

# MASTERING THE FUNDAMENTALS

by **Davis Ellison**  
Independent Contractor  
Headquarters Supreme Allied  
Commander Transformation  
(HQ SACT)

# DEVELOPING THE ALLIANCE *for the* **FUTURE BATTLEFIELD**



HMS Queen Elizabeth,  
STEADFAST DEFENDER 2021.  
Photo by UK Defence CSG21



Royal Norwegian Air  
Force 330 Squadron,  
photo by MARCOM



Live fire exercise,  
NATO Enhanced Forward  
Presence in Lithuania, Forsvaret



Rocket launch, Wallops Flight  
Facility, Photo by NASA



## Introduction

In June 2021, NATO Heads of State and Government endorsed the Secretary General's **NATO 2030** agenda, an ambitious set of proposals across eight areas, including deeper political consultation and coordination, strengthened deterrence and defence, and improved resilience. These proposals have followed seven years of political and military adaptation in the Alliance. As part of this adaptation, the NATO military authorities have developed a strategic framework for the future, of which Allied Command Transformation's (ACT) NATO Warfighting Capstone Concept (NWCC) plays an integral role. The NWCC is based on a number of fundamentals, which are further explained here.

The *nature* of warfare is enduring, and some imperatives within warfare remain immutable. Will, reason, and chance are the heart of warfighting. The need for a strong external defence is as recognizable today as it was in Plato's *Republic*. The imperative to project influence and power remains as relevant to the modern commander as it was to the Roman *centurion*. Sun Tzu's adage that "a skillful general must defeat the enemy without coming to battle" remains no less relevant. A commander's *coup d'œil*, as described by Napoleon and Frederick the Great, continues to be an essential leadership attribute. Resilience, the capacity to take and recover from attacks, has informed military logic from the time of the first great fortifications built in Mesopotamia.

The *character* of warfare, however, is dynamic. Immutable as the imperatives above may be, the ways in which they are best executed are constantly shifting. The strongest land-based defences have proven to be vulnerable to strangulation from the sea and destruction from the air. Failures to successfully project power and sustain influence shattered

the ancient *politeia* and modern states alike. As cunning as a commander or statesman may be, the adversary always has a vote. Breakdowns in command leadership have doomed armies in every era. And even the most resilient can fall prey to a *Maginot* mentality.

It is a vital responsibility of military-strategic professionals to reflect on these imperatives in the context of their own times, while taking prudent steps to mitigate risk into the continually dynamic future. The challenge today is to take full advantage of the newer cyber and space operating domains, to understand the convergence of offence and defence caused by technology and new approaches, and to build and maintain a conventional force posture that is effectively balanced with nuclear capabilities, among many other considerations. Perhaps most importantly, it is for the "warfare developer" to be agile and to improve understanding of both oneself and any potential adversaries with an aim to continuously develop advantage.

## Warfare Development and NATO

The role and importance of warfare development within NATO is set out in Article 3 of the Washington Treaty:

"In order more effectively to achieve the objectives of this Treaty, the Parties, separately and jointly, by means of continuous and effective self-help and mutual aid, will maintain and develop their individual and collective capacity to resist armed attack."<sup>i</sup>

Without, then, the capacity to resist attack, the NATO Treaty is not effective. Building these capacities has thus been a central part of the

history of the Alliance. The various strategic concepts and strategies since 1949 have detailed both the political-military tasks of the organization, as well as the military-strategic approach to defence of Alliance territory. Little, however, has deliberately built coherency for warfare development.

Since 2019, Headquarters Supreme Allied Commander Transformation (HQ SACT), with the support and input of all Allies, operational commanders, and external experts, has developed the first of this thinking: the NWCC. In implementing the NATO Military Strategy (NMS), it charts a new course forward for the Alliance, one to build decisive military advantages into the future. It does so primarily through revisiting those constant imperatives of military strategy, and structuring them into an organizing principle for the Alliance's warfare development known now as the Warfare Development Imperatives (WDIs):

- **Cognitive Superiority:** Knowing ourselves and potential adversaries better.
- **Layered Resilience:** Strengthening cross-instrument connections and actions.
- **Influence and Power Projection:** Challenging other actors' attempts to shape the environment.
- **Cross-Domain Command:** Creatively acting across domains and connecting beyond the military instrument.
- **Integrated Multi-Domain Defence:** Protecting the joint force from multi-domain threats.

This organizing principle, novel in Alliance history, puts advantage and coherency at the centre of warfare development.

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"Allied Command Transformation's NATO Warfighting Capstone Concept (NWCC) plays an integral role in NATO 2030."



North Atlantic Council  
Photo by NATO

Agreed by the Military Committee and North Atlantic Council, endorsed by Allies' Defence Ministers, and affirmed by Allied Heads of State and Government at the 2021 Brussels Summit, the NWCC and its imperatives represent *the North Star* for NATO's warfare development.<sup>ii</sup>

## Developing For the Future

The NWCC has been a historic step, but it is only the first of many. Its implementation is a journey — an ambitious but realistic path out to at least 20 years. Building advantage in the five imperatives necessitates balancing their ambition with the realities of warfare development. It is worth then exploring each in further detail, highlighting some key areas of ongoing development.

### Cognitive Superiority

Being able to perceive and understand advantage, or the metaphorical "high ground", and translating this to effective action is the first of these crucial competencies. A moving historical example is of General John Buford during the American Civil War. At the Battle of Gettysburg, a particularly decisive engagement in the war, American Union forces were faced with an advance by the rebel Confederacy on the key town. Buford, correctly perceiving the movements and dispositions of his adversary,

selected the field and adjusted Union forces accordingly, taking advantage of the high ground on a nearby ridge. This insight, and the skill to take the initiative, proved crucial to both the outcome of the battle and the war.

The central enabling idea of this imperative is the *cognitive dimension*<sup>i</sup> — an area that is increasingly targeted by adversaries in which all domain and all instrument activities have effects. It is essentially the perceptions and thought processes of ourselves and other actors. In theory, this is something with which NATO is quite familiar.

Take for example, deterrence. Deterrence, an effect achieved solely in the mind of another, is an effect caused in the cognitive dimension by domain actions. The stationing of forward deployed forces, movements of carrier strike groups, and buttressing the Alliance's underpinning nuclear deterrent all occur physically in one or more domains, but their impact is felt in the minds and decision-making processes of others. Naturally, more than one effect can be achieved simultaneously. Assuring Allies and deterring aggression, for example, can be done concurrently. Arguably, the Cold War was an exercise in cognitive superiority.

Fundamental to the Alliance's ability to succeed in this dimension, and indeed the physical and virtual as well, is its capacity to shape, contest and if necessary, fight and win against a potential adversary. Underpinning

this is expanding shared knowledge and understanding of potential adversaries' campaigns and actions. This also includes a better understanding of what success looks like and Alliance objectives and options to achieve it.

Building shared understanding is a simple notion but a complex endeavour. Awareness in and of itself does not directly enable effective military strategy and operations, though it remains a fundamental prerequisite. Understanding is taking that awareness and translating it into a full appreciation of the context and strategic ramifications of an actor's actions. Importantly, it must be understood in comparison to "blue". Understanding cannot be built in a vacuum.

Military contributions to net assessment then are an important contributor to this area. Ambassador Timo Koster, the former director for defence policy and capabilities at the NATO International Staff, has expressed the possibilities that this contribution can hold, being a major enabler to the competitive capacities of the Alliance.<sup>iii</sup> At its most basic, supporting rigorous analysis of the Alliance vis-à-vis other actors enables strategy-making at both the political and military-strategic levels.<sup>iv</sup>

Truly understanding the operating environment, however, entails *cohesive and shared political-military understanding* of a situation. This is a unique strength and continued opportunity for the Alliance: its dual political and



military nature. The NWCC looks to ensure the success of this dimension well into the future.

## Layered Resilience

The 2021 Brussels Summit Communique has mainstreamed the concept of resilience into the core deterrence and defence mission of the Alliance. Recognizing that resilience is both a national responsibility and a collective commitment, NATO has taken steps since 2016 to improve civil-military efforts to strengthen Allies' capacities to resist armed attack.<sup>v</sup>

The NWCC has built upon this foundation to introduce the idea and importance of *layered* resilience, broadening the scope to include military capacity and military reliance on civilian structures. This is conditioned on the recognition that for the military instrument of power to resist shocks and sustain a long campaign, a coherent civil-military approach must consider the military element.

**Military Resilience:** Those ready forces and capabilities and redundancy that the military requires to ensure its ability to absorb shocks, provide for early resistance and fight through is the base function of Alliance military activity. The capacity to resist armed attack by the military instrument cannot be a simple assumption. Force protection continues to play a critical role as does continuity of command and multi-domain action at speed and scale in non-permissive operating environments. The dynamics of recent conflicts have shown that vulnerability and risk remain as central to modern conflict as they have been in the past. Trends in technological development, for example, autonomous drone swarms, may only serve to exacerbate this.

**Military-Civilian Resilience:** Ensuring those plans, processes, and connections that must be in place to ensure that civilian support and infrastructure, transport and logistic supplies are a strength rather than vulnerability. Militaries have become more reliant on civilian, particularly private industrial, structures in the recent era of discretionary operations. This has led to a revolution in military logistics, mobility, and combat support. This, however, does come at a cost. Reliance can lead to risk, as purposes can become crossed. Supreme Allied Commander Europe (SACEUR) General Tod Wolters has highlighted this in

February 2020 during public testimony before the U.S. Congress, describing the risk carried from foreign investment in critical private infrastructure upon which the military relies.<sup>vi</sup>

**Civilian Resilience:** Strengthening the civil ability to deny competitors the ability to unlock civil vulnerabilities and thereby minimize overstretch of military capacities, as well as necessary military support to shield society from malign activities of competitors. Resilience, if not always a whole-of-government effort, is at the very least a team effort. Civilian structures, both government and non-government, are just as often on the front line against malign activities as the military. Cyber-attacks most often target civilians and the risk to civilians in combat zones will not wane. Military support to civilian society in the case of natural or man-made disasters will also remain an important capacity, particularly as climate change accelerates extreme weather events.

This layered structure to resilience recognizes the interdependencies between Allies, across instruments of power, between public and private, and across the military services themselves. Conceptualizing this as a core

function of the Alliance's deterrence and defence mission is an important step, and the NWCC seeks to implement it through an effective architecture.

## Influence and Power Projection

The projection of power, or rather ensuring stability in areas of key Alliance interest (also in response to international commitments, such as through the United Nations), has been a major part of the Alliance's operations since the end of the Cold War. Bosnia, Kosovo, Afghanistan, and Libya were examples of NATO's power projection with an intent to better secure the Euro-Atlantic area.

Influence, in a related way, also seeks to enhance security and build advantage through other measures, such as cooperative efforts with other actors and through formal partnerships. This approach also has a distinct strategic logic behind it, driven by the basic aphorism that "losers fight alone". The global natures of systemic competition with state actors and international terrorism necessitates an "out-partner" mentality for the military, viewing the Alliance's network of partnerships from Colombia to Japan as a unique opportunity for concerted approaches.



**Leading NATO's Transformation:** On May 28, 2021, the North Atlantic Council approved the nomination of General Philippe Lavigne, French Air and Space Force, to the post of Supreme Allied Commander Transformation. Photo shows General Lavigne (left) and General André Lanata. Photo by ACT PAO



# NATO WARFIGHTING CAPSTONE CONCEPT

Power, however, has evolved in its meaning. The operational domains of cyber and space entail a new look at the concept of "power", which is usually driven by a function of geography and the physical presence of military forces. Projecting power then can take place just as much in cyberspace or in the Earth's orbit as it can on the land, sea, or air. The basic function remains, however, to ensure stability, deter threats, and defend the interests of the Alliance against threats, including using all means to disrupt potential adversaries' ability to mount aggression.

The military must be able to project power from seabed to space, building advantage to disrupt potential adversaries wherever needed. Accordingly, the Alliance's military instrument will need to possess a spectrum of non-lethal, non-kinetic to lethal kinetic all-domain options to offer political decision-makers, again with an aim to deter and disrupt other actors' potential actions. Raising the profiles of space and cyber operational domains, having been declared as areas in which Article 5 could be invoked, are a naturally important element. In addition, further conceptualizing the impact of the information environment on operations will be integral to present and future military success.

An additional consideration, and important intellectual underpinning to this imperative, is an appropriate admiration for the challenge of the convergence between offence and defence. Defence is a political end as well as a military necessity and has always been underpinned by the breadth of the Alliance's capabilities, to include offensive capabilities. Emerging approaches and technologies are increasingly challenging a strict definitional divide between offence and defence, implying the need for a renewed conceptualization of these capabilities and concepts in an Alliance context.

## Cross-Domain Command

NATO has the largest and most advanced collective set of armed forces on the globe. Thirty Allies and over 100 individual services provide highly trained personnel and state-of-the-art capabilities. Beyond the Washington Treaty and supporting policies, what binds this mass of power together is what makes NATO truly unique: the integrated military command structure. Sitting atop this structure, imbued with the responsibility of the protection of the

Euro-Atlantic area, are the NATO Supreme, operational, and tactical commanders. The role of command in NATO has been, and continues to be, fundamental. The future success of the Alliance military instrument will largely depend on the preparation and ability of commanders to operate in a complex battlespace simultaneously across physical and non-physical domains. The "art of command" needs to be the focus.

Developing the commander of the future is no easy task. The increasing challenge to achieve cross-domain insight (Napoleon or Frederick the Great's "*coup d'œil*" — command insight at the "blink of an eye") will need to be nurtured through doctrine, training, education, and leadership development. The future operating environment demands the right people with the right skills. The current model, in which an officer passes through single-service channels and is only introduced to other domain perspectives and strategic policymaking later, may be less viable.

Growing and instilling a sense of confidence and vision for command must also be balanced by the rigorous development of the operational art, through for example realistic and challenging wargaming and exercises. Allowing developing leaders to fail, learn, and adapt to succeed will be necessary not only for the individual, but also for imparting an audacious command culture that can work effec-

tively across domains and across instruments of power with an aim to win.

Additionally, reconciling the more structured approach to synchronization of actions across domains to meet centralized intent with the speed, agility and resilience gained from robust decentralized mission command execution will be a key challenge. There is the potential for tension, for example, between the tenets of mission command and the need to synchronize efforts across domains. Arguably, synchronization of effects at the strategic level could undermine the ability of local commanders to act quickly and to their best situational judgement. Reconciling this will be central to efforts in developing command, and mission command must play a leading role, particularly as command becomes more difficult in denied or disrupted settings.

Naturally, command will need to be enabled by some "science of control", which should be re-cast with a focus on rapidly conveying intent, continuity, and the ability to delegate, supported by robust communications and information and battle management systems. Control is, at its most basic function an enabler, less an end in itself. Nevertheless, its importance remains, and as the future operating environment develops and rewards those who orchestrate actions effectively, it will need to take advantage of those best available systems and methods and be able to execute these functions in highly contested, non-permissive environments.



**ABOVE:** The Joint Warfare Centre's (JWC) support to NATO Warfighting Capstone Concept through wargaming: The JWC declared initial operational capability on wargame design on February 12, 2021. The wargame was developed by the JWC over an eight-month period, including a two-week wargame design course delivered by the U.S. Naval Postgraduate School (NPS) in October 2020. Photo by JWC PAO



## Integrated Multi-Domain Defence

The Alliance's nuclear forces are continuously available, as are its integrated air and missile defence forces. Conventional elements that are standing, or at readiness of other levels of availability, are switched-on and -off through a series of political and military decision points, in accordance with pre-existing plans, developed to effectively counter current challenges. However, in an era of persistent competition that features constant short or no-notice threats or attacks from different directions and in different domains, the Alliance will need to develop a force and capability posture that would place it on a broader persistent operational footing.

NATO does have an existing architecture through its integrated Command and Force Structures (NCS/NFS), which provide a strong base from which to continue developing the Alliance's defensive framework. A principle that could inform this is to address the breadth of tools in the Alliance, rather than a strict focus on the NCS and NFS. Together, all NATO Allies have a large number and wide array of forces and capabilities whose actions and development are of tangible benefit to the Alliance, whether or not they are officially flagged under NATO Command. A framework and necessary agreements to utilize these multi-domain advantages could be a productive step towards coherency in Alliance defensive operating.

A key element of future multi-domain defence could be the consideration that the security environment is less dependent on distinct phases. It is becoming increasingly defined by the need to simultaneously shape the strategic environment to Alliance interests (for example, through posturing), persistently contesting other actors' attempts to put the Alliance or Allies at disadvantage across domains, as well as maintaining key warfighting capacities.

As with command, there is certainly a technical element as well. Interoperability remains a major function of NATO and will continue to into the future. Ensuring interoperability between Allies and being capable of successfully integrating disparate forces and capabilities remains essential and is implied through the "integration" need in this imperative. Within a coherent multi-domain approach, recognizing that the need for interoperability normally expected on "day zero" is an everyday priority, such technical connectivity is essential to oper-

ate at speed and scale and in non-permissive environments to ensure effective defence. This ranges from the strategic to the tactical levels, to buttress those existing advantages in fighting together to further build advantage.

## Towards a Multi-Domain Approach

A further step towards implementation is organizing efforts into a new method for operating, again taking advantage of the imperatives described above ("the basics") and forge an Alliance approach that can effectively orchestrate actions across domains and instruments.

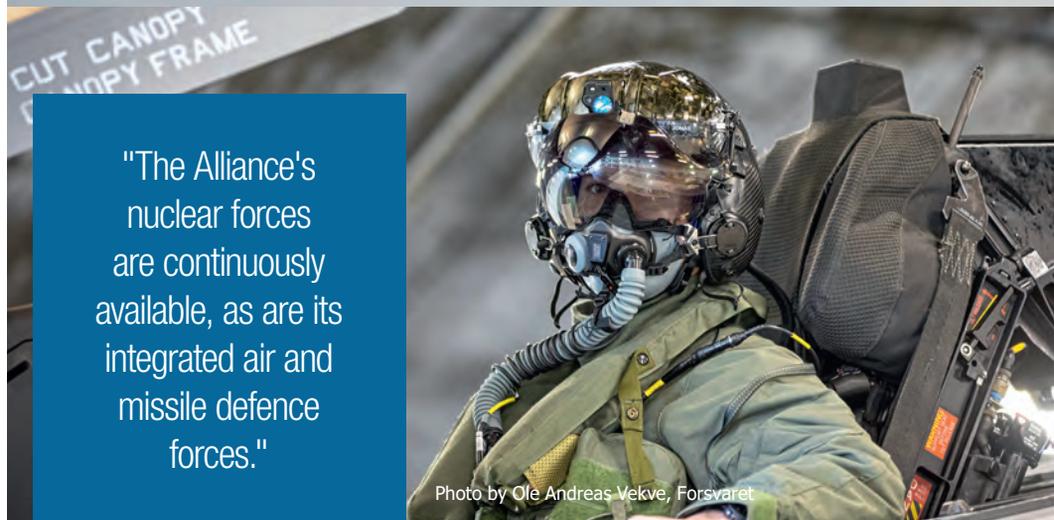
Notionally described as "multi-domain operations" (MDO), a NATO approach might focus on effectively applying the breadth of Alliance strengths with the aim of maintaining and building advantage. It would recognize

that highly capable near-peer or peer actors are using all domain and asymmetric approaches with an aim to decisively shape the operating environment in their favour and to contest Alliance objectives. The NATO approach must be able to function in non-permissive areas, as potential adversaries actively work to undermine Alliance strengths in communication and coordination.

MDO would be enabled by the building of cognitive superiority and developing insightful cross-domain command capacity. It involves orchestrating activities from more than one domain, in coordination with other levers of power to generate simultaneous effects across the virtual, physical, and cognitive dimensions. It is this orchestration rather than overmatch in any particular capability or domain that produces decisive advantage where and when needed. This approach also implies



Across Europe, NATO fighter jets are on duty around the clock, ready to scramble in case of suspicious or unannounced flights near its airspace. NATO calls this activity Air Policing, which has been an essential part of NATO Integrated Air and Missile Defence since 1961.



"The Alliance's nuclear forces are continuously available, as are its integrated air and missile defence forces."

Photo by Ole Andreas Vekve, Forsvaret



that the Alliance will have to accept a degree of risk in some domains some of the time in order to double down on its strengths and seize opportunities as they emerge in a highly contested operating environment.

MDO is becoming a central theme in military adaptation and warfare development-related thinking and analysis inside and outside the Alliance. Both Allies and potential adversaries are seeking to come to terms with the challenge of converging effects originating from actions in the five NATO operational domains (land, maritime, air, cyber, and space). Recognizing the complexity and multiplicity of effects resulting from military action has been a strategic challenge since at least the First World War. This task remains no less daunting today.

## Conclusion

The challenge of MDO is hardly the only challenge of warfare development. What the Alliance has today, however, is a historically unprecedented opportunity to focus its development around the five warfare development imperatives described here. These imperatives, representing those long-standing needs for military-strategic success, are based on a simple idea: Get the basics right, and the rest can follow.

**“Multi-domain operations is becoming a central theme in military adaptation and warfare development - related thinking and analysis.”**



German Very High Readiness Joint Task Force army engineers before a river crossing during an exercise. Photo by NATO

This can allow the Alliance to shape the rules of the future game, develop and posture itself accordingly, and build decisive military advantage when and where needed to ensure its objectives can be achieved. NATO has successfully done so since 1949. The Washington Treaty solidified the ties between democracies to challenge external threats. The Alliance lent itself clarity then in dedicating itself to collectively and individually building the capacity to "resist armed attack". Today, the NWCC as part of the military-strategic body of thinking takes full advantage of this clarity.

If we see the current security environment as a chess match, the Alliance has the best and most chess pieces. The challenge is to envision the use of these pieces more effectively. Importantly, potential adversaries do not play chess by the same rules as NATO does. By focusing efforts on these fundamentals, the Alliance can move itself forward and be able to wield more effectively this military instrument in defence of its core objectives. In chess, it gives NATO the capacity to execute an effective Queen's Gambit.

As described, this is a team effort between Allies and between NATO entities. With the imperatives as a guide, NATO will continue to ensure the success of its three core tasks in the future warfighting environment. As the Alliance adapts into the future, particularly as it develops its next Strategic Concept, it has the benefit of this logic at its disposal. ✦

**"If we see the current security environment as a chess match, the Alliance has the best and most chess pieces."**



## ENDNOTES:

- 1 Alongside the physical and virtual dimensions.
  - i NATO Treaty, Article 3.
  - ii 2021 Brussels Summit Communique, para 22.
  - iii <https://www.atlanticcouncil.org/content-series/nato20-2020/revitalize-natos-grand-strategy/>
  - iv <https://www.ndc.nato.int/news/news.php?code=1564>
  - v Brussels Summit Communique, para. 30.
  - vi <https://www.eucom.mil/document/40291/general-wolters-fy2021-testimony-to-the-senat>