







**NATO-ACCREDITED**  
CENTRES OF EXCELLENCE  
CATALOGUE

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# SUPREME ALLIED COMMANDER TRANSFORMATION



**SUPREME ALLIED COMMANDER TRANSFORMATION**  
**ADMIRAL PIERRE VANDIER**  
FRENCH NAVY

## ***“Speed, quality, and value”***

As the Supreme Allied Commander Transformation, I am proud to present the 2025 edition of the Catalogue of NATO-accredited Centres of Excellence (COEs). This publication underscores the unwavering commitment of Allied Nations to fostering collaborative excellence and cutting-edge expertise in our ever-evolving security landscape.

The COEs have proven themselves to be indispensable assets in strengthening our collective defense capabilities. Under the coordination of Allied Command Transformation (ACT), these centres have become increasingly vital in an era defined by Multi-Domain Operations (MDO). Their growing importance is evident in their contributions to doctrine development, lessons learned, education and training, exercise participation, and experimentation—all critical tools for implementing NATO’s transformation.

## ***“The COEs have proven themselves to be indispensable assets in strengthening our collective defense capabilities.”***

In 2024, we celebrated a significant milestone with the accreditation of the Climate Change and Security COE. This addition to our network demonstrates our proactive stance in addressing the acute challenges posed by climate-related security risks. Concurrently, our COEs continue to provide invaluable support to Ukraine, nurture key partnerships, and offer assistance in critical areas.

The quality of support provided by COEs is unparalleled, thanks to their pooled and recognized expertise. Although not part of the NATO Command Structure, these centres have proven themselves to be trusted wingmen to Allied Command Transformation. They are integral members of the team working tirelessly for NATO’s collective success, perfectly integrated into our evolving needs within the MDO concept.

I anticipate that the COEs will continue to play a pivotal role in advancing my priorities for Warfare Development, as their agility and flexibility can be leveraged to fasten the pace of our studies. Their participation in working groups and wargames related to NATO’s Digital Transformation and Cross-Domain Command will also be essential as we progress towards a Multi-Domain Operations-enabled Alliance.

As we navigate the opportunities and challenges on the horizon, I extend my deepest gratitude to all NATO Allies and Partners for their steadfast support of the COEs. Together, we stand resolute in our pursuit of a more secure and resilient future, fortified by the collective strength and enduring commitment of all NATO-accredited Centres of Excellence.

Our shared dedication to innovation, collaboration, and excellence will undoubtedly propel us forward in our mission to safeguard the security and values of the Alliance.



## What is a NATO-accredited COE?

A NATO-accredited Centre of Excellence (COE) is a multi-nationally or nationally established and sponsored entity, which offers recognized expertise and experience within a defined subject matter area to the benefit of the Alliance within the four pillars of NATO's COE program. A COE is not a part of the NATO Command Structure (NCS) or of other NATO entities, but forms part of the wider framework that contributes to the functioning of the Alliance.

## Background

The idea for NATO-accredited COEs originated in MC 324/1, "The NATO Military Command Structure," dated 14 May 2003. The Military Committee (MC) refined this idea into the MCM-236-03; "MC Concept for Centres of Excellence (COE)" dated 04 December 2003. Once the idea and the concept were firmly established, the accreditation criteria was defined. In 2004, IMSM-0416-04, "NATO COE Accreditation Criteria" was agreed on and the first NATO COE was formally accredited on 01 June 2005. MCM-236-03 has been superseded by MC 0685 (Military Committee Policy For Centres Of Excellence) dated 08 September 2020; the NATO COE Accreditation and Periodic Assessment Criteria policy has been updated through MCM-0086 dated 23 June 2022.

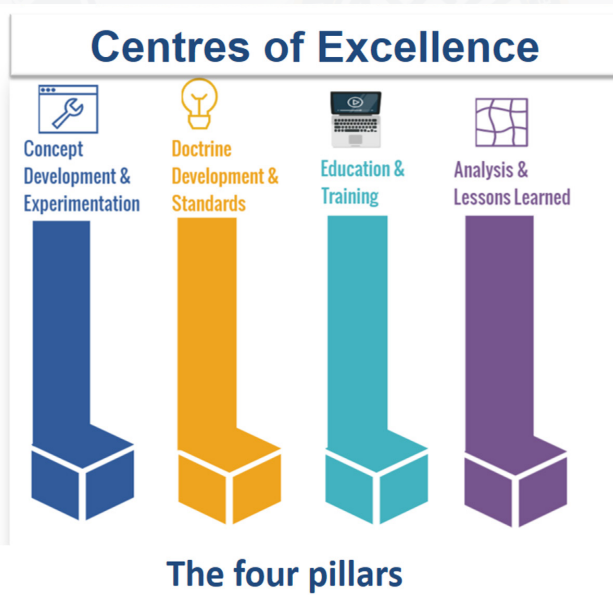
## Principals

- No cost to NATO;
- Conform to NATO procedures, doctrines and standards;
- No duplication with existing assets;
- Relationships with Strategic Commands through Memorandum of Understanding agreements;
- Relationships with partners are supported and encouraged.

## Pillars

Not every organization can become a NATO-accredited COE. In order to become a COE, expertise must be demonstrated in the four transformation pillars:

- Education, Training, Exercises and Evaluation;
- Analysis and Lessons Learned;
- Concept Development and Experimentation;
- Doctrine Development and Standardization.



## Bottom Line

There are many reasons why a nation or nations, as Framework Nation, decide to offer a Centre of Excellence to NATO. One of the most common reasons is to contribute to NATO whilst at the same time directly benefiting one or more Nations. The number of NATO COEs is growing. Through the MC Concept and the NATO accreditation criteria, COEs have proven to be a successful and enduring model for strong multinational solutions. As a result, the NATO Command and Force Structures are supported by a robust network of COEs, which are nationally or multi-nationally managed and funded and open for participation by NATO and Partner Nations.

## HQ SACT Coordination with COEs

HQ SACT's coordination with NATO-accredited COEs is a vital element in ensuring effective collaboration and synergy within the Alliance. While there are numerous essential documents pertaining to collaboration with COEs (several of which are summarized later in the catalogue), HQ SACT Directive 80-03 – HQ SACT Coordination of NATO COEs holds significant influence in shaping daily interactions between HQ SACT and NATO-accredited COEs. Recently updated, this directive serves as the reference, offering guidance and delineating responsibilities for the coordination of NATO COEs within HQ SACT by pillar and by cluster.

The directives designates the Mult-Domain Force Development (MDFD) Directorate to spearhead COE coordination, taking on the responsibilities of the COE FOGO Champion. COEs are strategically organized into communities of interest (6 clusters), enhancing the focus on specific areas of expertise.

The framework for coordination involves key levels within HQ SACT, with:

- Deputy SACT acting as the strategic Focal Point of Contact.
- Chief of Staff (COS) exercises oversight of all COE coordination.
- Deputy Chief of Staff Multi-Domain Force Development (DCOS MDFD) plays a pivotal role, acting as the single flaglevel point of contact for COEs.
- COE Programme Development (CPD) Branch ensures overall coordination through a cluster engagement model, emphasizing collaboration across NATO's COE program pillars.
- Subject Matter Experts (SMEs) contribute to day-to-day functional coordination and content expertise for COEs, with a dedicated SME assigned to each COE.

This comprehensive coordination structure aligns with NATO-wide priorities, enhances strategic guidance, and fosters effective engagement and support for COEs' initiatives. The HQ SACT Directive 80-03 outlines clear responsibilities for each level, emphasizing the importance of COEs in advancing NATO's collective defence capabilities.



## DCOS – MULTI-DOMAIN FORCE DEVELOPMENT



**DCOS – MULTI-DOMAIN FORCE DEVELOPMENT**  
**REAR ADMIRAL (UH) PLACIDO TORRESI**  
 ITALIAN NAVY

The COEs unique expertise and true excellence were fully demonstrated during 2024 with an outstanding cooperation with NATO and HQ SACT in particular.

As Deputy Chief of Staff Multi-Domain Force Development, leading the strategic guidance and coordination through ACT's COE Programme Development Branch, we have now more than a year feedback for the six clusters and their continual improvement to share best practices and common work strands.

This annual Catalogue shows how the 30 NATO-accredited Centres of Excellence are continuing sharing their experience and knowledge in support to the transformation of the Alliance, across the four pillars of their programme of work. All the services and deliverables are definitively adding value to main NATO works, in support to the Warfare Development and the warfighters.

COEs are robust and able to produce quality products, Education and individual training. Their support to execution and evaluation of NATO exercises provide the frame for COEs for training almost 20.000 NATO trainees through 150 NATO approved courses.

Analysis and lessons learned allow an extensive cooperation between HQ SACT, Joint Force Training Centre and COEs leading to a holistic and detailed understanding in order to align COEs' Programmes of Work to NATO's priorities.

Doctrine development and standardisation gives a direction to COEs to contribute to level III Doctrine publications and COEs are custodians for 42 allied publications and contribute to the development/review of a lot more.

Concept development and experimentation makes possible more than 300 self-generated initiatives to get a better understanding of the current situation and help predicting the future.

The summary of these COEs contributions highlights the role of all COE Directors and their Teams and that is why we show our gratitude to their ongoing engagement and proactivity alongside NATO HQ and the Alliance.

### COE PROGRAMME DEVELOPMENT BRANCH IN 2024

In 2024, the COE Programme Development (CPD) Branch introduced significant changes to previous HQ SACT coordination mechanisms and responsibilities with the NATO-accredited Centres of Excellence.

A one-year trial was initiated in October 2023 to provide a more centralized and coherent strategic direction and guidance to the COEs and to ensure a better understanding of NATO priorities and requirements. Moreover, switching directorate from Joint to Multi-

Domains fitted the need and the mission and gave strength to Deputy Chief of Staff Multi Domain Force Development (DCOS MDFD) to assume all COE FOGO Champion responsibilities,.

Within MDFD, the 'COE Programme Development Branch' continues its efforts to streamline the Request for Support (RfS) tool, and develops online tutorials for the larger NATO audience. It also provides the overall coordination and synchronization with the COEs, supported by assigned staff level ACT 'Subject Matter Experts' (SMEs), who deliver functional coordination and content expertise for COEs activities.





At this point, CPD organizes the annual COE Directors Conference, a bi-annual COE Marketplace at NATO HQ, forecast in 2026, the publication of an Annual COE Report to the MC and this present 2025 COE Catalogue.

The yearly process to ensure a consistent and efficient channel of communication with the COEs is clearly established. In 2024 CPD was actively involved in various conferences, events, virtual symposiums, and online meetings. These efforts encompassed conveying directives during assemblies held between the Supreme Allied Commander Transformation, ACT Flag & General Officers, and COE Directors. This comprehensive approach extended down to the operational level, including efforts focused on the four pillars, communications, and the Programmes of Work.

Additionally, CPD Branch leads and coordinates the development and NATO accreditation of new COEs, keeping in line with the primary objective which is to put under the NATO spotlight all COEs to highlight the possibilities and deliverable of the 30 COEs.

### COE PERIODIC ASSESSMENTS IN 2024

Once more this year, the CPD Branch managed to carry out the majority of the scheduled Periodic Assessments (PAs) through on-site visits and rarely on remote. In total, eleven were successfully completed in 2024. These face-to-face interactions with the Directors and COE personnel provided the CPD staff with a deeper insight into the limitations and individual challenges faced by each of the Centres, simultaneously strengthening the relationship and understanding between the COEs and ACT. This, in turn, fostered a more profound understanding, efficiency, and effective collaborations within NATO.

Additionally, beside the accreditation in spring 2024 of the Climate Change and Security COE (CCASCOE), and now included in this catalogue as the 30th COE to join the community and the COE catalogue.

## NATO Centres Of Excellence – Key Documents

### MC 0685 – Military Committee Policy For Centres Of Excellence

This fundamental policy document, agreed by the Nations in September 2020, replaced the original MC Concept from 2003 that describes the arrangements for NATO-accredited COEs.

- It covers the definitions, principles, accreditation, further development, relationships, interactions, and legal arrangements that apply to the Military Committee Policy for COEs.
- The Policy confirms that, in accordance with MC 0324/3 - The NATO Military Command Structure, the Supreme Allied Commander Transformation (SACT) is the coordinating authority for the NATO COEs.

### MCM-0086-2022 NATO Centres Of Excellence Accreditation and Periodic Assessment Criteria

This document supersedes IMSM-0416-04.

- It establishes the criteria for assessment of COEs for their initial NATO accreditation, periodic assessment and re-accreditation in terms of mandatory and highly desirable categories.
- It further describes the accreditation, periodic assessment and re-accreditation process to be employed in accordance with these criteria.



## BI-SC DIR 080-001 – Bi-Strategic Command Directive For The Coordination Of NATO Centres Of Excellence

This directive describes the relationship between HQ SACT and SHAPE in their interaction with the NATO COEs.

- It defines responsibilities with regard to the COEs and the management processes used to maximise the benefits provided by the COEs to the Alliance.
- It further sets out the key processes and battle rhythms used to manage and synchronise all COE coordination activities along with roles and responsibilities.

### HQ SACT Directive 80-03 - HQ SACT Coordination with NATO-Accredited COEs

This document describes the responsibilities for the coordination of NATO-accredited COEs in HQ SACT. It includes significant changes to previous HQ SACT coordination mechanisms and responsibilities, and the approved one year trial period commenced 15 Oct 23.

- Its aim is to provide more centralized and coherent strategic direction and guidance to the COEs in order to ensure better understanding of NATO priorities and requirements, as well as to provide a better mechanism to request support within the four pillars of NATO's COE programme.
- It is designed to enhance situational awareness, information sharing and improve visibility of the COEs' Programmes of Work (PoWs).

### HQ SACT Directive 80-05 - NATO Centres Of Excellence Establishment, Accreditation and Assessment Process

This directive describes the establishment and accreditation process of a NATO Centre of Excellence (COE) for HQ SACT.

- It defines the roles and responsibilities of HQ SACT staff for each stage of the COE establishment and accreditation process.
- It also identifies the anticipated interactions between HQ SACT staff and other COE stakeholders within NATO and NATO related entities, including National Liaison Representatives (NLRs) to HQ SACT.
- It sets out the COE establishment and accreditation process that consists of nine formal steps with the responsibilities of the involved HQ SACT branches explained within each.
- Additional steps, related to the coordination and validation of the COE Concept or MOUs, may be initiated by HQ SACT in coordination with SHAPE and/or the NATO HQ International Staff (IS) / International Military Staff (IMS) as necessary.

## COE Frequently Asked Questions

### Are COEs part of NATO?

The Military Committee (MC) Policy MC 0685 (Military Committee Policy for Centres of Excellence) states, "A COE is a multi-nationally or nationally established and sponsored entity, which offers recognized expertise and experience within a defined subject matter area to the benefit of the Alliance within the four pillars of NATO's COE program." We may say that NATO-accredited COEs have one foot within NATO (because they are "part of the wider framework that contributes to the functioning of the Alliance") and they have one foot outside NATO (because they are "not part of the NATO Command Structure or of other NATO entities"). This gives COEs greater flexibility in the relationships with other international and civilian entities.

### Where does the COE idea come from?

Can NATO "initiate" a COE? As per MC 0685, "A NATO Nation may decide to offer a COE to NATO by formally presenting the offer to the [Chairman of the Military Committee]. That could either be in response to an MC endorsed list or by its own initiative. The MC may, based upon SACT's advice coordinated with SACEUR, accept the offer and task ACT accordingly to proceed with the development as set forth in this Policy."

### What is the difference between a NATO-accredited COE and any other COE?

As per MC 0685, a NATO-accredited COE (also referred to as a "NATO COE") is a COE that has been established by SACT, has received MC endorsement, and has received subsequent North Atlantic Council (NAC) approval. Only when these steps are complete can a COE be called a 'NATO-accredited COE'. If NAC approval has not been granted, then it is not a NATO-accredited COE. Further, "Once accredited, the NAC may grant a COE international status under the Paris Protocol."

### Can NATO task the COEs?

No, NATO cannot task the COEs, because they are not under command authority of SACT. However, in accordance with MC 0685, "COEs have a functional relationship with HQ SACT and are, consistent with their accreditation, expected to prioritize NATO requests, act as a primary advisor to the NCS in their area of expertise when applicable and have responsibility to support within their means and capabilities, subject to the approval and allocation of resources by their Steering Committee."



## How does NATO request COE products and services?

NATO can request support from a COE by submitting a Request for Support (RfS). This is a process within the COE POW Development Cycle.

## Are NATO-accredited COEs eligible for Common Funding?

As per MC 0685, "COE infrastructure, operating and maintenance costs are the responsibility of the Sponsoring Nations...Exceptional eligibility for Common Funding may be established by the appropriate NATO resourcing authority..."

## Can Partner Nations join COEs?

Yes they can. Partner Nations can join NATO-accredited COEs as Contributing Partners, which means that they will be able to provide inputs and have access to COE's products and services; however, they will not have voting rights in the Steering Committee. These relationships should be managed by the COEs on a case by case basis, taking security aspects into account.

## Can COEs engage with non-military entities, such as industry and academia?

Yes they can, moreover they are encouraged to do so. These relationships are managed by the COEs on a case by case basis, taking security aspects into account.

## Where can I find more information about the COEs?

There are multiple sources available, depending on exactly what you are looking for:

- COE-specific - Each COE has its own homepage listed in this catalogue.
- COEs in general – ACT's website for COEs is <https://www.act.nato.int/centres-of-excellence>
- COEs – detailed information. This is contained in HQ SACT's information portal called TRANSNET (more information on page 10).



## Requesting COE products and services

HQ SACT coordinates the submission of NATO Requests for Support (RfS) to the COE Programmes of Work (POW). This process is called the "RfS Process". The overall aim of the process (managed by the COE Programme Development (CPD) Branch) is to optimize the use of the COEs, and to prioritize requests when required. In an effort to streamline the process and better use the resources available to the COEs,

requestors including the NATO Command Structure) should primarily use the "RfS Tool" that is available 24/7 on TRANSNET on unclassified portal. Classified requests should be registered via appropriate channels.

## TRANSNET (Transformation Network)

TRANSNET is an unclassified restricted access site available via the internet. The aim of the NATO TRANSNET Portal is to foster collaboration and create an internet accessible forum for Communities of Interest (COI) to come together and share knowledge and expertise. Access to TRANSNET is for individuals from NATO, NATO nations, MOD/DOD, NATO Partners, commercial/industry entities and others that have a standing business case with NATO. The TRANSNET Portal is password protected, so an account must be created. Please follow the steps below to sign up for TRANSNET and request access to the COE COI:

1. Go to <https://transnetportal.act.nato.int/Pages/home.aspx>;
2. Click on "Register" and provide your information. Commercial email accounts like Gmail, Yahoo, Hotmail or AOL will not be accepted. Only official military/government/organizational email addresses containing the requestor's name will be accepted. After providing your personal information, at the end please write your justification for asking access to the TRANSNET Portal;
3. Once your sign up request is approved by the TRANSNET administrator, login and go to your home page;
4. Click on the "Request Community Access" button;
5. From the list of available COIs, you can find Centre of Excellence (COE) COI;
6. Click on the "Request Access" button;
7. In the "COIs Requested" part, find "READ – COE" and add it to your wish list. Please provide justification for joining this COI;
8. Click on "Save" and your request will be sent to CPD Branch for approval.

Once your request is approved you will be able to view the content in the COE COI, including COE POWs and the RfS Tool.

## Centres of Excellence Community of Interest

One of the major advantages of joining the COE COI is that it is intended to be a "one-stop shop" for NATO-accredited COEs. Some of the content includes links to all of the COEs (and their POW if classification permits), key events, contacts, documents, and references. If an organization is considering becoming a NATO-accredited COE, there is a section on the requirements for establishment. One of the greatest benefits, however, is the ability to submit requests for support from NATO-accredited COEs. This resource is found under the "COE POW and RfS Tool" tile.



## Requests for Support

The RfS tool is meant to serve as a constantly available coordination tool between two or more stakeholders. It identifies the requesting organization, the COE(s) requested to support, a high-level description of the request, and associated timeline. Although requests should usually be entered before June for work to be carried out in the subsequent year (based on the COE POW cycle), out-of-cycle requests may be carried out if sufficient capacity/resources exist. Users unfamiliar with the RfS Tool should contact the CPD Branch for assistance, but in general, the following steps are required in order to request support from NATO-accredited COEs:

1. The requestor submits the request in the RfS Tool (note: prior discussions with the COE(s) via phone or email can be helpful in determining specific resource requirements and for crafting the request);
2. The COE(s) evaluates the request to determine appropriate expertise and available resources;
3. COE(s) provide feedback via the RfS Tool response;
4. HQ SACT provides prioritization (if required) of the RfS and coordinates with the potentially affected stakeholders;
5. The COE SC either accepts or rejects the RfS for the COE POW;
6. If the RfS is accepted, it will be included into the COE POW;
7. The COE develops the product, and formally closes the loop with the requestor:

8. Once the request is complete, the requestor informs the HQ SACT RfS Manager; the RfS Manager will update the RfS tool accordingly.

## Promotional Tools

The NATO-accredited Centres of Excellence annual catalogue has become one of the most popular vehicles for the promotion of the centres' expertise within NATO bodies as well as among other stakeholders. This success relies on the significant efforts made by the COE community to face current challenges through innovative initiatives that maintain their diverse expertise for the benefit of the Alliance. More specifically, the COVID-19 pandemic has highlighted the requirement and utility of using of online solutions, and has prompted CPD to initiate its own programme of virtual solutions.

The primary objective is to facilitate the understanding of exactly what the NATO COEs are and their value to the Alliance. Further the promotional tools also explain their creation and, most importantly, how their support is requested.

Promotional activities were oriented in three directions:

- Develop a series of simple, but widely accessible, tutorials through CPD's internal SharePoint site for ACT staff, or through the externally available TRANSNET COE Community of interest for all other NATO personnel.
- Create a "COE 101" WEBINAR aiming to explain, in basic terms, what the COEs are and how they might best be used.

## Request for Support (RfS) Process Timeline





- Assist ACT's Communications branch with developing a video animation for posting through ACT's portals and social media channels.

A further line of effort will be to revive the ACT e-learning portal part dedicated to the COEs including the related links to COE courses.

### CPD tutorials

The CPD branch, in collaboration with ACT's Modelling & Simulation Training Technologies (MSTT) branch, has developed an initial batch of tutorials that respond to simple frequently asked questions (FAQs) questions such as "What is a COE?", "How does the idea of creating an accredited Centre of Excellence start?" or "What is the establishment and accreditation process of a COE?" Those tutorials are aimed at audiences that wish to gain an increased knowledge of the NATO-accredited COEs' missions and activities.

### COE Marketplace

The 2024 edition of the NATO-Accredited Centres of Excellence (COE) Marketplace took place at NATO HQ in Brussels on Wednesday 22 and Thursday 23 May 2024.

Scheduled to take place at NATO HQ every two years, this event aims at highlighting the diverse, but crucial, support that the NATO COEs provide to the Alliance. It provides an opportunity for the National delegations to showcase their contributions made to the Alliance as Sponsoring Nations of the COEs, and for the International Staff and International Military staff based at NATO HQ to meet the COE personnel and recognize, understand and embrace the value of the expertise, support and advice provided by these 30 NATO-accredited COEs. The event also provides an excellent opportunity for the COEs to promote their work and share examples of the products and outputs they deliver to NATO.

### ACT Communications branch video animations

Designed by ACT Communications branch, these animations aims at drawing the COEs "out of the shadow" for some people in NATO various communities of interest and for a wider public audience.

The video animations (2 minutes) are displayed through NATO social networks and can be used by the COEs as an open source for promotion.

### COE e-Learning programme

ACT's Joint Advance Distributed Learning (JADL) site contains an area dedicated to COE-courses hosted by ACT's MSTT branch.

- This area is structured with separate areas where each COE can organize its own subject matter expertise domain. It is the responsibility of each COE to request their own area through the MSTT branch.
- These individual areas provide twin benefits for each COE:
- It provides the Centre the opportunity to reach a large number of potential students within NATO, by providing useful information and contact details.

When provided with a separate area, a COE can request support from the MSTT branch to develop and improve its own JADL competency.



ANIMATION:  
CATALYSTS FOR  
CHANGE



VIDEO:  
WHAT IS A COE?



VIDEO:  
COE MARKETPLACE  
2022





# NATO AIR OPERATIONS CENTRE OF EXCELLENCE (AO COE) - CASPOA

Located in the very heart of the French

air force Command and Control (C2) for Air Operations, the Air Operations Centre Of Excellence (AO COE) benefits from all the

synergies with the French National Air Operations Centre and the French JFAC, thus having an always up to date and practical link with current operations. In addition, this seamless dialogue with the Operational Community feeds the four pillars of the Centre.

Relying on a robust network of academics, start-ups and industries, the AO COE continuously reflects on how the emerging and disruptive technologies may enable us to maintain a conceptual, organisational and technological superiority over potential enemies.

Eventually, as a contribution to "Win the War before the War", by integrating more Multi Domain Operations perspectives in the curriculums of our NATO certified and listed courses, the AO COE will continue preparing the warfighters in the best possible way.

## DIRECTOR'S MESSAGE



**COL Fabrice IMBO**

## ► Mission Statement

To enhance Air Operations effectiveness across NATO Command Structure (NCS), NATO Force Structure and with partners, as well as to support development of Air Operations capabilities, concepts, doctrine and experimentation.

## ► Who We Are / What We Do

The accredited NATO Air Operations Centre of Excellence was created to deliver quality expertise in Air Operations and provide primary tactical training in this domain. Since 2008, it works towards improving the effectiveness of Allied and Partner's Air Operations, and supporting the development of Air Operations capabilities, concepts, doctrine and experimentation. The AO COE furthermore pursues spreading NATO culture and know-how across nations.



## ► Vision

The deterioration of the international context over the last decade, the complexity and rapid evolution of the World compel us to stay agile and to question and refine on a regular basis the relevance of our processes. When High Intensity is back to the battle space and Multi Domain Operations are the new norm, this questioning becomes vital.

Following on from the heritage of the aviation pioneers, the AO COE has been always putting significant efforts in monitoring emerging disruptive technologies and analysing doctrines and lessons learned to adapt education and training accordingly.

## ► 2024

### E&T

- Delivered over 32 training events and welcomed around 700 students;
- Contributed to NATO exercises, most notably LOLE 24, CWIX 24 and Steadfast Duel;
- Provided guidance for the Allied Command Operations Joint Targeting community both as an SME and training provider;



By contributing to NATO exercises, supporting SHAPE and AIRCOM and offering optimal training opportunities to over 700 students on average per year, the AO COE strives on providing value to NATO and on maintaining its position as leader in the AO domain.



- Supported SHAPE in capturing training requirements, offering optimal training opportunities, most notably by providing 3 METT to NATO and Partner Nations;
- Participated in Global Programming meetings and synchronization events lead by ACT;

## CD&E

- Continued collaborating with the NATO Scientific Technology Organisation (STO) through membership in the NMSG;
- Participated to Distributed Synthetic Training Initiative;
- Participated to numerous conferences (I/ITSEC show, ICD&E conference, NATO CA2X2 forum);
- Participated to Federated Mission Network as Supporting Service Lead in the Air Operations Breakout working group;

## LL & doctrine

- Worked on NATO doctrine, most notably with the writing of the AJP-5;
- Participated to relevant meetings (AJOD, AOWG, COE's and COL's LL meetings);
- Drafted JAGIC/ASOC LL following LOLE 24 participation;

## Cooperation / DH

- Welcomed Swiss liaison officer in the AO COE's team;
- Deepened our relationship with the AOTC and EPRC by exchanging SMEs and sharing expertise, and official visit in Italy;
- Participated to COE marketplace;
- Hosted and organized the Annual Discipline Conference in link with the Global Programming;

## ► 2025

### E&T

- Keep on delivering training events and welcoming students from NATO nations;
- Maintain our support to SHAPE with METT (3 METT planed: Colombia, Morocco, Lithuania);
- Continue our participation to NATO exercises (Spartan Warrior, JPOW);
- Continue participating in Global Programming meetings and synchronization events lead by ACT;

### CD&E

- Pursue our involvement with FMN CIAV;
- Continue our involvement with DST meetings;

- Continue collaborating with the NATO STO through membership in the NMSG;



## LL & doctrine

- Pursue our work with the AJP-5 writing team;
- Continue reviewing NATO doctrine (e.g.: AJP-3.22) and prospective concept (in particular the new Air C2 concept);
- Continue supporting NATO LL community;
- Draft Olympic Games LL;

## Other

- Pursue our collaboration with external partnering schools (AOTC, EPRC, 505th TRS, 705th TRS);
- Experiment with and assess the impact of Multi-Domain Operations (MDO) perspectives on the current Air C2 paradigm;
- Prepare for AO COE milestones with the Quality Assurance (QA) certification, and the Periodic Assessment (PA).

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## CIVIL-MILITARY COOPERATION CENTRE OF EXCELLENCE (CCOE)



In times of rising global challenges and growing competition, NATO recognizes that a comprehensive

approach is necessary for a credible deterrence and defence mission as well as a contribution to international crisis management of the Alliance. CIMIC – with its core activities Civil-Military Interaction (CMI) and Civil Factor Integration (CFI) – is the military joint function that assures the synchronization of military and non-military activities in peacetime, crisis and conflict. The CCOE with its outstanding subject matter expertise fulfills transformational, educational and operational requirements of the Alliance's Strategic Commands, the Sponsoring Nations and other relevant stakeholders, such as UN and EU.

### DIRECTOR'S MESSAGE



**COL [GS] Andreas  
ECKEL**

### ► Mission Statement

Our mission is to assist the Alliance and its partners with effective and interoperable civil-military cooperation through unique expertise, responsive education and training, cohered concepts, valuable lessons learned and future-oriented experimentation.

### ► Who We Are / What We Do

The CCOE is recognized as a NATO accredited Centre of Excellence, located in The Hague, the Netherlands. The CCOE is the asset to assure NATO Nations' and Partners' access to up-to-date knowledge and expertise in the field of CIMIC and to promote NATO's role in the area of transformation and innovation to external audiences. The CCOE is NATO's Department Head (DH) for CIMIC, and a NATO accredited Education & Training Facility. Based on the NATO EU joint declarations regarding intensifying cooperation, the CCOE is the European Union Discipline Leader (DL) for CIMIC, providing a comparable coordinating function for EU like as DH for NATO, and a member of the European Security Defence College. CCOE's program of work, coordinated and consistent with NATO efforts, is guided by 1. Education and Training, 2. Lessons Learned and Analysis 3. Concept Development and Experimentation, and 4. Doctrine Development and Standards.

### ► Vision

The CCOE is the catalyst working towards a contemporary and future environment where military and non-military actors are seamlessly integrated into military activities, enabling a comprehensive approach to address complex challenges in peacetime, crisis, and conflict.

### ► 2024/2025



### Education and Training

CCOE's Training and Education Branch (T&E) functions as the COE's accredited Education & Training Facility (ETF) for CIMIC. It uniquely combines expertise with training and education. T&E contributes effectively to CCOE's effort as a Department Head for the CIMIC Discipline regarding Education, Training, Exercises and Evaluation (ETEE) and Discipline Leader for EU CIMIC. Besides that, the integration of the key themes of the NATO Warfighting Capstone Concept (NWCC), such as the Layered Resilience, Multi Domain Operations (MDO) and Cognitive Superiority are building blocks of the different courses. In 2025 training solutions will be further aligned and address mutual challenges with related disciplines like: Military Contribution to Peace Support (MC2PS), Gender and Military Contribution





to Building Integrity (MC2BI). Furthermore, T&E will keep providing trainings to US Civil Affairs (CA) units and personnel in order to promote interoperability and effectively synchronize CA and NATO CIMIC. The CCOE is capable to deploy Mobile Training Teams (MTT) and provide tailored trainings' solutions on tactical or operational level in the CIMIC area of expertise. In 2025 CCOE will continue to intensively support NATO and Sponsoring Nations exercises with SMEs, observers, trainers and evaluators.

## Lessons Learned & Analysis

CCOE's Lessons Learned & Analysis Branch (LL&A) supports the CIMIC Community of Interest by providing observations and lessons to contribute to the improvement of CIMIC;

- Collection, analysis and implementation of CIMIC-related observations in missions and exercises;
- Collection and analysis of observations and lessons relating to the Ukraine war
- Cooperation with the Joint Analysis and Lessons Learned Centre and COE LL Community of Interest;
- Support in the implementation and further development of LL&A specific software;
- Support revision of CCOE's course landscape;
- Contribution to the revision of CIMIC-related doctrines and publications;
- Conduction of specific courses for NATO and non-NATO Nations and Partners;
- Provision of CIMIC SME to Federated Mission Networking CIMIC Meeting and NATO Shipping Working Group.

## Concept Development and Experimentation

The CCOE supports the continuously evolving, adapting, and innovating joint function of CIMIC, including academic studies and the development of concepts, processes, doctrine, and documents. Actual topics are:

- NATO CIMIC Analysis & Assessment capability;
- NWCC;
- Warfare Development Agenda-related products and deliverables (including but not limited to: MDO, Layered Resilience, Wargaming).

## Doctrine Development and Standards

The CCOE is the custodian for AJP 3.19 ALLIED JOINT DOCTRINE FOR CIVIL-MILITARY COOPERATION and works to ensure the appropriate reflection of CIMIC

aspects in related doctrine and publications. The CCOEs SMEs also contribute to the development of NATO policy. The CCOE edits a range of publications, including academic books and practical materials such as the CIMIC Handbook, and factsheets. Within the "US Civil Affairs Euro-NATO CIMIC Synchronization project", the CCOE works closely with US CA entities across Europe and the USA. The CCOE ensures that CIMIC-related aspects are appropriately included in NATO Cross-Cutting and emerging topics and in CIMIC-related products. For 2025 we expect a further dynamic in the field of interoperability between NATO and its partners and the conceptualization of NATO's MDO.



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## CLIMATE CHANGE AND SECURITY CENTRE OF EXCELLENCE (CCASCOE)



### DIRECTOR'S MESSAGE

The NATO Climate Change and Security

Centre of Excellence (CCASCOE) was established to enhance

NATO's understanding and adapting to the impact of climate change to security. Located in Montreal, Canada, CCASCOE has been steadily growing its capacity and building its collaborative network over the last year. With the support of twelve Sponsoring Nations, several already contributing staff on location, we have made significant progress since our operational launch in fall 2023. We respond to the need for defence institutions to better understand, adapt to, and mitigate the impacts of climate change on security.



**Mathieu  
BUSSIÈRES**

### ► Mission Statement

The mission of the NATO Climate Change and Security Centre of Excellence (CCASCOE) is to enhance understanding of how climate change affects security interests of NATO, Allies, and partners. We aim to support Allies improving operational adaptation of military forces, reduce climate and environmental impacts, while maintaining and enhancing NATO's core missions and functions. CCASCOE also serves as an important platform for research, knowledge sharing, and collaboration between stakeholders.

### ► Who We Are / What We Do

CCASCOE achieved NATO accreditation in May 2024. Its activities are guided by the NATO Climate Change and Security Action Plan and supports the implementation of its four pillars (Awareness Raising, Adaptation, Mitigation and Outreach). This is done through research and analysis, experimentation, doctrine and concept development, education and training as well as in support of developing lessons learned. Our work is complemented by a unique Outreach and Engagement pillar reflecting the cross-sectoral nature of climate security.

### ► Vision

The CCASCOE will be an internationally recognized hub of expertise for military and civilian practitioners,



working cooperatively to expand knowledge and capabilities in the field of CCS for the benefit of NATO, Allies, Partner Nations, other partners and the international community.



### ► Key Achievements

In 2023/2024, CCASCOE made significant strides in establishing the Centre. Our activities is organised around four Line of Efforts:

#### Generate and Disseminate Knowledge

The CCASCOE will become a critical research platform. In this first year of operation progress has included:

- Collaboration with the Defence Against Terrorism (DAT) COE providing two chapters for the forthcoming 'Climate Change and Terrorism' book publication.
- Hosting, with the UK's Defence Science and Technology Laboratory (Dstl) and the University of Cambridge, an innovative workshop to explore critical, alternative perspectives on climate security.



- Presenting at the Advanced Research Workshop on Climate and Security Action on the Role of Civil-Military Cooperation.
- Hosting members of the NATO SAS-184 project: "Carbon Footprint Assessment of Military Organizations and Operations and related Logistics."
- Participating in the Advanced Research Workshop: Unravelling the Cyber-Physical-Social Infrastructure Climate Change (CPSICC) Nexus.

## Providing Advice

Many stakeholders have recognized that they must begin adapting to growing climate change-related security challenges. The CCASCOE have provided advice in the following ways:

- Alongside NATO STO-CMRE and UK Ministry of Defence, delivered a 'deep dive' workshop into climate change impacts with the Military Infrastructure Thematic Working Group to inform the development of the NATO Layered Resilience Concept.
- Provided Climate Security advice into the ACT Future Operating Environment Study.
- Provided advice to the refresh of AJP 4.1 Military Logistics.

## Supporting Capacity Building

Addressing climate change and security challenges in the coming decades will require military and non-military actors to address the threats and arrive at enduring security outcomes. To support this, over 2024, the CCASCOE has:

- Providing faculty members and seminars at the inaugural NATO Climate Change and Security Course at the U.S. Naval Postgraduate School in Monterrey.
- Participating in the 3rd Allied Land Partners Conference, which focused on Climate and Energy.
- Partnered with the Institute for Security Governance (ISG) and participated in the inaugural "Climate and Environmental Security" Regional Course in Quito, Ecuador.
- Collaborated with Archipelago of Design for the future development of a wargame prototype to address climate-related security issues.

## Develop Strategic Partnerships

Addressing the multi-faceted CCS challenge requires informed and coherent responses by actors. CCASCOE prioritise the establishment of networks to deliver on our vision:

- Developing together with the government of Canada, Germany and the United States the side event "**NATO in a Climate Changed World**" in the margins of the 2024 NATO Summit.
- Co-hosting with the Canadian Defence Association Institute (CDAI) the Montreal Climate Security Summit.
- Conduct mapping activities to identify and analyze key climate-security resources, stakeholders and projects to guide the Centre's activities.



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## COLD WEATHER OPERATIONS CENTRE OF EXCELLENCE (COE-CWO)



Throughout history, the outcome of wars has been altered by the inability to deal with the Cold Weather environment.

The current changes in the geo-political situation and climate-change comes with a greater interest and security-concerns in areas of the world where Cold Weather Capability is needed. This specific capability is needed at all levels of a warfighting organisation when Cold Weather Operations is conducted. From the Flag Officer at strategical levels in order to understand what forces to deploy where, to the individual soldier that needs to know signs and symptoms for Cold Weather Injuries or mechanical failures and how to prevent them. Cold Weather capable forces master the environment through understanding, knowledge and the ability to exploit opportunities.

The Centre of Excellence for Cold Weather Operations is supporting the Alliance building this understanding and will continuously search for new and innovative ways to develop the Alliance capability to conduct warfighting in an environment that is inherently deadly.

### ► Mission Statement

COE-CWO will strengthen the Alliance's ability to conduct military operations in Cold Weather Environments, in close coordination with NATO Command Structure (NCS) and Allied Nations. The COE-CWO will provide subject matter expertise on the full spectrum of operations and transformation by serving as the principal CWO-advisor to SACT and SACEUR, within all pillars of the COE Program.

### ► Who We Are / What We Do

Cold Weather Operations demand more of warfighting organisations. The freezing temperatures and harsh weather conditions affect personnel, equipment and terrain variously within short timespans and distances. COE-CWO supports the Alliance, at all levels of command and in all domains, to understand these impacts in order to exploit possibilities and mitigate risks, and most importantly, to win the fight when needed.



### DIRECTOR'S MESSAGE



**COL Vegard  
FLOM**



### ► Vision

To be the recognized expert for the Alliance's Warfare Development in the field of CWO, the COE-CWO will utilise its expertise in the whole spectrum of the Alliances on-going and possible future operations. It will generate expertise by means of a well-developed network of military and civilian as well as national and international competence-units and -organisations, in order to continuously improve and be updated on all CWO related knowledge and developments.

### ► Key Achievements

The NATO Centre of Excellence for Cold Weather Operations (COE-CWO) continues to deliver recognized experience and expertise across all four pillars of COE development. The Analysis and Lessons Learned (A&LL) process has highlighted significant gaps in synchronization and adaptation to cold weather capabilities, necessitating improved interoperability. With Finland and Sweden joining NATO, nearly all Arctic nations are now part of the Alliance. Despite this, all



member nations must be prepared to operate in harsh climatic conditions, and current geopolitical tensions emphasize the need for collaborative efforts to bridge these capability gaps.

To solidify its role as NATO clearinghouse for Cold Weather Operations, COE-CWO has set three major projects for 2024:

- transitioning from a single-nation to a multinational COE,
- developing a land tactical publication, ATP-3.2.1.5,
- creating an operational level concept on Cold Weather Operations.

ATP-3.2.1.5 and the Alliance Concept for Cold Weather Operations will provide frameworks for further developing CWO capabilities in NATO.

Furthermore, COE-CWO has through 2024:

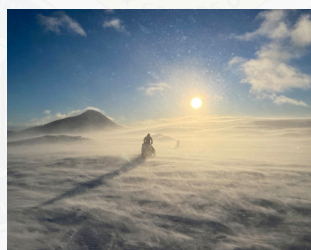
- supported HQ SACT's efforts in Net Assessment and NDPP Capability requirement development,
- enhanced its network within the Alliance and supported Joint Force Command Norfolk and the Joint Warfare Centre by providing subject matter experts and augmentees during the Steadfast Defender 2024 exercise,
- contributed to the ongoing conflict in Ukraine by offering tailored courses and expert support through a memorandum of understanding with the Ukrainian Military Academy, gaining valuable lessons in return,
- contributed to the development for planning considerations for detention operations in cold weather environments.

Looking ahead, the COE-CWO will host the third iteration of the Cold Weather Operations Conference (CWOC) from November 11-13, 2025, in Hamar, Norway. The conference will focus on interoperability in Arctic and Cold Weather operations as a cross-domain and cross-command level capability. The Cold Weather Operations Community of Interest is encouraged to mark their calendars.

Moreover, the Cold Weather Operations Community of Interest can anticipate more webinars, following significant engagement in 2024, where over 1,000 members participated. COE-CWO aims to enhance information sharing of research and development conducted by its extended network organization.

The COE will continue supporting operational level headquarters in its subject matter areas, and it remains dedicated to formalizing its transition to a multinational centre, leveraging the entire Alliance's expertise in Cold Weather Operations.

Lastly, COE-CWO offers a variety of courses for the Alliance, with the course catalogue for 2024/2025 available on its website.



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COE WEBSITE





## COMBINED JOINT OPERATIONS FROM THE SEA CENTRE OF EXCELLENCE (CJOS COE)



### DIRECTOR'S MESSAGE

CJOS is the NATO COE devoted to developing

Alliance combined Joint Warfare Capability from the sea, while providing foresight and analysis on operational matters. Based in the US, and aligned with JFC Norfolk and US SECOND Fleet under my command, CJOS is dedicated to driving forward the Alliance's Warfare Development Agenda, in turn supporting the delivery of deterrence and defence in all domains from the maritime. Our ambitious 2025 Programme of Work has been designed to focus on deepening our understanding of our competitors, supporting Multi Domain Operations and Integration, seeking new concepts to exploit innovative technologies, and taking practical steps to drive and enable greater interoperability among Allied forces. Everything we do is aimed to help our Sponsoring Nations and those NATO commands we support, with a focus on delivering practical output that improves capability. If you have a challenge that you think we could help with, we want to hear from you.

**VADM Douglas  
PERRY**

### ► Mission Statement

To support the Sponsoring Nations (SNs) and NATO in improving their ability to conduct Allied combined joint operations from the sea in order to counter current and emerging maritime global security challenges.

### ► Who We Are / What We Do

CJOS COE is a small but dynamic and well-connected COE based in Norfolk, Virginia (U.S.A), that provides a maritime focus for Alliance warfare development, acts as a conceptual trans-Atlantic bridge for the Alliance Maritime Enterprise, drives maritime interoperability and integration, and supports the four pillars of NATO transformation. The Centre draws on knowledge and capabilities of Sponsoring Nations, Allied Command Transformation (ACT), U.S. SECOND Fleet, Joint Force Command Norfolk, along with other neighbouring U.S. commands, to drive maritime warfare development.



### ► Vision

Working closely with partners and stakeholders from international militaries, governments, non-governmental agencies, industry, and academic communities of interest, CJOS COE aims to be the

### Allied Interoperability & Integration Guide



CJOS COE  
Version 3.0  
November 2022

Alliance's source of expertise in the conduct of combined and joint operations from the maritime environment.

### ► Key Achievements

The CJOS Programme of Work is a result of deliberate and wide ranging engagement with those we serve – whether that is ACT, JFC Norfolk, MARCOM, our Nations, or indeed anyone else who needs our support. At its core it is aligned with NATO thinking, to ensure that CJOS can play its part in helping drive forward towards the headmarks set by strategic direction such as the DDA and Warfare Development Agenda. Drawing on a continuity of approach maintained over the past few years, the Programme of Work it is built along five Lines of Effort:



**1. Cognitive Superiority; Understanding Challenges and Competitors in the Maritime:**

- Produce the annual magazine “Cutting the Bow Wave”, providing wide-reaching articles and information pertaining to combined and joint operations with a maritime focus;
- Research and analyse Arctic operations, including addressing C4ISR challenges and cold weather impacts.

**2. Force Development; Driving Interoperability, Integration:**

- Chair, participate, and contribute to a variety of doctrine and lesson learned working groups - advancing NATO's capabilities in the maritime environment to adaptably interoperate forces and resources;
- Stewardship of the Allied Interoperability and Integration Guide;
- Support exercises – CJOS provides maritime subject matter experts to US and multinational exercises including Ex STEADFAST DEFENDER;
- Contribute directly to progressing NATO's communication systems, with real-time command and control challenges;
- Provide maritime expertise to the IAMD community;
- Chair the MAROPS Working Group.

**3. Multi-Domain Operations:**

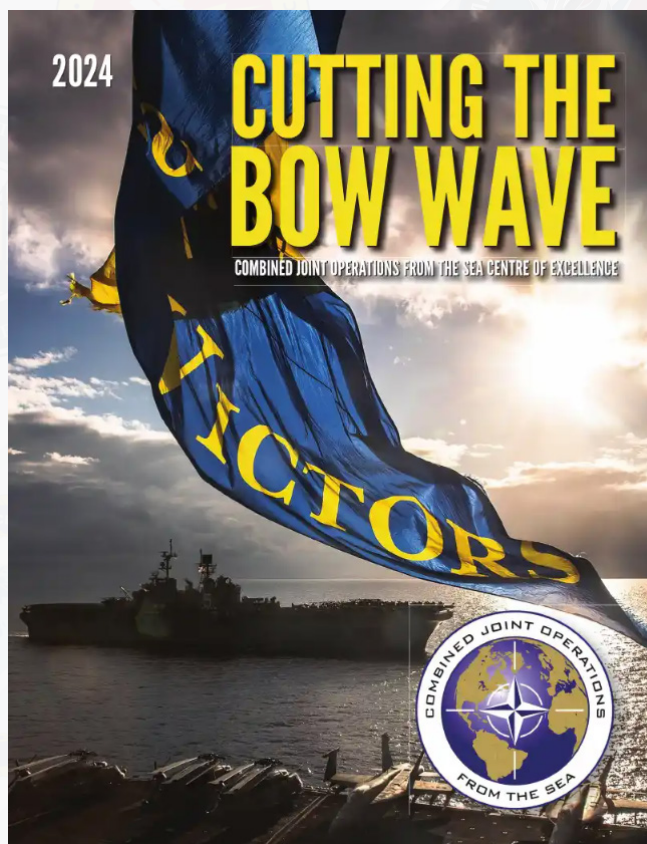
- Bring together stakeholders to address key challenges, and thereby improve collective maritime security;
- Investigate AI, autonomous vehicles and computing to enhance maritime ISR.

**4. Innovation; Development of Innovative and Disruptive Technologies:**

- Chair “Working Package E” of the ASW Barrier Smart Defence Initiative.
- Provide doctrine, policy, research studies and exercise analyses of Manned-Unmanned technologies in multiple areas of warfare, including maritime warfare and joint operations.

**5. Support the Alliance's Development and Integration of Amphibious Capabilities:**

- Continue to be a chief contributor to the NATO Amphibious Leaders activities, developing and operationalizing a multinational amphibious task force in support of NATO;
- Participate in multiple working groups, focusing on integration issues and the NATO Amphibious Task Force concept.



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COE WEBSITE





# COMMAND AND CONTROL CENTRE OF EXCELLENCE (NATO C2COE)



NATO is on the verge of a significant transformation across the entire alliance, and it's all centered

around Command and Control. I often begin my presentations with these words because not only is this true, but it is also crucial that this transformation starts now. The shift from joint to multi-domain operations requires military decision-makers to orchestrate across operational domains while synchronizing with civilian entities. Simultaneously, advancements in technology enable a data-centric approach, AI support, and global, seamless connectivity. This demands substantial changes in how we Command and Control within the Alliance. The NATO C2COE leverages networks of international experts to drive research, experimentation, evaluation, and analysis, providing allies and partners with the opportunity to strengthen their own C2 systems and align them with NATO.

## DIRECTOR'S MESSAGE



**COL Mietta  
GROENEVELD**

## ► Mission Statement

We support NATO transformation with subject matter expertise on Command and Control, in close cooperation with nations and international institutions/organizations. C2 at the operational level is our primary interest, with a focus on C2 processes and structures (including connectivity), on information and knowledge management and on Human Factors (including leadership).

## ► Who We Are / What We Do

The Command and Control Centre of Excellence (NATO C2COE) in Utrecht, the Netherlands, is a dynamic organization committed to enhancing command and control (C2) mechanisms in support of Allied Command Transformation's mission. The NATO C2COE assists NATO nations and international organizations by providing expertise at the operational and higher tactical levels, aiming to catalyze change by motivating, encouraging, and stimulating necessary improvements.

By concentrating purely on these C2 aspects, the NATO C2COE is unique; no other NATO related organization focuses exclusively on the overarching joint function C2. It gains its expertise by assessing and evaluating C2



aspects during missions, exercises and experiments.

These assessments and insights from the real world on all aspects of C2 in a joint, interagency and combined environment are the basis for further analysis and peer-to-peer discussions. The final results support concept development and experimentation, doctrine and policy development, education and training, and requirements definition.

## ► Vision

NATO C2COE catalyses C2 by capturing, creating, assessing and distributing C2 knowledge. The joint and multinational capacity of NATO C2COE and its partners will lead to robust and applicable knowledge.

## ► 2024/2025

In summer 2024, in collaboration with the Canadian Joint Warfare Centre, the NATO C2COE launched the NATO C2COE Annals of C2, a peer-reviewed military journal designed for the publication of scholarly papers in C2 and related disciplines.



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The first edition is now available on the NATO C2COE website: [c2coe.org/annals](https://c2coe.org/annals).

As part of its Global Programming role, the NATO C2COE continued to serve as the Department Head for the Operations Planning, Operations Assessment, and Alternative Analyses (OPOAAA) discipline. The Department Head assembles a discipline-specific Education and Training programme, striving to ensure that solutions are delivered in the most effective, efficient, and affordable manner through NATO Allies, partners, and Non-NATO Entities.

The NATO C2COE exemplifies Allied Command Transformation's mission by pushing the boundaries of existing capabilities and exploring greater integration across Multi-Domain Operations. By combining real-world C2 experience with a focus on C2 processes, the Centre continues to advance the Alliance's capabilities within Multi-Domain Operations.

As the only Alliance-related organization focused exclusively on overarching joint C2 functions, the NATO C2COE plays an important role in orchestrating international capabilities through research, experimentation, and analysis. It serves as a bridge between civilian and military sectors, acting as a knowledge broker to facilitate the exchange of information and enhance robust interoperability.

The Centre provides continuous support to exercises such as the STEADFAST and JACKAL series, deploying subject matter experts throughout the command ecosystem to assist training audiences and contribute to the development of Lessons Learned. Beyond exercise support, the NATO C2COE is actively involved in global discussions and events, serving as a hub for knowledge sharing and collaboration. Through keynote speeches, workshops, and presentations, the Centre shares ideas and insights, reinforcing its dedication to advancing C2 by capturing, creating, assessing, and distributing C2 knowledge.

The Centre also organizes its own conferences on a range of C2 topics. Last year's conference, titled "The Future of NATO Decision-Making," sparked discussions on the hypothesis that NATO's current decision-making processes may no longer be sufficient to meet the challenges posed by rapid technological changes, evolving global threats, and multi-domain operations. This conference set the stage for an in-depth examination of how NATO can continuously adapt its decision-making processes to remain effective and responsive in a rapidly changing world. Participants were challenged with theories and arguments surrounding Multi-Domain Operations and Multi-Domain Command and Control (MDC2) and were exposed to the latest insights from C2 experts.

Building on the previous year's discussions, the 2024 edition of the annual C2 conference focused on "NATO MDO Synchronization – C2 Implications: How to Achieve Converging Effects in the Continuum of Competition." Once again, the conference brought together experts from both civilian and military realms, providing a platform for engagement through

plenary sessions, panel discussions, and breakout sessions.

In addition to its conceptual development and personnel training efforts, the NATO C2COE maintained an active outreach role through various publications, including articles, studies, and papers, as well as a recurring podcast series. These podcasts feature guests who are specialists in C2 doctrine and provide the Centre with a platform to promote its innovations and showcase the depth of exploration the Alliance is pursuing in the C2 domain. A new podcast series focusing solely on the Senior Mentor Programme is now available online. This programme allows former Flag or General officers to support NATO commanders as they train and prepare for operations, ensuring that lessons learned from their careers are integrated into current and future commands.



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COE WEBSITE





## CENTRE OF EXCELLENCE FOR OPERATIONS IN CONFINED AND SHALLOW WATERS (COE CSW)



The importance of  
confined and shallow  
waters (CSW) to global

### DIRECTOR'S MESSAGE



**RADM Helge Sascha  
RACKWITZ**

security and economy-related processes remains high. Influencing almost all areas of global life, transportation, trade, food supply chains and more, these waters are permeated by a tight web of intense interdependencies and competing interests, and characterized by a high density of human activities, critical infrastructure, and difficult environmental conditions. In consequence, a wide range of factors influence and complicate any maritime endeavour, be it of civilian or military nature.

Working on the resulting challenges, COE CSW supports NATO mission achievement and interoperability, utilising knowledge gained through the plethora of our projects. Our work ranges from warfare capability development, training and operational maritime law discussions through to informing strategic decision making.

Times remain demanding in the maritime domain, and the COE CSW is determined to continue its respective focussed support to NATO in 2025.

### ► Mission Statement

The COE CSW mission is to provide joint and combined subject matter expertise in the range of operations in CSW in order to support the Alliance, our participating nations and other customers thus contributing to NATO transformation and enhancing the interoperability amongst the allies and partners.

### ► Who We Are / What We Do

The COE CSW was established in 2007 and accredited by NATO in 2009. Drawing upon navies' experiences in confined and shallow waters operations, bringing together this unique expertise from different nations and thus creating synergy in a relevant field of competence is an excellent way to advance NATO's transformational efforts in areas such as the unique and extremely demanding operational environment of CSW. Our multinational team of subject matter experts covers the pertinent warfare areas and supports NATO in the entire COE work spectrum to support transformation in general, and warfare capability development in particular.



### ► Vision

As the very hub of knowledge, the COE CSW is recognised as an essential provider of competence and a tangible supporter to the Alliance, the participating nations, and other customers.

We are an indispensable element of NATO Transformation by generating synergies and sharing best practices in a multinational environment.



We are playing the key role in advancing the joint and combined understanding of specific challenges related to operations in CSW, as well as in driving forward the development of high standard warfare capabilities and skills.

## ► 2024/2025

- Working in a range of NATO Working Groups, partly in leading positions, e.g. the Maritime Operations WG (MAROPS WG), the Allied Joint Operational Doctrine WG (AJOD WG), Force Protection WG (FP WG); Counter-Improvised Explosive Devices Working Group (C-IED WG), NATO Electronic Warfare WG (NEWWG), Amphibious Operations Working Group (AMPHIBOPS WG), Naval Mine Warfare Working Group (NMWWG), NATO Joint Capability Group Unmanned Aerial Systems (JCGUAS), NATO Counter-Unmanned Aircraft Systems WG (C-UAS WG); acting as official liaison between AJOD WG and MAROPS WG;
- Promoting global Maritime Security by organising side events within the Munich Security Conference (MSC) and through related project work;
- Contributing to ACT's Smart Defence Initiative (SD 1.1271) Deployable ASW Barrier Operations;
- Supporting the implementation of NATO Maritime Synthetic Collective Training, incl. the implementation exercise DYNAMIC MIRAGE (2024);
- Advocating the crucial role of the Electro Magnetic Spectrum (EMS) in maritime operations, supporting MARCOM and custodians in developing respective publications and fostering experimentation, education and training;
- Supporting the NATO Maritime Unmanned Systems (MUS) Initiative as part of the Staff Advisory Groups (SAG) inside the Steering Board;
- Co-Sponsoring the NATO's Industrial Advisory Group (NIAG) study on "Industrial perspective on NATO's military digital underwater communications capability and new fields of applications";
- Offering a computer-assisted wargaming capability to train maritime staffs at the tactical level and to support concept- and warfare development in an analytical context;
- Supporting the series of Robotic Experimentation and Prototyping Exercise augmented by Maritime

Unmanned Systems (REPMUS) and the Dynamic Messenger series;

- Starting a Critical Maritime Infrastructure Protection (CMIP) Exercise series (RUBIKON) focussing on cross-national and cross-directory governance issues, first iteration in 2024 in cooperation with the European Defence Agency (EDA) and participating nations;
- Fostering Maritime Situational Awareness from Seabed-to-Space through the development of a Multi Sensor Data Fusion Cell, utilizing space-based assets for operations in confined and shallow waters;
- Fostering a common understanding and the development of Operational Maritime Law, e.g. by our annual "Conference on Operational Maritime Law".



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## COOPERATIVE CYBER DEFENCE CENTRE OF EXCELLENCE (CCDCOE)



**DR Mart NOORMA**

### DIRECTOR'S MESSAGE

The NATO Cooperative Cyber Defence Centre of Excellence is the leading dedicated hub for NATO allies and like-minded nations to jointly raise their cyber defence capabilities with up-to-date know-how and flagship exercises. We specialise in fostering international cooperation in cyber defence and currently unite 39 like-minded nations, who stand as a coalition against cyber threats while offering a comprehensive global perspective on adversarial capabilities and operations. This collaboration is especially critical in the face of rising geopolitical tensions and the increasing complexity of cyber-attacks fuelled by emerging technologies.

Our products – specialized expertise, doctrine, guidelines, research, education and training, and exercises – are designed to have practical value for our member nations and NATO. Key projects of the Centre include Locked Shields, the largest and most intricate live-fire cyber resilience exercise in the world; the CyCon conference, annually assembling the world's foremost cyber specialists in Tallinn; and Crossed Swords, a technical cyber exercise with an offensive focus.

### ► Mission Statement

Our mission is to enhance the cooperative cyber defence capability of NATO and its partners in order to support NATO's military transformation, the Sponsoring Nations, Contributing Participants, and other Customers, thus improving the Alliance's interoperability and cooperative cyber defence.

### ► Who We Are / What We Do

The NATO CCDCOE is a NATO-accredited knowledge hub located in Tallinn, Estonia, offering a unique interdisciplinary approach to the most relevant issues in cyber defence. The heart of the CCDCOE is a diverse group of international experts from the military, government, academia, and industry, representing 39 sponsoring and contributing nations. The CCDCOE encourages and supports the process of mainstreaming



cybersecurity into NATO and national governance and capability within its closely connected focus areas of technology, strategy, operations, and law. The CCDCOE is also responsible for identifying and coordinating education and training solutions in the field of cyber defence operations for all NATO bodies across the Alliance.

### ► Vision

The NATO CCDCOE provides its stakeholders – NATO and CCDCOE member nations - with timely and relevant products and services, which support the stakeholders in development of their capability to conduct cyberspace activities both individually and collectively in line with UN article 51 and North Atlantic Treaty article 5. The available resources are efficiently directed to provide the most significant effects. As the result, the NATO CCDCOE is internationally recognized as the leading Centre and preferred partner for cyber capability development cooperation.





## ► 2024/2025

In 2024, CCDCOE's subject matter experts contributed to the development and delivery of a wide range of products and services.

This year's Locked Shields, the most complex live-fire cyber resilience exercise in the world, continued to grow and push the boundaries of what can be achieved in cyber defence training. The multinational teams of national cyber defenders, including both technical and non-technical personnel, were tasked to protect a unique mix of civilian and military ICT systems, critical infrastructure and crisis-handling processes. Bringing together 4,000 cyber experts from more than 40 nations, the exercise demonstrated the power of collaboration in enhancing collective security.

The next iteration of Crossed Swords will continue from where Locked Shields concluded, bringing together 200 participants from around 40 countries. The exercise is designed to train cyber specialists to conduct full kill chain offensive cyber operations in a simulated crisis environment and military command elements in the command and control of offensive cyberspace capabilities.

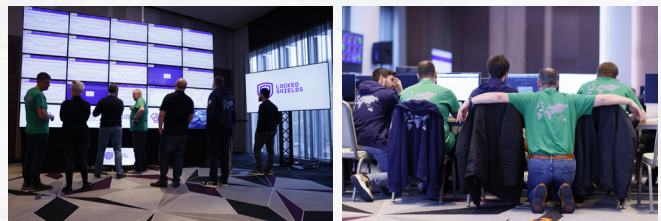
The 16th iteration of the international conference on cyber conflicts, CyCon 2024 "Over the Horizon," brought together the top international leaders from NATO, governments, academia and industry to discuss how the latest research and technological innovations can be leveraged to defend nations against emerging cyber threats. In total, the four-day multidisciplinary conference was attended by 700 participants from over 40 countries. The Conference Proceedings include 20 peer-reviewed papers selected from hundreds of abstracts and are available on the CCDCOE website. The next CyCon, titled "The Next Step," will take place in Tallinn, Estonia, on 27-30 May 2025.

The NATO CCDCOE is committed to continuously improving its training solutions to address the changing needs of the ever-developing cybersecurity field. To best meet the diverse training needs of NATO and CCDCOE Member Nations, the Centre provides courses in a variety of formats and locations, covering a broad range of topics within the technical, legal, strategic, and operational cyber defence domains. In 2024, the Centre conducted 23 iterations of residential and mobile courses for almost 500 students, while over 7,400

students attended 16 online courses. The Training Catalogue for 2025 is published on the CCDCOE website, including new and revised courses on threats for intelligence practitioners, critical infrastructure protection and legal training solutions.

In its continuous effort for improvement, in May, ACT recommended CCDCOE for unconditional Quality Assurance reaccreditation as an education and training facility.

The research published in 2024 covered topics such as cyber diplomacy and the legal implications of the use of biometrics by armed forces. One major research project launched this year addresses the urgent global challenge of clarifying and applying international law in cyberspace. Together with partners, CCDCOE is developing "The Handbook on Developing a National Position on International Law in Cyberspace: A Practical Guide for States," expected to be published in 2025. This will serve as an invaluable and practical addition to the existing resources on international law and cyberspace.



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[www.youtube.com/natoccdcoe](https://www.youtube.com/natoccdcoe)



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## COUNTER-IMPROVISED EXPLOSIVE DEVICES CENTRE OF EXCELLENCE (C-IED COE)



### DIRECTOR'S MESSAGE

Improvised Explosive  
Devices continue to be

a significant threat to the Alliance, and their use by violent extremist

organizations and other actors threaten stability throughout the world. The type of missions in which NATO troops are deployed gives a false sense of security that IEDs are less harmful to NATO forces, and/or our societies than in past years. As my predecessor in the C-IED COE Director's position used to say, "IEDs have gone to stay." The Center will continue providing support to Alliance and Sponsoring Nations to ensure leaders have Subject Matter Expertise to train and educate NATO members on C-IED operations during Multi-Domain Operations. The Center will continue with the institutionalization of C-IED within the International community through analysis and studies of current scenarios and operational areas, while supporting NATO priorities in C-IED training, concept development, and capacity building.



**COL JAVIER CORBACHO  
MARGALLO**



### ► Mission Statement

To provide subject matter expertise in order to support the International Community in the fight against the IED system and to co-operate to increase the security of Allied Nations and all troops deployed in theaters of operations by reducing or eliminating the threat posed by the use of improvised explosive devices by non-state actors, terrorists and/or insurgents networks.

### ► Who We Are / What We Do

The C-IED COE is the accepted venue for all C-IED issues within NATO's area of interest. The C-IED CoE is organized into three pillars: Attack the Network, Defeat the Device and Prepare the Force, and has a staff of over 60 people, of which more than 40 are subject matter experts in the field of C-IED from more than 12 Nations.

### ► Vision

Our vision is to use a comprehensive and synergistic interagency approach fusing support from military personnel, law enforcement, police, the intelligence community as well as civilians from academia, and the research and technology industry to understand how to defeat both terrorist and insurgent networks that use IEDs as well as the device itself.

### ► 2024/2025

#### Support to Concepts, Doctrine and Standardization Development

- Custodianship for STANAG 2294, STANAG 2295
- Support to the NATO Technical Exploitation Concept development and the NATO Technical Exploitation Group
- Support Partner Nations in their C-IED doctrine development process
- Support to NATO Defense Against Terrorism Program of Work (DAT POW)
- Support the NATO Warfighting Capstone Concept
- Support the NATO C-UAS POW under Air and Missile Defense Committee
- Support to NATO Human Network Analysis in support of Targeting (HNAT) development
- Support the NATO Intelligence Community, led by NATO HQ JISD, with doctrinal and concept developments
- Contribute to NATO Science & Technology Organization activities in Cognitive Warfare, NATO Industrial Advisory Group NIAG, NATO Concept for Cognitive Warfare.

#### Support to Lessons Learned and Analysis Activities

- Act as C-IED Community of Interest content manager on NATO Lessons Learned Portal (NLLP)
- Maintain and improve C-IED Lessons Learned process and conduct a Lessons Learned workshop.
- Supervise the "out-of-the-theatre C-IED Lessons Learned process" and incorporate results of





TTP analysis and LL in NATO training activities/solutions.

- Conduct technical and intelligence analysis in support of C-IED Community of Interest.
- Conduct a conference/main event for the C-IED community of interest.

### Support to Technologies, Experiments and Information Management

- Assess technological developments to defeat the IED system.
- Analyze current and emerging IED trends to identify potential solutions.\
- Support C-IED enablers' concept of employment development and technical exploitation.
- Provide technical advice on explosive threat and C-IED technologies.
- Support NATO initiatives and work strands (RTO SCI 243, SCI 233, SCI 256).
- Collaborate with NATO Science & Technology Organization.
- Collaborate with other organizations in R&D projects as industries and universities.
- Develop and maintain a C-IED Equipment Database.
- Continue supporting the development of the Technical Exploitation in Water Environment area.

### Support to Education & Individual Training

- Department Head for C-IED training within NATO.
- Develop, conduct and support courses in

collaboration with NATO and other organizations.

- Promote the use of the approved standardized C-IED Common Training Model (CCTM) for partner training.
- Organize C-IED courses in support for partners (Defense Capacity Building activities and C-IED related Mobile Training and Advisory Teams).
- Conduct Senior Leadership Seminars and/or Engagement (SLS & SLE) for NATO.
- Develop Advanced Distributed Learning (ADL) tools in support of C-IED and courses.
- Support development electronic Military Training and Exercise Program (E-MTEP), support and maintain Education & Training Opportunities Catalogue (ETOC) and Partnership Real-time Information, Management and Exchange System (ePRIME).



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COE WEBSITE





# NATO COUNTER INTELLIGENCE CENTRE OF EXCELLENCE (NATO CI COE)



The year 2025  
will mark the 10th

## DIRECTOR'S MESSAGE



**COL Mariusz  
NOGAJ**

anniversary of the NATO Counter Intelligence Centre of Excellence's establishment. Since its inception, it has solidified its position as one of NATO's leading organizations dealing with counter-intelligence and broader security matters.

One essential factor that undermined the world's security situation was Russia's brutal aggression against Ukraine. This breakthrough moment demands innovative responses. By adopting a new strategic concept, NATO showed it is ready for new challenges in this area. We are witnessing the return to a classic rivalry of powers where military threats, including the nuclear threat, come to the forefront. Efficient and effective counter-intelligence is an important first line of defence in this context. Countering intelligence threats is an ongoing process during both peace and war. Although counter-intelligence is mainly a national domain, NATO as an Alliance must also act effectively in this field. The NATO Counter Intelligence Centre of Excellence was established for this purpose.

The NATO CI COE is a key stakeholder in the Alliance's efforts to degrade destructive activities of hostile intelligence services. It is a force multiplier for the CI efforts of NATO operations, exercises, policies, concepts, and strategies.

## ► Mission Statement

The mission of the NATO Counter Intelligence Centre of Excellence is to expand the capabilities of the Alliance and its Member States by providing comprehensive expertise in the field of counter-intelligence.

## ► Who We Are / What We Do

Established in 2015 and headquartered in Krakow, the NATO Counter Intelligence Centre of Excellence (CI COE) benefits from the cooperation of eleven sponsoring nations: Croatia, Czech Republic, Germany, Hungary, Italy, Lithuania, Poland, Romania, Slovakia, Slovenia and the United States of America. This multinational composition is supported by ultra-modern, multi-functional facilities located in Krakow (Poland) and Lest (Slovakia) and reinforced with a highly experienced team of experts. This construct ensures the Centre can operate effectively as a force-multiplier for CI efforts of NATO operations, exercises, policies, concepts, and strategies and function as a focal point for resources focused on the most serious and emerging threats.

The NATO CI COE continuously hones and expands its offerings to meet member nations' needs, reflecting the Alliance's commitment to operating skilfully in this critical area. While CI is primarily a national responsibility outside contingencies, the CI COE reflects the Alliance's commitment to providing valuable resources and support to the entire NATO CI Community. The Centre's experts work tirelessly to ensure the safety and effectiveness of NATO-led operations in an ever-changing and complex environment.

## ► Vision

The vision of the NATO CI COE is to act as a catalyst for NATO adaption and operations by supporting the development, promotion, and implementation of new policies, concepts, strategies, and doctrine that transform and enhance NATO counter-intelligence capabilities and interoperability.

## ► 2024/2025

The CI COE consistently executes all four pillars of NATO's Centre of Excellence programme.

## Education and Training.

- The NATO CI COE is a NATO-approved education and training facility confirmed by Allied Command Transformation (ACT) Quality Assurance accreditation. The Centre conducts advanced in-residence NATO CI training courses in Poland and Slovakia. The courses are vetted through ACT's formalized approval process. The newest course is the NATO CI Investigations Course, which was conducted twice in 2024 and will be an integral part of the Centre's future. Training





is also conducted through Mobile Education and Training Team events and seminars based on NATO Nation's requests. It also conducts pre-deployment seminars for the Forward Land Forces at NATO's eastern flank and for military officers or civilians who are scheduled to take up positions in the field of military diplomacy. The Centre provides leadership, professional expertise, and training throughout the NATO CI exercise STEADFAST INTEREST and cooperates with other intelligence-related COEs and NATO CI entities to develop solutions to new challenges. The Centre executes the full range of ACT-appointed Department Head functions across the annual Global Programming cycle.

### Doctrine & Standardization.

- The NATO CI COE holds custody over two major CI-related NATO publications: AJP-2.2 Counter-intelligence and Security and AIntP-19 Counter-intelligence Tactics, Techniques, and Procedures. These documents are the essential doctrinal foundation for planning and conducting counter-intelligence activities in NATO-led operations in a complex and fluctuating operating environment. The Centre also contributes significantly to the whole-of-NATO doctrinal effort by providing comments, suggestions, assessments, compliance solutions, and expert knowledge to other NATO policies, doctrines, and procedures within the counter-intelligence field of expertise. The NATO CI COE maintains strong relationships with other complementary disciplines, including Security, Force Protection, Human Intelligence, etc., to ensure consistency and coherence amongst doctrinal principles.

### Analysis & Lessons Learned.

- A core Centre function is to enhance NATO and National CI lessons learned (LL) capabilities and multinational interoperability by exchanging information, best practices, and analytical products. The NATO CI COE provides CI expertise to courses and exercises and advises on NATO member requests for support. The Centre designs, develops, and delivers tailored training opportunities to enhance the knowledge and skills of NATO personnel in analysis and LL. The Centre also provides a repository for International, National, and NATO-shared CI information, analysis, and LL in cooperation with

the Joint Analysis and Lessons Learned Centre. A wider NATO audience can benefit from CI COE's online course on counter-intelligence awareness. Hosted by JADL, NSO, and CI COE portals, this online training solution is a dual badge product of CI COE and ACCI, which is further coordinated with the NATO Office of Security.

### Concept Development & Experimentation.

- One of the primary tasks of NATO CI COE in Concept Development and Experimentation (CD&E) is studying and assessing emerging issues and challenges in the counter-intelligence domain. The research aims to identify weaknesses or gaps which have not been addressed. The outcome of this process are recommendations supporting the implementation of new solutions incorporated into in CI-related doctrines, standards, and procedures; new educational offerings; and enhancements in the lessons learned holdings. The Centre also coordinates national and international efforts in the CD&E domain to enhance CI capabilities while conserving resources and avoiding duplications. The aim is to solve problems in the most efficient manner possible. The CD&E Branch continuously conceptualizes and develops a wide range of counter-intelligence related products and services for NATO, Member States, and other stakeholders in close adherence to NATO's outlined overall transformation process, aimed at improving and supporting the Alliance's interoperability and capability in the field of counter-intelligence.



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COE WEBSITE





## CRISIS MANAGEMENT AND DISASTER RESPONSE CENTRE OF EXCELLENCE (CMDR COE)



As a vital part of  
NATO's network of

### DIRECTOR'S MESSAGE

Centres of Excellence, the CMDR COE proudly supports the Alliance's ongoing transformation and adaptation. We act as a central hub of expertise, facilitating the exchange of knowledge, information, and best practices in Crisis Management and Disaster Response (CMDR). Our growing role within NATO was reinforced by our 2024 appointment as the Department Head for the Business Continuity Management Discipline, highlighting the increasing recognition of our importance.



**COL Orlin  
NIKOLOV, PhD**

The complexity of the CMDR domain requires both a deep understanding of current challenges and a forward-looking vision. In this dynamic security landscape, collaboration is key to success. The CMDR COE is dedicated to fostering strong partnerships and nurturing the expanding CMDR community of interest. Our commitment to excellence ensures that we remain at the forefront of shaping future crisis management strategies. We aim to create an environment that promotes collaborative and collective approaches, recognizing the inclusive, transformative, and innovative potential of working together in this critical field.



### ► Mission Statement

Our mission is to enhance decision-making, planning, and the assessment of emergency response plans by offering expert support. We provide customized education and training in crisis management and disaster response (CMDR) specifically designed for senior military and civilian leaders. To ensure broad accessibility, the Centre has developed the capability to deploy mobile training teams and subject matter experts directly to national and multinational military or civilian units. These teams deliver hands-on, location-based training, facilitating improved readiness and response in managing complex crises and disasters at both national and international levels.

### ► Who We Are / What We Do

The CMDR COE focuses on crisis management and disaster response, aiming to improve global preparedness and operational efficiency. Its mission is supported by a diverse portfolio addressing interconnected challenges, vital for building resilient systems. Beyond crisis response, the CMDR COE

tackles key issues like promoting organizational integrity, enhancing system and community resilience, addressing climate change, protecting civilians, and integrating gender perspectives in crisis management. These efforts create a comprehensive approach to managing complex emergencies. As a hub of knowledge, training, and innovation, the CMDR COE drives progress in crisis management, contributing to a safer, more resilient world.



### ► Vision

The Centre's vision is to become a highly respected organization, recognized for advancing CMDR capabilities across NATO, its member nations, and partners. It strives to bridge military and civilian sectors, ensuring a balanced approach to preparedness and response. By promoting standardization and cohesion, the Centre aims to improve collaboration, coordination, and resource-sharing during crises. Guided by a comprehensive, multi-dimensional approach, it seeks to remain at the forefront of innovation and excellence in CMDR, driving progress in both research and practical development for enhanced crisis management.





## ► 2024/2025

The CMDR COE continues to provide valuable education and training activities, while also advancing the development of concepts, experimentation, and research projects. Its appointment as the Department Head of the Business Continuity Management (BCM) Discipline within NATO in 2024 highlights the growing importance of the Centre's role.

BCM is a newly established discipline within the Global Programming Governance Structure, yet it is evolving quickly due to strong leadership support, close coordination among NATO bodies, and initial resource backing. The CMDR COE is responsible for transforming requirements into solutions within the Education & Training (E&T) Spectrum and ensuring that these solutions are integrated into the curriculum. In this capacity, the Centre manages discipline-related educational and training programs, striving to deliver the most effective and affordable E&T solutions across Allied Nations, Partners, and Non-NATO Entities.

Building on previous successful NATO projects with the Hashemite Kingdom of Jordan, the Centre has been tasked with continuing its cooperation under a new initiative within the 2024 Defence Capacity Building (DCB) Package. This project focuses on enhancing Jordan's national capabilities in crisis and disaster management, as well as governmental resilience, by delivering advanced training and practical exercises using specialized software and C2 systems. The goal is to strengthen the National Centre for Security and Crisis Management (NCSCM) by enabling high-quality preparation exercises through advanced modelling and simulation capabilities.

The Centre has consistently demonstrated its ability to implement projects that strengthen national capacities in crisis management and disaster response. In 2024, a

course was developed based on specific needs arising from an initiative with the Republic of Moldova. This tailored training product has the potential to serve broader purposes beyond the immediate event.

Additionally, the Centre has propelled forward the pioneering research initiative MSG-221, "M&S in Support of Building Resilience and Management of People Mass Movement." This initiative emphasizes the critical connection between mass movements of people and societal resilience. The Centre underscored the need for a robust simulation model to help NATO and its allies with strategic planning and managing migration flows. The overarching goal is to strengthen resilience during crises and disasters, thereby enhancing the collective strength of the Alliance. By leveraging expertise across various disciplines and institutions, the Centre aims to deliver innovative solutions to address the evolving challenges of the modern world.



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CMDR COE WEBSITE





## NATO CENTRE OF EXCELLENCE DEFENCE AGAINST TERRORISM (COE-DAT)



### DIRECTOR'S MESSAGE



**COL Halil Sıddık  
AYHAN**

The Centre of Excellence Defence Against Terrorism (COE-DAT) continues to stand at the forefront of NATO's efforts to address the evolving threat of terrorism. As terrorism becomes increasingly complex and adaptive, so too must our strategies for combatting it. At COE-DAT, we remain steadfast in our mission to provide decision-makers with the expertise needed to anticipate, prevent, and respond to emerging terrorist threats.

In 2025, COE-DAT's focus will not only be on the immediate challenges posed by terrorism but also on the long-term transformation required to maintain security and stability in a rapidly changing world. By fostering collaboration across NATO and partner nations, as well as with academic and civilian institutions, we aim to develop innovative solutions that enhance military effectiveness and interoperability.

Our commitment to research, education, and training remains stronger than ever. Through our courses, workshops, and seminars, we are dedicated to enhancing the knowledge base of military and civilian leaders, while also contributing to the development of key doctrines and concepts within the field of counterterrorism. In particular, our work on lessons learned ensures that NATO and its partners can rapidly adapt to the dynamic threat environment.

I invite you to engage with COE-DAT in the year ahead. Together, through collaboration and shared expertise, we can remain resilient and proactive in the face of terrorism, ensuring the safety and security of our nations and citizens.

### ► Mission Statement

COE-DAT provides key decision-makers with a comprehensive understanding to Terrorism and Counter Terrorism challenges, in order to support NATO's and Nations of interest transformation to meet future security challenges. This transformation is embedded into NATO's three declared core tasks of deterrence and defence, crisis prevention and management, and cooperative security.

### ► Who We Are / What We Do

The Centre of Excellence Defence Against Terrorism (COE-DAT) is a NATO-accredited, multinational organization, comprising contributions from seven NATO member nations: Albania, Germany, Hungary, Italy, Romania, Türkiye and the United States. COE-DAT serves as NATO's focal point for Counter Terrorism (CT) expertise, fostering collaboration with academia, think tanks, international organizations, and other Centres of Excellence.

As a key contributor to NATO's Long-Term Military Transformation, COE-DAT focuses on capacity building to address terrorism threats in all forms. Its mission encompasses research, training, and concept development, delivering specialized guidance and advisory support on Defence Against Terrorism (DAT) to NATO, partner nations, and allied organizations.

COE-DAT consistently contributes to CT doctrine and policy framework development, promoting innovative solutions to counter emerging terrorism trends and asymmetric threats. Through a demand driven Education and Training program, COE-DAT contributes to enhancing interoperability and strengthening CT capabilities across the Alliance and with NATO PN's.

The Centre's ability to offer a holistic, multidisciplinary approach to terrorism ensures that it remains at the forefront of NATO's efforts to mitigate and counter global security threats. COE-DAT's work directly impacts NATO's readiness



and resilience by shaping doctrine, providing subject-matter expertise, and facilitating international collaboration aimed at addressing both conventional and unconventional forms of terrorism.

### ► Vision

An internationally recognized and respected resource for Defence Against Terrorism expertise for NATO, the hub of a wide network of international military, government, non-government, industry and academic communities of interest.

### ► 2024/2025

#### 2024 Major Contributions

2024 was a successful year for COE-DAT. A few of our major contributions are below. We invite you to visit [www.coedat.nato.int](http://www.coedat.nato.int) for access to publications associated with our completed workshops, conferences, and many other projects.

- Conducted the CT Policy Annual Report Update Workshop in February with key representatives from NATO International Staff, NATO International Military Staff, ACO, and ACT;
- Collaborated with the SHAPE Partnership Directorate for the Military Strategic Partnership Conference in Sarajevo in March;
- Recommended for its unconditional accreditation for the next six years by the HQ SACT Quality Assurance





Team of Experts that has assessed COE DAT against 31 NATO Quality Standards on 11-12 September 2024;

- Sustained NATO “Approved” certification for 12 courses;
- Conducted annual Terrorism Expert Conference (TEC) and DAT Executive Level Seminar on 16-17 October specifically tailored to NATO’s and SNs’ needs and to raise awareness of current DAT/CT trends among senior Alliance and Partner Nation leadership. Outcomes from these conferences sparked COE-DAT research projects tailored to support emerging NATO DAT requirements;
- Completed the Hasty CT vs. COIN, Russia-Ukraine conflict impacts on terrorism, and the AI and Terrorism projects in response to NATO’s requests and needs;
- The Strategic Level Terrorism Exercise Scenario Development project, a two-year collaboration with Başkent University, is currently in its third phase. This simulator will support courses and workshop/seminar events across COE-DAT’s entire portfolio and serve as the foundational basis for a comprehensive DAT/CT course intended to deliver hands-on, multi-domain application of DAT/CT concepts in a complex virtual environment.

## 2025 Major Work Items

### Department Head for Counter-terrorism

- Long Range Planning Conference (Online) 13 March 2025
- Annual CT Discipline Conference 15-16 April 2025
- Gender and Counter Terrorism Workshop 29-30 April 2025
- Training Needs Analysis Workshop 26 June 2025
- Terrorism Experts Conference and DAT Executive Level Seminar 15-16 October 2025
- Strategic Level Terrorism Exercise Scenario Development Project
- New ADL CT Awareness Course Development & Current ADL 165 CT Course Update Project

### Education & Training

- Defence Against Terrorism NATO-approved course (residential) 3-7 February 2025
- Terrorist Use of Cyberspace in General Terms NATO-approved course (residential/METT) 17-21 March 2025

- Terrorist Use of Weapons of Mass Destruction NATO-approved course (residential) 5-9 May 2025
- CT/Attack the Network NATO-approved course (online) 26-30 May 2025
- Efficient CM to Mitigate the Effects of Terrorist Activities NATO-approved course (residential) 8-12 September 2025
- Basic Critical Infrastructure Security and Resilience Against Terrorist Attacks NATO-approved course (residential) 29 September-3 October
- Border Security, Refugees, and Counter Terrorism NATO-approved course (residential) 1-5 December 2025
- Advanced Critical Infrastructure Security and Resilience Against Terrorist Attacks NATO-approved course (residential/METT) (Bosnia-Herzegovina)

## Transformation (Concept and Doctrine Development)

- Multidomain Operations Project (with SACT-CT Branch)
- Defence Against Terrorism Review (DATR) e-journal
- RFS support activities

## Knowledge (Analysis and Lessons Learned)

- Future Trends in T/CT (NATO FOE) Project
- NATO’s Future Challenges in CT: Emerging Disruptive Technologies Project
- NATO’s Regional CT Challenges: Sahel Project
- SOF Roles in CT/Crisis Response Seminar 14-16 May 2025

The complete event and course calendar can be found at our website [www.coedat.nato.int](http://www.coedat.nato.int)



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## NATO ENERGY SECURITY CENTRE OF EXCELLENCE (NATO ENSEC COE)



The NATO ENSEC COE is recognized hub

of knowledge and expertise in Energy Security for the benefits of

the Allies, Partner Nations and the NATO bodies in three main domains: awareness of energy developments with security implications for NATO; improving the energy efficiency of NATO military forces through proposing common standards, reducing dependence of fossil fuels, and demonstrating energy-efficiency solutions for the military. NATO's capacity to support national authorities in protecting critical energy infrastructure, as well as enhancing their resilience against energy supply distributions that could affect national and collective defence, including hybrid and cyber threats.

### DIRECTOR'S MESSAGE



**COL Gytis  
KAZOKAS**

### ► Mission Statement

The mission of the ENSEC COE is to support NATO, Nations and Partners to meet the challenges of a dynamic energy security environment by addressing resilience, operational energy efficiency, and critical energy infrastructure protection.

### ► Who We Are / What We Do

We, the NATO ENSEC COE, are a widely recognized international military organization that strives to provide qualified and appropriate expert advice on questions related to operational energy security. We offer technical, scientific and academic subject matter expertise on energy security that contributes to: risk assessment analyses; energy wise secure solutions for the development of environmentally friendly and efficient military capabilities; developing the Smart Defence Initiative; and Supports NATO Operations through targeted technical scientific assessment.

### ► Vision

NATO ENSEC COE must be the recognized hub of knowledge and expertise in Energy Security for the benefit of the Alliance and the Nations in the following three domains: awareness of energy developments with security implications for NATO; improving the energy efficiency of NATO military forces through and demonstrating energy-efficient solutions for the military; enhancing resilience against energy supply disruptions that could affect national and collective defence, including hybrid and industrial cyber threats.

### ► 2024/2025

#### NATO CONCEPT AND DOCTRINE DEVELOPMENT & EXPERIMENTATION

- Development of the NATO Operational Energy Concept (OEC):
  - ◆ The 4th international OEC Writing Team meeting was organized in the Naval Postgraduate School, Monterey, USA in 2024;
  - ◆ In 2024, the last draft of the NATO OEC was finalized and sent to the requestor (NATO SACT) for approval: in June of 2024, the NATO OEC was signed by the SHAPE and SACT authorities and distributed to DGIMS and IMS P&C;



- Support for the development of NATO Operational Energy Doctrine (2025);
- Contributing to the development of the NATO Layered Resilience Concept and the NATO Military Infrastructure Resilience Concept;
- Contribute to the development and refinement of NATO policies, doctrines, standards and procedures related to energy security, operational energy and energy efficiency by providing inputs, comments and suggestions;
- Improving Capabilities using Electric Bikes for Special Military Activities: a long test campaign in a military environment comparing different e-bikes for intensive use on mountain trails and in snowy environments (finalized in 2024);
- Testing of innovative power generation and distribution systems in a military environment and development of insights to increase the level of interoperability related to the use of new energy-related technologies. (in 2025).

#### CONTRIBUTION TO THE NATO DEFENCE PLANNING PROCESS TO STRENGTHEN ENERGY SECURITY

- Contributing to the development of the NATO Future Force Study (FFS) document;
- Contributing to the development of the NATO Future Operating Environment (FOE) document;
- Contributing to efforts of Multinational Solutions Synchronization.



## EXERCISES

- Table Top Exercise on Hybrid Threats to Critical Energy Infrastructure – “Coherent Resilience 2023” – Qatar;
- Table Top Exercise on Maritime Critical Energy Infrastructure Protection – “Coherent Resilience 2023” – Baltic;
- Table Top Exercise on Hybrid Threats to Critical Energy Infrastructure – “Coherent Resilience 2024” – Moldova;
- Table Top Exercise “Coherent Resilience 2025” – Arctic region (TBC).

## TRAINING

- Maritime Security Conference 2024 in MARSEC COE – Istanbul, Türkiye;
- LANDCOM Energy Security Conference 2024 – Antalya, Türkiye;
- Global Energy Security Talks 2024 – Tokyo, Japan.

## COURSES

- Baltic Defence College Operational Level Energy Security Course;
- Energy Efficiency in Military Operations Course in cooperation with NPS;
- Energy Security Strategic Awareness Course in NSO;
- Energy Security Awareness Course in Turkish PFP Training Centre;
- support to CEI Protection and Resilience Course – Poland, organized by NATO HQ in cooperation with NPS;
- support to Maritime Counter Terrorism Course – Türkiye, organized by MARSEC COE;
- Introduction to Energy Security (ADL course);
- Introduction to the NATO Energy Security Centre of Excellence (ADL course);
- In 2024, Deployed Camp Energy Metering & Planning Course.

## RESEARCH

- Electro Mobility Experimentation – Electrification of non-tactical fleets, a crucial step in NATO’s collective efforts towards Net-Zero ambitions;
- Social Resilience Framework - Enhancing the personal preparedness and resilience of civilian populations to power outages;
- Batteries’ Military Fundamentals - NATO forces’ use of battery technology: implications for architecture, interoperability and challenges;
- NATO at High North - Climate Change and Energy



Security related risks and aspects for NATO Armed Forces in the Atlantic High North and the Arctic Region.

## ANALYSIS

- Future Energy Security of Kaliningrad - a report on Kaliningrad’s long-term electricity, gas, and oil security of supply;
- Energy Monograph (Eastern Flank) - from the snapshot to the foreseeable challenges to sustainable strategies;
- Generation Z - understanding of NATO’s role in addressing energy security and climate challenges, a unique opportunity to harness the potential of youth for collective security and sustainable development.

## LESSONS LEARNED

- Nordic Energy Resilience Summit 2025 - designed to strengthen collective regional capability to prepare for, respond to, and recover from hybrid threats to energy systems;
- Workshop about CEIP in the Baltic Sea region - monitoring and protection of critical undersea and onshore energy infrastructure;
- Feedback Report - highlighting the lessons of the UKR-RUS conflict and the capabilities that the UKR has developed/improved for its energy resilience.

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COE WEBSITE





# NATO EXPLOSIVE ORDNANCE DISPOSAL CENTRE OF EXCELLENCE (EOD COE)



## DIRECTOR'S MESSAGE



**COL František  
MIHALOVIČ**

Today, millions of people live under the threat of explosive ordnance, from remnants of war from decades-old conflicts to ongoing international hostilities. Explosive ordnance, in all its forms, disrupts operations and shatters lives. The NATO Explosive Ordnance Disposal (EOD) Centre of Excellence is a vital resource for the NATO Alliance and its partners in mitigating and defending against this persistent threat. Through transformation, standardisation, education, training, and the synthesisation of lessons learned from those who preceded us, we commit to continuous improvement and delivery of solutions to protect our forces and civilian populations. We constantly seek opportunities to incorporate new ideas and partners to meet these commitments. Please join us in our effort to assist in NATO's EOD transformation; we would love to hear from you!

## ► Mission Statement

The EOD COE mission is to support and enhance the NATO transformation and operational efforts in the field of EOD.

## ► Who We Are / What We Do

The EOD COE is a distinguished authority in EOD. It offers operational and transformational knowledge to NATO, Sponsoring Nations, and other military and civilian institutions. We leverage an extensive depth of expertise and experience to improve capability and interoperability across domains, contributing to doctrine development, education, training, exercises, and lessons learned. Through collaboration and partnership, we aim to help address the most complex and novel challenges facing the Alliance today.



## ► Vision

To be NATO's catalyst for improvement and transformation of EOD.

## ► 2024

- Revision of EOD COE Strategic Vision, Strategic Plan and Communication Plan;
- Organize and conduct the 10th iteration of the NATO EOD COE Workshop on November 2024 in Šamorín, Slovakia;



- Contribution to working groups, conferences, seminars and other events connected with EOD COI;
- Support to the NATO Defence Planning Process (NDPP), Concept Development & Experimentation (CD&E), NATO Strategic Forces Analysis (SFA), and NATO Future Force Study;
- Support to the validation of AJP-3.18 (B), Allied Joint Doctrine for EOD Support to Operations;
- Participation in the revisions of NATO publications related to EOD area of expertise (e.g. MILENG, C-IED, JCBRN Defence, Force Protection);
- Study of EO threats in UKRAINE conflict;
- Study of Artificial Intelligence (AI) utilization within EOD COI;
- Update the EOD Lessons Learned database Contribute to NATO LL;
- Deliver seven iterations of the selected E&IT;
- Update of the EOD doctrine course on the Joint ADL portal.





## ► 2025

- Support to Demonstration & Trials 2025 in 08-09 October, Bratislava, Slovakia;
- Contribution to working groups, conferences, seminars and other events connected with EOD COI
- Support to NATO Defence Planning Process (NDPP), NATO Concept Development & Experimentation (CD&E), NATO Strategic Forces Analysis (SFA), and NATO Future Force Study;
- Support to the validation of AJP-3.18 (B), Allied Joint Doctrine for EOD Support to Operations and ATP-3.18.1 (B), Allied Tactical Publication for Explosive Ordnance Disposal
- Participation in the revisions of NATO publications related to EOD area of expertise (e.g. MILENG, C-IED, JCBRN Defence, Force Protection);
- Study of EO threats in UKRAINE conflict and compilation of a Point Paper;
- Study of Artificial Intelligence (AI) utilization within EOD COI;
- Update the EOD Lessons Learned database and contribute to NATO LL Process;
- Support NATO's Education and Training policy through NATO's Military Engineering (MILENG) discipline governance structure ( MILENG Requirements Authority, MILENG Department Head);
- Deliver eight Education and Individual Training



solutions to identified EOD gaps;

- Provide Homemade explosive basic course in a form of the Mobile Training Team;
- Maintain Advanced Distributed Learning based course about EOD doctrine;
- Contribute to EOD-related Collective Training and Exercises e.g. Northern Challenge, Ardent Defender;
- Improve Education and Training deliverables via quality assurance set up processes.
- Anticipated joining of USA as a contributed country

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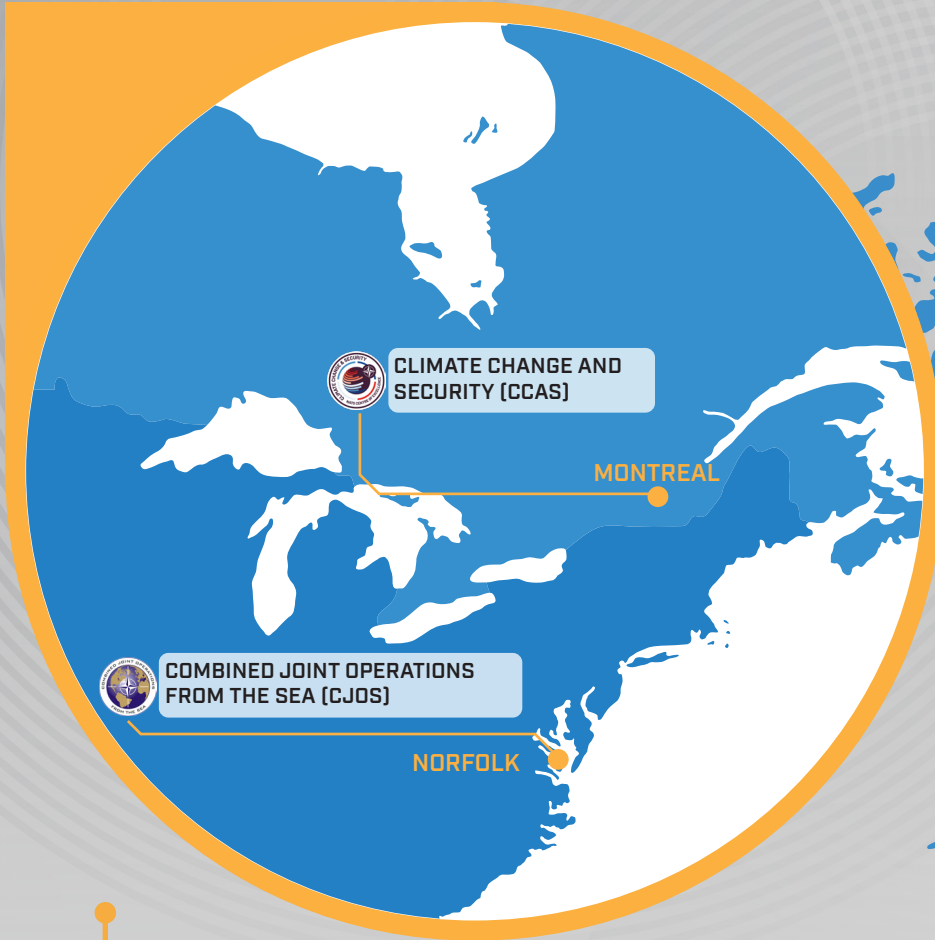
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# NATO-ACCREDITED CENTRES OF EXCELLENCE LOCATIONS



MARITIME GEOSPATIAL,  
METEOROLOGICAL AND  
OCEANOGRAPHIC [MGEOMETOC]  
COE

LISBON



COUNTER-IMPROVISED EXPLOSIVE  
DEVICES [C-IED]

MADRID



AIR OPERATIONS

SPACE COE

TOULOUSE



NAVAL MINE  
WARFARE [NMW]

OOSTENDE



COMMAND AND  
CONTROL [C2]

THE HAGUE



CIVIL-MILITARY  
COOPERATION [CIMIC]









## NATO HUMAN INTELLIGENCE CENTRE OF EXCELLENCE (HUMINT COE)



Marking the 15th  
Anniversary of the NATO

### DIRECTOR'S MESSAGE

HUMINT Centre of Excellence, we take this moment to reflect on the significant role that our Centre has played in strengthening NATO's Human Intelligence (HUMINT) capability. Ever since its establishment, HUMINT COE has been committed to advancing HUMINT's operational relevance, leveraging standardization, education, and continuous improvement driven by lessons learned integration and research programs.



**COL Iulian  
BARBU**

As custodian of NATO HUMINT standards, the COE ensures alignment with the broader NATO Intelligence framework. Concept development and experimentation contribute to HUMINT's evolution, in line with the emergence of global security challenges and the advent of disrupting technologies. Lessons Learned ensures that we avoid past mistakes and broadens our ability to share best practices across nations. Education and Training programs, supported by mature and dynamically evolving standards stand at the core of HUMINT interoperability in NATO, developing critical competencies for NATO's human capital.

Looking ahead, HUMINT COE remains steadfast in its commitment to supporting NATO's mission with excellence, innovation, and a focus on continuous transformation.

### ► Mission Statement

Our mission is to drive the development of HUMINT capability in NATO, focusing our efforts in providing the highest quality services and products within all pillars of the COE program, in response to the requirements and needs of NATO Command Structure, NATO Force Structure, NATO Nations and, when feasible, Partner Nations.

### ► Who We Are / What We Do

Acting as a hub of HUMINT expertise, the Centre permanently seeks to enhance the HUMINT capability in NATO, in cooperation with Academia / Industry, stakeholders and various communities of interest within the NATO HUMINT Enterprise. HUMINT COE chairs the NATO HUMINT working groups, acts as custodian for HUMINT doctrines, conducts innovative research and development projects and manages HUMINT Lessons Learned and Best Practices. In the area of Education and Training, the Centre is appointed as Department Head for HUMINT and delivers a large portfolio of certified courses as a NATO-accredited Education and Training Facility.

### ► Vision

HUMINT COE leads the transformation of the HUMINT capability in NATO based on lessons learned and best practices, coupled with the integration of scientific research and modern technologies, innovative standards and effective, quality-based education and training, in order to keep Human Intelligence relevant in NATO and better answer the evolving operational environment requirements and challenges.



### ► 2024/2025

Over the past 15 years, HUMINT COE has emerged as key player within NATO's Intelligence framework, significantly contributing to the transformation of Human Intelligence (HUMINT) capabilities.

As custodian for the NATO HUMINT standards, the Centre has taken the lead in all major HUMINT doctrinal areas, ensuring synchronization of HUMINT standards across disciplines, to improve interoperability throughout the Alliance. The Centre strives to clarify and harmonize national views on HUMINT matters and develop supporting publications to cover every HUMINT aspect.

The HCOE's contributions to concept development and





experimentation have been instrumental in advancing HUMINT in operations. Over the years, the Centre has conducted projects exploring HUMINT's role in peace support and Article 5 operations with an onward look to the Multi-Domain Operations (MDO). These projects address critical areas such as the human aspects of the operational environment, development of the NATO HUMINT Operator's Toolset, and the integration of emerging technologies like Artificial Intelligence and machine learning. Additionally, in 2024, the Centre has also focused on psychological studies and set up an AI-driven Laboratory focused on analysing Human-to-Human Rapport Building, harmonizing cutting edge technologies with psychology.

Lessons Learned plays a central role in capturing and disseminating best practices and observations within the NATO HUMINT community. The Centre manages the HUMINT LL platform in cooperation with the Joint Analysis and Lessons Learned Centre, ensuring that valuable insights from both educational and operational environments are collected and analysed. These efforts contribute directly to the continuous improvement and transformation of NATO's HUMINT capabilities, helping to address identified gaps and operational challenges.

In the Education and Training (E&T) area, HUMINT COE supports NATO Global Programming efforts by serving as Department Head for HUMINT Education and Training. As a NATO-accredited Education & Training Facility, it has developed an extensive portfolio of educational programs that range from resident and

blended courses to online solutions. The curriculum includes ten resident and four on-line courses, detailed in the NATO Education and Training Opportunities Catalogue and NATO e-Learning platform.

These programs aim to build competencies required for specific assignments within NATO, while addressing future needs related to the Warfare Development Agenda and MDO. Additionally, the HUMINT COE works closely with Academia and Industry partners, establishing a broad network of collaboration to enhance its projects and initiatives.

HUMINT COE is at the core of NATO's HUMINT Community of Interest, playing a leading role as chair and secretariat for both NATO HUMINT Working Group and NATO HUMINT Technology Working Group. Through its extensive partnerships with other Centres of Excellence, and its involvement in NATO Intelligence Enterprise, the Centre continues to be a driving force in shaping the future of HUMINT in NATO, fostering innovation, collaboration, and out-of-the-box thinking in pursuit of excellence.



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## INTEGRATED AIR AND MISSILE DEFENCE CENTRE OF EXCELLENCE (IAMD COE)



IAMD COE strives to support, inter alia, NATO's efforts to achieve Cognitive Superiority considering the increasingly diverse and challenging air and missile threats ranging from UAVs to sophisticated hypersonic missiles. As NATO IAMD remains key for credible deterrence and defence, to maximize commanders' ability to anticipate, think, decide, and act, our COE puts an emphasis on IAMD integration to Multi-Domain Operations, including exploring emerging and disruptive technologies to support warfighting. On such endeavor, not only we capitalize on partnership opportunities with NATO entities, COEs in our COI, Industries, and Academics, but as well seek foster new mutually supportive and habitual relationships with the Operational and Training Community, locally here in Souda Bay and remotely through exploitation of the Synthetic Environment. Critical in all our pillars of work to boost envisaged transformation of IAMD effects are our developing M&S capabilities which will be further digitally evolved in our new building, scheduled to be delivered by the 2nd semester of 2025.

### DIRECTOR'S MESSAGE



**BGEN Nikolaos  
MAKRYGIANNIS**

### ► Mission Statement

To enhance the interoperability and support the development and exploitation of IAMD capabilities of NATO, NATO Nations, and Partner Nations; based on modern requirements and a smart defence / multinational solutions mind-set; b. To provide opportunities for comprehensive research, experimentation, doctrine, and concept development, education and training, and comprehensive analysis in support of the lessons learned process.

### ► Who We Are / What We Do

IAMD COE is the only NATO-accredited COE dedicated to the field of Integrated Air and Missile Defence. To contribute to NATO IAMD awareness and expertise, the IAMD COE focuses on, but is not limited to, the following four core pillars of COE's programme:

Education & Training, Analysis & Lessons Learned, Concept Development & Experimentation, Doctrine Development & Standardization. After the IAMD COE's establishment on 8 Apr 20, the Centre became a member of a wide network of stakeholders, with recognized value and contribution to IAMD. Therefore, the Centre puts great effort into coordinating with other key players. The IAMD COE offers unique services to all IAMD Stakeholders, by utilizing its seven focus areas directly linked to IAMD, as follows: Offensive/Defensive options in support of Integrated Air and Missile Defence, Passive Air & Missile Defence, Surveillance, Technical & Procedural System Integration, Counter-Unmanned Aerial Systems (C-UAS), Counter-Rockets, Artillery and Mortars (C-RAM), IAMD's role in Anti-Access/Area Denial (A2/AD).

### ► Vision

The vision of the Centre is to act as an internationally recognized focal point for knowledge and expertise, which supports NATO transformation and capability development in a cooperative and cost-efficient way, in support of NATO Missions and Tasks, remaining committed to the NATO Alliance's key values and principles.

### ► 2024/2025

#### For the year 2024 IAMD COE :

- Had the great honor of presenting its mission,



vision, and achievements to General Philippe LAVIGNE, Supreme Allied Commander Transformation, during his official visit in our premises in March;

- Successfully organized twice (Apr and Nov) the Surface Based Air and Missile Defence Common Education Training Programme Resident Course





(SBAMD CET-P), at Chania/Greece and a tailored training based on SBAMD CET-P for 46 participants, in Romania during the preparation of RALY 24 Exercise (Mobile Training Team).

- The Centre's Subject Matters Experts (SMEs) supported all the Planning Conferences and



the Execution Phase of NATO's major live IAMD Exercise, Ramstein Legacy (RALY) 24, and participated with an SME as evaluator at NATO's STEADFAST DETERRENCE 24;

- Contributed to the development of the Alliance Future Surveillance and Control Initial Concept of Operations, and established Modelling & Simulation (M&S) capabilities relevant to IAMD operations & EW by exploiting emerging and disruptive technologies interoperable to Allied Synthetic Training Capabilities (e.g through CFBL NET);
- Furthermore, organised the Seminar titled "Crafting Accounting Management Solutions: Expert Insights and Best Practices on Customising Accounting Software". This seminar served as a pivotal forum for advancing best practices in accounting software management with participation from representatives of 13 COEs.

#### For the year 2025 IAMD COE:

- Has the aspiration to become a strong active proponent of the Synthetic Environment exploitation and a hub to support relevant IAMD Capabilities Transformation. In line with SACT's vision and intent, the Centre is steadily enhancing its M&S capabilities by supporting NATO - Nations Distributed Synthetic Training (DST) IAMD activities and supporting Wargaming & Experimentation, becoming a HUB on IAMD Synthetic Training



Environments, utilizing 3D visualization/Virtual Reality (VR), and Augmented Reality (AR) technologies to enhance E&T activities.

- Regarding studies & projects in cooperation with Universities, we will extend our Research on Hypersonic, and in 2025 the C-UAS related project in AI- Empowered Drone Detection Passive Radar using 5G signals will be delivered. Additionally, a study titled "Countering Bio-Inspired Drones" will be initiated.
- Furthermore, the Centre plans to continue providing support to:
  - I. Individual Training needs through the SBAMD CET-P either with Resident Courses (two iterations) and Mobile Training Teams (upon request);
  - II. Collective Training needs through the participation in relevant NATO Exercises (STEADFAST DUEL, STEADFAST DETERRENCE, RAMSTEIN FLAG, etc);
  - III. The implementation phase of the NATO Warfighting Capstone Concept and its integration into the NATO Defence Planning Process, the Warfare Development Agenda, mainly through the Layered Resilience Concept.
  - IV. To the redaction of the new AJP-3.29 (Allied Joint Publication) for Space Operations and
  - V. Any initiative related to IAMD field by cooperating with other entities, such as the development and simplified use of Ballistic Missile Defense Concept of Employment 3.0 (BMD CONEMP).

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## JOINT AIR POWER COMPETENCE CENTRE OF EXCELLENCE (JAPCC)



The Joint Air Power Competence Centre provides world-class subject matter experts

across a wide range of Joint Air & Space mission areas. Since 2005, the JAPCC continues to lead NATO in developing of Concepts & Doctrine, Capability Development, Education & Training, Exercise Development & Execution, and Lessons Learned. As the oldest accredited CoE, the JAPCC fuels innovation, delivers high quality products and is the transformation engine for Air & Space Power.

### DIRECTOR'S MESSAGE



**GEN James B.  
HECKER**

### ► Mission Statement

As a team of multinational experts, the JAPCC provides key decision makers effective solutions on Air and Space Power challenges, in order to safeguard NATO and the Nations' interests.

### ► Who We Are / What We Do

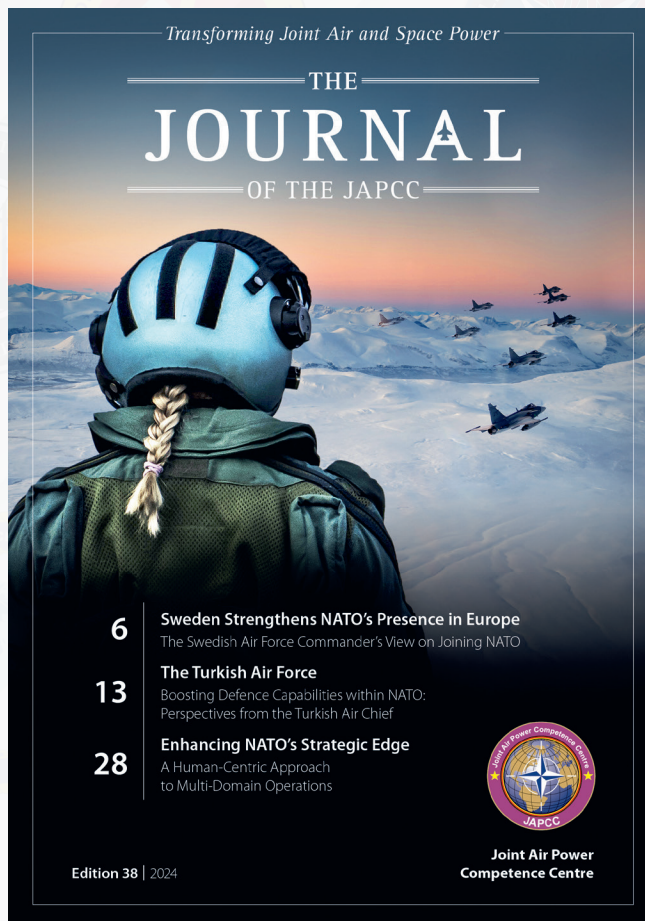
The JAPCC is NATO's Air and Space Power Think Tank, supporting both NATO HQs and all Allies and Partners. The JAPCC features a variety of experienced Subject Matter Experts from all services. With every task, their combined knowledge and experience contributes to NATO's relevance, readiness, and future capability. They conduct collaborative research by leveraging their independent thoughts and a global network of experts across military, academia, and industry. We offer you to profit from this massive knowledge and experience. The JAPCC supports exercises, writes doctrines, and publishes its own studies and articles including two professional journals each year. We are responsive to your requests, needs, and interests, simply send us a Request for Support (RfS) via our website.

### ► Vision

JAPCC to be NATO's catalyst for the improvement and transformation of Joint Air and Space Power, delivering effective solutions through independent thought & analysis.

### ► 2024/2025

The JAPCC delivers a broad menu of products and services in support of NATO Allies, Partners, and Headquarters. Our SMEs represent all services drawn from 14, nations and the JAPCC also leverages an extensive network of experts from industry, academia, and the military. The JAPCC Journal 'Transforming Joint Air and Space Power' (flagship publication) issued twice a year, features senior leaders' perspectives, and incisive articles exploring the future of NATO Air and Space Power. Frequent articles and White Papers published throughout the year provide on-the-spot, up-to-date snapshots of current topics. In 2024, the White Papers 'Drone Drills' and 'Joint Personnel Recovery in



an Urban Environment' should receive special emphasis due to their very positive response. All publications are also available online on our website, you are welcome to have a look.

The JAPCC is also the custodian for multiple doctrines, such as AJP 3.3 Air and Space Operations, AJP 3.14 Allied Joint Doctrine for Force Protection, AJP 3.6 C NATO Joint EW Doctrine and other NATO publications, such as the MC Policies for Force Protection and SEAD. The JAPCC also provides a wide variety of direct engagement and support, including exercises such as Ramstein Ambition 2025, Steadfast Duel 2025, and Kalkar Sky 2025, as well as internal and external NATO courses. We also provide SME support to external



studies, support conferences worldwide with speakers and panellists, and participate in more than 20 NATO working groups (white charring seven).



The JAPCC has embarked on a multi-year effort to study Multi Domain Operations. We are looking past the buzzwords and examining the process, command relationships, and technology that will enable this evolution. Our work will provide specific observations and actionable solutions for member nations and ACO organizations alike. Current projects of the JAPCC are resilient and sustainable JFAC/AOC, integrating UAS in the ISTAR cycle, distributed Maritime Sensor Network and a comprehensive AI guide for the airmen and beyond. We look forward to your engagement on this topic to deliver truly integrated effects at the speed of relevance.



You are invited to our annual Air and Space Power Conference, usually held in end of September/beginning of October in Essen, Germany. The JAPCC Director hosts the conference and includes keynote and panel discussions with senior military leaders, top academics, and CEOs of major defence firms. Join us!

We welcome interaction with our audience as well as engagement by external authors: contact us with your questions, ideas, suggestions, outlines, or drafts.



NATO UNCLASSIFIED – PUBLICLY DISCLOSED  
August 2024



Joint Personnel Recovery  
in an Urban Environment

www.japcc.org

NATO UNCLASSIFIED – PUBLICLY DISCLOSED



Joint Air Power  
Competence Centre

April 2024



Drone Drills

How to Prepare for a Drone Incident

www.japcc.org



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## JOINT CHEMICAL, BIOLOGICAL, RADIOLOGICAL AND NUCLEAR CENTRE OF EXCELLENCE (JCBRN DEFENCE COE)



In recent years,  
the rapidly changing  
geopolitical landscape has

### DIRECTOR'S MESSAGE



**COL David  
MARTÍNEK**

brought CBRN (Chemical, Biological, Radiological, and Nuclear) defence back to the forefront of global security concerns. We are witnessing an unprecedented wave of WMD (Weapons of Mass Destruction) proliferation. Nuclear weapons are increasingly being used as tools of coercion rather than mere deterrents, making them more appealing to hostile state and non-state actors. Additionally, emerging cross-functional technologies, dual-use goods, and the impacts of climate change are introducing new challenges and, in some cases, making WMDs more accessible.

We are also facing a growing array of biological threats from various sources, such as thawing permafrost or new viruses. As the complexity and accessibility of WMDs increase, robust international cooperation and advanced preparedness become essential. The mission of the JCBRN Defence COE is to tackle these threats and drive transformation in the CBRN defence field for the entire Alliance.

### ► Mission Statement

Our mission is to provide advice in all CBRN defence-related areas; develop CBRN defence concepts, doctrines, standards and knowledge to support the improvement of interoperability and capabilities; provide opportunities to enhance education and training; contribute to the lessons learned processes; and within an approved Programme of Work, assist NATO, Sponsoring Nations and Partners in their CBRN defence related efforts including validation through experimentation.

### ► Who We Are / What We Do

The JCBRN Defence COE, with over 70 experts from 14 nations, is a hub of CBRN defence knowledge. It focuses on development of CBRN concepts, doctrine, and capabilities, defence planning, experimentation, training, exercises, education, lessons learned, reachback, modelling & simulation, and operations support. The Centre supports the NATO Joint CBRN Defence Capability Development Group and serves as the Department Head for NATO's WMD/CBRN defence training and education, offering certified courses. It also acts as the EU Military Training Discipline Leader for WMD CBRND and forms the core of NATO's CBRN reachback capability. Additionally, the Centre is expanding its outreach to civil-military, EU and other international organizations, academia, and industry, aiming to support military transformation and cooperation in CBRN defence with NATO.

### ► Vision

The JCBRN Defence COE leads institutional and operational efforts to support NATO capability development, mission effectiveness, and interoperability. Through the approved POW, the JCBRN



Defence COE strives to promote adaptive and innovative methods for preventing the proliferation of WMD and protecting against CBRN incidents.

### ► 2024/2025

The JCBRN Defence COE consistently supports all four transformational pillars and additionally provides operational support.

#### Concept Development and Experimentation

In 2024, the Centre participated in core writing teams to support the review of NATO's two main CBRN-related concepts (MC 0603 and MC 0511). The team will continue to provide significant support to enhance NATO's warfighting capability (NATO Warfighting Capstone Concept) and NATO's resilience (Layered Resilience Concept). Additionally, in 2025, the Centre will conduct a major experiment to support the implementation of NATO's activities to counter weapons of mass destruction in military operations (AJP-3.23).



## Doctrine Development and Standardization

The Centre conducted a review of the CBRN capstone doctrine (AJP-3.8).

## Analysis and Lessons Learned

In line with NATO's Lesson Learned Process, the Centre evaluation teams participated in several exercises, aiming to enhance the existing CBRN defence capabilities. Looking ahead to 2025, efforts will focus on supporting NATO's warfighting and resilience concepts by reviewing further CBRN doctrines.

## Support to NATO Defence Planning Process (NDPP)

In 2025, the JCBRN Defence COE will focus on supporting the review of CBRN-related capability codes and capability statements (CC&CS) to support NDPP.

## Education, Training, Exercise and Evaluation

Throughout 2024, the Centre maintained an active role in delivering professional education and training to NATO and its partners. Over 200 students from 25 countries attended ten CBRN-related courses, including a CBRN awareness course for MENA nations and a CBRN First Responders course for Ukraine. In 2025, the defence capacity-building efforts will continue with mobile training planned in Jordan, Romania, Lithuania, and Kuwait. Additionally, the Centre facilitated the CBRN Joint Assessment Team (JAT) study period, preparing for the transfer of JAT responsibilities from Italy to France in 2026.

The Centre supported various NATO-sponsored exercises like the Steadfast and Loyal series, and multinational CBRN defence exercises like Clean Care and Precise Response. It also helps advance CBRN defence capabilities as JCBRN CDG Training and Exercise Panel (TEP) leader. Furthermore, in its role as NATO's Department Head for the WMD/CBRN Defence Discipline, the Centre organized the 2024 Annual Discipline Conference and completed the 2024 Discipline Alignment Plan.

## Operational Support

In 2024, the Centre provided crucial CBRN operational planning expertise for NATO exercises such as Steadfast Defender 2024, Steadfast Duel 2024, and the EU's Immediate Response 2024 and supported a SHAPE-USEUCOM CBRN Wargame. A notable achievement was integrating LiDAR technology for 3D terrain models, enhancing the CBRN simulations and predictions

accuracy. Additionally, the team contributed to NATO's Supreme Allied Commander Europe (SACEUR) Area of Responsibility Strategic Plan (SASP). The Centre also advanced CBRN defence capabilities through key initiatives like organizing the 4th CBRN Reachback Scientific Network meeting and the CBRN Defence and Hazard Prediction and Assessment Capability (HPAC) conference alongside a Level 1 HPAC course.

For 2025, the aim is to implement the latest HPAC version to improve operational planning and CBRN incident response accuracy. Key priorities are strengthening ties with NATO's intelligence community and enhancing communication within NATO's classified network, ensuring more effective operational support across NATO's command structure and other entities.



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## MARITIME GEOSPATIAL, METEOROLOGICAL AND OCEANOGRAPHIC CENTRE OF EXCELLENCE (MGEOMETOC COE)



Environmental assessment is critical to the success of any

### DIRECTOR'S MESSAGE



**CAPT Miguel ARENGA**

maritime operation. This knowledge should include foundation geospatial information, an understanding of dynamic weather, and oceanographic conditions, which together contribute to battlespace information superiority.

Geospatial information forms the baseline of any operational picture, but unknown or adverse weather and oceanographic conditions can disrupt maritime operations or threaten the safety of ships and personnel. Moreover, predicting these conditions can enable the optimal delivery of combat power. Past (climatology), present (nowcast) and near-future (forecast) GEOMETOC information enables Allied Naval Forces to better exploit, plan, execute, support and sustain military operations, helping commanders at strategic, operational and tactical levels in their decision-making processes, to optimize and use all the resources efficiently in the battlespace.

The technological evolution of weapon systems, the diversity of operations and the growing number of areas of operations, increase the need for dedicated GEOMETOC support, including Space Weather. This requires global coverage, higher spatial and temporal resolution, improved accuracy, interoperability and a multi-domain approach.

### ► Mission Statement

The mission of the Maritime GEOMETOC COE is to enhance transformation efforts in the field of Maritime Geospatial, Meteorology and Oceanography for the benefit of the Alliance.

### ► Who We Are / What We Do

Located in Lisbon, the NATO Maritime GEOMETOC Centre of Excellence is an independent multinational organization supported by Portugal (as the Framework Nation), along with Romania, Spain, and Türkiye. Drawing on the expertise of the Portuguese Hydrographic Institute, we aim to address critical gaps in NATO's maritime capabilities by optimizing the use of sensors, weapons, logistics, and personnel. Our focus areas include geospatial, meteorological, oceanographic, space weather, data science and technology to enhance environmental awareness and operational effectiveness. Through collaborative research, training and knowledge sharing with NATO, academia, industry and international partners, we drive the continued development and transformation of maritime GEOMETOC capabilities to better support maritime operations.

### ► Vision

To become an internationally recognised hub of maritime GEOMETOC expertise, driving the development of capabilities in support of NATO's maritime operations. We aim to lead the transformation of environmental awareness and operational effectiveness, ensuring that NATO remains at the forefront of maritime defence. We



are committed to continuously expanding our expertise and innovating to enhance NATO's ability to adapt to evolving challenges and optimise maritime operational performance.

### ► 2024/2025

#### Education, Training, Exercise and Evaluation

- Robotic Experimentation and Prototyping with Maritime Unmanned Systems exercise



- The COE supports the REPMUS exercise by coordinating the Rapid Environmental Assessment Warfare Group and assisting academic and industry partners in developing new MUS for conducting military environmental assessments. Evaluating state-of-the-art autonomous systems for environmental data collection.

#### Dynamic Messenger exercise

- To support the Maritime Command (MARCOM) 2025 exercise by providing experimental opportunities that foster cooperation between Allied nations and partners. This exercise will integrate new GEOMETOC technologies into existing frameworks to promote effective information sharing and decision making during maritime operations. The results will inform future operational strategies.

#### NATO Coalition Warrior Interoperability exercise

- The COE has been established as a third party to disseminate the full GEOMETOC Focus Area (FA) Service Folio throughout the CWIX network and will continue to participate in this exercise to improve the GEOMETOC federated Catalogue Service for the Web (CSW) to enhance the discoverability of data, products and services. The Centre also assesses the alignment of each national capability with the respective Geospatial and METOC FMN Roadmaps. In 2025, the CoE will be the deputy leader of the GEOMETOC FA and intends to take the lead in the near future.

#### Real Thaw exercise

- To support the Real Thaw Exercise 2025, helping the Portuguese Air Force to develop operational space weather (SWx) capabilities. This collaboration will emphasize the integration of meteorological and environmental factors into operational planning.

### Concept Development & Experimentation

#### Federated Mission Networking

- The COE is involved in the long-term FMN project, participating in the Geospatial and METOC syndicate (including SWx) and the Space Tiger Team, and leading and coordinating the METOC sub-syndicate (that is coordinating the structural documents on METOC data and exchange standards and requirements).

#### Multi-Domain Operations

- The Centre is providing support for the implementation of MDO, as described in its Implementation Plan, to enhance operational effectiveness across multiple domains. The Centre is planning to organize a seminar on maritime GEOMETOC support to the MDO.

### Doctrine Development and Standards

#### ATP 32 and AMETOC-P1

- As custodian of the ATP-32 publication, the COE is splitting ATP-32 to make it a standalone publication for the Rapid Environmental Assessment (REA) procedures, and the Military Oceanography supporting procedures should become the AMETOC-P1 publication. The Centre will coordinate the same writing team to review ATP-32 and produce AMETOC-P1, with the aim of approving both documents simultaneously.

#### Other NATO Doctrine and Standards

- Support the revision of MC 0296/4 (Geospatial Policy) and the production of the new AJP 3.29 (Allied Joint Doctrine for Space). Contribute to AMETOC-P2 (Meteo Support Manual), AMETOC-P3.3 (File Format and METOC data), AMETOC-P5 (SWx Support Manual) and Amphibious Operations Graphic data product specifications. Contribute to the development of the Seabed Operations Concept and the MUS in support of the Maritime Security Operations Concept. Develop an understanding of the legal aspects of the use of MUS in support of maritime operations.

### Analysis and Lessons Learned

#### SMEs support to JALLC

- Maintain liaison with JALLC to provide COE expertise as required in support of the NATO Lessons Learned process.



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## MARITIME SECURITY CENTRE OF EXCELLENCE (MARSEC COE)

I am proud to support NATO's endeavours through our commitment to enhancing maritime security in today's complex global environment.

### DIRECTOR'S MESSAGE

This past year has seen growing geopolitical tensions and evolving threats in regions like the Baltic, Black Sea, Mediterranean, Red Sea, and beyond, including the Somali approaches, Indian Ocean, and Gulf of Guinea.

The Black Sea faces intensifying hybrid threats, while the Baltic Sea is seeing increased militarization, with concerns over freedom of navigation and energy security. The Mediterranean has also been a stage of some persisting maritime security challenges. Piracy and illegal fishing continue destabilizing the Gulf of Guinea, while instability in the Red Sea affects crucial global trade routes. The Indian Ocean and Somali approaches remain critical due to ongoing piracy and trafficking risks.

In this context, the MARSEC COE focuses on enhancing maritime domain awareness, strengthening international cooperation, and supporting NATO and its partners through tailored training and education, MARSEC exercises, conferences, capacity-building efforts, and relevant projects under the 7 Maritime Security Operations (MSO) tasks (MC 0588). By leveraging cooperation and collaboration, I am confident that we will be successful in protecting our shared maritime domain and contributing to the security of the Alliance and beyond.



**CAPT.[N] Mehmet  
Cengiz EKREN**

### ► Mission Statement

The mission of MARSEC COE is to expand the capabilities of NATO and Partner Nations by providing comprehensive, innovative, and timely expertise in the field of Maritime Security Operations (MSO).

### ► Who We Are / What We Do

MARSEC COE is a dynamic and well-connected Centre of Excellence based in İstanbul/Türkiye. Its strategic location amongst NRDC-TUR, National Defence University Campus and co-location with Multinational Joint Warfare Centre and MARCOM OSG SOCCE create an intellectual and synergetic environment.

Strictly faithful to our motto "Working Together for Maritime Security", we are a multidisciplinary and interagency oriented organization focusing on maritime security. We therefore reach out to other relevant institutions and actively link up with specialists from the military, academia, industry, and policy makers. You are more than welcome to bring in your expertise and join this unique global network tailored to our scope of work.

### ► Vision

The vision of MARSEC COE is to become an internationally well recognized focal point as well as a comprehensive expertise and knowledge provider in the area of Maritime Security, thus expanding capabilities of NATO and Partner Nations.

### ► 2024/2025

Highlighting one of MARSEC COE's achievements for 2024, the 4th Maritime Security Conference, held in June 2024, gathered 19 esteemed panelists and 4 moderators from around the world under the academic advisory of

Prof. Dr. Christian BUEGER and over 200 participants from 27 countries, to discuss the protection of maritime critical infrastructures and the seabed. Furthermore, as part of NATO's Mauritania Defense Capacity Building Initiative, MARSEC COE's Mobile Education and Training Team conducted MSA training in Mauritania, strengthening the nation's maritime security capabilities. In addition, three projects have been successfully completed in 2024, resulting in the following study papers: "Maritime Critical Infrastructure Protection", "Proliferation of WMD" and "Support Maritime Situational Awareness". These publications can be accessed on our website at <https://www.marseccoe.org/publications>. For 2025, apart from our annual diamond event, our 5th Maritime Security Conference, we aim to finalize our two concept developments "Cyber Intelligence in Maritime Security Operations" and "Usage of Maritime Unmanned Systems in Support of Maritime Security Operations". Last but not least, we are planning to complete two more projects: "Support Maritime Counter-Terrorism" and "Maritime Security Capacity Building: Best Practices and Lessons Learned".

In regards to the Centre's biannually signature Maritime Security Exercise, EXER MARSEC-25 will take place (01-10 Oct 25) at MARSEC COE premises (İstanbul, Türkiye). The Exercise will focus on information sharing and fostering coordination of maritime security efforts, in a fictionalized environment based on the wider Straits Of Malacca and Singapore (SOMS) region.

In more detail our activities for 2025 aligned with MARSEC COE'S pillars are listed below;





## MARSEC COE ACTIVITIES

### ► Education and Training

#### Courses

- Naval Cooperation and Guidance for Shipping (NCAGS) Course
- Maritime Counter Terrorism Course
- Comprehensive Maritime Security Operations Course
- Maritime Operational Awareness for Joint Operations Course
- ADL 260 "Introduction to Maritime Security" Course



#### • Other Activities

- MARSEC COE contributes to Maritime COEs' Lessons and Observations Analysis Forum
- MARSEC COE contributes to NATO Quality Assurance Forum
- Maritime Security Exercise 2025 (EXER MARSEC-25) Main Planning Conference (MPC) & MEL/MIL Strategy WS
- EXER MARSEC-25 Final Coordination

Conference (FCC) & MEL/MIL Scripting WS  
EXER MARSEC-25 CPX

### ► Concept Development and Experimentation

- Concept Development of "Cyber Intelligence in Maritime Security Operations" and "Usage of Maritime Unmanned Systems in support of Maritime Security Operations"
- 5th Maritime Security Conference of MARSEC COE

### ► Doctrine Development and Standards

- Contribution to JCBRND CDG Doctrine Terminology Panel
- Contribution to AJP 3.8 Allied Joint Doctrine for CBRN Defence and ATP 3.8.2 Shipboard CBRN Defence Tactical Procedures
- Supporting ATP-101 Revision



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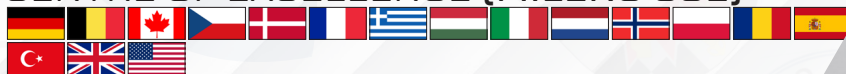


COE WEBSITE





# MILITARY ENGINEERING CENTRE OF EXCELLENCE (MILENG COE)



**COL Thorsten  
LUDWIG**

## DIRECTOR'S MESSAGE

The Russian attack on Ukraine has had a significant impact on MILENG related topics especially Mobility (e.g. bridging) and Counter Mobility (e.g. barriers). Sitting at the centre of MILENG in NATO, the MILENG COE captured the essential observations from warfighting activities and staffed them into the panels of MILENG WG. This ensures that MILENG community remains current and prepared to support the collective defence for NATO from a MILENG capability. The independent nature of the MILENG COE ensures that the key MILENG gaps are identified and highlighted to the Senior MILENG advisors across the NATO Command and Force Structure. Importantly MILENG COE is supporting the key MILENG activities of addressing Mobility and Counter Mobility opportunities within the Alliance.

**“MILENG is a function in support of operations to shape the physical operating environment.”**

MC 560/2 MILENG



## ► Mission Statement

MILENG COE provides NATO and its partners a military engineering knowledge hub through education & training, subject matter expertise and development of policy, concepts and doctrine to enhance the effective interoperability of military engineering capabilities into NATO operations and exercises. We are committed to building and maintaining a network of partners, experts, and stakeholders in military engineering in support of the Alliance's strategic objectives.

## ► Who We Are / What We Do

The MILENG COE's purpose is to provide recognised MILENG expertise and experience to enable the continued development of Sponsoring Nations and Alliance military engineering capability and interoperability.

**Our core tasks are:**

- **Information Knowledge Management (IKM):** The MILENG COE provides an IKM hub to support the gathering, processing, and dissemination

of MILENG related information through a single source of collected knowledge;

- **Developing Concepts and Doctrine:** The COE assumes a leading role in the development and implementation of concepts, doctrines, and procedures to contribute to the effectiveness of NATO forces through standardization and interoperability;
- **Analysis and Lessons Learned:** To support NATO LL process with the collection of MILENG related observations, best practices, LI, and LL;
- **Education and Training (T&E):** Accredited NATO ETF delivering courses, Mobile Training Teams (MTT), individual training assistance and support to MILENG personnel within NATO Command and Force Structure and Nations.

## ► Vision

“A world class organisation that strives to be the driving force behind the advancement of military engineering within NATO's future defence capabilities”



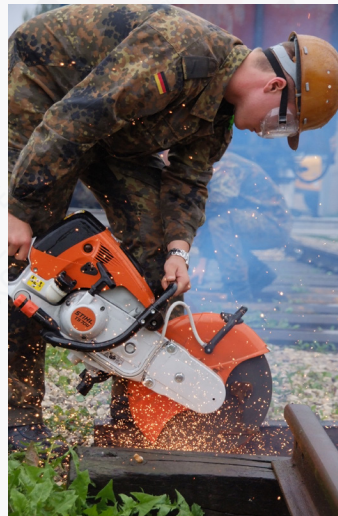
## ► 2024/2025

The MILENG COE holds a unique position in being the heartbeat of the MILENG conscience within NATO. Through delivering the secretariat function to the NATO MILENG WG panels and the NATO Senior Joint Engineer Conference, MILENG COE is perfectly placed to deliver a MILENG knowledge hub across the MILENG Community of Interest. We deliver three Community Updates a year but also share routine updates via our MILENG COE portal – a must visit for anyone in the MILENG arena.

Available on our portal is a MILENG Ukraine Observations page which provides a great space to pull MILENG observations and analysis – all observations gained from open-source material. The early work of the MILENG WG, underpinned by our secretariat function, has ensured that key capability areas of Mobility and Counter Mobility now sit as High Visibility Projects within the NATO International Staff – addressing these is key to the deterrence and defence of the Alliance.

As an accredited NATO Education and Training Facility the MILENG COE delivered a Mobile Training Team to Italy in 2024 and 13 courses at our home location. This has trained 370 students covering MILENG areas from the Tactical to Operational level. In addition to this, the courses have supported a number of Partner Nations which have included personnel from the Ukraine.

2025 looks to continue the high demand for MILENG Subject Matter Expertise. Specific support to MILENG in targeting; force protection software development; Mobile Training Teams to Türkiye and the United States of America; Instructor Support and support to the wider collective training events sees a busy roster for 2025. More information about the COE, public information about our courses and events can be found at [www.milengcoe.org](http://www.milengcoe.org)



We strongly suggest registering for our portal to get access to more information, workspaces and to register for our courses.

**“Interoperability is a question of attitude”**

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## NATO MILITARY MEDICINE CENTRE OF EXCELLENCE (NATO MILMED COE)

The NATO MILMED COE has successfully

adapted to and responded to the evolving geostrategic landscape, particularly considering the Russia-Ukraine conflict. This highlights

the commitment and dedication of its Nations and staff members. Currently, we are in a proactive phase, analysing the lessons learned from the conflict and preparing for the Vigorous Warrior 2026 multinational military medical exercise, which will be held in Estonia.

Our efforts focus on transforming NATO's medical capabilities through training, doctrine and standards development, experimentation, and Force Health Protection initiatives. We remain the open door of NATO for everything medical and hope to hear about your initiatives to foster NATO's medical transformation.

### DIRECTOR'S MESSAGE



**COL DR. László  
FAZEKAS (MD)**

### ► Mission Statement

The mission of the NATO MILMED COE is to support and assist the Strategic and all other levels of Commands, other NATO bodies, nations and other civil and military organizations by supporting the transformation of the Alliance and thereby improving medical support to operations and to provide subject matter expertise in the following areas:

- Medical training, exercises and evaluation leading to certification
- Medical Lessons Learned and Innovation
- Standards development and custodianship
- Deployment-related health surveillance

### ► Who We Are / What We Do

NATO MILMED COE is a hub of military medical knowledge, building a reliably accessible Community of Interest within its areas of expertise. MILMED COE is an essential part of NATO's transformation efforts by being a medical knowledge centre to the benefit of the entire Alliance. NATO MILMED COE, as a knowledge centre, remains an open institution that links military and civilian medicine together by collecting up-to-date medical knowledge and expertise from both communities, continuing to cooperate with the widest possible range of partners.



NATO MILMED COE develops and implements projects to empower superior and effective medical support services across NATO, during missions abroad and in their home countries. NATO MILMED COE unites highly experienced medical professionals, and it is composed of 5 branches: Support, Training, Lessons Learned and Innovation, Interoperability, Force Health Protection (FHP) Branch – a satellite branch located in a country other than the Framework Nation.

### ► Vision

Further development of NATO medical support by innovation, experience, creating and sharing best practices. NATO MILMED COE aims to remain a hub of military medical expertise and a focal point of knowledge, providing invaluable training, education and deployment health surveillance capabilities, lessons learned databases and concept development support.

### ► 2024/2025

In the spring of 2024, the Vigorous Warrior Exercise Series (the single dedicated, wide-spectrum, multinational medical exercise in NATO) has been conducted successfully in Hungary, with 35 NATO and Partner Nations and a considerable civilian component. The NATO MILMED COE organized a joint live exercise this time





together with the Clean Care CBRN Medical Exercise, which is a biennial medical exercise conducted in a CBRN-scenario environment and provides a collective training opportunity for medical and CBRN defence organisations and personnel. The aim was to exercise the military medical support system in a complex, joint operational environment to enhance effectiveness and interoperability during a NATO Major Joint Operation (MJO). The Centre has also processed the observations from the exercise, resulting in a great number of Lessons for the medical community and also started the Lessons Learned process related to the Russian-Ukrainian war, organizing a workshop with over a hundred experts from NATO and Ukraine to collect first-hand experience. In the last years, with taking medical innovation as a new priority area, the NATO MILMED COE has first transformed itself into an organization that is able to work from anywhere and has a robust technical background to maintain a functional and active subject matter expert (SME) network, and to deliver a considerable amount of its products, such as trainings and professional events, online, offering multiple e-Learning opportunities and online or hybrid events.



We have laid great emphasis on disease surveillance, delivering a working interim module for near-real-time medical surveillance to supplement NATO's medical-C4 capabilities. These activities also showcase our focus being shifted to the overall geostrategic situation and how NATO's role develops related to it. We believe that the overall quality and the relevant products of the Centre, combined with this proactive stance led to the fact that ACT has found the COE to be aligned with NATO's quality standards and has given us unconditional accreditation as a Centre of Excellence until 2028.


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# NATO MILITARY POLICE CENTRE OF EXCELLENCE (NATO MP COE)

The NATO MP COE is a unique NATO Military Body, which provides complex and effective work on all Military Police (MP) aspects across the full spectrum of NATO operations.

## DIRECTOR'S MESSAGE



**COL Piotr KWAS**

With NATO refocusing on Deterrence and Defence of the Euro-Atlantic Area, the need to prepare efficient military police officers and non-commissioned officers, ready to contribute as enablers to the conduct of operations is becoming increasingly important. Therefore, the Centre not only offers a variety of MP-related courses and events to comply with these requirements but also supports transformation and prepares high quality products as well as provides additional opportunity to enrich knowledge of the worldwide MP Community of Interest (Col).

## ► Mission Statement

The NATO MP COE enhances capabilities of NATO MP, fosters interoperability, and provides subject matter expertise on MP activities in accordance with the Alliance's Strategic Concept.

## ► Who We Are / What We Do

The NATO MP COE is an international military organisation, which develops and delivers subject matter expertise. In cooperation with other military and civil actors, the Centre supports further transition and development of MP standards and capabilities. The main aim is to facilitate cooperation and interoperability of NATO nations and partners and their MP/Gendarmerie Type Forces (GTF), as well as to enhance their role in the development of future capabilities in accordance with the NATO Strategic Concept across the full spectrum of operations.

The Centre focuses on, but does not limit its activities to, the cooperative facets of MP in support of the NATO Strategic Concept, and current or future operations in the following core areas:

- Doctrine, Concept Development and Experimentation;
- Education and Training;



- Research and Development;
- Analysis and Lessons Learned;
- Consultation.

## ► Vision

As a MP think tank and motor for innovation, we build bridges between nations, organisations and institutions for further evolution of MP standards and capabilities to support cooperation and interoperability of NATO and partners.

## ► 2024/2025

In 2024 and 2025, the main effort of the NATO MP COE is and will be of reinforcing the Col in focussing on MP support and enablement in a multi-domain warfighting scenario.

"Back to the roots!" - Deterrence and Defence of the Euro-Atlantic Area - without ignoring the requirements of Crisis Prevention and Crisis Management.

In essence:

- Supporting strategic deployments through mobility support operations and contributing to rear area security ("Winning the first battle!");
- Supporting combat forces conducting operations by providing MP support in the entire MP task spectrum in all domains ("Winning the last battle!").

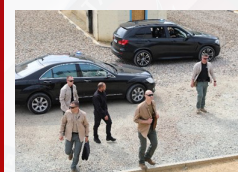
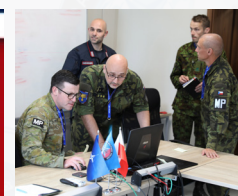




In the short term, this means preparing the existing national MP forces for today's tasks. Therefore, the NATO MP COE conducts trainings, workshops, forums and conferences, which primarily serve to develop a common understanding of the tasks to be accomplished and to become interoperable within the NATO Command Structure/Force Structure and the Nations. To this end, the NATO MP COE is closely networking with the Provost Marshals at all levels. The close collaborative relationship with the Ukrainian Military Law and Order Service enables the NATO MP COE to take directly into account relevant observations and lessons identified from the Russo-Ukrainian war.

In the long term, this means supporting the Col in developing the MP forces required for the battlefield and the tasks of tomorrow. Transformation is not a coincidence but the result of a targeted process. In cooperation with the Col, concepts and studies are developed at workshops, forums and conferences as well as within the framework of NATO committee work in the MP Panel. The results of this work includes for example the MP Strategic Concept and the MP Future Capability Study. Following endorsement by the Col, these documents serve as guidelines for further holistic development of NATO MP/GTF as the MP perspective is reflected in the relevant processes (e.g. NATO Defence Planning Process) or documents (e.g. AJP/ATPs, ACO Forces Standards) in a targeted manner.

An Event Catalogue and further details can be found on the NATO MP COE website.



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COE WEBSITE





# NATO MODELLING AND SIMULATION CENTRE OF EXCELLENCE (NATO M&S COE)



## DIRECTOR'S MESSAGE



**COL. Francesco  
PACILLO**

The NATO Modelling and Simulation Centre of Excellence is an international source of expertise focused on supporting the four pillars of NATO's Digital Transformation and providing the Alliance with M&S support at the point of need. The M&S COE is committed to Quality Assurance and is an accredited NATO Education & Training Facility that provides quality M&S courses to the Alliance and partnered nations. The M&S COE is a hub for the M&S community of interest promoting cooperation and sharing of M&S expertise. We support NATO's efforts in the development of new M&S concepts and capabilities with a current focus on Wargaming and simulation support to Multi-Domain operations.

We invite you to join us at our collaborative forums, CA2X2 and MESAS, where the Centre brings our partners from across the Government, Military, Industry, and Academia together to collaborate and generate solutions to NATO's simulations requirements.

## ► Mission Statement

To support NATO, NATO Nations and Partner Nations by providing subject matter expertise in all aspects of M&S activities.

## ► Who We Are / What We Do

An organization of experienced military leaders and "digital generation" talents from 4 NATO Nations, representing all domains with expertise in both combat and combat support roles, and in the application of modelling and simulations in support of military activities.

## ► Vision

To contribute to NATO Transformation by enhancing operational effectiveness and resource management.

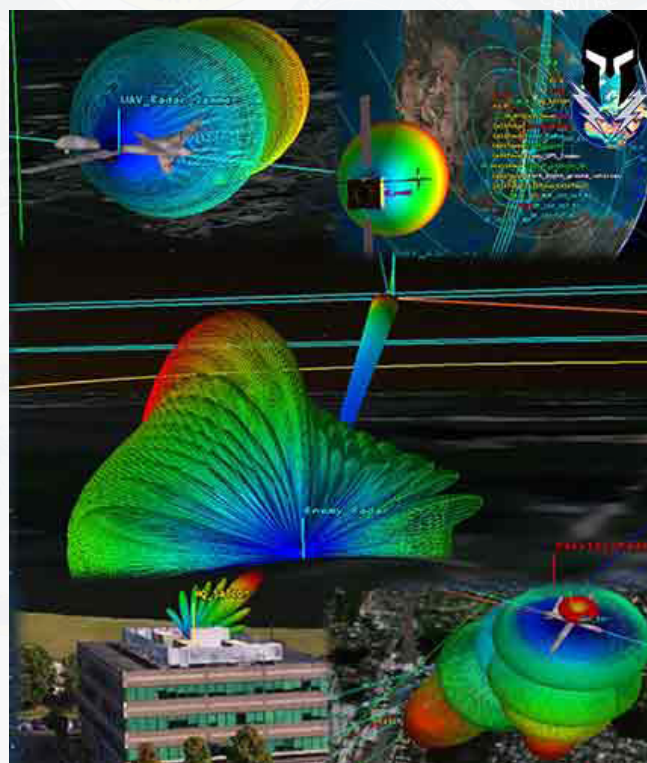
## ► 2024/2025

### M&S Forums

- The MSCOE executes the NATO Computer Assisted Analysis, Exercise and Experimentation (CA2X2) Forum, an annual event bringing together the M&S community of interest to present current and future projects. The CA2X2 Forum hosted 373 registered participants from 34 nations while presenting more than 60 sessions related to M&S. The MSCOE also executes the Modelling and Simulation for Autonomous Systems (MESAS) conference in conjunction with the Czech University of Defence to advance ideas in emerging disruptive technologies.

### CONCEPT DEVELOPMENT & EXPERIMENTATION

- Electromagnetic Spectrum Operations (EMSO) are essential for present and future military warfare. The CDE Branch developed ELMO



(Electromagnetic Layer for Multi-domain Operations), a tool capable of building a synthetic electromagnetic environment to virtualize EMSO in multi-domain scenarios. The Branch developed CASTLE (CBRN Activities Simulation Total Layer Environment) a proof-of-concept to federate existing CBRN simulators and visualize CBRN effects in a synthetic environment. ELMSO and CASTLE aim to provide leaders enhanced decision-making capability through multi-level integration of M&S tools and C2 architectures.

- The branch continued conceptual development of MAIDEN (Military Artificial Intelligence for Decision making and Experimentation within





NATO); a project to support decision making by integrating M&S tools with Artificial Intelligence/ Machine Learning (AI/ML). MAIDEN is based on the bi-directional connection between a neural network and M&S tools. It aims to develop an integrated system able to forecast the best behavior (Course of Action) given a defined scenario.

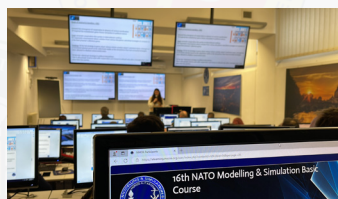
- The branch is preparing to begin a study on AI in support of Wargaming to examine how AI/ML could learn from existing scenarios and automatically generate new ones.

## MODELLING & SIMULATION SERVICES

- M&S Services Branch has focused heavily on Wargaming. The branch developed "Cyberspace Hybrid warfare for Educational Strategic Scenarios - CHEMA", a strategic-level, educational wargame designed to help understand the complexity of cyber operations and their influence on a country's overall stability. CHEMA was successfully tested with the NATO Defense College and played during the "Wargaming Initiative for NATO 2024 - WIN24" in HAMBURG, Germany.
- Our "Wargaming Interactive Scenario Digital Overlay Model - WISDOM", was used during CWIX 2024 as a bridge between "Electromagnetic Layer for Multidomain Operations - ELMO", and other Simulators using the HLA standard.
- In 2025, we will start developing a strategic-level cyber simulator to support CHEMA addressing a capability gap in predicting future vulnerabilities in the field of cyber operations.

## DOCTRINE, EDUCATION & TRAINING

- The COE provides five M&S courses. The NATO M&S Basic Course, NATO Computer-Assisted Exercise (CAX) Specialist Certification Course, and the M&S Integration Specialist Courses are NATO approved courses. Additionally, the Centre has expanded its offerings to include: the Joint Theater Level Simulation-Global Operations (JTLS-GO) Foundation and Practitioner Courses. The JTLS courses provide foundational and advance application training to enhance the Alliance's capabilities with one of its primary simulation systems.



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# NATO MOUNTAIN WARFARE CENTRE OF EXCELLENCE (NATO MW COE)



## DIRECTOR'S MESSAGE



**COL Leon HOLC**

The landscape of military operations is rapidly evolving, and mountain warfare remains a crucial NATO capability. By 2040, technologies like AI, autonomous vehicles, and augmented reality will transform how mountain troops operate, enhancing intelligence, manoeuvrability, and strike capabilities. However, the unique demands of mountainous terrain still require specialized skills and expertise.

Mountain troops have long dominated difficult terrain, and their ability to adapt to new technologies will ensure they remain a decisive force. Institutions like NATO's MW Centre of Excellence will play a key role in blending traditional mountaineering with modern tech, maintaining mountain warfare's strategic value in the future.

## ► Mission Statement

The mission of the NATO MW COE is to assist NATO member countries, partners, other countries and international organizations to enhance mountain warfare capabilities by:

- Developing, maintaining and delivering mountain warfare-specific concept, doctrine and tactics.
- Administering the MW lessons learned process.
- Supporting MW capability development and education and training.
- Providing cutting-edge solutions to address the unique challenges posed by mountain environments, in coordination with industry and like-minded partners, with a particular focus on C4I in the mountain environment for planning, operation and simulation.

Ensuring the safety, security, interoperability, and mission success of those operating in mountain warfare

## ► Who We Are / What We Do

The NATO MW COE is a multinational entity that brings recognized expertise and experience to the Alliance, particularly in support of its transformation efforts. Its primary goal is to enhance NATO's capabilities, providing tangible value to the Alliance. With a dedicated professional core, the centre develops and maintains subject matter expertise to address mountain warfare challenges, including the critical issue of digitalization. As technology evolves, integrating advanced digital tools into mountain warfare strategies will be essential. This focus on innovation strengthens both individual soldiers and military units, improving their ability to operate in mountainous environments and ensuring NATO's overall readiness for future challenges in mountain warfare.



## ► Vision

The NATO MW COE strives to be the central hub for mountain warfare expertise, fostering collaboration between NATO members and partners, setting global standards for excellence in training, research and doctrine development, and serving as a knowledge base for organizations operating in a mountainous environment.

## ► 2024/2025

### Doctrine and Standardization Branch

2024 significant achievement: The promulgation of the STANAG 2643 ATP 3.2.1.3.; the ATP has been ratified by 22 nations.

The DSB ran two workshops:

- "Mountain Risk Management in Winter", with 40 participants from military units and civilian companies from 10 different nations;
- "Using UAS in Mountainous Environments", with over 100 participants from 15 nations.

In 2025 the main task will be the Revision of ATrainP-6. Three workshops are planned:

- "Winter Risk Management on the Mountain Cell", including the innovative use of UAVs to trigger controlled avalanches;





- "Summer Risk Management" on the emerging challenges posed by climate change;
- "Mountaineering Equipment", focused on minimum safety and performance standards.

### Concept Development and Experimentation Branch

2024 significant achievements:

- Multi-Domain Operations Concept (MDO) in Mountainous Environment Study in support of NATO MDO Concept Development;
- Human Factor in Mountain Environment Experimentation Campaign: purchasing an exoskeleton and planning the testing phase;
- Cooperation with ACT Strategic Foresight Team and NATO Science and Technology Organization.

2025 main tasks:

- Support for the NATO Warfighting Development Agenda related to the Mountain Environment will be enhanced by adopting the NATO Deterrence and Defence Concept for Mountain Environment.
- Research and experimentations phase of Historical Battlefield Studies.
- Multidomain analysis and operational level approach to Historical Battlefield Study WWI Italian Front.
- Enhance Multidomain Approach to Operations understanding challenges during development of NRDC ITA as MDO enabled HQ.
- Human Factor Enhancement in Mountain Environment Experimentation Campaign development with Mountain Innovation Challenge and the consequences of Generative Artificial Intelligence.

### Education and Training Branch

In 2024, the ETB conducted the first iteration of the NATO Mountain Warfare Operations Planning Course. With a new design, the course has been accredited by ACT as NATO Selected. We have also run two more iterations of the Mountain Warfare Small Units Leader Course, in Slovenia and in Poland. Our Mobile Education & Training Team provided specialized training in the mountains of Sardinia (ITA) and Slovenia.

In 2025, we will focus on new elements, including wargames, UAV support and digital C2 and simulation systems, to run the following courses and training sessions:

- The MW SULC, in our Centre and as METT in Poland;
- The NATO OPC, at the Centre;
- Lectures and specialized training through METTs for multinational NATO exercises or on demand.

### Lessons Learned Branch

Will continue its supporting role in both internal and external processes and communities by:

- Organizing the annual LL workshop to explore key topics affecting global security, including modern battlefields, unconventional warfare, shifting tactics, UAS warfare;
- Conducting a Battlefield Tour (Staff Ride) as a personnel development activity;
- Actively participating in various MW-related activities, including exercises and conferences and events, to gather observations and lessons which support NATO MW COE projects and COI interests;
- Actively utilizing the LL portal as an information hub for the COI and for the dissemination of observations and lessons.

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# NATO NAVAL MINE WARFARE CENTRE OF EXCELLENCE (NATO NMW COE)

Naval Mine Warfare is still very relevant.

The sea mining in the Black Sea region hit international shipping and trade hard. Vast amounts of mines are in stock worldwide (e.g.

Russia, China and Iran). These stocks consist of legacy mines, legacy mines upgraded with modern sensors/ activation mechanisms and more complex, sophisticated modern mines. At the same time, there is the threat of maritime improvised explosive devices (IED's) which are easy to make and capable of having enormous (economic) impact.

Among NATO allies, own sea mine laying capabilities need to be integrated/improved. At this moment within NATO, we have nations who can provide robust mine laying capabilities independently, however, due to the distinct character of sea mines, nations are not eager to share their experience with regards to mine laying. This needs to change. Only a common effort all NATO allies can make a breakthrough in this relevant area. Finland and Sweden might empower this process as new NATO Nations.

In the meantime, many different innovative technologies are implemented to counter sea mines. These capabilities differ significantly from the legacy means and include remote controlled and autonomous vehicles equipped with new types of sensors and other revolutionary systems. To introduce new joint NATO MCM doctrine and tactics, planning and evaluation algorithms, a necessity for tools, education and training of personnel is paramount. The NATO Naval Mine Warfare Centre of Excellence aims to guide and support these developments to take NATO's Naval Mine Warfare capabilities into the next era.

The NATO NMW COE aims to expand its capabilities by attracting SME's from other NATO Nations and NATO Partners.

## ► Mission Statement

The NMW COE focuses on training and education, doctrine and standardization, lessons learned and analysis , concept development and experimentation to deliver the best possible support in NMW to NATO Headquarters, NATO Nations and NATO Partners.

## ► Who We Are / What We Do

The NMW COE is THE NATO entity with expertise and excellence in the Naval Mine Warfare domain. It emerged from Ecole de Guerre de Mine (EGUERMIN, now BEL NAC) which for long has been a hub of knowledge for NMW. Today, we use each other's NMW knowledge as well as the expertise from the ABNL (Admiral BENELUX) Mission Support Centre (also present on the same premises). The NATO NMW COE is on the forefront of the developments in the NMW domain. As is the case for any COE, our focus is also on Concept Development and Experimentation, Doctrine and Standardization, Lessons Learned and Analysis as well as Education and Training.

## ► Vision

The NATO Naval Mine Warfare Centre of Excellence is the recognized hub of knowledge and expertise in Naval Mine Warfare for NATO, NATO Nations and Partner Nations and their associated research institutes in support of NATO transformation.

## DIRECTOR'S MESSAGE



**CDR Filip  
CLAUWAERT**







## ► 2024/2025

### In 2024:

#### The NMW COE:

- Contributed to the NATO Doctrine and Standardization process, by participating in and leading various Working Groups, providing or commenting Change Proposals to Allied Publications and Terminology Proposals, and hosting the TTEP (Tactics and Tools Evaluation Panel) under the NMWWG (naval Mine Warfare Working Group);
- Contributed to the NATO Defence Planning Process and participated in the NATO capability groups, like the UWWCG and the JCGMUS. Is the chair of the NMW Syndicate under the UWWCG;
- Organized and led the NMW part of REPMUS (Robotics Experimentation and Prototyping through the use of Maritime Unmanned Systems);
- Guided the EXTAC 885 project, and produced two new EXTAC's: The 886 (Underwater C2) and the 887 (Data handling);
- Guided the Belgium led Specialist Team on Biological Impact (ST-BI) with their study to extract measurable parameters of data obtained through the sensors of NMW sonar systems for bottom classification and sonar capability predictions to find sea mines;
- Contributed to ACT Minimal Viable Product initiatives to come up with an up-to-date version of MCM Expert;
- Support the NATO NMW Principal Warfare course, the NATO NMW Staff Officer course, and the OPP 7 Questions Maritime Tactical Estimate course at the Belgian Navy Academy ;

- Organized the NMW Conference titled: Teetering Between Present and Future Challenges and Opportunities of Future Naval Mine Countermeasures. Command and Control, Interoperability, Data Management, Critical Underwater Infrastructure Protection.;
- Worked on 'Requests for Support' sent by the Italian Navy, the Norwegian Navy, ACT, and MARCOM to name a few;
- Performed the MAREVAL of SNMCMG2;
- Actively participated in the writing of the Future Naval Mine Warfare Concept and corresponding NMW Roadmap;
- Created the NMW Lessons Collection Plan (NMW LCP), as an initiative to enhance the Lessons Learned mindset among our community;
- Provided support to exercises like DYNAMIC MOVE, ARIADNE, Olives Noires, and SANDY COAST.

### In 2025:

The NMW COE will continue to actively participate in most of the above-mentioned activities.

Additionally, finalizing a study paper on the challenges related to the protection of Critical Undersea Infrastructure. Finally, assisting Portuguese Navy and MARCOM with the production of operational vignettes for REPMUS25/DYMS25



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# NATO SECURITY FORCE ASSISTANCE CENTRE OF EXCELLENCE (NATO SFA COE)

Since its birth, as a  
result of the Security

Force Assistance concept delivery during the Wales Summit  
(2014), SFA COE has been generally working to support NATO's

transformation pillars and specifically striving to achieve its mission through three fundamental lines of effort. Therefore, the Centre actually is going to be fully committed in consolidating the significant linkage, built day by day with all the stakeholders of the SFA Community of Interest, pushing to enhance Human Capital by boosting the quality of SFA Operators and last, but not least, continuing to support Operations in any manner within an ever changing geopolitical scenario through a peculiar dimension of a "continuum of competition", even exploring new opportunities and possibilities and staying focused, determined, adaptive, open-minded and resilient.

## DIRECTOR'S MESSAGE



**COL Matteo  
LUCIANI**

## ► Mission Statement

Improve the effectiveness of the Alliance in promoting stability and reconstruction efforts for conflict and post-conflict scenarios through related Lessons Learned, Education and Training analysis, development of Concept and Doctrine activities. Provide a unique capability to Alliance, NATO Nations and NATO Partners in the field of SFA.

## ► Who We Are / What We Do

The NATO SFA COE is a multinational organization sponsored by Albania, Italy (Framework Nation), and Slovenia as Sponsoring Nations, and Austria as Contributing Participant.

It is committed to providing a unique capability to the Alliance and NATO Partners in the field of SFA through the sharing of expertise and knowledge, while cementing the varied skills required to accomplish the numerous tasks, missions, and challenges that the COE faces as a team.

The strength of the Centre is based on the inseparable connection established with a heterogeneous domain consisting of an academic sphere, NATO Command Structure (NCS) and NATO Force Structure (NFS), IOs, COEs, think tanks and research institutes. The COE's comprehensiveness is the critical aspect of the approach in developing projects and related activities carried out along three lines of effort: Policy, Human Capital, and Support to the Operations.

These multiple connections guarantee an out-of-the-box perspective in analysis and research and in the development of the yearly Program of Work.

## ► Vision

The SFA COE is to be an internationally recognized focal point to expand the capabilities of NATO Nations, and other Partners by providing comprehensive expertise and support in the realm of SFA.



## ► 2024/2025

**The NATO SFA COE is conducting a variety of activities such as:**

1. Education and Training:
  - Delivering of NATO Selected Courses ADL 362 "Introduction to SFA", "SFA Operators course", "SFA Advisor Enhancement Seminar", "Institutional Adviser course" and "Advanced Seminar for SFA Strategic advising within SSR" (Pilot).
  - Supporting NATO Advisory and Liaison Team (NALT) Kosovo with SFA Subject Matter Experts (SMEs)
  - Supporting with SFA SMEs the FINCENT's Training Requirement Assessment process as downfall of its Strategic Training Plan revision.
  - Supporting the Joint Warfare Centre and the Joint Force Training Centre with SFA SMEs in planning and executing NATO collective training events such as the "Steadfast Dagger" and the NATO Mission Iraq (NMI) pre deployment training.
  - Designing a capacity building training solution to fulfil new identified requirements supporting new job positions in the Peace Establishment of SHAPE and Joint Force Commands.



## 2. Concept Development and Experimentation:

- Developing the “Assistance” Joint Function, a multi-year project aimed at supporting Commanders in integrating political, military, and civilian actions through the five operational domains along the continuum of competition.

## 3. Analysis and Lessons Learned:

- Developing a study named “A cross-cultural examination: Enhancing advising through intercultural communication and cultural mediation” aimed at delving into the relevance of cultural dissimilarities in the daily work of the advisors and their impact on mission’ achievement.
- Supporting the Joint Analysis Training and Education Centre (JATEC) by capturing and sharing observations, best practices, Lessons Identified (LI) and Lessons Learned (LL) focused on Ukraine crisis.

## 4. Doctrine Development & Standards:

- Supporting the revision and the development process of the AJP-3.16 – Security Force Assistance publication.
- Supporting ACT’s Warfare Development Agenda (WDA) Lines of Delivery by contributing to Future Force Study (FFS) and Strategic Foresight Analysis – Future Operating Environment (FOE).
- Developing a proposal for a quantitative SFA Capability Codes and Capability Statements (CC&CS) to support the NATO Defence Planning Process.
- Supporting SHAPE and NATO HQ in drafting the Capacity Building Policy.

### Moreover, the SFA COE issued the following publications:

- “Remote Security Force Assistance – Reach Back Capability” report, as the outcome of a dedicated study.
- “Enhancing Stabilization and Strategic Partnership in a Post-Conflict Environment,” a book that focuses on advancing SFA within the critical contexts of reconstruction and stabilization.

### Plans for 2025:

#### The COE plans to continue to pursue its objectives through the development of the following projects:

- Expand the Education & Training offer with the addition of new courses such as the “Comprehensive Approach in Defence and Security Capacity Building Assistance” in favour of the European Union Advisors.

- Achieve the NATO Quality Assurance (QA) certification.
- Continue to support the development and approval process of the Assistance Joint Function and CC&CS.
- Develop a research project concerning the SFA in Multi Domain (MDO) Environment.
- Support NATO exercises such as the “Steadfast Deterrence” (ACO STRATEVAL as Warfighting Command).
- Support the ACT’s Military Contribution on Human Security (MC2HS) effort to define the role of military in HS and develop a HS mindset.
- Enlarge the SFA Community of Interest.



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## NATO SPACE CENTRE OF EXCELLENCE



Although still in its establishment phase, the

NATO Space COE is already actively supporting NATO on several key issues.

The divisions are monitoring space trends, participating in the implementation of space concepts, have assumed custodianship of NATO Space Operations Doctrine AJP 3.29, and are engaged in key allied exercises and educational activities.

As I reflect on an eventful and very exciting year, I feel proud to lead this extremely dedicated team of experts as it delivers ongoing support to NATO and its allied nations.

In 2025, with the arrival of its full workforce and the completion of its new headquarters building in Toulouse, the NATO Space COE will reach Full Operational Capability. It will provide an invaluable tool for NATO, in a field as demanding as it is difficult to master.

### ► Mission Statement

The NATO Space COE will provide knowledge, analysis, and products covering the three operational Space functions (SDA, OSS, and SDC), stimulate Space expertise sharing and interoperability, and constitute a bridge between NATO and all relevant national and international Space organizations from various sectors (Defence, Civil, Industry, Academia and Research).

### ► Who We Are / What We Do

The NATO Space COE leverages the extensive space experience of its diverse personnel from various nations to monitor emerging trends, assess technological advancements, evaluate their impacts, and harness their advantages for NATO, its Allies, and partners. To achieve this, the COE operates through four key pillars: Concept Development and Experimentation, Doctrine and Standardization, Education and Training, and Analysis and Lessons Learned. These pillars enable the COE to provide knowledge, analysis, and products across the three Operational Space Functions:

- Space Domain Awareness (SDA)
- Operational Space Support (OSS)
- Space Domain Coordination (SDC)

### ► Vision

The NATO Space COE will be the catalyst for the comprehension, improvement, and transformation of space power by delivering effective solutions through the COE's four pillars and providing relevant expertise for the benefit of NATO and Allies.

### ► 2024/2025

In 2024, the main effort for the NATO Space COE was to increase its workforce and develop a team of experts dedicated to engaging with NATO entities, industry, and academia. Currently, the team includes representatives from eleven of its fifteen Sponsoring Nations. With the

### DIRECTOR'S MESSAGE



**COL Sylvain  
DEBARRE**



opening of its new facility in 2025, the COE is set to reach Full Operational Capability.

Divisions contribute, under the umbrella of the ACT Space Branch, to the NATO objective of enhancing space capabilities. To this end, they support the definition and analysis of requirements, examine existing solutions within NATO and its member nations, and propose optimal solutions to address gaps in equipment and technology.

### Concept Development and Experimentation (CD&E)

This division focuses on future space concepts and capabilities that are of interest to NATO and its partners, with activities including wargaming and concept validation through experimentation. Within the Space Domain, data sharing and interoperability present key challenges for NATO. To address these issues, CD&E monitors space trends, explores innovative space concepts and capabilities and supports the Coalition Warrior Interoperability eXploration, eXperimentation, eXamination eXercise (CWIX). Additionally, as part of the Space Tiger Team, CD&E contributes to the



Federated Mission Networking (FMN) initiative by defining procedural instructions for key elements such as the Recognised Space Picture.

## Doctrine & Standardization (D&S)

The D&S Division is responsible for creating the doctrinal framework for space. In April 2024, it assumed custodianship of NATO Space Doctrine AJP 3.29, with the goal of publication by 2026. D&S also works to support space integration within other standards such as ATP 102 and NATO NAVWAR doctrine, ensuring that links with AJP 3.29 are correctly identified and incorporated.

## Education & Training (E&T)

In support of the COE's role as the Department Head for the Space Discipline and guided by HQ SACT (JFD and space subject matter experts), this division identifies and develops relevant, efficient, and cost-effective education and training solutions, tailored to the needs of the Requirements Authority (SHAPE). Its goal is to cultivate Suitably Qualified and Experienced Personnel (SQEP) within the Alliance. In May 2024, as part of its duties, E&T chaired the Annual Discipline Conference (ADC) at NATO HQ in Brussels and presented the key developments, achievements, and direction to be captured in the Space Discipline Alignment Plan (DAP). In 2024, E&T supported key allied exercises, including STEADFAST DETERRENCE and STEADFAST DUEL, contributing to their preparation and acting as OPFOR in their execution.

## Analysis and Lessons Learned (A&LL)

This division will work to optimise processes across all NATO Space COE pillars and to support the NATO



lessons Learned Process. In 2025, the currently unstaffed A&LL Division will commence work to support NATO's objective of remaining a successful learning organisation.

The NATO Space COE eagerly anticipates the challenges and opportunities of the upcoming year, including the delivery of its inaugural Space Conference in Toulouse from 28 to 30 April, execution of an ambitious Programme of Work, achievement of full staffing, and transition into its new headquarters building.



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# NATO STABILITY POLICING CENTRE OF EXCELLENCE (NATO SP COE)



The Alliance is facing  
a dramatic evolution of

## DIRECTOR'S MESSAGE

the security environment, whose old and new threats have drastically broadened NATO security challenges well beyond traditional military bounds. In this framework, Stability Policing, traditionally a “bridging factor” among worlds, is emerging, once again, as a booster for innovation for many forms of interaction between traditionally incontiguous cognitive worlds, such the “Internal Security” world and the “Collective Defence” world. NATO Stability Policing Centre of Excellence is ready to drive this process of constant innovation, by enhancing its research capabilities, with the implementation of the fourth Branch, entirely dedicated to this endeavour. While confirming the incredible benefits of the “blue lens” applied to stabilization operations – an approach rooted in the 90 years of last century – an evolved Stability Policing doctrine will therefore face the new scenarios with the confidence allowed by an uncontested base of expertise, meticulously gathered in many theatres of operation by the Stability Policing Centre of Excellence, that will always be ready to provide the Alliance the most up-to-date doctrinal, educational and research products.



**COL Luigi  
BRAMATI**

## ► Mission Statement

The mission of the NATO Stability Policing CoE is to be an internationally recognized focal point and a hub of expertise for a Community of Interest in the field of Stability Policing, which is a set of police-related activities intended to reinforce or temporarily replace the indigenous police in order to contribute to the restoration and/or upholding of the public order and security, rule of law, and the protection of human rights (AJP 3-22).

## ► Who We Are / What We Do

In 1997, the Supreme Headquarters Allied Command Europe (SHAPE) identified the so called “security gap” in the field of public order and security, in the grey area between the SFOR military capabilities and the UN IPTF mission, lacking executive powers and/or local police forces capabilities. The gap was bridged by a military unit capable to perform the typical tasks of a civil police force: the NATO Multinational Specialized Unit (MSU) made up of gendarmerie forces, which are military forces with full civil police capabilities. Since then, this model has been implemented several times. The concept of military forces performing police duties has evolved in the current notion of Stability Policing. The NATO Stability Policing Centre of Excellence, funded to address all related needs, is nowadays the recognized focal point and hub of expertise on this topic.

## ► Vision

To operate as a prime mover to increase contribution to NATO stabilization and reconstruction efforts in conflict and post-conflict scenarios and to provide an unique capability to the Alliance and its member States, as well as NATO partners and International Organizations in the area of Stability Policing.



## ► 2024/2025

### Major products and/or activities in 2024

#### Doctrine and Standardization (DSB)

- Supporting the Military Police Pannel, participating to the AJP 3.21 Military Police revision and to the Capability Development Writing Team;
- Supporting the Layered Resilience Concept with participating to the Situational Understanding sub-group and providing materials to other sub-groups;
- Researching on Hybrid Warfare and Cultural Property Protection (essays + articles).

#### Lessons Learned (LLB)

- Supporting the revision of AJP 3.22 with solid lessons learned from NATO operations/activities;
- Organisation of the workshop “Stability Policing and the Drones’ War: New Challenges for NATO Countries’ Law Enforcement Agencies and Internal Security Architectures”;
- Supporting the Joint Analysis and Lessons





Learned Centre by hosting the “New Lessons Learned Tool User Requirements Review” workshop.

### Education, Training and Exercise (ETEB)

- Delivered:
  - Six residential courses (complete list at [www.nspcoe.org](http://www.nspcoe.org));
  - Upon NATO HQ’s request, thanks to a US grant, one iteration of the “Battlefield Evidence Institutional Level Course” for NATO Partners;
  - The workshop “Cultural Property Protection as a means to Counter Terrorism Financing: Course Design & Development”;
- Designed:
  - “Cultural Property Protection as a means to Counter Terrorism Financing” residential course;
  - “Battlefield Evidence Collection” e-learning course;
- Supported:
  - Planning process and execution phases of STEADFAST DAGGER 2024 Exercises;
  - Defence Education Enhancement Programme for Tunisia, by delivering a SP module.

### Support (SUB)

- Refurbishment of the third floor: acquiring of high-level IT equipment focused on training, implementation of main conference room, main classroom, two syndicate rooms, media project room, chillout lounge.

### Major products and/or activities planned for 2025

- Supporting the revision of AJP-3.22 Stability Policing (DSB);
- Supporting the Military Police Community of Interest with attending the Military Police Panel: participating to the AJP 3.21 Military Police revision and to the Capability Development Writing Team (DSB);
- Supporting the Battlefield Evidence and the Technical Exploitation Working Groups (DSB);
- Researching on Hybrid Warfare and instrumentalization of migration (essays + articles + podcasts) (DSB);
- Delivering a “Law Enforcement Intelligence” definition and framework concept to NATO HQ (LLB);
- Delivering the six residential NATO courses and supporting NATO exercises (ETEB);
- Enhancing e-learning solutions and implementing them across other NATO e-learning platforms (ETEB);
- Producing documents about the ongoing research finalized to allow NATO to address future threats to peace and security after understanding the “Internal Security Architecture” of a State (Innovation, Concept Development & Experimentation – ICDEB);
- Producing documents about the ongoing research aimed to individuate new perspectives for NATO missions in a Multi Domain Operations (MDO) context, where “Stability Policing” is fundamental to foster readiness and resilience against “Hybrid and Irregular Warfare Manoeuvres” (ICDEB);

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# NATO STRATEGIC COMMUNICATIONS CENTRE OF EXCELLENCE (STRATCOM COE)



As technological  
advancements and the

## DIRECTOR'S MESSAGE



**MR. Janis SARTS**

development of AI have taken over the information space and created new risks and opportunities for democratic societies, preserving the integrity of electoral processes has become crucial in emphasizing the vital role of truth, accountability, and informed public discourse.

NATO Strategic Communications Centre of Excellence works to deliver up-to-date and in-depth analysis of methodologies applied by malicious actors across the information space. Our work focuses on but is not limited to the digital environment analysis, with particular focus on AI and other emerging technologies, to provide comprehensive and practical knowledge base to those working in the field of strategic communications. We also aim to build knowledge base of complex communications processes and emerging technologies for NATO and its nations to operate effectively. Expertise in strategic communications formed by combining knowledge from private, public and academic sectors allows the COE to form research-based framework for Alliance's operations.

## ► Mission Statement

The COE's mission is to support NATO's strategic communications capability and contribute to the Alliance's communication processes by providing comprehensive analysis, timely advice and practical support.

The Centre's aim is to contribute substantially to the improvement of NATO, its Allies' and Partners' strategic communication capabilities through research, analysis, concept development, prototyping, doctrine development, standardisation and case studies, furthermore investing into the continuing development of StratCom education and training.

## ► Who We Are / What We Do

During its first 10 years of full operational capability the NATO StratCom COE has established itself as one of the primary research and fusion hubs on subjects of strategic communications, countering disinformation, revealing trends in digital security and understanding hostile actor strategies, tactics, methodologies and techniques in the Euro-Atlantic area, covering StratCom and related functions of PA, PD, InfoOps, as well as the communication capabilities of PsyOps and Mil PA. COE's international team of experts conducts research in response to the needs of NATO and governments of participating nations, develops trainings, designs programmes to advance the development of NATO military doctrine, and provides comprehensive analysis and practical support for decision makers in the Alliance.

## ► Vision

NATO StratCom COE has determined that its vision foresees seeking to increase Centre's knowledge pool in areas critical to development of strategic communications, through research, experimentation, cooperation and prototype development. This knowledge will be shared with NATO, its Allies and Partners through assistance in doctrine and concept development, education and training

inputs and interaction with stakeholders across the Euro-Atlantic area. To capture the complexity of contemporary information environment, the COE will focus on looking into the military, government, societal and technological aspects of StratCom.

## ► 2024/2025

In 2024 COE's subject matter experts were involved in numerous projects aimed to develop StratCom mindset, processes, related functions and capabilities.

COE has promulgated the first edition of the new doctrine holding the StratCom fundamentals for the operational level of NATO's command structure. The doctrine is currently undergoing the first evaluation round. Furthermore, as custodian, the COE has promulgated the NATO doctrine on MilPa which was ratified by member states in late 2024.

To ensure global discussion platform aimed to tackle current issues in global security, information environment and cognitive domain in 2024, the COE organized the 10th edition of its two-day annual conference "Riga StratCom Dialogue" attracting more than 800 participants, hosting 54 speakers and holding 15 sessions. For the second year in a row the conference has also hosted an enterprise marketplace to demonstrate efforts of the private sector in developing StratCom related products and solutions. The event attracted 12 cutting edge companies from all over the world.

COE has also hosted its annual one-day conference "Emerging Trends in Social Media" focused on the digital information space of today and AI. The event attracted almost 300 participants and offered 5 sessions on AI, modern election process and threats and opportunities presented by the emerging social media platforms.

In total the COE has organized 16 events in 2024 with an aim to facilitate general knowledge of StratCom, raise awareness of information manipulation tools, recognition mechanisms, potential threats and opportunities presented by AI tools, as well as contribute to the analysis of the digital



environment and its imposed threats. To reach this aim, COE has also published more than 15 various researches, as well continued its work on #StratCom Podcast (available on Spotify and YouTube).

In 2024, the COE has also worked closely with local and international media achieving visibility in almost 500 news pieces in such outlets as New York Times, Deutsche Welle, Allgemeine Zeitung, YLE, Defence 24, Detector Media, etc.

In 2024, the COE strengthened cooperation with Ukrainian partners, connecting stakeholders and donors to enhance Ukraine's security and defence institutions and support NATO interoperability. A key focus was aiding the lessons learned process. NATO's Washington summit reaffirmed its commitment to Ukraine through the Comprehensive Assistance Package (CAP), which includes a StratCom component overseen by NATO's Public Diplomacy Division. Supporting this will be a priority for the COE in 2025.

Research on the Kremlin's media ecosystem and its proxy media in Ukraine was completed in 2024 (part of the "War on all fronts" project, continuing in 2025). Joint reports with Ukraine's Centre for Strategic Communications covered Ukraine's messaging during the 2023 counteroffensive and Russian propaganda in Europe. The COE also strengthened partnerships with Ukrainian government and tech sectors on AI, Information Environment Assessment, and FIMI.

The COE's community of interest on Russia's influence in the so-called 'Global South' has continued to grow, with 2024 research focusing on Mali, Egypt, Kenya, South Africa, and the UAE. This project will continue in 2025, expanding to Latin America.

### Education & Training (E&T):

In 2024 COE continued to oversee the quality and availability of already designed, planned and executed training solutions in StratCom area. Along with already established courses, COE piloted "AI in StratCom" course. In line with training needs of the COE nations, several tailor-made education projects were designed and delivered, including exercise support based on InfoRange – simulated information environment platform. This platform was also used for delivery of first ever StratCom track in world's largest live cyber defence exercise – Locked Shields 2024, organized by NATO's CCDCOE. As previously – COE provided support and exercise for a number of NATO exercises.

### LL & Analysis:

In 2024, the NATO StratCom COE has participated in regular NATO LL SPRING WEEK 2024, has been supporting NCS and NATO countries by providing experts for the conduct (Exercise Control) of the exercise and the Evaluation Team. Observations captured during the joint evaluation are provided to exercise organizers to develop the LI/LL and submit to the JALLC.

In the field of research, among many others in 2024 the COE has published the research reports, including "The Doppelganger Case: Assessment of Platform Regulation on the EU Disinformation Environment" analysing Russian activities conducted under false flag of different international media actors and "War on All Fronts: How the Kremlin's Media Ecosystem Broadcasts the War in Ukraine" allowing for an important insight into Russian media strategy that is balanced between the tightly controlled official media and the fairly independent Telegram media system. Also, as a result of growing importance attached to the AI application, COE published the report "AI in Precision Persuasion. Unveiling Tactics and Risks on Social Media" describing the role of AI models in digital advertising, highlighting their use in targeted persuasion.

As for the 2025, the NATO StratCom COE will continue its work according to the Program of Work 2025 thus strengthening StratCom capabilities of NATO, its Allies and Partners. Particular focus will be directed towards assessing emerging trends in the information environment and AI where particular emphasis will be laid upon the study, application, and implications of generative AI technologies. The Centre aims to analyse how these sophisticated algorithms can be employed or misused for generating text-based misinformation, deep-fakes, and other types of malign information activities. Simultaneously, the defensive capabilities of generative AI for real-time information environment assessment and automated content analysis will be also examined. The Centre will contribute to continuous development of StratCom education and training, sharing its knowledge through organizing, delivering and mentoring StratCom related courses and seminars. The Centre will also continue to issue the academic journal "Defence Strategic Communications" and organize various events including the conference "Riga StratCom Dialogue".

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# CURRENT COE STATUS AND LOCATION

| Centre of Excellence (COE)                        | FN        | Sponsoring/ Partner Nations  | Location              | Accreditation Date |
|---|-----------|--|-----------------------|--------------------|
| Air Operations [AO]                               | FRA       | FRA  | Lyon Mont Verdun, FRA | 18-Feb-08          |
| Climate Change and Security [CCASCOE]             | CAN       | CAN, DNK, FRA, DEU, GRC, ITA, LVA, LUX, NOR, ROU, TUR, GBR   | Montréal CAN          | 28-May-24          |
| Cold Weather Operations [CWO]                     | NOR       | NOR  | Elverum, NOR          | 31-Jul-07          |
| Combined Joint Operations from the Sea [CJOS]     | USA       | CAN, DEU, ESP, FRA, GBR, GRC, ITA, NLD, NOR, PRT, ROU, TUR, USA  | Norfolk, USA          | 14-Dec-06          |
| Command and Control [C2 COE]                      | NLD       | NLD, TUR, USA  | Utrecht, NLD          | 04-Apr-08          |
| Confined and Shallow Waters [Operations In] [CSW] | DEU       | DEU, DNK, EST, GRC, ITA, LTU, NLD, POL, TUR, USA   | Kiel, DEU             | 03-Mar-09          |
| Cooperative Cyber Defence [CCD]                   | EST       | ALB*, BEL, BGR, CAN, CZE, DEU, DNK, ESP, EST, FIN, FRA, GBR, GRC, HRV, HUN, ISL, ITA, LUX, LTU, LVA, MKD*, MNE, NLD, NOR, POL, PRT, ROU, SVK, SVN, SWE, TUR, USA, AUS, CHE, KOR, JPN, IRE, UKR | Tallinn, EST          | 28-Oct-08          |
| Civil-Military Cooperation [CCOE]                 | NLD       | DEU, HUN, ITA, LVA, NLD, POL, SVN  | The Hague, NLD        | 31-Jul-07          |
| Counter Improvised Explosive Devices [C-IED]      | ESP       | CZE, DEU, ESP, FRA, GRC, HUN, NLD, PRT, ROU, SWE, TUR, USA   | Madrid, ESP           | 14-Nov-10          |
| Counter-Intelligence [CI]                         | POL & SVK | CZE, DEU, HRV, HUN, ITA, LTU, POL, ROU, SVK, SVN, USA  | Krakow, POL           | 22-Feb-17          |
| Crisis Management and Disaster Response [CMDR]    | BGR       | BGR, GRC, HUN, POL, ROU  | Sofia, BGR            | 31-Mar-15          |
| Defence Against Terrorism [DAT]                   | TUR       | ALB, DEU, GBR, HUN, ITA, ROU, TUR, USA   | Ankara, TUR           | 14-Aug-06          |
| Energy Security [ENSEC]                           | LTU       | DEU, EST, FIN, FRA, GBR, ITA, LTU, LVA, POL, TUR, USA, GEO, UKR  | Vilnius, LTU          | 12-Oct-12          |
| Explosive Ordnance Disposal [EOD]                 | SVK       | CZE, HUN, POL, ROU, SVK  | Trencin, SVK          | 28-Apr-11          |

\*: In Process of Joining



| Centre of Excellence (COE)   | FN        | Sponsoring/ Partner Nations   | Location                    | Accreditation Date |
|--|-----------|---|-----------------------------|--------------------|
| Human Intelligence (HUMINT)  | ROU       | CZE, GRC, HUN, POL, ROU, SVK, SVN, TUR, USA   | Oradea, ROU                 | 29-Jul-10          |
| Integrated Air and Missile Defence (NATO IAMD)                               | GRC       | BGR, CZE, GRC, FRA, ROU, TUR,   | Chania, GRC                 | 08-Apr-20          |
| Joint Air Power Competence Centre (JAPCC)                                    | DEU       | BEL, CAN, CZE, DEU, ESP, GBR, GRC, HUN, ITA, NLD, POL, ROU, TUR, USA                | Kalkar, DEU                 | 01-Jan-05          |
| Joint Chemical, Biological, Radiological and Nuclear Defence (JCBRN Defence) | CZE       | CAN, CZE, DEU, FRA, GBR, GRC, HUN, ITA, POL, ROU, SVK, SVN, USA, AUT                | Vyškov, CZE                 | 31-Jul-07          |
| Maritime Geospatial, Meteorological & Oceanographic (MGEOMETOC)              | PRT       | ESP, PRT, ROU, TUR  | Lisbon, PRT                 | 23-Jun-22          |
| Maritime Security (MARSEC)   | TUR       | GRC, PRT, ROU, TUR  | Istanbul, TUR               | 08-Jun-20          |
| Military Engineering (MILENG)  | DEU       | BEL, CAN, CZE, DEU, DNK, ESP, FRA, GBR, GRC, HUN, ITA, NLD, NOR, POL, ROU, TUR, USA | Ingolstadt, DEU             | 09-Mar-09          |
| Military Medicine (MILMED)   | HUN       | BEL, CZE, DEU, FRA, GBR, HUN, ITA, NLD, POL, ROU, SVK, USA                          | Budapest, HUN & Munich, DEU | 12-Oct-09          |
| Military Police (MP)   | POL       | BGR, CZE, DEU, GRC, HRV, HUN, ITA, NLD, POL, ROU, SVK                               | Bydgoszcz, POL              | 28-May-14          |
| Modelling & Simulation (M&S)   | ITA       | CZE, DEU, ITA, USA  | Rome, ITA                   | 18-Jul-12          |
| Mountain Warfare (MW)  | SVN       | CZE, DEU, HRV, ITA, MKD, POL, ROU, SVN, AUT   | Begunje na Gorenjskem, SVN  | 27-Nov-15          |
| Naval Mine Warfare (NMW)   | BEL & NLD | BEL, ITA, NLD, POL  | Ostend, BEL                 | 17-Nov-06          |
| Security Force Assistance (SFA)  | ITA       | ALB, ITA, SVN, AUT  | Rome, ITA                   | 30-Nov-18          |
| Space  | FRA       | BEL, CZE, FRA, DEU, GRC, ITA, LUX, NLD, MKD, POL, PRT, ROU, ESP, TUR, GBR           | Toulouse, FRA               | 17-Jul-23          |
| Stability Policing COE (SP)  | ITA       | CZE, ESP, FRA, GRC, ITA, NLD, POL, ROU, TUR   | Vicenza, ITA                | 09-Dec-15          |
| Strategic Communications (STRATCOM)  | LVA       | CAN, DNK, DEU, EST, FIN, GBR, ITA, LTU, LVA, NLD, POL, SVK, USA, HUN, SWE, AUS      | Riga, LVA                   | 01-Sep-14          |
























# NATIONS PARTICIPATING IN COEs

|   | Country | Sponsoring Nation of  | Framework Nation of      |
|---|---------|---|--------------------------|
|    | ALB     | DAT, CCD, SFA   |                          |
|    | BEL     | CCD, JAPCC, MILENG, MILMED, NMW, SPACE  | NMW                      |
|    | BGR     | CCD, CMDR, IAMD, MP   | CMDR                     |
|    | CAN     | CCASCOE, CCD, CJOS, JAPCC, JCBRN Defence, MILENG, STRATCOM  | CCASCOE                  |
|    | CZE     | CCD, CI, C-IED, EOD, HUMINT, IAMD, JAPCC, JCBRN Defence, MILENG, MILMED, M&S, MP, MW, SPACE, SP                                 | JCBRD Defence            |
|    | DEU     | CCASCOE, CCD, CCOE, CI, C-IED, CJOS, CSW, DAT, ENSEC, JAPCC, JCBRN Defence, M&S, MILENG, MILMED, MP, MW, SPACE, STRATCOM        | CCOE, CSW, JAPCC, MILENG |
|    | DNK     | CCASCOE, CCD, CSW, MILENG, STRATCOM   |                          |
|    | ESP     | C2, CCD, C-IED, CJOS, JAPCC, MGEDMETOC, MILENG, SPACE, SP   | C-IED                    |
|    | EST     | CCD, CSW, ENSEC, STRATCOM   | CCD                      |
|   | FIN     | CCD, ENSEC, STRATCOM  |                          |
|  | FRA     | AO, CCASCOE, CCD, C-IED, CJOS, ENSEC, IAMD*, JCBRN Defence, MILENG, MILMED, SPACE, SP   | AO, SPACE                |
|  | GBR     | CCASCOE, CCD, CJOS, DAT, ENSEC, JAPCC, JCBRN Defence, MILENG, MILMED, SPACE, STRATCOM   |                          |
|  | GRC     | CCASCOE, CCD, C-IED, CJOS, CMDR, CSW, HUMINT, IAMD, JAPCC, JCBRN Defence, MARSEC, MILENG, MP, SPACE, SP                         | IAMD                     |
|  | HRV     | CCD, CI, MP, MW   |                          |
|  | HUN     | CCD, CCOE, CI, C-IED, CMDR, DAT, EOD, HUMINT, JAPCC, JCBRN Defence, MILENG, MILMED, MP, STRATCOM                                | MILMED                   |
|  | ISL     | CCD   |                          |
|  | ITA     | CCASCOE, CCD, CCOE, CI, CJOS, CSW, DAT, ENSEC, JAPCC, JCBRN Defence, M&S, MILENG, MILMED, MP, MW, NMW, SFA, SPACE, SP, STRATCOM | M&S, SFA, SP             |
|  | LUX     | CCASCOE, CCD  |                          |
|  | LTU     | CCD, CI, CSW, ENSEC, STRATCOM   | ENSEC                    |

\*: In Process of Joining



|   | Country | Sponsoring Nation of  | Framework Nation of |
|---|---------|---|---------------------|
|    | LVA     | CCASCOE, CCD, CCOE, ENSEC, STRATCOM   | STRATCOM            |
|    | MKD     | CCD, MW, SPACE  |                     |
|    | MNE     | CCD   |                     |
|    | NLD     | C2, CCD, CCOE, C-IED, CJOS, CSW, DAT, JAPCC, MILENG, MILMED, MP, NMW, SPACE, SP, STRATCOM   | C2, CCOE, NMW       |
|    | NOR     | CCASCOE, CCD, CJOS, CWO, MILENG   | CWO                 |
|    | POL     | CCD, CCOE, CI, CMDR, CSW, ENSEC, EOD, HUMINT, JAPCC, JCBRN Defence, MILENG, MILMED, MP, MW, NMW, SPACE, SP, STRATCOM                    | CI, MP              |
|    | PRT     | CCD, C-IED, CJOS, MARSEC, MGEOMETOC, SPACE  | MGEOMETOC           |
|    | ROU     | CCASCOE, CCD, CI, C-IED, CJOS, CMDR, DAT, EOD, HUMINT, IAMD, JAPCC, JCBRN Defence, MARSEC, MGEOMETOC, MILENG, MILMED, MP, MW, SPACE, SP | HUMINT              |
|    | SVK     | CCD, CI, EOD, HUMINT, JCBRN Defence, MILMED, MP, STRATCOM   | CI, EOD             |
|    | SVN     | CCD, CI, HUMINT, JCBRN Defence, MW, SFA   | MW                  |
|    | SWE     | CCD, C-IED, STRATCOM  |                     |
|    | TUR     | C2, CCASCOE, CCD, C-IED, CJOS, CSW, DAT, ENSEC, HUMINT, IAMD, JAPCC, MARSEC, MGEOMETOC, MILENG, SPACE, SP                               | DAT, MARSEC         |
|   | USA     | C2, CCD, CI, C-IED, CJOS, CSW, DAT, ENSEC, HUMINT, JAPCC, JCBRN Defence, M&S, MILENG, MILMED, STRATCOM                                  | CJOS                |
|   | COUNTRY | PARTNER NATION OF   |                     |
|  | AUT     | CCD, JCBRN Defence, MW  |                     |
|  | AUS     | CCD, STRATCOM   |                     |
|  | CHE     | CCD   |                     |
|  | GEO     | ENSEC   |                     |
|  | IRE     | CCD   |                     |
|  | JPN     | CCD   |                     |
|  | KOR     | CCD   |                     |
|  | UKR     | CCD, ENSEC  |                     |

\*: In Process of Joining







## ACT Subject Matter Experts 2024/2025 by CLUSTERS

| 1                                      | 2  | 3                                    | 4                                     | 5   | 6                                |
|--|--|--------------------------------------|---------------------------------------|---|----------------------------------|
| <b>AO COE</b><br>(MDFD CPD)            | <b>CJOS COE</b><br>(CAPDEV CAP OC2)      | <b>C-IED COE</b><br>(MDFD ETPP)      | <b>C2 COE</b><br>(CAPDEV CAP OC2)     | <b>CI COE</b><br>(RM SECURITY)              | <b>CCOE</b><br>(SEE DP DPRD)     |
| <b>IAMD COE</b><br>(SEE CD CAP AIR C2) | <b>CSW COE</b><br>(MDFD LL)              | <b>ENSEC COE</b><br>(CAPDEV CAP LS)  | <b>CCD COE</b><br>(CAPDEV CAP CYBER)  | <b>HUMINT COE</b><br>(CAPDEV CAP JISR JE)   | <b>CMDR COE</b><br>(SPP STRTPLP) |
| <b>JAPCC</b><br>(SEE CD CAP AIR C2)    | <b>MARSEC COE</b><br>(CAPDEV REQ5)       | <b>EOD COE</b><br>(CAPDEV CAP LS)    | <b>CWO COE</b><br>(SPP STRTPLP)       | <b>DAT COE</b><br>(SPP STRTPLP)             | <b>SFA COE</b><br>(MDFD JD)      |
| <b>SPACE COE</b><br>(CAPDEV CAP SPACE) | <b>MGEOMETOC</b><br>(CAPDEV CAP JISR JE) | <b>MILENG COE</b><br>(CAPDEV CAP LS) | <b>JCBRN-D COE</b><br>(SPP NSPC)      | <b>MP COE</b><br>(MDFD CPD)                 | <b>SP COE</b><br>(MDFD CPD)      |
| <b>M&amp;S COE</b><br>(MDFD MSLT)      | <b>NMW COE</b><br>(MDFD CPD)             | <b>MW COE</b><br>(MDFD EW)           | <b>MILMED COE</b><br>(CAPDEV CAP MED) | <b>STRATCOM COE</b><br>(CAPDEV CAP JISR JE) | <b>CCAS COE</b><br>(SPP SF)      |





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