

*"Fire kills – As do outdated ideas."*

— Marshal Ferdinand Foch

The Joint Warfare Centre's Dual Role in

# TRAINING & WARFARE DEVELOPMENT

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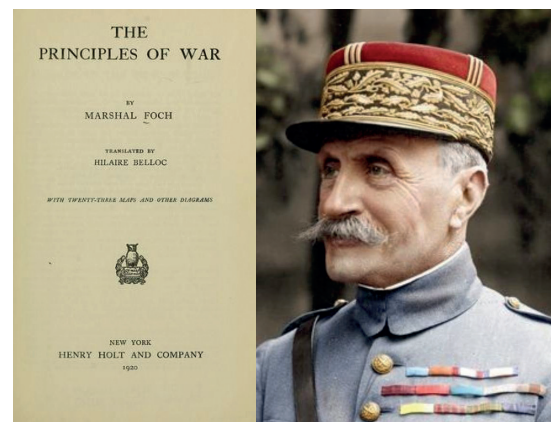
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**FIRE KILLS — AS DO OUTDATED IDEAS.**<sup>1</sup> This maxim from Ferdinand Foch, who was appointed as the first "Supreme Commander of Allied Armies" on the Western front in April 1918, is one of the famous quotes from the lessons he delivered as a professor of military history, strategy and general tactics at the French War College in Paris from 1895 to 1901. Like Foch, who was highly influenced by Clausewitz, all military theorists have commented on the way armies manage the appearance of new technologies on the battlefield or new theories on the art of war — whether with reluctance or with a quick interest. Military history is filled with examples of battles, or even campaigns, that were lost because the top leadership failed to understand the potential of emerging technologies.

**Below and right**

The *Principles of War* was first published in 1906, based on Marshal Ferdinand Foch's (then Colonel) lessons delivered at the French War College, and translated into English in 1918; Marshal Ferdinand Foch.



This is illustrated, for instance, by a theorist of air operations, Giulio Douhet<sup>2</sup>: "Victory smiles to those who anticipate changes in the nature of war, not to those who wait for them to occur to start evolving."

Preparing the next likely engagement is the basic task of any military leader and organization, and it relies both on the education of individuals and the collective training of tactical units and command posts at all levels. And the organization of training is a kind of military art in itself: It exposes the trainees to the same situations as in battle and must therefore be continuously adjusted to new requirements, tools, capabilities and doctrine.

As NATO's main tool to prepare the Alliance's headquarters at the joint operational and strategic levels, the Joint Warfare Centre (JWC) cannot be content with merely replicating the same proven scheme of exercises over and over — otherwise its training audiences would keep preparing the previous war.

Consequently, the delivery of training events at the operational and strategic levels and contribution to the Alliance's warfare development are implicitly associated tasks. This explains the name of the organization: Joint Warfare Centre and not "Joint Training Centre."

This is also reflected in the context of the JWC's establishment and the present role

it plays within the NATO Alliance, as its activities integrate warfare development topics both in the education of staff officers and in the conduct of its exercises.

## The Spirit of Innovation

The JWC was established on October 23, 2003, as an organization of the NATO Military Command Structure and under the newly created Allied Command Transformation (ACT). Taking over the facility from the NATO Joint Headquarters North in Jåttå, Stavanger, Norway, during a period shaped by major changes in the international security environment, the new organization was designed both to deliver training to NATO headquarters at the joint operational level and to assist NATO strategic commands in the implementation of various transformation processes, such as doctrine development and the conduct of experimentation.

After decades of a rather stable strategic environment during the Cold War, the previous decade had been characterized by sudden changes following the disintegration of the Soviet Union. NATO had been stretched between the need to face the resumption of crisis close to its borders in the Balkans and the desire of Alliance nations to reduce defence spending, since the Warsaw Pact had collapsed and Russia

was no longer considered a threat. Major inflexions in the context of the Alliance had occurred at an ever-increasing pace since the first actual engagement of a NATO-led mission in Bosnia-Herzegovina in 1995, and later in Kosovo in 1999.

Subsequently, while some nations that used to present likely adversaries had already started to apply for membership, the Alliance invoked its collective defence clause, Article 5, for the first time on September 12, 2001, following the terrorist attacks against the United States. Two years later, NATO took over command and coordination of the International Security Assistance Force<sup>3</sup> (ISAF) in Afghanistan, where the Alliance faced a completely different challenge than in the defence of the North Atlantic area. NATO had to conduct a deep reorganization, from a static structure whose mere existence was enough to deter the Soviet Union to a more dynamic and responsive organization.

### Clockwise from left

NATO has been leading a peace-support operation in Kosovo since June 1999 in support of wider international efforts to build peace and stability in the area; ISAF remains the biggest coalition in NATO's history to date; the Kosovo Force (KFOR) was established when NATO's 78-day air campaign against Milosevic's regime, aimed at putting an end to violence in Kosovo, was over. Photos by NATO







Allied Command Operations



Allied Command Transformation

## The JWC's Mission Possible: Bridging Operations (fight tonight) and Transformation (fight tomorrow)

As stressed by some organizational difficulties during the Balkan interventions, there was a need for the Alliance to undergo transformation and stir up innovation. Above all, the tool used to achieve this transformation had to actively disseminate new ways and means throughout the NATO Command Structure (NCS) and to the growing number of actors in the NATO Force Structure (NFS).

It is in this context that the JWC was formally inaugurated during a ceremony presided over by Admiral Edmund P. Giambastiani, Jr. (Retired), NATO's first Supreme Allied Commander Transformation (SACT). In his address to the audience at the JWC, he said: "Let the spirit of innovation become a new northern light for our Alliance here in Stavanger." [See "20 Years of the JWC" article, pp. 17–35]

Under Headquarters Supreme Allied Commander Transformation (HQ SACT), the JWC was to stimulate this spirit through its training events, keeping in mind the wise observation from British military theorist Sir B. H. Liddell Hart that "the only thing harder than getting a new idea into the military mind is to get an old idea out."

### The JWC, A Spontaneous and Necessary Bridge Between ACT and ACO

Twenty years later, the JWC remains at the heart of the Alliance's operational readiness. It holds this position even after successive evolutions due to shifts in the strategic situation (such as the dedication to HQ ISAF pre-deployment training in the early years), redistribution of training responsibilities within NATO strategic commands, and internal restructuring. While it is involved in many of the transformation processes under HQ SACT, the JWC works in close collaboration with Supreme Headquarters Allied Powers Europe (SHAPE) and Allied Command Operations (ACO) to deliver large-scale exercises whose primary training audiences are usually the joint force commands and the command posts of the NATO Response Force (NRF).

This bridging role between ACT and ACO is explicitly illustrated by the shape of the "Kjerag boulder" at the top of the Kjerag mountain, a popular destination for hikers in the county of Rogaland just a couple of hours from

**Above from left**  
The cockpit of a NATO E-3A airborne warning and control system (AWACS) surveillance aircraft, photo by NATO; the Kjerag boulder in Norway, photo by Shutterstock; technological advancements in the information domain, Shutterstock

Stavanger. Just as the parts of the mountain are not structurally dependent on the presence of the boulder, the strategic chains of command would not collapse without the presence of the JWC. The simile is rather meant to suggest that the JWC is equally engaged in supporting each of the strategic headquarters, for the sole purpose of "making NATO better."

The wide spectrum of the JWC's activities is expressed clearly in its latest mission statement: "The Joint Warfare Centre plans, prepares, and executes static and distributed joint operational-level training in support of warfare development and warfighting readiness. Furthermore, it supports concept development and the maintenance of joint operational doctrine and standards and coordinates the integration of experimentation and capability development in order to maximize transformational efforts to improve NATO's interoperability, capabilities, and operational







Above  
The JWC's Harald Hårfagre Auditorium.  
Photo by JWC PAO

effectiveness. The JWC contributes to developing and strengthening relationships and integration of national training and command organizations, governmental and non-governmental organizations, as well as regional security organizations and partners, in accordance with established policy and principles."<sup>4</sup>

This closely resembles the basic principles of testing a new type of equipment in realistic conditions before declaring it fit for purpose and delivering it to users. In the increasingly complex and versatile environment of present-day operations, headquarters must be put in realistic conditions of deployment and confronted with the full range of factors that compose the dilemmas necessitating their commanders' decisions.

The French and German headquarters of the late 19th century would often conduct staff rides or tactical exercises without troops through probable battlefields along the disputed border, following Foch's advice<sup>5</sup> to his students at the École Supérieure de Guerre in Paris. Nowadays, modern command posts are rarely

trained without gathering a heavy machinery of response cells and simulation assets to achieve the needed realism. As a result, the enormous cost of these training events imposes to take advantage of each opportunity to ensure their cost-effectiveness. Consequently, they are also the perfect venue to conduct experimentation of developing concepts, or tools to be introduced to support the decision-making processes or the broader command and control structure.

**THE JWC FACILITY** concentrates in Stavanger all the necessary capacities to place ACO training audiences in the appropriate conditions to allow them to achieve their training objectives, while exploiting the venue as a tool to support ACT warfare development efforts. The Centre's most visible capacity is its unique and constantly upgraded training platform, able to provide a modular work environment for more than 1,200 personnel from training audiences as well as the exercise control response cells, and also to conduct classified lectures for audiences of up to 600 participants.

The most critical factor in the JWC's fulfilment of its role, however, is its workforce. NATO can rely on the expertise concentrated at Mount Jättå to conduct the increasingly complex exercise delivery process, with exercise planning teams, CIS architecture specialists, scenario content developers, simulation operators and quality assurance analysts. [See "How We Deliver Training", pp. 53–57] These teams and cells altogether replicate the operational environment in which the training audiences will develop their plans and face the fog of war.

Both complementary to NATO's education processes and vectors of the transformation objectives are the functional subject matter experts (SMEs) of the JWC's Transformation Delivery Division (TDD). This structure is composed of experienced officers (all posts are described to be occupied by an NATO grade coding "OF-4," which is a navy commander, or army/air force lieutenant colonel/wing commander) and civilian analysts. Nearly all the SMEs posted in TDD perform a joint advisory role in support of the training audience





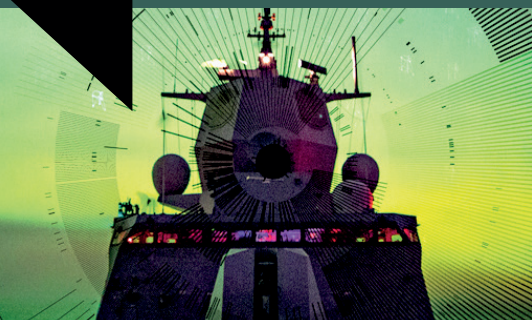
## The Joint Warfare Centre's MULTI-DOMAIN AND FUNCTIONAL SUPPORT

- Land operations
- Maritime operations
- Air operations
- Space operations
- Operations in cyberspace
- Special operations



- Command and control (C2) and Assessments
- Intelligence
- Operations planning
- Manoeuvre/Joint fires
- Joint targeting
- Force protection
- Strategic communications and information operations
- Civil-military cooperation
- Sustainment

- Joint logistics
- Chemical, biological, radiological and nuclear defence
- Integrated theatre ballistic missile defence
- Air operations
- Gender perspective
- Law
- Knowledge development
- Doctrine
- Capability development



### Above and right

Space support during TRIDENT JUNCTURE 2018 LIVEX, photo by Marius Vågenes Villanger; members of the JWC's Advisory Team at USS Mount Whitney and during the JOPG train-the-trainer course. Photos by JWC PAO

throughout the exercise planning process and contribute to the concept development and doctrine assessment cycle in their area of expertise. Some also support the integration of experimentation during the exercises, in close coordination with all involved actors across NATO.

With such a concentration of expertise fully devoted to the needs of the Alliance, the JWC can stimulate the sharing of thoughts, both with external non-NATO actors and internally, through its JWC Warfighting Club [See "The Warfighting Club" article, pp 79–82] and other professional development efforts.

Despite the inevitable turnover of personnel that occurs in all NATO organizations, the JWC provides expert competence in all domains and operational functions, as well as in the rarer discipline of command posts training. This overall multi-domain experience is exploited not only in the exercise delivery, but also in warfare development dynamics.

## A Combination of Tools Tailored to the Needs of the Alliance

The JWC can draw on the experience from 20 years of practice, with the development and direction of dozens of training events at the operational and strategic levels in a wide range of training purposes. The lessons learned from these exercises, exploited by experienced planners, allow the JWC to be a prolific actor in the transformation of NATO, both considering the training processes themselves and considering the type of support offered to trainees.

Following the release of the 2019 NATO Military Strategy, the JWC conducted its Future Exercise Support Capability Study (FESCS). The corresponding report contributed to ACT's development of the NATO Warfighting Capstone Concept (NWCC)<sup>6</sup> and directives later developed from it. Simultaneously, SHAPE developed the Deterrence and Defence of the Euro-Atlantic Area (DDA) document, which was already in line with the FESCS thanks to the continuous contact between the JWC and the training audience within ACO.

Based on the analysis of the numerous exercises directed in the past five years, the JWC is able to propose and implement evolutions in the training process and the content of the training, aligned with ACO's short term focus on tangible improvements in readiness and interoperability ("fight tonight") and ACT's long term focus ("fight tomorrow").

Because of the Russian aggression against Ukraine, the scenario and computer-assisted exercise developers strive to meet new requirements and increase the realism of the exercises by making significant amendments to the exercise settings.

The JWC also proposes new ways and means to support the training audiences throughout the NATO exercise planning process (EPP), which will be described in more detail below. The main actors involved in these dynamics are the JWC's Advisory Teams, which on the one hand advise training audiences and report on the achievement of the training objectives, and on the other hand contribute to the integration of warfare development-related content.





**“The JWC provides expert competence in all domains and operational functions, as well as in the rarer discipline of command posts training.”**

**Below**  
The author, Colonel Nicolas Tachon (right), during a daily meeting with his Division subject matter experts, July 11, 2023.  
Photo by JWC PAO

In this regard, TDD is fortunate to gather highly experienced officers who are graduates of operational planning courses or have combat experience at the operational level, or both. While they are all true experts in their area of specialization, some may have little knowledge of how a computer-assisted/command post exercise (CAX/CPX) is developed at the operational level. The necessary induction training of these officers, once posted at the JWC, allows the Centre to exploit all their individual expertise for the collective development of the Advisory Teams.

In order to upgrade their legitimacy at acting as an advisor to a branch within the training audience, a consolidation process of their operational planning skills has been in place since early 2021: the Joint Operations Planning Group (JOPG) Leaders Workshop. [See "JOPG Update" article, pp 68–73]. The workshop's purpose is not to conduct a comprehensive operational planning course in a compressed time frame, but to give some tools to planners to run their planning efforts, based on combat-proven experience as well as best practices observed during training events. This activity allows even less experienced planners within a J5 (future plans) or J35 (future operations) to seamlessly manage a planning group through the crisis response process.

Initially built mainly for TDD internal interest as a "train the trainers" process, this workshop has been successfully exported to 20 various external training audiences across NATO in two years, such as three joint force commands, three land NATO Rapid Deployable Corps, two joint force air components, one special operations component command, the Allied Maritime Command and the Naval Striking and Support Forces NATO. It has also been exported to the Baltic Defence College in Tartu, Estonia.

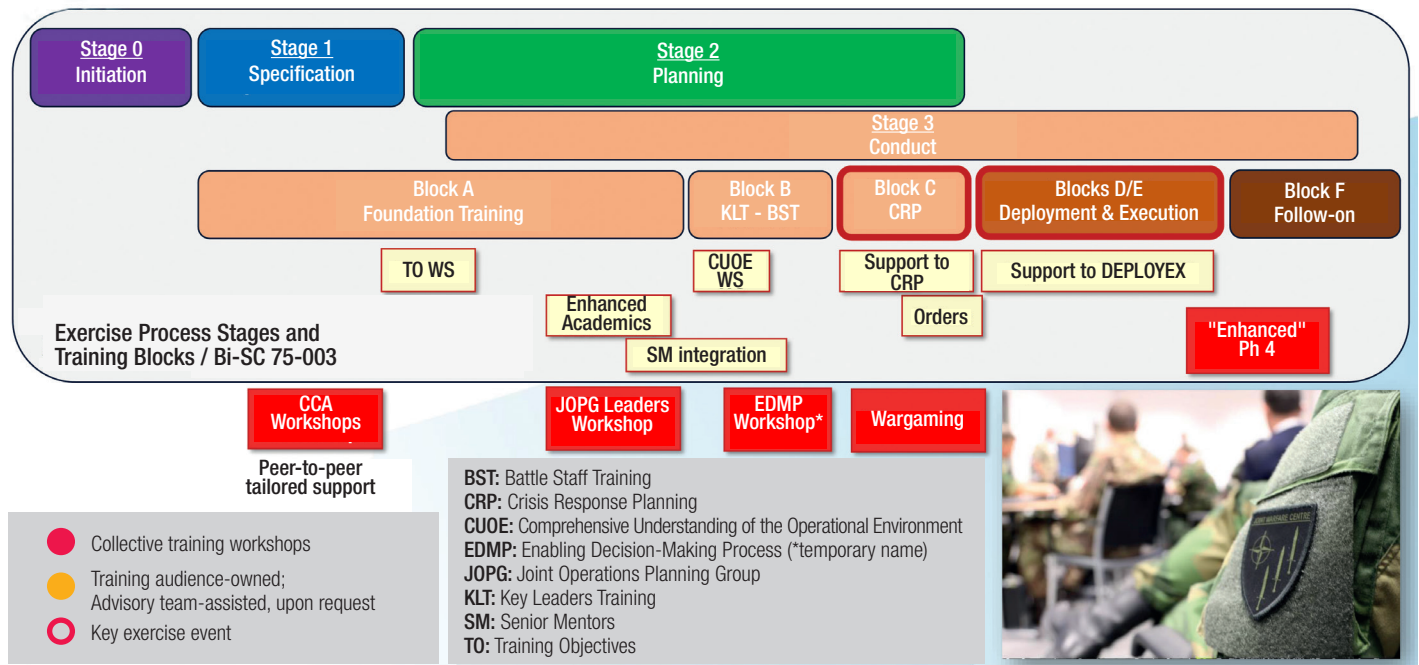
Complementary to the JOPG Leaders Workshop, although less mature for lack of opportunities of execution, another workshop called Enabling Decision-Making Workshop (EDMWS) has been set up with another type of target audience. This second workshop aims to support command groups by instilling joint synchronization and unity of effort fundamentals into their headquarters.

In fact, such workshops are always tailored to the needs of the training audiences, depending on the composition of their staff and ratio of augmentees, or the specific aim of the training. They are part of a set of tools proposed throughout the exercise planning process in close coordination with the exercise





## The JWC's Continuous Collaborative Approach



planning team, and are described in a process called continuous collaborative approach, or (CCA). This process starts with the definition of the exercise specification, when key objectives have to be discussed and agreed by senior leaders, with the contribution of the senior mentors, and continues through training audience internal training until the end of the exercise process. Indeed, the after-action review [See "The JWC After-Action Review" article, pp 74–75] often raises issues that are worth consolidating in the delivery of an enhanced Phase 4 while most participants are still in the mind-set of the scenario, for instance with the support of a wargame or an additional vignette.

AS A WAR IS RAGING on the doorstep of the Alliance, with a constant evolution of courses of action and warfighting techniques on both sides, the JWC does not merely repeat the same type of training to evaluate the execution of standardized staff processes. Instead, the Centre continuously adjusts its scenario development to the new realities of high-intensity warfighting. The deep reconsideration of training processes triggered by the decisions made during the NATO Summit in Madrid in June 2022 has emphasized the JWC's efforts

**"We do not rise to the level of our ambitions, but we fall to the level of our training."**

— Archilochus  
(5th century BC)

to support the orientations of both Strategic Commands. These efforts are successful thanks to the rich expertise concentrated within the JWC staff, while work is ongoing to optimize the human resources in the JWC's peacetime establishment and the compressed time frame of exercise development. With the increasing complexity of NATO exercises, the JWC must keep in mind the words of the ancient Greek poet Archilochus (5th century BC): "We do not rise to the level of our ambitions, but we fall to the level of our training." ✦

**Above**  
The different stages of the exercise process and training blocks, including the collective training workshops, such as the JOPG Leaders Workshop.

### ENDNOTES

- 1 "Le feu tue. Les idées périmées aussi," Lieutenant Colonel Foch in Cours pour l'Ecole Supérieure de Guerre, Paris, 1899.
- 2 General Giulio Douhet (May 30, 1869 – Feb. 15, 1930), an Italian air power theorist. He was a key proponent of strategic bombing in aerial warfare and published The Command of the Air (1921).
- 3 In December 2001, following the overthrow of the Taliban regime, UN Security Council Resolution 1386 authorized the deployment of ISAF, a multilateral force in and around Kabul to help stabilize the country and create the conditions of a self-sustaining peace.
- 4 Reference: Bi-SC NATO Command Structure Adaptation Implementation, 25 April 2018 – confirmed in change 13, 28 July 2022.
- 5 "The lessons drawn from operations hardly reach those who did not participate [...] Staffs must go out of their offices and be confronted with reality." (Foch)
- 6 NATO Warfighting Capstone Concept: An Adaptive 20-year Strategy for NATO and its Allies. <https://www.act.nato.int/article/nato-warfighting-capstone-concept-an-adaptive-20-year-strategy-for-nato-and-its-allies/>