NATO Joint Military Exercises: A Strive for Military Interoperability

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Introduction

Current geopolitical challenges are ever so complex because of their scope and scale. Therefore, they require highly developed technologies and a multilateral approach as single militaries cannot face a multi-layered strategy alone. Military experts within NATO agree that successful missions presuppose cooperation between member states in the form of efficient information exchange and coordinated activities as well as interoperability between the industrial and military sectors.
Accordingly, the military exercises conducted by NATO to connect member states' forces and improve the innovation of military capabilities.

Interoperability reflects the willingness to cooperate among sectors, nations, and institutions. According to most military and defence experts, interoperability not only satisfies the need for political consensus regarding certain military missions, but it also represents a strategic advantage per se (Roger et al., 2021). The interconnection between nations, for example, would help increase the flow of classified information and material regarding urgent security matters that require the attention of all European militaries. Cooperation between governments and commercial technology industries would assess the necessary counteractions for hybrid attacks, such as a strategy to assess and reduce the impact of Russian disinformation campaigns during national electoral campaigns on voter preferences, like in the case of the 2017 German elections. Within the security and defence world, accurate and fast responses to any threat are vital for the success of the overall operation, for example in counterterrorism. The strategic advantage that interoperability offers is measured by how it increases militaries' capability to plan, mobilise, and retain valuable information from different domains and nations.

In practical terms, interoperability significantly reduces the costs and it proposes a solution for cases where the shortage of personnel affects the defence agency's ability to formulate a response to current geopolitical challenges. Moreover, military capability dependencies or duplications are two consequences of the existing fragmented system, whereby the European member states procure warfare singularly. Therefore, some experts even advocate for a common financial hub for which the European Defence Agency, or another entity, would essentially possess the military capabilities that member states have financed. By solving the duplication problem, the national defence budget could be redistributed in favour of technological innovation, for example.

Coordination among government agencies, nations and commercial companies is to be assessed depending on specific threats, both because the strategy acquired considers weak links to ensure that they cannot be exploited by the enemy, and because not every threat requires the same amount of warfare and integration of efforts (Roger et al., 2021). Consequently, interoperability is a dynamic practice that requires a defence organisation to coordinate investments, efforts, and priorities. Within the domain of R&D, some NATO members have acquired interoperability
models. For example, France and the UK in the 2020 "Combined Joint Expeditionary Force (CJEF)" aimed to coordinate organisational changes in decision-making and operational concepts, and expand collaboration in the joint acquisition of missiles or infrastructures (Roger et al., 2021).

Concerning the military sector, NATO yearly exercises are means of interoperability improvements. The strategies adopted by NATO members to enhance interoperability are promoted by the Allied Command Transformation (ACT), a military command structure ensuring the development of strategies and capabilities for future military operations. ACT efforts include identifying technological challenges, defining rules of interoperability, developing capabilities, experimenting with interoperability systems, and training soldiers (NATO, 2021a). Noteworthy, is the most recent example of NATO's strength in interoperability doctrines is to have established regular exercises among member states that, in fact, have an impact on the quality of common operational practices and incentivise the exchange of information.

Receent exercises - trainings as means to promote collective defence

The Chiefs of Transformation Conferences is an event that sees national member states interact with NATO's Allied Command Transformation. Over the last three years, experts participating in the conference have highlighted the necessity to better implement and evaluate interoperability operations in terms to transform NATO's process of deliberation and its adaptability to current challenges. Moreover, there is an awareness that effective warfare development also depends on how member states perceive the unpredictability of the security environment and, therefore, on how collective defence is organised (NATO, 2021b).

As explained above, NATO's core strategy to improve interoperability is providing member states with the opportunity to join military exercises since 1951, even adapting to new virtual environments following COVID-19 restrictions. The goals of military exercises are to test concepts, systems and tactics. The exercises have different structures depending on specific goals and trainings: live exercises (LIVEX); command-post exercise (CPX), which is an exercise among headquarters; and exercise study, which involves lectures, theoretical simulations of war, discussion groups and analysis (NATO, 2021c). Some exercises require a large-scale combat scenario involving artillery and armoured vehicles, such as the Iron Spear exercises of 2020, involving twelve NATO member states.

ron Spear is an armoured gunnery competition hosted twice a year that was started in 2018 to improve interoperability across the Baltic states while also manifesting NATO firepower. The designation of two competitions was required as the number of vehicles was high: both the infantry fighting vehicle (IFV) and the main battle tank (MBT) competitions were won by the Norwegian Army. Nevertheless, the event has impacted on interoperability among nations as the showcase and demonstrations have served as a practice to test an army capability (MAJ Bentley, 2020).

In general, NATO trainings are developed by the Allied Command Operations (ACO) – which are in charge of setting requirements and further evaluations – and the ACT, which is responsible for executing the exercise programme. NATO exercises comprise virtually every kind of military coordination: from cybersecurity to naval cooperation, from air and missile defence systems to land operations (NATO, 2021c). Another great example of how exercises impact interoperability within NATO is the Exercise Steadfast Defender 2021 event, which took place in Romania and involved thirteen nations, this time demonstrating the rapidity of the Very High Readiness Joint Task Force (VJTF). The event allowed the opportunity for 4,000 troops to train together and it is therefore not only a showcase of military aircraft but, most importantly, an opportunity to incentivise interoperability among snipers, special operation forces, experts in explosive ordnance disposal, etc (NATO Media Information Centre, 2021).

The commitment of NATO member states to exercise prevailed even during the pandemic of COVID-19. In June 2020, the Coalition Warrior Exercise took place online, with participants from 22 nations across 10 different time zones. The participants faced the challenge to innovate structures and networks and this alone reflected the willingness to adapt and cooperate visibly (NATO, 2020b).

Coalition Warrior Interoperability Exercise (CWIX) – how is the interoperability among member states tested and improved?

The Coalition Warrior Exercise is one of the major events held by NATO members to improve interoperability and is part of the "federated interoperability" doctrine, meaning that each ally has to be able to make interoperability a permanent feature of its mission from 'day zero' (NATO, 2021e). Other events which are part of this doctrine are The Think-Tank for Information Decision and Execution (TIDE) Sprint and the TIDE Hackathon. All these activities are founded on
exchanging operational information within the mission so that NATO commanders and government actors possess the right amount of awareness to make oriented and quick decisions.

The CWIX is the biggest among the three abovementioned events, as it aims at testing the command structures and control capabilities while allowing interoperability to be the key enabler for situational awareness and success of the mission, as well as increased safety for soldiers involved in the mission. In other words, the member states involved in the exercise test and de- risk their deployable systems before participating in missions such as the NATO Response Force. These kinds of exercises have a strong impact on the overall ability to cooperate as they act as preparation for the very first day of the mission. For example, in a scenario where the Very High Readiness Task Force is approaching a mission, nations test the communication between mobile tactical radios and they confirm cyber environments beforehand, to establish a common ground of deployable Command and Control capabilities (NATO, 2021e). Interoperability includes a range of technical and procedural processes that are being tested and improved during such large-scale exercises to minimise system failure in future NATO missions and allow nations to learn by doing and integrating interoperability in their systems.

Conclusions

The strategies adopted by NATO members to enhance cooperation are improved through interoperability tests among a wide variety of deployable military capabilities. Interoperability as a concept is NATO's goal, but it is also the main tool through which the Alliance establishes coordination and reinforces its command structure.

The combination between land operations and cybersecurity activities is expected to be the new domain of military operations. NATO is aware that joint military exercises have the potential to improve the overall coordination among member states' forces, impacting on both the awareness of security gaps and the ability to train forces and innovate defence technology.

The joint military exercises presented in this article each have their own peculiarities, but they share the grounding spirit of innovation and collaboration that NATO promotes yearly. The Alliance is aware that Chinese and Russian security threats are ever too complex to be challenged without a strong strategy. The changing security environment is the motive for future interagency
operations, whose efficiency is continuously tested and improved, advocating for information exchange as well as technological innovation.

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