated Europe where extensive military activity in the EMS can be carried out without interfering with civilian infrastructure. The result is that British forces, for instance, in large-scale exercises, tend to practise operating in the face of enemy jamming by having units turn off their radios for a period of time.<sup>80</sup> This is a poor simulation. It does not create the validation issues that make jamming highly disruptive. In contrast, the US retains dedicated training areas that are sufficiently large and isolated and have the appropriate infrastructure to carry out large-scale exercises with cyber operations and EMS disruption present. If allied forces are to be trained to fight MDO, either European allies must pool the costs of a training area suitable for it, or the US should consider supporting more allied training at appropriate facilities. In practice, given the timelines required to deliver MDO, both approaches will likely need to be undertaken.

While this may appear to be a cost to the US in supporting allied forces, it is an investment for the US Army by providing it with an independent and highly competent Opposition Force to train against, prepared to conduct operations in new ways. It would also help to expose US commanders to developing European capabilities that may contribute to MDO, whether ground-based air defence, autonomous ground systems,<sup>81</sup> or novel employment of unmanned aircraft systems.<sup>82</sup> Since European allies will continue to modernise their forces with a variety

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80. As explained in a briefing by exercise planners to one of the authors in London, November 2018. This was also a reason for the absence of EMS interference in tests for AWE18.

81. European forces are now deploying unmanned ground systems into theatre, see Melanie Rovey, 'Xponential 2019: Estonia Deploys THeMIS UGV to Mali', *Jane's Defence Weekly*, 2 May 2019; and conducting extensive experimentation on their impact on infantry tactics, see David Axe, 'Robotic Tanks Guarded Marines in "First-Time" British War Game', *National Interest*, 29 April 2019.

82. Royal Marines were able to use small unmanned aircraft systems to extensively disrupt US Marine Corps forces during joint exercises in late January 2019. Field Report from US–UK Joint Exercise held in the US, received by author, January 2019 (not open source).

of systems, the US Army needs to think carefully about how it may integrate capabilities that are not fully compatible with US systems into multi-domain formations. Joint exercises provide valuable opportunities to test system compatibility.

## Learning to Compete

In several of the cases outlined above the US will need to support its allies to integrate them into MDO. However, there are some areas of MDO in which allies are better suited to lead. The most obvious of these is information operations in the competition phase. While the US Army has an excellent cadre of liaison officers and foreign area specialists, there is a tendency for leaders to focus on internal issues, such as resourcing, capability development and doctrinal deliberations, and consequently to view the competitive space through a US lens that does not always best reflect the reality on the ground. Given the global reach of US operations, many American leaders are responsible for operations across large geographic areas, and consequently cannot be as familiar with the cultural context in particular states as their regional allies.

In many competitive spaces, when it comes to clear communications, US allies are liable to have a far better understanding of the audience, of how messages will be received, and of the concerns of communities that the alliance is seeking to influence. The Baltic states, for instance, are far better informed about the attitudes of their own minority Russian population. Ukrainian or other former Eastern Bloc officers, some of whom were trained and served in Soviet formations, speak Russian, and today are present on Russian social media, or have Russian family, are better able to understand how that audience will receive information. A further reason why many allies are liable to be more effective in the information space is that it is comparatively more important for weaker states. The US can always resort to a credible threat of force. Weaker states cannot. The distinction is evident in the concept. MDO includes competition below the threshold to deter armed conflict and straddles the divide between peace and war. However, the emphasis is on warfighting, as the phases flow from compete, through penetrate, disintegrate, exploit, and re-compete. Compare this with the UK's Integrated Operating Concept (IOpC), which places equal emphasis on warfighting and operations below the threshold of armed conflict, both in deterrence, and in shaping the operational environment to ensure a favourable posture should fighting break out. In the IOpC, the fight phase is the final rung on the escalation ladder. While US assets will be critical to deterrence, therefore, in information operations, allies have more to offer in shaping and delivering the narrative to enable effective competition.



# III. Political Hurdles to Implementing Multi-Domain Operations

The Army doesn't have a role in defining future policy, and what we argue is we are going to describe how you win. The policy questions will be decided by others, but we have to inform policymakers and policy decision-makers on the implications of MDO.<sup>83</sup>

**A**LTHOUGH THE US Army's role is not to define policy, statements from its leaders shape the messaging of MDO for allies and will have a significant impact on whether the US can advance the policy changes necessary to build an MDO-capable force. It is therefore important that US officers are policy aware, even if they are not working to set policy objectives. Moreover, while MDO becomes operable by 2028, competition in the information space has been underway for some time. General Valery Gerasimov, Chief of the General Staff of the Armed Forces of the Russian Federation, is already discussing the threat posed by MDO,<sup>84</sup> and it is reasonable to expect Russian information operations to seek to salt the earth before MDO can be implemented.

MDO outlines how the US Army will operate globally against peer competitors. The need for the scale of change envisioned to make the concept operable is driven increasingly by US concerns about China. Although 'Russia serves as the pacing threat'<sup>85</sup> against which MDO will develop Training, Tactics and Procedures (TTPs), China is the strategic competitor against which the capabilities are being developed. As a senior US officer noted, 'our task is to be able to defeat two peer-level adversaries simultaneously'.<sup>86</sup> The scale and complexity of the Pacific theatre, with potential flashpoints with China or North Korea, may put pressure on the US to increase its force strength in the region. The US will consequently want NATO allies to provide as much capability as possible to free US forces for deployment to the Pacific.<sup>87</sup>

This generates several quandaries for how MDO is messaged, and how US allies are integrated with the concept. Allied commitment to support MDO must be based on political support from

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83. Wesley, 'AUSA Global Force Symposium', 00:41:00, <<https://www.dvidshub.net/video/668339/ausa-global-force-symposium-day-3-opening-remarks-and-keynote-speaker>>, accessed 26 May 2019.

84. Leonid Bershidsky, 'What Scares Russia's Generals the Most? Russians', *Bloomberg*, 4 March 2019.

85. US Army, 'The US Army in Multi-Domain Operations 2028', p. vi.

86. Author interview with senior US officer, London, February 2019.

87. There has been continuity between the Obama and Trump administrations on urging European allies to increase military spending.

allied governments. As General James Mattis observed in his foreword to *Operational Culture for the Warfighter: Principles and Applications*, 'In today's information age, we must recognize that the essential "key terrain" is the will of a host nation's population. This ... permits us to gain the trust of skeptical populations, thus frustrating the enemy's efforts and suffocating their ideology'.<sup>88</sup> This insight remains relevant to the populations of partners and allies during the competition phase of MDO as adversaries conduct operations below the threshold of armed aggression.

European partners do not see China in the same manner as does the US. In the UK, policymakers are torn between viewing China as a security threat<sup>89</sup> and an economic opportunity.<sup>90</sup> Even those who acknowledge that China may be a competitor – such as Carleton-Smith – also feel that Chinese investment into Africa may help to support economic development and therefore build stability on the continent, easing the political disruption of migration to Europe.<sup>91</sup> In several European states, China is seen as a partner rather than a competitor.<sup>92</sup> China already owns more than 10% of the continents' seaports. The prospects of a war of necessity between China and Europe seem remote. Nor is there much agreement among European states with the idea that China poses a threat to the US. A threat to US hegemony in East Asia is not seen as comparable to the threat to European territorial integrity posed by Russia. This divergence in political outlook means that there is a risk that European NATO member states will not sign up to an operating concept that in their view requires an increase in military expenditure to safeguard US dominance in East Asia.

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88. Barak A Salmoni and Paula Holmes-Eber, *Operational Culture for the Warfighter: Principles and Applications* (Quantico, VA: Marine Corps University Press, 2008), p. vii.

89. A position widely appreciated among the security establishment, see Charles Parton, 'China–UK Relations: Where to Draw the Border Between Influence and Interference?', *RUSI Occasional Papers* (February 2019).

90. A tension starkly demonstrated by the Secretary of State's announcement of FONOPS in the South China Sea while the Chancellor was planning on travelling to China to strengthen business ties, see Henry Mance and George Parker, 'UK Chancellor Pulls Out of Trip to China', *Financial Times*, 16 February 2019.

91. Carleton-Smith, 73<sup>rd</sup> Kermit Roosevelt Lecture, 00:48:50.

92. Italy has joined China's Belt and Road Initiative, see *BBC News*, 'Italy Joins China's New Silk Road Project', 23 March 2019; as has Greece, see Valery Hopkins, 'Greece Eyes 16+1 Group of China and Eastern European States', *Financial Times*, 11 April 2019.

Most European states do perceive a clear threat emanating from Russia.<sup>93</sup> However, public tensions between Europe and Washington,<sup>94</sup> combined with scepticism over US policy in the Iraq War – exacerbated by diverging policies on Iran<sup>95</sup> with some European states actively trying to build mechanisms to circumvent US sanctions<sup>96</sup> – means that European leaders may pay a political price for being perceived as conforming too much with US defence policy. If MDO requires allies to increase expenditure to modernise and increase readiness, then the investment required to develop necessary capabilities is not likely to be granted in response to public US prompting. The result has been a move towards ‘European Strategic Autonomy’,<sup>97</sup> a concept that, while politically palatable in Europe, prompts some concern in Washington.<sup>98</sup> Furthermore, especially in the early stages of a conflict, the US military will be very dependent on the capability of in-place contact forces, with allies bearing most initial risk. National priorities and alliance obligations will overshadow the imperatives of MDO. It is likely to be politically unacceptable for allies to publicly subordinate their formations to US command if the US is not present in strength. Since most of the US Army is based in the continental United States, the bulk of its formations must execute strategic and operational manoeuvre prior to employment. Allies, by contrast, as contact forces, will already be ‘in the fight’. It is important to stress that the US Army, in needing to enter theatre, would be critically dependent on European seaports, many of which are under direct threat of Russian strikes. In some cases, European allies may contribute more to their own security by hardening infrastructure and investing in integrated air and missile defence than by fielding small, politically constrained combat formations. To enable this, the US may need to take a more case-specific view of how contribution towards the 2% NATO spending target is defined.

European Strategic Autonomy and national primacy are not incompatible with MDO, which calls for mission command, and for units to be self-synchronising rather than directed. A large number of formations operating in a common, yet decentralised, framework is workable.

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93. NATO leaders issued a joint communiqué in 2015 affirming their commitment to ‘a coherent and comprehensive package of necessary measures to respond to the changes in the security environment on NATO’s borders ... posed by Russia’, see NATO, ‘Wales Summit Declaration’, 5 September 2014, last updated 30 August 2018, <[https://www.nato.int/cps/en/natohq/official\\_texts\\_112964.htm](https://www.nato.int/cps/en/natohq/official_texts_112964.htm)>, accessed 26 May 2019.
  94. Richard Wike et al., ‘Trump’s International Ratings Remain Low, Especially Among Key Allies’, Pew Research Center, 1 October 2018.
  95. Starkly demonstrated when a senior UK officer publicly dissented from US assessments of the security threat posed by Iran, see Lucy Fisher and Catherine Philip, ‘Britain and US Clash Over Threat from Iran’, *The Times*, 16 May 2019.
  96. Michael Peel and David Sheppard, ‘EU Launches Package to Counter US Sanctions on Iran’, *Financial Times*, 18 May 2019.
  97. Ronja Kempin and Barbara Kunz, *France, Germany, and the Quest for European Strategic Autonomy: Franco–German Defence Cooperation in a New Era* (Paris: Institut français des relations internationales [Ifri], 2017).
  98. Guy Chazan and Michael Peel, ‘US Warns Against European Joint Military Project’, *Financial Times*, 14 May 2019.

European forces can execute operations that support MDO within a NATO framework that does not amalgamate European formations into a US command structure. Although structures like NATO LANDCOM provide an institutional structure for integrating militaries, it is very likely that national forces subordinated to it will have caveats attached to their employment – as happened in Afghanistan – which could seriously disrupt operations if not anticipated by US planners.<sup>99</sup> It is therefore critical that the US develops a deeper understanding of national military objectives, and advises on how these missions could be adapted to support MDO. Some allies, such as the UK, may provide units that can be directly integrated into US multi-domain formations built around its intelligence, information, cyber, electronic warfare and space capabilities in the near term, including the newly formed 6<sup>th</sup> (United Kingdom) Division.<sup>100</sup> Through the enhanced forward presence framework, the UK and Canada may be key enablers for US multi-domain formations to coordinate with Baltic colleagues. However, the expectation should be that Baltic units will have national priorities that US planners will be able to shape but are unlikely to be able to direct.

A second political hurdle for implementing MDO in Europe is permissions, especially those for LRPF and cyber operations. MDO envisages the use of LRPF with an effective range beyond 500 miles, with a goal of artillery that can shoot 1,000 km. The intent is to deploy fires in Europe able to outrange Russia's Iskander short-range ballistic missiles to strike railways, ammunition dumps and infrastructure critical to Russia's Integrated Air Defence System (IADS) in the event of conflict. The political ramifications of reintroducing these systems to Europe may be significant. Russia perceives NATO as a threat,<sup>101</sup> and likely would respond with aggressive messaging to the reintroduction of these systems, whether with the threat of nuclear retaliation,<sup>102</sup> or simply the demonstration of its capabilities to hit back. If US LRPF makes European populations feel that they are being targeted, the US presence is liable to make them feel less, rather than more, safe.<sup>103</sup> In this climate, gaining permission to base LRPF on European territories may be difficult. Since MDO involves competition below the threshold of armed conflict, a critical test for whether the army is capable of delivering it will be whether Washington and its NATO allies can counter the narrative – inevitably amplified by Moscow's information operations –

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99. Stephen M Saideman and David P Auerswald, 'Comparing Caveats: Understanding the Sources of National Restrictions upon NATO's Mission in Afghanistan', *International Studies Quarterly* (Vol. 56, No. 1, 2012), pp. 67–84.

100. UK Army, 'Cutting Edge Capabilities: 6<sup>th</sup> (United Kingdom) Division', <<https://www.army.mod.uk/who-we-are/formations-divisions-brigades/6th-united-kingdom-division/>>, accessed 8 August 2019.

101. Bryan Frederick et al., *Assessing Russian Reactions to US and NATO Posture Enhancements* (Washington, DC: RAND Corporation, 2017), p. 74.

102. Teis Jensen, 'Russia Threatens to Aim Nuclear Missiles at Denmark Ships if it Joins NATO Shield', *Reuters*, 22 March 2015.

103. Ambivalence to NATO is rising among European publics, suggesting that if the alliance's posture becomes politically prominent, views could go either way, see Matthew Smith, 'Support for NATO Falls in Key European Nations', *YouGov*, 3 April 2019, <<https://yougov.co.uk/topics/international/articles-reports/2019/04/03/support-nato-falls-key-european-nations>>, accessed 26 May 2019.

that the US is militarising and destabilising Europe in order to pick a fight with Russia and compete with China.

While countries such as Poland are likely to be supportive,<sup>104</sup> and may acquiesce or advocate for having LRPf based on their territory, others including Germany<sup>105</sup> and Austria<sup>106</sup> are not. However, if the other elements of MDO are to be actionable – enabling the US to counterattack against a Russian incursion within 21 days – there will need to be widespread European cooperation on the movement of personnel and arms across borders. USAREUR has been attempting to negotiate a military Schengen for some time.<sup>107</sup> At present, however, there are no consistent procedures in place. European brigade commanders, for example, let alone soldiers, asked about how military vehicles are to proceed through toll roads in foreign states, rarely know what the appropriate procedure is. It is often assumed by officers that in the event of war such things will be dealt with. However, it is entirely reasonable to assume that a toll-road operator or border post confronted with a foreign military column may delay its transit to seek authorisation and instruction from higher authority. Nor is there at present a common integrated transportation plan in NATO, so that the same pool of privately owned heavy equipment transporters (HETs) are often worked into the planning assumptions of multiple militaries. The EU's Permanent Structured Cooperation<sup>108</sup> (PESCO) initiative is intended to address some of these issues, but as a former senior US officer noted, it 'doesn't reveal any sense of urgency'.<sup>109</sup> As PESCO demonstrates, however, solutions to these challenges, given that they will need to be enacted in peacetime, are more likely to centre on European institutions than NATO ones. In addition, while NATO organisations are supportive of military integration, the issue is contentious in the EU. A dispute over the deployment of LRPf could see the introduction of caveats to military movements that would prove disruptive to rapid military deployment and supply, especially prior to the outbreak of armed conflict.

That MDO envisages constant competition below the threshold of armed conflict in all domains creates challenges for cyber and information operations. Cyber operations – whether to protect and monitor critical national infrastructure (CNI) or to build access for offensive cyber operations – play out in peacetime long before an escalation to conflict. There are numerous barriers to integrating these efforts. Providing a foreign state access to NATO members' CNI or permission to conduct cyber reconnaissance in peacetime would be politically sensitive as it would mean

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104. Soraya Sarhaddi Nelson, 'Poland Requests US Base to Guard Against Russian Aggression', *NPR*, 22 November 2018.

105. John Vandiver, 'Poll: 42% of Germans Want US Troops Out of Country', *Stars and Stripes*, 12 July 2018.

106. As a senior Austrian military official noted to one of the authors, 'you must not get swept up in this obsession with demonising Russia', London, November 2018.

107. David Herszenhorn, 'Call for "Military Schengen" to Get Troops Moving', *Politico*, 4 August 2017.

108. Permanent Structured Cooperation (PESCO), 'Deepening Defence Cooperation Among EU Member States', May 2019, <[https://eeas.europa.eu/sites/eeas/files/pesco\\_factsheet\\_may\\_2019.pdf](https://eeas.europa.eu/sites/eeas/files/pesco_factsheet_may_2019.pdf)>, accessed 8 August 2019.

109. Author correspondence with former senior US Army officer, 6 August 2019.

allowing a foreign state to have a back door into a nation's CNI. If such permission were granted, it would likely include requirements for the US to notify allies of the activity. Since many cyber weapons-targeting military systems are useful only when an adversary does not know about the capability, communicating this activity would present security challenges for the US. It would also risk the proliferation of cyber capabilities once allies invariably examined the tools employed by US forces as it entered host nation networks. The risk of cyber weapon proliferation was demonstrated during the *WannaCry* attacks, which put ransomware on a number of major corporate systems around the world, and several NHS hospitals.<sup>110</sup> The malware originated with the US National Security Agency, and continues to hit civilian systems to this day.<sup>111</sup> If Washington conducts these activities without notifying host nations to conceal its own capabilities, the discovery of these efforts could do serious harm to public support for US military presence in Europe, comparable to the reputational damage inflicted by Edward Snowden's revelations over bulk collection,<sup>112</sup> including on German politicians.<sup>113</sup> A similar challenge is presented by information operations. If a narrative develops that the US is practising information warfare involving NATO allies to counter Russian disinformation, the reaction is liable to be negative. Public concern in European states about information operations intended to counter domestic Russian propaganda indicates that such activities are politically sensitive.<sup>114</sup> Given the outcry over foreign interference in the US electoral process, the idea of American agencies working to 'compete' on allied territory is liable to cause a negative reaction among European publics.

While the US has extensive experience in contributing to European security by maintaining close relationships with allies and partners, it still lacks a broad understanding of Russia's grey-zone capabilities and intentions as they are pursued around the globe.<sup>115</sup> The political challenges outlined above should not prevent effective implementation of MDO, but they represent risks that may be accentuated by the framing of China in selling MDO to a domestic US policy community. US policymakers should be vigilant about how their proposals play out in the information domain and work closely with allies to understand how their statements are being

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110. Department of Health and Social Care and NHS, 'Lessons Learned: Review of the Wannacry Ransomware Cyber Attack', 1 February 2018, <<https://www.england.nhs.uk/wp-content/uploads/2018/02/lessons-learned-review-wannacry-ransomware-cyber-attack-cio-review.pdf>>, accessed 9 September 2019.

111. Zack Whittaker, 'Two Years After Wannacry, a Million Computers Remain at Risk', *TechCrunch*, 12 May 2019.

112. Network of European Union Centers of Excellence (EUCE), 'The NSA Leaks and Transatlantic Relations', 25 June 2014, <[https://europe.unc.edu/files/2016/11/Brief\\_NSA\\_Leaks\\_Transatlantic\\_Relations\\_2014.pdf](https://europe.unc.edu/files/2016/11/Brief_NSA_Leaks_Transatlantic_Relations_2014.pdf)>, accessed 6 July 2019.

113. Melissa Eddy, 'File is Said to Confirm N.S.A. Spied on Merkel', *New York Times*, 1 July 2015.

114. Labour Party, 'Emily Thornberry Responds to Reported Government Funded Attacks on the Labour Party', press release, 9 December 2018, <<https://labour.org.uk/press/emily-thornberry-responds-reported-government-funded-attacks-labour-party/>>, accessed 15 August 2019.

115. Jason Werchan, 'Required US Capabilities for Combatting Russian Activities Abroad', in Nicole Peterson (ed.), 'Russian Strategic Intentions, A Strategic Multilayer Assessment (SMA) White Paper', US Army, May 2019, p. 135.

received. It is reasonable to conclude that MDO may be more vulnerable to political opposition if sold as a *grande narrative*, since the US is likely to find itself trying to convey different narratives in different theatres, and those messages will be compared, and the contradictions noted. Instead, elements of MDO will need to be implemented with allies through bilateral dialogue. MDO's authors should use existing channels to develop awareness of the concept and its demands. A good example would be building on USAREUR's efforts to build bilateral frameworks, such as a recent collaboration roadmap signed with Estonia.<sup>116</sup>

The US military is likely to achieve the greatest cooperation from European allies and is therefore more likely to succeed at integrating those allies with MDO, the less it appears to deliberately lead that process. An obvious example is defence spending. European states are increasing spending because they recognise an expanding threat from Russia. The US has a critical interest in ensuring that new systems procured by European partners are MDO compatible. However, there is a risk that in making this case the US will be perceived to be using MDO as a vehicle to push European militaries to buy American equipment. When asked about how to integrate allies with MDO, a senior US Army leader remarked that 'we need to prioritise foreign defence sales'.<sup>117</sup> The message did not resonate favourably with allied officers present. If the US is to constructively influence the modernisation of European capabilities, it must encourage European or joint initiatives to be designed to be MDO compatible, rather than using MDO as a vehicle for driving foreign military sales.

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116. *Army Recognition*, 'Estonia and U.S. Signed a Roadmap for Defense Collaboration 2019–2024', 26 May 2019.

117. Jack Watling, 'Allies in the Multi-Domain Task Force', *RUSI Defence Systems*, 5 April 2019.



# Conclusions

**T**HE US ARMY is engaged in a highly deliberative process in developing multi-domain operations (MDO). The impetus to modernise the force and how it fights, however, is felt not only by the US. Allies are also rapidly reviewing their doctrine and capabilities. This presents a critical window of opportunity for the US – as the leading power in NATO – to help ensure that emerging capabilities are compatible. So far, the US Army has built its engagement upwards from internal stakeholders to the Joint Force, and increasingly with allies. Given the limited timeframe, however, it is important that these engagements are pursued in parallel.

Critical allied contributions to MDO include supporting the calibrated force posture of Alliance forces, leveraging knowledge and pursuing permissions to effectively compete below the threshold of armed conflict, and support development of critical capabilities that enable LRPF and the constituent components of their kill chain.

The US will need to bound its expectations in light of limited allied resources, and capabilities. Some allies will have a greater understanding of how certain capabilities function and will be able to contribute more to US multi-domain formations. Specific formations, such as the UK Strike Brigades and Dutch cyber teams, given their significant ISR capabilities, could directly support higher echelons. In order to integrate less advanced units into multi-domain formations it will be necessary to maintain effective liaison.

The biggest barrier to interoperability is the lack of a common language across the alliance to describe the multi-domain environment, and to communicate changes in that environment. The US needs to support the development of a common language, a common systems architecture for sharing situational awareness, and the training to enable allied formations to understand critical capabilities and how to leverage them.

Securing the political permissions necessary to make MDO operable will require extensive negotiations with allies. These are best had in a bilateral context, or in support of allied frameworks, such as the Joint Expeditionary Force (JEF) or EU in the case of facilitating movement of military stores in Europe. The EU is also critical in reducing European dependence on Russian gas and strengthening its position in the competition space. Visible European leadership is best supported rather than challenged in this context, however. If MDO appears to be a US vehicle for ramping up tensions with Russia, NATO risks losing competition in the information domain.

The US Army and its European allies must fully leverage each state's unique capabilities to exploit the existing window of opportunity to build an MDO-capable multinational force with sufficient readiness, authorities, interoperability and force posture to effectively compete below the threshold of armed conflict, deter, and prevail in conflict should deterrence fail.



# About the Authors

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