



# 2019

## COE CATALOGUE

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# **NORTH ATLANTIC TREATY ORGANISATION**

## **SUPREME ALLIED COMMANDER TRANSFORMATION**



It is a great honour to present you the 2019 version of the Catalogue, which presents our NATO Accredited Centres of Excellence (COEs). With the North Atlantic Council endorsement of the NATO Security Force Assistance COE in Rome in the fall of this year, the NATO COE family has now grown to 25 accredited COEs and more are under development. This NATO COE Catalogue offers basic information on the NATO COE Concept and on HQ SACT's relationship with the COEs together with a complete overview of all NATO COEs.

Today's complex, nonlinear security environment is defined by speed and interdependence. Complexity means that, the world has become less predictable. We must be ready to face every scenario, in accordance with the Alliance's core tasks laid out in NATO's Strategic Concept.

Allied Command Transformation (ACT) is leading the transformation of military structures, forces, capabilities, and doctrines throughout NATO. NATO COEs' ability and potential to deliver innovative ideas and timely

expertise make them critical actors in bridging the current and future posture of the Alliance. Their tailored subject matter expertise and support to the NATO Command Structure, NATO Force Structure and other separate NATO entities is indispensable. ACT's warfare development efforts will leverage the strength of the COEs to ensure future interoperability and maintain our warfighting edge.

ACT has adapted our headquarters' ability to coordinate, cooperate with, and support the COEs by implementing a new COE Programme Development Branch. The aim of the Branch is to ensure that COEs are recognized as the Alliance's expertise providers who support NATO's operations and warfare development in a timely and effective manner.

NATO needs the NATO COEs to continue being independent thinkers who utilize their broad international network of experts, in developing consistent innovative solutions to address both current and future Alliance challenges.

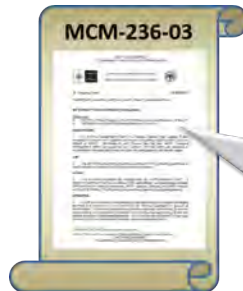
I applaud the efforts of the COE Framework, Sponsoring and Contributing Nations. I am also thankful for their significant contributions to NATO's Transformational efforts. I look forward to another productive year working with all the COEs to derive the full benefit of Nations contributions.

André Lanata  
General, French Air Force  
Supreme Allied Commander Transformation

# What is a NATO COE?

## Background

The idea for NATO COEs originated in MC 324/1, "The NATO Military Command Structure," dated 14 May 2003. The Military Committee refined this idea into MCM-236-03; "MC Concept for Centres of Excellence (COE)" dated 04 Dec 2003. Once the idea and the concept were firmly established, the accreditation criterion was defined. In 2004, IMSM-0416-04, "NATO COE Accreditation Criteria" was agreed on and the first NATO COE was formally accredited on 01 Jun 2005.



A COE is a nationally or multinationally sponsored entity, which offers recognised expertise and experience to the benefit of the Alliance, especially in support of Transformation.

...  
A COE is not part of the NATO Command Structure...



## Definition of a NATO COE

"A COE is a nationally or multi-nationally sponsored entity, which offers recognised expertise and experience to the benefit of the Alliance, especially in support of transformation." A COE is not part of the NATO Command Structure (NCS), but forms part of the wider framework supporting NATO Command Arrangements (NCA)

## Principles

- » 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.

## Resources:

The makeup and characteristics of the COEs are unique to each one. Key points of interest:

- » 1-21 Sponsoring Nations (SN).
- » 26 of 29 NATO nations and 4 Partner Nations participate in COEs.
- » Manning from 16 to 89 posts.
- » Operating costs per position: 6K to 25K €.
- » Total manning is approximately 1282 billets/980 filled for 25 accredited COEs.

There are many reasons why a nation or nations, as Framework Nation (FN) 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 consistently 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 Structure is supported by robust network of COEs, which are nationally or multi-nationally managed and funded and open for participation by NATO and Partner nations.





## COE Q&A

### Are COEs part of NATO?

The MC Concept states, “A COE is not part of the NATO Command Structure, but forms part of the wider framework supporting NATO Command Arrangements”. We may say metaphorically that NATO accredited COEs have one foot within NATO (because they are “part of the wider framework supporting NATO Command Arrangements” and because they are activated as NATO Military Bodies) and they have one foot outside NATO (because they are “not part of the NATO Command Structure” or of the NATO Forces Structure). This gives COEs great flexibility in the relationships with other international and civilian entities.

### Where does the COE idea come from? Can NATO “initiate” a COE?

The idea for a COE generally can come from either NATO or an Alliance Nation. If the idea comes from NATO, it is resulting from an identified capability shortfall. If the idea comes from an Allied Nations, it may not necessarily be directly related to capability shortfalls, yet be beneficial for NATO.

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

A NATO COE is a COE that has been accepted and accredited by the Military Committee. During the accreditation process, the COE can request from the NAC to be granted the status of a NATO Military Body, and thus granting it 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 NATO. In fact, COEs are “not part of the NATO Command Structure” they are owned by their sponsoring nations.

### How does NATO request COE products and services?

NATO can ask the COEs by submitting a Request for Support (RFS) in the Programme of Work (POW) tool, through a process entitled the COE POW Development Cycle (Page 40).

### Can Nations join / withdraw from a COE after it is NATO-accredited?

Yes, they can. The addition of any new Sponsoring Nation (SN) to a COE is done through a Note of Joining (NOJ), to be signed by the joining Nation and the already participating SNs. Unless otherwise specified; the NOJ will come into effect on the date of the last signature. Any SN may withdraw from the COE giving the twelve months written notice to all other SNs and by informing the Director and Steering Committee (SC) in writing.

### Are the COEs eligible for common funds?

In short, COEs are to be funded by the Sponsoring Nations. However, there are provisions allowing for the potential use of Common Funding, but only in exceptional circumstances, which have not been clearly defined. Decision by the MC on a case-by-case basis.

### Can Partner Nations join COEs?

Yes, they can. Partner Nations can join NATO 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 right in the Steering Committee (SC). These relationships should be managed by the COEs on case by case basis, taking into account security aspects.

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

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

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

Each COE has its own homepage. In addition, you can find information about the COEs in general at <http://www.act.nato.int/centres-of-excellence> and more details at <https://portal.transnet.act.nato.int/Pages/home.aspx> (You need to sign up for a TRANSNET account)



## TNB's COE Annual Report for 2018

The following two pages provide information about the key COE events that took place in 2018. Throughout 2018, ACT continued to work diligently to expand the NATO COE network. The number of NATO accredited Centres of Excellence (COE) continues to grow and the 25th NATO COE received its NATO accreditation in November 2018; Security Force Assistance Centre of excellence (SFA COE) in Rome, ITA became the 25th NATO COE. An additional three offers or potential offers to establish new NATO COEs are currently being processed.

Based on the inputs of various NATO Command Structure HQs and ACT divisions and branches, the Transformation Network Branch developed an updated list of desired new NATO COEs. This list was shared with the NATO Nations, resulting in positive interest from nations who are consider establishing new COEs, despite the increased need for personnel in the NATO Command Structure.

TNB also started reviewing the base-line documents for NATO COE: MCM 236, Bi-SC 80-1 and ACT directive 80-3. The draft MCM 236 is submitted for Military Committee analysis. In 2018 one of TNB's main objective was to further tightening the relationship between NATO Command Structure and NATO's accredited COEs. Another important objective was and still is, to increase NATO, NATO Nations and partner's awareness and knowledge

about NATO COE and their contribution to NATO's Transformation. Promoting NATO COEs is a continuing effort, performed in close cooperation with the individual COE.

### The 2018 Centres of Excellence Directors' Conference

The aim of the annual Centres of Excellence Director's Conference is to provide the primary venue to foster interaction between COE Directors and, upon invitation, equivalent representatives from NATO Bodies and Multinational Organisations. To inform them about recent developments, compare experiences and share best practices. Discuss mutual support and cooperation, and provide a forum for an exchange of views on the way ahead, thus facilitate directors' networking in order to increase the individual and collective effectiveness of the Centres.

On 9-11 July the Joint Chemical Biological Radiological & Nuclear Defence Centre of Excellence hosted the 2018 Centres of Excellence Director's Conference, in Prague, Czech Republic. The Conference was co-chaired by ACT TNB Branch Head, Colonel Roberto Esposito and by NATO JCBRND COE Director, Colonel Vratislav Osvald. Czech Republic Deputy MOD Jakub Landovsky attended the morning session of the first day and gave the opening remarks, praising the COEs' contribution to the Alliance. Deputy Supreme Allied Commander Transformation, Admiral Manfred Nielson, Deputy Chief of Staff Capability Development, Lieutenant General Jeffrey Lofgren, Assistant Chief of Staff Joint Education Training and Exercise Brigadier General Athanasios Tsouganatos and Mr. Robert Weaver as NATO HQ Representative were engaged in a fruitful discussions with the COE Directors. Among the topics were NATO Command Structure Adaptation, the new Centres of Excellence Programme Development (CPD) Branch, how this adaptation could affect future coordination and cooperation of COEs Program of Work and other COE topics. The Mountain Warfare COE in Begunje na Gorenjskem, in Slovenia, will host next year's COE Director's Conference in June 2019.

### NATO Command Structure Adaptation

The COEs contribution to NATO Command Structure (NCS) Adaptation process is focused on future relationship between NATO COEs and NATO entities. NCS adaptation result in an increase need for the Subject Matter Expertise (SME) in COEs and also need for NATO to have assured access to the COE which has led to a need for revision of the MC concept for COEs (MC 236) to adapt it to be in line with the needs of the new NCS.

TNB has specifically contributed to the discussion about optimizing the use of COEs in the future NATO Command Structure. TNB has initiated a review of strategic documents governing NATO - NATO COE relationship as part of NATO Command Structure Adaptation process with the aim of creating increase commitments and obligations between NATO and the NATO COEs.

The TNB branch will be transformed into COE Programme Development (CPD) Branch by 2019. Further information about the new branch is available on page 69.



## Revision of MCM 236-03

NATO COE are NATO-accredited, MOU-based, national or multi-national sponsored entities, which offer recognised expertise and experience to the Alliance—primarily in support of Warfare Development but also, possibly, in support of Warfighting. COEs play an important role in a wider framework supporting NATO Command Arrangements, by establishing associated Communities of Interest and leveraging their pool of internal and external experts. While maintaining the founding principles of the overall very successful NATO COE construct, it was assessed and generally agreed in the NCS Adaptation Report, that the NCS requires more support from and assured access to the 4 pillars of NATO COEs (Lessons Learned, Doctrine development, Training and Exercises, and Concept development). HQ SACT was tasked to submit a first draft of a revised MCM 236-3 (The NATO COE Concept) this summer to DIGIMS.

## COE Accreditation and Periodic Assessment

In 2018 TNB provided advice and assistance throughout the accreditation process of the NATO Security Force Assistance COE (SFA COE). This is the 25th NATO COE, and the 3rd COE, in which ITA serves as a Framework Nation. TNB also continued to conduct Periodic Assessments of NATO COEs. These assessments are needed to ensure that the products and services provided by NATO COEs remain consistent with the quality, standards, practices and procedures within NATO. Five COEs were periodically assessed in 2018 and all of the assessments resulted in a positive outcome.

## NATO – EU co-operation through NATO COE

It is NATO's intention to strengthen the ties of cooperation with EU. In this context, NATO wants COEs to be a key tool in the construction of these NATO-EU relations. That is why ACT has asked the COE to ask the nations for their willingness to allow an observer from EU in their SC. Examples; EU has taken steps to make this cooperation more fluid and effective. EU has designated CMDR COE as Discipline leader for "Military contribution to EU Disaster Response, Humanitarian Assistance and Civil Protection" military training discipline. CSW COE is nominated as Discipline Leadership for EU Discipline "Military Role to Maritime Security".

## New COE Program of Work tool

To improve the coordination between NATO and COEs, HQ SACT has implemented a new online tool for continuous submission and coordination of NATO's request for support (RFS). This online tool is hosted on TRANSNET (unclassified restricted access Internet), and offers a possibility to continuously submit and review RFSs, which provide increased flexibility and visibility over the COE POW development. There were no COE POW Workshops conducted in 2018. For 2019, HQ SACT coordinated 165 unique RfSs, which resulted in 503 individual RFSs NATO COEs.





# NATO AIR OPERATIONS CENTRE OF EXCELLENCE (AO COE)



## Director's Message

*Air Operations (AO) encompass a vast domain that directly supports political end states with joint military effects. As Commander of the Air Operations CoE, I proudly "take the stick" of this accomplished, professional Centre to face multiple NATO challenges including: day-to-day maintenance of Air C2 courses, development of Air C2 systems, analysis of lessons from recent air operations and support of Joint Air Power doctrine development. As it has done to this day, the Air Operations CoE will continue using its robust, eclectic Programme of Work, 20-years of organisational experience and deep operational background to support NATO and its partners. Now and into the future, technically and operationally, we will provide premier capabilities across the Air Operations domain.*



COL Yann VILLEVIELLE

## Mission Statement

To enhance air operations effectiveness across NATO Command Structure (NCS), NATO Force Structure, with NATO partners and to support development of air operations capabilities, concepts and doctrine.

## Who We Are

NATO's Air Operations CoE is a multi-national manned, French funded organization which draws on experience and skills within air operations, technical simulation and Air C2 systems domains. AO CoE manning includes highly-trained resident officers from the French Air Force, Army and Navy, as well as Italy and the United States, in order to provide a diverse, joint air operations perspective to all AO CoE activities.

## Vision

The Air Operations CoE aspires to provide NATO with primary tactical training and expertise in the Air Operations domain and to cover the full-spectrum of NATO's Air Operations discipline through courses listed in NATO's Education and Training Opportunities Catalog (ETOC). Working closely with ACO and ACT, AO CoE provides world-class education and training to joint, multi-national warfighters who plan, task, command and control air operations. These warfighters contribute to C2 experimentation in the technical realm as well as concept and doctrine development, shaping the future of the Air Operations domain.

In support of education and training, AO CoE provides state-of-the-art courses including Current ops room simulation capabilities. This room is capable of training up to 35 students with large-scale, 250-sortie CAX scenarios, and can host complex air operations exercises with up to 100 Current ops positions.

In line with HQ AIRCOM requirements, AO CoE will continue to execute the responsibilities of Air C2 systems Department Head with the support of a dedicated IT department and technical infrastructure. Seeking to continually enhance its products, AO CoE works closely with NFS JFACs, international militaries, industry, governmental and non-governmental agencies.



## Major Products and Activities in 2018

### Major activities carried out in 2018 by the Air Operations CoE:

- » delivered over 60 courses including via mobile training teams, educating and training more than 950 personnel from 44 NATO and partner nations;
- » after expanding its multi-nation JFAC exercise capability, AO CoE designed, planned and implemented a 4-day bilateral Air C2 JFAC theatre level computer assisted exercise;
- » supported the NRF preparedness by educating, training and contributing Air C2 SMEs to training events. Provided continued support for the Alliance Future Surveillance and Control Capability task force;
- » upgraded its technical infrastructure: the new technical infrastructure for Computer Aided Simulation increases workstation support by 160% (130 workstations possible simultaneously); the projection capability in all classrooms





changed from projectors to touchscreen video walls that enhance /student-teacher interaction;

- » provided guidance for the Allied Command Operations joint targeting community both as an SME and training provider;
- » collaborated with the NATO Scientific Technology Organisation (STO) through membership in the NATO Modelling and Simulation Group (NMSG);
- » developed an Air Operations Community of Interest and work with the Joint Air Power Competence Centre (JAPCC) through the JALLC Sharepoint Portal;
- » contributed to 12 Allied Joint Publications, 1 Air Intelligence Publication and 4 Tactical Publications related to Air Operations supported SHAPE and AIRCOM in capturing training requirements, offering optimal training opportunities and cooperating with NCIA, the NCS and ACT;
- » as the DH for Air C2 systems appointed by NATO, contributed to the ongoing transformation of the Air Operations Discipline.



## Major Products and Activities in 2019

### As for major activities scheduled for 2019, AO CoE will:

- » deliver 64 training events and welcome roughly 1000 students;
- » undergo the periodic Quality Assurance Accreditation in order to maintain unconditionally accredited status;
- » seek to understand and document Air C2 beyond 2022, the tools, structure and capabilities, as well as possible roadblocks and pitfalls as AO CoE progresses towards that point;
- » continue to contribute to future Air C2 systems development, test and evaluation;
- » provide guidance for the Allied Command Operations joint targeting community both as an SME and training provider;
- » contribute to planning and testing of the E-JFAC concept and discussions on the integration of artificial intelligence within the JFAC and the E&T environment;
- » share vision and expertise with the NATO Scientific Technology Organisation (STO) through membership in the NATO Modelling and Simulation Group (NMSG);
- » feed Lessons Learned process from exercises and operations both national and multinational directly supporting the JALLC;
- » support SHAPE and AIRCOM in capturing training requirements, offering optimal training opportunities and cooperating with NCIA, the NCS and ACT.
- » national and multinational directly supporting the JALLC;
- » support SHAPE and AIRCOM in capturing training requirements, offering optimal training opportunities and cooperating with NCIA, the NCS and ACT.



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*Technologies and threats in cyberspace are becoming more sophisticated and complex. The NATO-accredited cyber defence hub is expanding its reach and pool of expertise to be on top of this dynamic domain. We need to share more insight and keep bringing like-minded nations together. Our aim is to be champions in cooperation. The unique flagships of CCDCOE have helped to build trust and collaboration in the cyber defence community, and these efforts must continue. As an international military organisation, guidance and practical deliverables of our Centre should reach military staff at all levels, from strategic to tactical.*

**Colonel Jaak Tarien**

## Mission Statement

NATO CCDCOE's mission is to support its member nations and NATO in the fields of cyber defence research, training and exercises. The Centre provides cyber defence expertise in the fields of technology, strategy, operations and law, often in an interdisciplinary manner. The CCDCOE embodies and fosters the cooperation of like-minded nations in cyber defence. Our member nations are allies in NATO and like-minded partners beyond the Alliance.



## Who We Are

The NATO Cooperative Cyber Defence Centre of Excellence (CCDCOE) is a NATO-accredited knowledge hub offering a unique interdisciplinary approach to the most relevant issues in cyber defence. This Tallinn-based cyber defence hub conducts research, trainings and exercises in four core areas: technology, strategy, operations and law. The heart of the Centre is a diverse group of international experts from military, government, academia and industry, representing currently 21 member nations. Almost half as many nations are aspiring to become member in the years to come.

## Research Areas

Among other relevant research topics CCDCOE experts are currently carrying involved in the analysis of autonomous features of cyber operations, digital forensics, protection of critical infrastructure, Cyber Command and Control, cyber deterrence, cyber effects in battlefield and attribution.

CCDCOE is home of the Tallinn Manual 2.0, the most comprehensive guide for policy advisors and legal experts on how International Law applies to cyber operations carried out between and against states and state actors. An invaluable analysis by an international group of renowned scholars published in 2017, continues to inspire both academic research and state practice. The Tallinn Manual process continues with a legal, technical, strategic and operational assessment of cyber scenarios with an aim to publish a practical reference material for Cyber Commands.

Most of the Centre's publications and research papers are available online (Cyber Defence Publications Library on the Centre's website). A database of national cyber security strategies, the International Cyber Developments Review and comprehensive overviews of national cyber security organizations are also made available.

## Education and Training

CCDCOE promotes lifelong learning in cyber security. Our training courses are based on our latest research and cyber defence exercises. We are committed to continually improving our training offerings to address the changing needs of the ever-developing cyber security field.

As of January 2018, CCDCOE is responsible for identifying and coordinating education and training solutions in cyber defence for all NATO bodies across the Alliance. NATO Allied Command Transformation has provided CCDCOE with an unconditional quality assurance accreditation for its contribution to high-quality NATO Education and Training.

To best meet the training requirements of our Allies, Partners and NATO as a whole, we provide courses in different formats and locations, covering a broad range of topics in the technical, legal, strategic and operational cyber security domains.

### CCDCOE Training Courses in 2019:

#### Strategic Training

- » Executive Cyber Seminar

#### Operational Training

- » Critical Information Infrastructure Protection Course





- » Operational Cyber Threat Intelligence Course
- » Cyber Planning at Operational Level Course

### Legal Training

- » International Law of Cyber Operations Course

### Technical Training

- » Malware and Exploits Essentials Course
- » Cyber Defence Monitoring Course Suite (three modules)
- » IT Systems Attacks and Defence Course
- » Botnet Mitigation Course
- » Introductory Digital Forensics Course
- » Web Applications Attack and Defence Course
- » Industrial Control Systems Security Course
- » Smartphone Security and Forensics Course



## Locked Shields

Locked Shields is a unique international cyber defence exercise offering the most complex technical live-fire challenge in the world. The annual exercise enables cyber security experts to enhance their skills in defending national IT systems and critical infrastructure under real-time attacks. The focus is on realistic scenarios, cutting-edge technologies and simulating the entire complexity of a massive cyber incident, including strategic decision-making, legal and communication aspects. More than 1000 cyber experts from 30 nations took part in Locked Shields 2018. In addition to new critical infrastructure components it included also a strategic game, enabling participating nations to practice the entire chain of command in solving a large-scale a cyber incident.

## Crossed Swords

Crossed Swords is the technical red teaming cyber defence exercise of CCDCOE, training penetration testers, digital forensics professionals, situational awareness experts that fill the role of the attacking team at Locked Shields. In 2018 Crossed Swords took place in Latvia in cooperation with CERT.LV, expanding considerably in scope and complexity, covering several geographical areas, involving critical information infrastructure providers and cyber-kinetic engagement of military units.

## CyCon

The annual International Conference on Cyber Conflict hosted by CCDCOE addresses the most relevant issues concerning the international cyber defence community. CyCon has become a community-building event for cyber security professionals, adhering to the highest standards of academic research and bringing to Tallinn around 600 decision-makers, opinion-leaders, top military brass, law and technology experts, from the governments, military, academia and industry of around 50 countries. In 2018 the event focused on the theme of maximising effects in the cyber domain. Keynote speakers included H.E. Kersti Kaljulaid, the President of Estonia, Alex Stamos, Chief Security Officer of Facebook, Dr. Antonio Missiroli, NATO Assistant Secretary General on Emerging Security Challenges, H.E Toomas Hendrik Ilves, former President of Estonia, Thomas Dullien, Staff Software Engineer at Google Zero and many others distinguished experts. In 2019 the 11th CyCon will take place from 28 to 31 May on the theme of "Silent Battle."



## Member Nations

To date the Centre is staffed and financed by 21 member nations: Austria, Belgium, the Czech Republic, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, the Netherlands, Poland, Portugal Slovakia, Spain, Sweden, Turkey, the United Kingdom and the United States. Australia, Bulgaria, Denmark, Japan, Norway, Romania and many others are also on the path of joining the Centre.

## NATO CCD COE Contact Information

### Contact:

NATO Cooperative Cyber Defence Centre of Excellence

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

### Director's Message

*The North Atlantic Alliance as well as individual western countries are facing complex and evolving security challenges that increase overall global instability and result in rising extremist violence, humanitarian suffering, and reduced personal freedoms. More and more aggressive authoritarian regimes, no longer bound by international rules and terrorist organizations with ambitions to be perceived as independent state undermine our democracies. These ever-evolving challenges, all the time shaped by hostile intelligence services, require long-term planning, well considered and very strong preventive action which subsequently increase 'strategic immunity' at the national and supranational level. In this context, counter-intelligence seems to be a vital part of this 'immune system' with the ability to quickly detect and neutralized the major part of the exposure risks. However, only 'open-minded' counter-intelligence, ready to act in a constantly changing environment including the virtual world has a capability to tackle existing and future threats.*

*The NATO Counter Intelligence Centre of Excellence (CI COE) is an important element in the unified Alliance's efforts to reduce a destructive influence of hostile intelligence services. It serves 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 cyber and hybrid threats.*



**COL Robert BALA**

## Mission Statement

The NATO Counter-Intelligence Center of Excellence will enhance counter-intelligence capabilities, foster interoperability and provide comprehensive subject matter expertise to the Alliance, its Nations, and its Partners in order to increase overall global stability and reduce the impact and scope of hostile intelligence efforts.

## Who We Are

The NATO CI COE was established in 2015 under the Paris Protocol and formally opened, after the accreditation process, in 2017. The Centre is located in Krakow, Poland and has access to the training facility in Lest, Slovakia. Poland and Slovakia are the Framework Nations, while Croatia, Czechia, Germany, Hungary, Italy, Lithuania, Romania and Slovenia are the Sponsoring Nations. Additionally, the status of observers has been granted to France and the United States. The latter has already started the accession process. NATO CI COE undertakes efforts to harmonize NATO CI publications, to integrate best practices, and to serve as a hub for CI expertise enabling NATO forces to achieve the highest levels of interoperability and integration. The substantial part of our efforts is focused on education and training what's really appreciated by the CI community.

## Vision

The NATO CI COE acts as a catalyst for counter-intelligence aspects NATO Operation, exercises, policies, concepts and strategies, and actively engages in many aspects of the Alliance's counter-intelligence activities. It provides counter-intelligence focused courses, seminars, conferences and workshops in an effort to establish a Counter-Intelligence Community of Interest within the NATO Command Structure, NATO Force Structure and NATO Nations. The NATO CI COE supports the development, promotion and implementation of new policies, concepts, strategies and doctrines that transform and enhance NATO counter-intelligence capabilities and interoperability.



## Key Products and Activities

### 2018

In 2018 the NATO CI COE focused on the development of various projects on education and training, doctrine development and lessons learned.

Within the education and training domain, the Centre's activity focused, on the one hand, on the conducting of the NATO CI Course with the "NATO Selected" accreditation, and on the other hand, on a significant development of the training offer by preparing highly specialized courses to support NATO CI Community. In 2018, for the first time, the Mobile Education and Training Team (METT) was activated to conduct two training projects in Slovakia. The CI COE has also actively supported the CI oriented exercise Steadfast Interest 2018 held in September in Romania.





In the field of doctrine development and standardization, a new NATO CI publication, namely AlntP-19, was offered. The development process has been initiated. The draft was consulted within the NATO CI community; based on the agreement achieved, the Study Draft 1 was prepared and sent to Nations for comments.

The NATO CI COE learned from concept development and experimentation projects the importance of technological innovations and their utilization in support of CI activities. To introduce the identified unique solutions to national subject matter experts, the Centre organized its 1st thematic Workshop.

The Centre took also responsibility for the CI Lessons Learned Community of Interest to harmonize the NATO CI LL activities among NATO Nations, based on their willingness to exchange information on Lessons Learned and Best practices.



## 2019

### Education and training

1. Conduct advanced training through delivering of counter-intelligence focused courses to individuals from senior military and civilian leadership to staff level, as well as units and teams;
2. Facilitate the collaboration between relevant NATO COEs, committees and working groups on CI issues related to NATO's effort to defeat or counter human and cyber threat networks;
3. Support the Steadfast series of exercises through development, design and execution;
4. Enhance standardization and interoperability within the alliance in support of NATO operations by providing CI related courses.

### Doctrine & Standards

1. Provide custodianship for drafting and ratification of AlntP-19.
2. Support the development and harmonization of NATO CI policies, doctrines and other publications.

### Concept Development & Experimentation

1. Development of tools/standards for CI Operators, in relation with AlntP—19 by a continuous research activity within technology and methodology domains;
2. Organize Innovational Workshop series;
3. Experiment of NATO CI COE products.

### Analysis & Lessons Learned

1. Provide subject matter expertise in counter-intelligence courses and exercises as well as to advice on NATO member's requests
2. Facilitate the comprehensive approach and make the best use of combined experience and capabilities of all Sponsor Nations and NATO members;
3. Provide a repository for International, National and NATO shared information, analysis and lessons learned in counter-intelligence in close cooperation with Joint Analysis and Lessons Learned Centre (JALLC) – NATO LL CI COI.

### NATO CI COE's Sponsoring Nations

The Framework Nations: Poland and Slovakia

Sponsoring Nations: Croatia, Czechia, Germany, Hungary, Italy, Lithuania, Romania and Slovenia

Observers: France, the United States

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

### Director's Message

*Other than providing C-IED support to NATO and Sponsoring Nations on a daily basis, the main focus of the C-IED CoE in 2019 is to continue with the institutionalization of C-IED within International community.*



Colonel Jose A. Cruz Moro

### Mission Statement

The C-IED CoE mission is to provide subject matter expertise in order to support the Alliance, its Partners, and the International Community in the fight against IEDs and to co-operate to increase the security of Allied Nations and all of the troops deployed in theatres of operations by reducing or eliminating the threats from improvised explosive devices used by terrorists or insurgents.

### Who We Are

The C-IED CoE is organized into three pillars: Attack the Network, Defeat the Device and Prepare the Force, and has a staff over 60 people, of which more than 40 are subject Matter experts in the field of C-IED.

### Vision

The vision of the CoE is to use a comprehensive approach to face the challenge, with the support of not only military personnel, but also the contribution from law enforcement, police, intelligence community and civilians from Academy and research & technology industry. The synergy of all these elements will contribute to the defeat of both terrorist /insurgent networks using IEDs and IEDs themselves. Moreover, to consider IED environment as inherent part of future hybrid warfare scenario and part of the necessary future planning process at all levels.



The C-IED CoE is the natural venue for all C-IED issues within NATO area. Its director chairs and participates in related working groups of both NATO and the European Defense Agency (EDA), in order to create synergies between both organizations.

### Our five goals are:

- » Improve the C-IED CoE as an organization capable of establishing relationships with organizations to exchange information to Attack the Network (AtN) and Counter Threat Network (CTN) operations.
- » Establish the C-IED CoE as the training and education subject matter experts (SME's) for C-IED related activities.
- » Establish the C-IED CoE as the out of theatre lessons learned coordinator for C-IED related activities.
- » Become one of the focal points for the generation of modern defense technology military capabilities in C-IED related technologies, capabilities and knowledge.
- » Achieve a robust capability to communicate and exchange IED and C-IED information with other organizations.

### Key Products and Activities

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

- » Foster C-IED interagency information sharing
- » Conduct a C-IED Interagency Workshop
- » Keep on supporting NATO Human Network Analysis in support of Targeting (HNAT) development
- » Provide support to NATO Defense Against Terrorism Program of Work (DAT POW)
- » Support development electronic Military Training and Exercise Programme (E-MTEP), support and maintain Education & Training Opportunities Catalogue (ETOC) and Partnership Real-time Information, Management and Exchange System (ePRIME)
- » Develop Advanced Distributed Learning (ADL) tools in support of C-IED and courses





- » Custodianship for STANAG 2294, STANAG 2295 and STANAG 2637
- » Support C-IED related doctrine development and review
- » Keep on supporting the NATO Biometrics and Technical Exploitation Concepts development
- » Support NATO initiatives and work strands (RTO SCI 243, SCI 233, SCI 256)
- » Support Partner Nations in their CIED doctrine development process.

### Support to Lessons Learned and Analysis Activities

- » Provide C-IED related advice to operations and partners with Mobile Advisory Teams (MAT)
- » Act as C-IED Community of Interest content manager on NATO Lessons Learned Portal (NLLP)
- » Maintain and improve C-IED Lessons Learned process
- » Analyze new threats, trends, along with Tactics Techniques and Procedures (TTPs)
- » Conduct technical and intelligence analysis in support of C-IED Community of Interest
- » Supervise the “out-of-the-theatre C-IED Lessons Learned process” and incorporate results of TTP analysis and LL in NATO training activities/solutions.

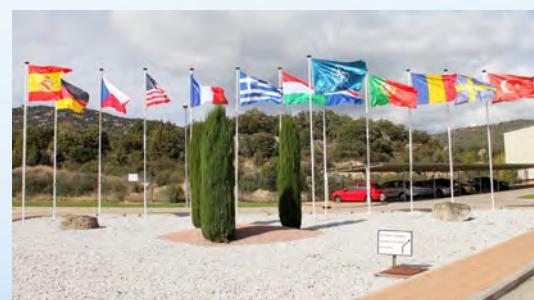


### Support to Technologies, Experiments and Information Management

- » Assess technological developments to defeat the IED
- » Analyze current and emerging IED trends to identify potential solutions
- » Provide anticipatory analysis regarding Global IED threats and related Threat Networks.
- » Support C-IED enablers’ concept of employment development and technical exploitation
- » Provide technical advice on explosive threat and C-IED technologies
- » Collaborate with other organizations (e.g. EDA, UN, BKA and JIDO), in R&D projects
- » Collect / assess / analyze information regarding C-IED to develop and maintain a C-IED Equipment Database
- » Conduct the EOD Demonstrations and Trials and Technological Workshop in cooperation with the EOD CoE.

### Support to Education & Individual Training

- » Conduct the related tasks of DH for training for C-IED within NATO
- » Develop, conduct and support courses in collaboration with NATO and other organizations
- » Develop and conduct C-IED courses in support for partners (Non Classified, e.g. Defence Capacity Building activities)
- » Organize and conduct C-IED related Mobile Training and Advisory Teams (MTT & MAT)
- » Conduct Senior Leadership Seminars and / or Engagement (SLS & SLE) for NATO
- » Support NATO Command Structure (NCS) / NATO Force Structure (main) exercise
- » Supervise the “out-of-the-theatre C-IED Lessons Learned process” and incorporate results of TTP analysis and LL NATO training activities/solutions.



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## NATO CIVIL-MILITARY COOPERATION CENTRE OF EXCELLENCE (CIMIC COE)



### Director's Message

*CIMIC in 360 degrees is a cross-cutting, joint function and must be an integral part in every kind of operation from the strategic down to the tactical level. CIMIC includes all our military and civilian stakeholders, as well as the general public and media, both at home, as well as in deployments.*



COL (GS) Wolfgang PAULIK

## Mission Statement

To assist NATO, Sponsoring Nations (SN) and other military and civilian institutions/organizations in their operational and transformation efforts in the field of CIMIC and Civil-Military Interaction (CMI).

## Who We Are

The CCOE was granted the title of a NATO accredited Centre of Excellence, on 31 July 2007 and is located in The Hague, the International City of Peace and Justice, to enhance comprehensive engagement with national and international stakeholders. It is the objective of the CCOE to incorporate a large variety of Sponsoring Nations, as this will further the knowledge and expertise available from the CCOE.

## Vision

The CCOE is the preferred network campus to connect people and share collective knowledge of Civil-Military Interaction to gain unity of purpose of people dedicated to respond to mission challenges.

## Key Products and Activities in 2018

- » CIMIC Award of Excellence 2018, June 7<sup>th</sup>, The Hague (during COMMON EFFORT 2018).
- » Strategic Initiative Direction South: Projecting stability. Cluster approach Joint Community-of-Interest Conference with SFA COE, M&S COE, NSD-S HUB, NATO Defense College and non-military partners in Rome, Italy, preceded by Annual Discipline Conference. Department Head for NATO CIMIC and custodian for NATO CIMIC doctrine contributing to partners.
- » Execution of internal as well as external NATO CIMIC/CMI courses.
- » Contribute to and revision of CIMIC/CMI requirements, procedural foundations, concept development, planning documents and tactical procedures.
- » Support to selected exercises with CIMIC/CMI expertise (e.g. JOINT COOPERATION 2018).
- » Implementation of Cross Cutting Topics within CIMIC (e.g. Protection of Cultural Property, Protection of Civilians, Building Integrity, Gender). Revision of course landscape, especially to cover countering Hybrid Threats / building resilience topic and to including state-of-the-art scenarios and vignettes, ensuring best possible trained CIMIC personal for NATO command and force structure.
- » Disciplinary Leadership for CIMIC in EU, starting 2018. Standardization of products for NATO: AJP 3.19 to be promulgated with the CIMIC Handbook to be revised to ensure best possible standardization of the CIMIC capability in NATO.
- » Support of NATO Command Structure: Exercise support Steadfast Pyramid & Pinnacle, CREVAL of tactical CIMIC units, especially the CSU VJTF, utilizing Integrity Building topic for practical military use.
- » Comprehensive Analysis: build a platform to link analysts and decision makers from different stakeholder positions and to create a common understanding on a comprehensive analysis of the civil environment.





- » Providing a three day training, delivered by the Joint Analysis and Lessons Learned Centre (JALLC), intended to improve NATO CIMIC Lessons Learned through the analysis of different structures, tools and processes.
- » Improve the capabilities of military organizations to share information with civilians, and to manage and use information regarding the civil environment effectively, efficiently and appropriately.

## Key Products and Activities in 2019

- » CIMIC Keyleader Conference in combination with Community of Interest Conference in Tirana, Albania (27<sup>th</sup> – 31<sup>st</sup> May 2019).
- » Annual Discipline Conference in The Hague, The Netherlands
- » 2019 CIMIC Award of Excellence.
- » Development of NATO CIMIC / CMI VISION 2025.
- » Development of a CCOE VISION 2025.
- » Change of Command CCOE (27<sup>th</sup> June 2019).
- » Support of NATO Command Structure: Steadfast Pyramid and Pinnacle 19; CMX 19, Trident Jupiter 19
- » Establish function Disciplinary Leader CIMIC for the EU and finalize Training Needs Assessment (solutions)
- » Develop a CIMIC Lessons Learned Concept and a CIMIC Lessons Learned Community of Interest.
- » CIMIC Lessons Learned Workshop (October 2019)
- » Develop a Civil Military Information Management Concept.
- » Civil-Military Information Management Workshop (June 2019)



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

### Director's Message

As NATO continues to adapt to the strategic landscape, the effective conduct of operations at sea, and from the sea, remains vital to the Alliance's continued success. As the NATO COE dedicated to developing our collective ability to conduct these operations, CJOS COE provides maritime strategic foresight and brings a military maritime focus to innovative technological ideas. Recent projects have included cyber security at sea, the use of maritime unmanned systems, security developments in the Arctic as well as a host of more 'traditional' maritime warfare-related subjects; next year's programme of work is shaping up to be even more exciting and diverse as we aim to support the reinforcement of the Allied Maritime Posture and focus on blue-water peer-adversary conflict, whilst continuing our broader maritime security work. As ever, interoperability is at the heart of everything we do and we continue to exploit the advantages of our location here in Norfolk and our excellent network of military and civilian partners. If you have a challenge in the maritime environment that you think we could help with, we would love to hear from you.



VADM Bruce LINDSEY

## Mission

To provide a focus for the sponsoring nations and NATO to continuously improve the capability to conduct combined and joint operations from the sea. Our aim is to ensure that current and emerging maritime global security challenges can be successfully addressed across the full spectrum of maritime operations.

## Who We Are

Independent of the NATO command structure, CJOS COE draws on knowledge and capabilities of Sponsoring Nations, Allied Command Transformation (ACT), United States Fleet Forces Command (USFFC), and other neighboring U.S. commands to promote "best practices" inside the Alliance and out. CJOS COE also plays a key role in aiding NATO's transformational goals, specifically those focused on maritime based joint operations.

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

## Major Products and Activities

### Education and Training

- » Allied Interoperability and Coordination Guide, developed with and for Allied maritime units conducting combined training and operations;
- » Educational support on interoperability to cooperative deploying units joining US CSGs, and SNMG staff;
- » Support to the development of US Second Fleet and Joint Force Command Norfolk;
- » Annual publication of 'Cutting the Bow Wave' compendium of CJOS work.

### Analysis and Lessons Learned

- » Joint Exercise analysis and lessons (mainly focused around the NATO 'Trident' series);
- » Maritime contribution to ACT's Strategic Foresight Analysis;
- » Maritime Security Regimes Roundtable, which attracted participants from Africa, the Middle and Far East. North and South America as well as Europe, to be repeated next year.

### Concept Development and Experimentation

- » TRITON (NATO Maritime C2 system) Concept of Employment, developed for SACT;
- » NATO Concept for Joint Sea Based Operations, developed for SHAPE;







- » Dual Use of Military Defense Capabilities for non-military Purposes, developed for one of our Sponsor Nations;
- » Maritime support to ACT's A2AD Simulation Study;
- » Maritime Capacity Building Concepts Development, for one of our Sponsor Nations;
- » Joint Force Command (Norfolk) Warfighting Narrative and Logistics concept;
- » Amphibious Leadership Expeditionary Symposium (ALES) Initiative, including the development of war-game scenarios and a "Food for Thought" paper on the aggregation of NATO amphibious capability;
- » Other projects include the further development of the Maritime Security Awareness network, Maritime Cyber Security, Big Data and the use of Unmanned systems in the maritime environment.



### Doctrine Development and Standards

- » Chair of the NATO Maritime Operations Working Group and maritime support to all relevant NATO WGs;
- » Support to the development of NATO Amphibious Doctrine (ATP 8); through permanent membership in the Amphibious Operations Working Group;
- » Custodian of Maritime ISR Doctrine (ATP 102);
- » Maritime Unmanned Systems EXTAC developed for ACT, in collaboration with CMRE.



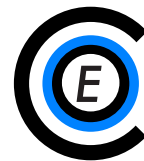
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Director  
 VADM Bruce H. Lindsey, USA-N  
  
 Deputy Director  
 CDRE Tom Guy, GBR-N  
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## NATO CRISIS MANAGEMENT AND DISASTER RESPONSE CENTRE OF EXCELLENCE (CMDR COE)

### Director's Message

*As part of the wider network of NATO Centres of Excellence (COE), the principle raison d'être of which is to contribute to and to support the transformation and adaptation of the Alliance, the CMDR COE serves as a hub of expertise and a platform for information, knowledge, and good practices exchange in the crisis management and disaster response (CMDR) domain whilst establishing and nourishing a pool of experts and a community of interest. Exceeding at CMDR requires both a deep insight in what is already at hand and a keen foresight in what lies ahead. We, at the CMDR COE, believe in an inclusive, transformative and capable CMDR and strive to provide the necessary conditions enabling such a collaborative collective approach to CMDR!*

**Meet Challenges, Seize Opportunities, Anticipate the Future!**



COL Vassil ROUSSINOV



### Mission Statement

Taking fully into account and aligning to the imperatives of the current security reality, the Centre's objective is to act as a catalyst for the improvement of NATO's, NATO Nations' and Partners' capabilities in CMDR operations placing utmost importance on the principles of the Comprehensive approach and on enhancing collaborative partnerships. A point of departure for the Centre's work on achieving its mission is the adoption of functional approaches to CMDR based on firm theoretical basis. To that end, the Centre has elaborated original and, since September 2017, officially (internally) adopted definitions for crisis, crisis management and disaster management.

### Who We Are

The CMDR COE is a multi-national NATO military body sponsored by the Hellenic Republic, the Republic of Poland and the Republic of Bulgaria (Framework Nation). The Centre, located in Sofia, Bulgaria, has a 38-strong team of both civilian and military experts working on a wide range of CMDR-related issues, all with the ultimate goal of supporting NATO's standardisation and transformation.

Strong partnerships and effective collaboration are critical in achieving the afore-mentioned goal and hence, the Centre has forged excellent partnerships and enhanced cooperation with key NATO and EU bodies, institutions and agencies. For instance, the CMDR COE works closely with HQ SACT, SHAPE and NATO HQ and contributes to various NATO initiatives, such as NATO Smart Defence.

As a hub of expertise in CMDR, the Centre has generated a wealth of information and expertise and has also been a home for a number of key NATO events and of a variety of CMDR-related conferences, workshops, and trainings.

### Vision

The Centre is determined to firmly establish and further sustain its position as an internationally recognised and respected body which provides value-added E&T products, research and analysis, strategic policy recommendations and advice by means of concept experimentation and doctrine development.





## Major Products and Activities

### 2018

- » "BOSNA I HERCEGOVINA 2017" Lessons Identified Conference – 29-31 Jan 2018
- » Crisis Management and Disaster Response Course – 19-23 Mar 2018
- » Climate Change and Security Pilot Course – 24-27 Apr 2018
- » Disaster Relief Operations Course (METT) – 8-10 May 2018
- » 6th Annual Conference Interagency Interaction in CMDR – 5-6 Jun 2018
- » Collaborative Resilience (CoRe) Concept Workshop – 10-12 Sep 2018
- » NATO CAX Forum 2018 – 25-27 Sep 2018
- » Strategic Decision Making for Crisis Response Operations Course – 26-30 Nov 2018



### 2019

- » Exercise Balkan Bridges 19 – 30 Sep-4 Oct 2019
- » Gender Focal Point in Crisis Management Course – 19-23 Feb 2019
- » Crisis Management and Disaster Response Course – 18-22 Mar 2019 (NATO SELECTED; NATO ETOC Code: ETE-CM-21784)
- » Climate Change and Security Course – 15-19 Apr 2019
- » Disaster Management Course – 13-17 May 2019 (NATO ETOC CODE: ETE-CM-22007)
- » Crisis Response Operations Planners Professional Development Course – 13-17 May 2019 (NATO SELECTED, NATO ETOC CODE: JPL-OP-31878)
- » Crisis Management and Disaster Response Exercise Planners Training Course – 15-19 Oct 2019 (NATO SELECTED: NATO ETOC CODE: ETE-CM-21785)
- » Strategic Decision Making for Crisis Response Operations Course – 25-29 Nov 2019 (NATO SELECTED, NATO ETOC CODE: ETE-CM-41879)
- » NATO Building Resilience through Civil Preparedness Course (Pilot) – 9-13 Dec 2019
- » Disaster Relief Operations Course (METT) – 23-27 Apr 2019
- » Human Rights & Conflict Transformation Training – 22-24 May 2019
- » CMDR COE Annual Conference "Interagency Interaction in CMDR", 4-6 Jun 2019

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

*Without doubt, confined and shallow waters are a highly relevant part of the global commons in several aspects. On one side, they are affecting a majority of the world's population as hubs of transport, trade, livelihood, and nutrition source, to name just a few. On the other hand, confined and shallow waters show inherent characteristics of competing interests from different national, economical and individual actors, combined with dense activity patterns and complex geo- and hydrographical conditions. The resulting challenges are affecting not only maritime endeavours, but also general military and security related operations, as well as legal aspects and policy-making.*

*The overarching aim of the COE CSW is to support the Alliance's transformational efforts and interoperability, adapted to this multifaceted and complex area. By drawing on the results and knowledge gained through the plethora of our activities and projects, we are engaged in a wide range of activities from developing warfare capabilities, discussing operational maritime law issues through to the level of supporting strategic decision making.*

*It is my firm intention to continue in progress with my team in 2019 and beyond, and to deliver tangible high quality products and relevant service to our customers within NATO and beyond.*

### Director's Message



**RADM Christian BOCK**



### 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

The COE CSW was established in 2007 and accredited by NATO on 03 March 2009. Concentrating expertise

from different nations and thus creating synergy in a relevant field of competence is a brilliant way indeed to advance 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.

### Vision

As the very hub of knowledge, the NATO Centre of Excellence for Operations in Confined and Shallow Waters (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 capabilities and skills.





## Activities for 2018 and 2019

- » Working on conceptual and doctrinal projects, e.g. on NATO Maritime Synthetic Collective Training, Impact of Offshore Facilities on Maritime Situational Awareness, Integration of UAS into maritime operations, the Employment of Autonomous Underwater Vehicles in Naval Mine Counter Measure Operations in support of Amphibious Operations, support to MARCOM on a Submarine White Paper;
- » Leading the NATO Smart Defense Project 1.1044 FIT FOR CSW (Flexible and Interoperable Toolbox meeting the Future operational Requirements in Confined and Shallow Waters);
- » Promoting global Maritime Security by facilitating interaction and cooperation between relevant institutions, e.g. by organising side events within the Munich Security Conference (MSC), by actively supporting the MSC Arctic Security Series, and through related project work;
- » Acting as Vice-Chairman in the Above Water Warfare- and Under Water Warfare Capability Group, subordinate to the NATO Naval Armaments Group (NNAG);
- » Working in a range of the NATO working-groups, 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), NATO Specialist Team on Mission Modularity (ST-MM);
- » Fostering a common understanding and the development of Operational Maritime Law, inter alia by conducting the 6th annual "Conference on Operational Maritime Law";
- » Acting as Department Head of the Maritime Operations discipline, translating NATO's naval training requirements into individual and collective Education & Training solutions;
- » Supporting the development and execution of major NATO and maritime exercises including Exercise Control work and conduct of Harbour Protection and Force protection trials; providing Subject Matter Expertise and Education and Training support to NATO Headquarters and NATO and national schools;
- » Collaborating with MARCOM in the NATO Modelling and Simulation Group and an affiliated Specialist Team for shaping the implementation phase in line with the Live Virtual Constructive-Training Concept, to bring forward synthetic training in the maritime domain.
- » Supporting the NATO maritime Lessons Learned and Analysis process as well as the the evaluation process of NATO Maritime Forces and NATO Response Forces (M) Headquarters.

## Participants

### Framework Nation:

### Sponsoring Nations:

Federal Republic of Germany

Hellenic Republic

Kingdom of the Netherlands

Republic of Italy

Republic of Poland

Republic of Turkey

Republic of Finland

### Contributing Partner:

### Voluntary National Contribution:

Republic of Lithuania (joining process in progress)

Kingdom of Denmark (joining process in progress)

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

### Director's Message



*Experiences from units conducting training and operations worldwide indicates that if you can fight and survive in the extremes of an sub-arctic or arctic environment you will be very well prepared to fight in all other climatic conditions.*



### Mission Statement

The COE-CWO mission is to support SACT in his efforts of transforming NATO in the field of cold weather operations. COE-CWO will serve as the main provider and coordinator of expertise in the area of Cold Weather Operations in NATO. COE-CWO will provide NATO- and Partner nations the necessary competence in order to operate under Arctic, sub-Arctic and Cold Weather conditions.

### Who We Are

The NATO Centre of Excellence for Cold Weather Operations (COE-CWO) core staff holds 16 PE posts. In addition COE-CWO is a network concept that encompasses training areas, infrastructure, manpower, skills and knowledge drawn from all services in the Norwegian Armed Forces, the Norwegian Defense Research Establishment, the NATO and PfP Cold Weather community of Interest and Civilian Academia.

### Vision

The COE-CWO vision is to be NATO and Partner Nations preferred provider of the full spectrum of Cold Weather Operations competence.

### Major Products and Activities 2018

- » Conducted a variety of courses within winter warfare, with emphasis on practical application of skills.
- » Provided collective winter training opportunities for International units up to battalion level.
- » Supported HQ SACT in the Future Work with expertise on the developing situation in the Arctic.
- » Supported HQ SACT/ACT SEE in the NDPP capability process regarding cold weather operations.
- » Supported NATO with lessons learned from the cold weather environment.





- » COE-CWO did participate in planning and execution of the exercise Trident Juncture 2018, and focused on participating foreign units and their ability for cold weather operations and SME support to EXCON for the CPX/CAX part of the exercise.

## Major Products and Activities 2019

- » Continue to provide Cold Weather Operations courses for both the tactical and the operational level.
- » Provide collective winter training opportunities for International units up to battalion level.



- » COE-CWO will conduct an international Cold Weather Operations seminar.
- » Work on development of standards for cold weather clothing and equipment.
- » Continue to support NATO with lessons learned from the Cold Weather environment.
- » Continue the production and revision of tactical cold weather operations manuals. These will be available on the COE-CWO web page.
- » Continue to support HQ SACTs Future Work with expertise on the developing situation in the Arctic/High North.

## NATO CWO COE Contact Information

### Contact:

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Norway

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Website: [www.forsvaret.no/en/education-and-training/coe-cwo](http://www.forsvaret.no/en/education-and-training/coe-cwo)

Director

LtCol Knut Are Bakke

E-mail: [knbakke@mil.no](mailto:knbakke@mil.no)

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## NATO COMMAND AND CONTROL CENTRE OF EXCELLENCE (C2 COE)

### Director's Message

*NATO Command and Control enables NATO to orchestrate its international means and capabilities. How does it work? Does it differ within the alliance? At the NATO Command and Control Centre of Excellence we work on answering these questions. We are "Catalysing C2", which means that we research, publish and experiment & evaluate on specific C2 topics. These topics include C2 processes and structures, human factors such as leadership and information & knowledge management. At the NATO C2COE we are "Agents of Change". As such, we support ACT with the transformation of NATO, specifically on Command and Control."*



COL H.A.C.B. MEEUWSEN

### Who are we?

The Netherlands is the so called "Framework Nation" of the NATO C2COE, providing the centre with infrastructure, support resources and the main manning body. On top of that the NATO C2COE is reinforced by six "Supporting Nations"; Germany, the United States, Estonia, Slovakia, Spain and Turkey. Our SME's are staff officers from various military backgrounds and all service branches are represented within the centre.



### Mission Statement

The NATO C2COE will support NATO, nations and international institutions/organisations with subject matter expertise on Command and Control. The main level of interest is C2 at the operational level.

### Vision

To be a principal source of expertise focusing on specific areas in the domain of Command and Control in order to best support the Transformation of NATO.

### Major Products and Activities in 2018

- » **The Future of the Command Post:** Throughout 2018, The NATO C2COE is focusing its efforts on "The Future of the Command Post". The center will study the C2 aspects from 2035 and beyond. Human Aspects, as well as Information & Knowledge Management will play a big role while Catalysing C2.
- » **TRIDENT JUNCTURE 2018:** TRJE18 is a live exercise (25 Nov – 7 Oct), followed by a Command Post exercise (14 – 23 Nov) aimed at training and evaluating Joint Force Command Naples, C2 of the NRF19 and provide training to participants.
- » **TIDE Sprint 2018:** The NATO C2COE participates in the ACT initiated TIDE Sprint in which specialists discuss services, standards, concepts and experiments aimed at information, decision and execution superiority. The Centre is leading the C2 Track with the aim to involve the operational community, in accordance with ACT priorities.





## Major Products and Activities in 2019

- » Preparations/analysis to implement and execute Department Head function for the "Operations Planning/Operations Assessment/Alternative Analysis" Discipline.
- » Conduct study on NATO Command and Control Relationships and Authorities
- » Support to NCS and NFS during TRJU 19 throughout different phases
- » Support to NCS and NFS during TRJA 19 throughout different phases
- » Annual Seminar on actual Command and Control topic



## Where to meet us

The NATO C2COE SME's attend a wide range of exercises, seminars and conferences throughout the year. To name a few:

PROJECT	REQUESTOR/WHERE
Federated Mission Networking (FMN)	OCWG Meetings
Support to C3 Courses / COPC	NATO School Oberammergau
TRJU Ex Phases II B/III B	SHAPE J7and JWC / tbd
C2 Track TIDE Sprint	Split Croatia
Seminar related to NATO Command and Control issues	tbd

## NATO C2COE Contact Information

### Find us on:

Website: [www.c2coe.org](http://www.c2coe.org)

Twitter: [https://twitter.com/nato\\_c2coeExcellence](https://twitter.com/nato_c2coeExcellence)

LinkedIn: NATO Command and Control Centre of Excellence

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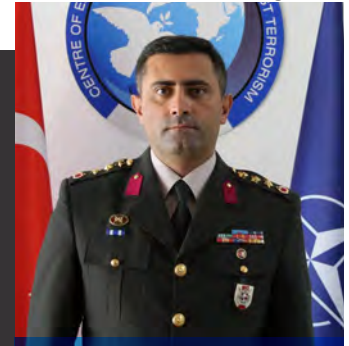
### Director:

Colonel H.A.C.B. Meeuwsen (RNLD)  
Phone: +31 30 21 87000  
Email: [Robert.Meeuwsen@c2coe.org](mailto:Robert.Meeuwsen@c2coe.org)



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

### Director's Message



Col Soydan GÖRGÜLÜ

*Terrorism seeks to break down normal international relationships between nations and peoples. Terrorism challenges our world order which is based on trust and mutual respect. Only through collaboration and cooperation between nations can a safe and secure environment be established and sustained. A comprehensive understanding of the origins of terrorism, sharing of best practises, experiences, and education between NATO and partner nations, international organizations, and academic institutions constitute the most effective methods the security challenge of terrorism can be countered. I invite you to participate and contribute to the activities the COE-DAT sponsors.*



### Mission Statement

COE-DAT's mission is to provide key decision-makers with a comprehensive understanding to terrorism and CT challenges, in order to transform NATO and Nations of interest to meet future security challenges. This transformation is embedded into NATO's three declared core tasks of collective defence, crisis management, and cooperative security.

### Who We Are

COE-DAT is a NATO accredited multi-national sponsored entity located in Ankara, Turkey, whose membership is open to all NATO members. The Centre is composed of 62 multi-national billets with representatives from 8 nations focused on providing key decision-makers with realistic solutions to terrorism and Counterterrorism (CT) challenges. Like the other

accredited COEs, COE-DAT is designed to complement NATO's current resources, however COE-DAT also serves as NATO's Department Head in Education and Training for CT. Since COE-DAT's inauguration in 2005, the Centre has worked in partnership with over 2,472 guest lecturers, conducted 215 educational and training activities on site or through Mobile Training Teams, and hosted over 12312 participants from 108 countries on a myriad of terrorism and CT topics impacting NATO.

COE-DAT has been the Department Head for the counter terrorism discipline since April 2015. As such it is our responsibility to coordinate the growing quantity of counter terrorism education and training (CT E&T) being delivered in response to identified counter terrorism training needs. This includes the increasing amount of CT E&T delivered by the Alliance to NATO partner nations.

### 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.



## Key Products and Activities for 2018 and 2019

### 2018 Major Work Items

In 2018, 12 Education & Training activities were completed including 8 courses, 1 workshop, 1 seminar and 2 conferences.

Activities included the following:

- » Defence Against Terrorism Course, 12-16 February 2018
- » Defence Against Suicide Attack Course, 16-20 April 2018
- » Terrorist Use of Cyberspace Course, 14-18 May 2018
- » Critical Infrastructure Protection from Terrorist Attacks Course, 21-25 May 2018 – with MARSEC COE in Istanbul, Turkey
- » NATO Member Experiences in CT/T Workshop, 30-31 May 2018
- » Annual CT Discipline Conference, 21-22 June 2018
- » Counter Terrorism / Attacking the Network Course, 24 September-05 October 2018 – with C-IED COE in Madrid, Spain





- » Terrorism Experts Conference, 16-17 October 2018
- » Terrorism and Media Course, 22-26 October 2018
- » Border Security, Refugees and CT Course, 5-9 November 2018
- » Defence Against Terrorism Executive Level Seminar, 20-21 November 2018
- » Terrorist use of Weapons of Mass Destruction (WMD) Course, 10-14 December 2018



## 2019 Major Work Items

In 2019, 16 Education & Training activities will be conducted including 8 courses, 4 workshops, 2 seminars, 2 conferences and several ATC/METs in partner countries. The draft schedule is as follows:

### Courses

- » Defence Against Terrorism Course, 11-15 February 2019
- » Defence Against Suicide Attack Course, 15-19 April 2019
- » Terrorist Use of Cyber Space Course, 18-22 March 2019 (W/Cyber COE)
- » Critical Infrastructure Protection Course, 20-24 May 2019
- » Terrorist Use of WMD Course, 9-13 September 2019
- » Counter-Terrorism/Attack the Network Course, 30 September-11 October 2019
- » Terrorism and Media Course, 21-25 October 2019
- » Border Security, Refugees and CT Course, 18-22 November 2019



### Conferences, Seminars and Workshops

- » Training Needs Analysis (TNA) Workshop, 19-20 February & 17-18 September 2019
- » Annual CT Discipline Conference, 29-30 May 2019
- » Terrorism Experts Conference, 15-16 October 2019
- » Defence Against Terrorism Executive Level Seminar, 25-26 November 2019
- » COE-DAT CT Lessons Learned Workshop, 3-4 December 2019
- » Women in Terrorism and Counter Terrorism Workshop, TBD
- » Crisis Management in Terrorism Seminar, TBD

**The complete Event and Course Calendar can be found at our Website and Knowledge Portal at ([www.coedat.nato.int](http://www.coedat.nato.int)).**

## NATO COE-DAT Contact Information

### Contact:

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Mailing Address: Terörizmle Mücadele Mükemmeliyet Merkezi Devlet Mahallesi, İnönü Bulvarı, Kirazlıdere Caddesi, No: 65 06582 Çankaya, Ankara / TURKEY

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Deputy Director: Colonel Daniel Wayne STONE (US Air Force)

Phone: +90 312 4258215/1003,

[deputydirector@coedat.nato.int](mailto:deputydirector@coedat.nato.int)

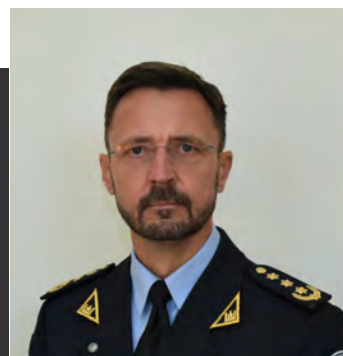




## NATO ENERGY SECURITY CENTRE OF EXCELLENCE ENSEC COE

### Director's Message

*The NATO ENSEC COE is the recognised hub of knowledge and expertise in Energy Security for the benefit of the Allies, Partner Nations and the NATO bodies in three main domains: raising 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-efficient 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.*



COL Romualdas PETKEVIČIUS

### Mission Statement

The mission of the NATO ENSEC COE is to assist Strategic Commands, other NATO bodies, nations, partners, and other civilian and military bodies by supporting NATO's capability development process, mission effectiveness, and interoperability in the near, mid and long terms by providing comprehensive and timely subject matter expertise on all aspects of energy security.

### Who We Are

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 the support for NATO Operations through targeted technical scientific assessment.



### Vision

The NATO ENSEC COE is the recognized hub of knowledge and expertise in Energy Security within NATO, and to be a unique platform of cooperation and partnership in this area for Allies and Partner Nations.

## Major Products and Activities

### 2018

#### 2018 CONFERENCE

- » IESMA 2018 (Innovative Energy Solutions for Military Applications) a biannual conference an exhibition for military and governmental institutions, academia and industry was held on 14-16th of November in Vilnius, LITHUANIA.

#### 2018 COURSES

- » Baltic Defence College energy security education module-2018 for Joint Command and General Staff Course (JCGSC) students
- » Regional Energy Security course/symposium-2018 (RESAC 2018)
- » NSO Critical Energy Infrastructure Protection course-2018
- » Energy Efficiency in Military Operations course-2018
- » Energy Security Strategic Awareness course in NATO school Oberammergau
- » Turkish General Staff Peace for Partnership training center energy security awareness course
- » Table top exercise on Critical Energy Infrastructure Protection (COHERENT RESILIENCE-2018)
- » Participation in the TRIDENT JUNCTURE EXERCISE-2018

#### 2018 EXPERIMENTATION and CONCEPT DEVELOPMENT

- EMMEE Project: Energy Management in a Military Expeditionary Environment is about the development of an Energy Management System case study/experiment to test the applicability and value of a draft military adaptation of ISO 50001:2011. The current version provides for a multi-disciplinary approach, including energy management itself, technological applications as well as a behavior change methodology.
- » HPGS Project: in close cooperation with Lithuanian Armed Forces further tests and exploitations of the prototype Hybrid Power Generation and Management System with extensive usage in different locations/nations (France, Norway, Lithuania) in order to prove that hybrid technologies can be ready for military use.
- » Supporting to develop NATO concepts and doctrines on energy security issues through SMEs participation in the most important







conferences, meetings, NATO working groups. Currently working within a team of NATO experts on the Military Aspect of Energy Security Roadmap.

## 2018 STRATEGIC ANALYSIS

- » Analysis of the competition for energy resources in the Arctic region and how it could affect the energy security of NATO members.
- » Analysis of hybrid and cyber threats (in particular, cyber threats on the pipeline system of NATO) that could affect national and collective defence, with the main purpose of developing NATO's capacity to support national authorities in protecting critical infrastructure, as well as enhancing their resilience against energy supply disruptions.
- » Analysis of risk factors associated with the integration of Renewable Energy supplies into energy systems.



## 2019

### 2019 CONFERENCE

- » "Climate Change and Energy Security for NATO Nations – Geopolitical and Defence Implications" is going to be held in Paris, June 2019.

### 2019 COURSES

- » Baltic Defence College Operational Level Energy Security Course
- » Regional Energy Security Course/Symposium focused on Caucasus Region (Azerbaijan/Georgia)
- » Critical Energy Infrastructure Protection Course in cooperation with NATO DAT COE
- » Energy Efficiency in Military Operations Course in cooperation with NPS
- » Energy Security Strategic Awareness Course in NSO
- » Energy Security Awareness Course in cooperation with TGS PFP TC
- » Table Top Exercise on Critical Energy Infrastructure Protection
- » Participation in CMX-19 Exercise to provide SME support for relevant incidents that are focused on energy security



### 2019 EXPERIMENTATION and CONCEPT DEVELOPMENT

- » EMMEE Project: the Energy Management in a Military Expeditionary Environment process for deployed camps elaborated by the NATO ENSEC COE in 2018 in close cooperation with CAN, FRA, GBR and USA will be the base for further activities to be conducted in Baltic States. In teamwork with Operative Units, the new NATO ENSEC COE Energy Management Handbook inspired by ISO 50001 standard will be tested in order to verify possible additional changes before distribute it as possible cornerstone for future NATO associated energy management STANAGs.
- » HPGS Project: the prototype system will be tested in a very challenging environment - the cold Canadian Arctic Region. This activity will provide information about system's attitude to operate in such tough temperature area in order to produce electricity for expeditionary forces, where energy efficiency is a mandatory mantra because of the difficult fuel supply capability.
- » Continuing to support the NATO concepts and doctrines development on energy security issues through SMEs participation in the most important conferences, meetings, NATO working groups.

## 2019 STRATEGIC ANALYSIS

- » Development of NATO's capacity supporting national authorities in protecting critical energy infrastructure, as well as the enhancement of their resilience against energy supply disruptions that could affect national and collective defence, including hybrid and cyber threats. A complementary study will be conducted with focus on the Baltic Sea Region to analyse the latest developments in the CEIP and security of energy supply area.
- » Provide knowledge and expertise for the NATO Allied Command Transformation long term Military Transformation Programme including the development of Strategic Foresight Analysis as well as the Framework for Future Allied Operations.
- » Permanent monitoring of energy security developments in the East Mediterranean, the Middle East and Caspian/Black seas regions.
- » Study on Renewable energy sources: identification of risk factors associated with the integration of Renewable Energy sources to energy systems.
- » Study paper on the Petroleum Supply Chain capacities in the Southern Flank NATO Nations and risks associated with Host Nation Support for the NATO Response Force / Readiness Action Plan exercises and deployments.
- » Study: "Recommendations on importance of critical energy infrastructure stakeholder engagement, coordination and understanding of responsibilities in order to improve security".
- » Cyber Risk Study of Central Europe Pipeline System will be conducted further as planned through year 2018 to 2019.

## WEBSITE AND PUBLICATIONS

- » In order to enhance the Energy Security awareness within NATO, ENSEC COE hosts a website which includes the Centre's projects - researches and studies, also articles about relevant energy developments. Also NATO ENSEC COE hosts its Facebook account with events and studies or articles from world energy news publishers and organizations.

## NATO ENSEC COE Contact Information

### Contact:

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Email: [info@enseccoe.org](mailto:info@enseccoe.org)

Website: [www.enseccoe.org](http://www.enseccoe.org)



## NATO COE Establishment Process

The initial step in the COE establishment process is generating an idea for a COE. This idea generally comes from two main sources, NATO or an Alliance Nation. If the idea comes from NATO, it is generally a result of an identified shortfall area in NATO capabilities. If the idea comes from an Alliance Nation, it does not have to be related with NATO capability shortfalls. It can be an excellent idea for a COE that has not been yet considered by NATO. The idea for a COE can represent either operational, tactical or strategic level. Regardless the origin of the idea, it needs to create value added and not to conflict with the work being done in another NATO COE or another NATO entity.

Despite the origin of the COE idea, a NATO Nation has to take responsibility to push it forward. The biggest challenge for this Nation is to secure the support of other Alliance nations who will hopefully back up the COE idea by becoming its Sponsoring Nations and thereby providing resources to the COE. The NATO COE establishment process culminates with the signing ceremony of Memoranda of Understanding and the COE accreditation process begins.

Comprehensive dialogue and teamwork is required throughout the COE establishment process starting with a close coordination between the Framework Nation (FN) and the HQ SACT COE Programme Development Branch (CPD Branch)). The following major steps are necessary in order to complete the process (these steps are expanded in the COE Establishment Manual):

**First Contact Visit** - A visit from CPD Branch to assist you to build your COE proposal and to answer all your questions. This includes advice and assistance on building your COE concept which is a formal living document that provides all relevant information about the mission and the value added of the COE.

**Formal Offer** - After the First Contact Visit, your nation can make an informed decision to offer a COE to NATO. The Formal Offer of a COE is a letter to SACT from a national CHOD level or Political level. Upon the receipt of this formal offer, SACT, though, CPD Branch will determine if the offer meets criteria for a NATO COE and will advise SACT on the decision regarding this offer.

**Information Campaign** - If the FN seeks a multi-national COE it must work to attract other Sponsoring Nations (SNs). This campaign should be pursued in all levels (SMEs, working groups, NLRs, MILREPs, NMRs, CHODs, Ministerial, etc.) in order to ensure that nations have the maximum awareness of the COE.

**Memorandum of Understanding (MOU) Development** - Occurs simultaneously with the information campaign. MOU templates are supplied by CPD Branch and tailored with the assistance of CPD Branch and legal teams.

Events supporting MOU development are:

- » 1st Establishment Conference: Goal is to “sell” COE to potential Sponsoring Nations (SN). Any interested Nation attends.
- » 2nd Establishment Conference: Potential Sponsoring Nations attend and bid for posts. It will address legal aspects of the COE in greater detail. Any interested Nation can attend, yet usually attendees are from the potential sponsoring nations.
- » MOU Signing Ceremony. This formal signing ceremony is a short event, usually held in the HQ SACT. The Sponsoring Nations are usually represented by their National Level Representatives here in the HQ SACT. Normally the Director of the COE and a Flag Level Sponsor from the Framework Nation, as well as SACT attend the ceremony.

### COEs Currently Required in Support of NATO's' Priorities:

- » Electronic Warfare
- » Human Security
- » Joint Fires
- » Joint Intelligence, surveillance and Reconnaissance (JISR)
- » Logistics
- » Unmanned Systems



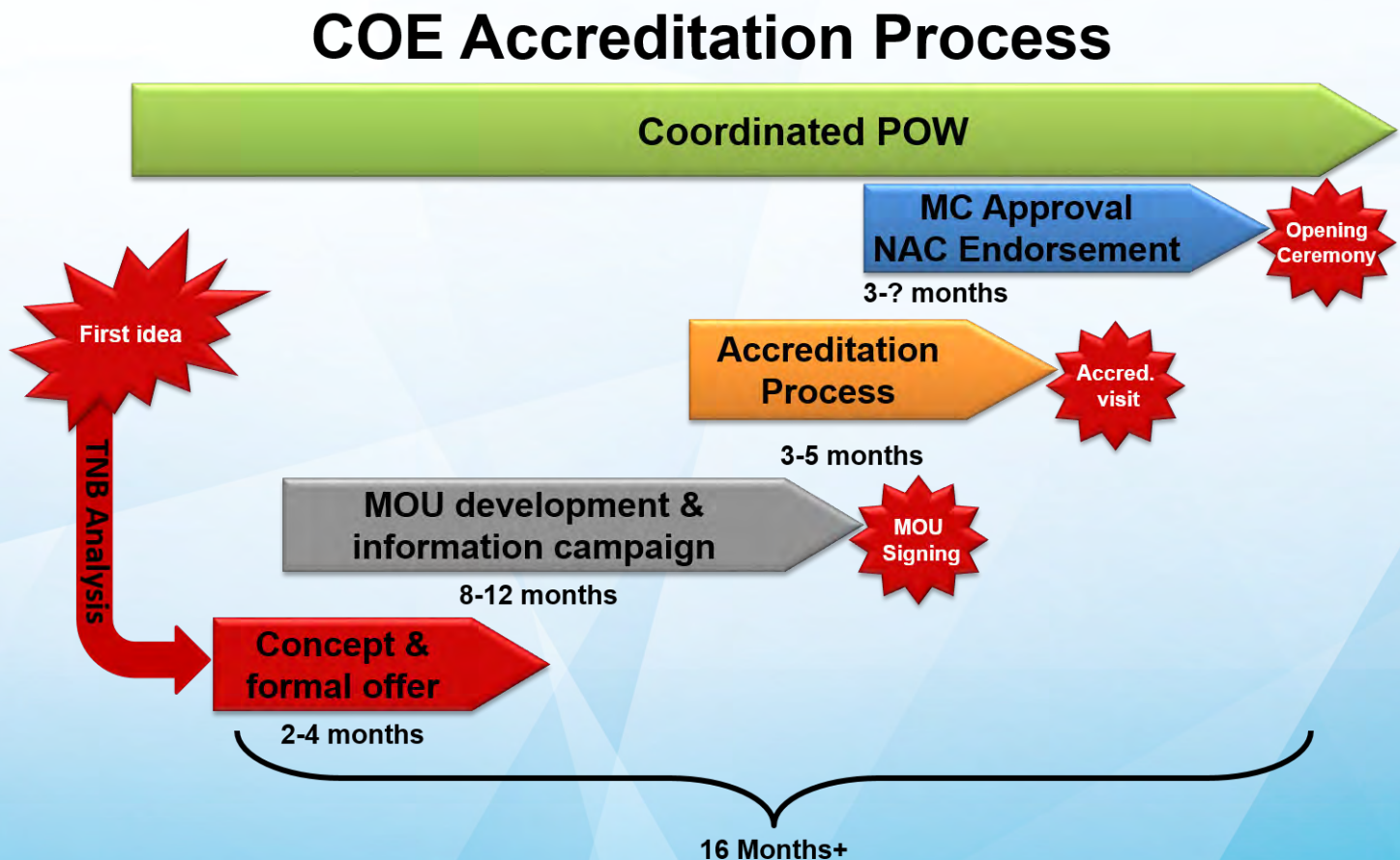
## NATO COE Accreditation Process

The accreditation is a formal process with the assessment conducted by HQ SACT through TNB. The newly established COE is assessed against the IMS established accreditation criteria for COEs.

### The following steps are performed:

- » Accreditation Questionnaire: TNB provides the COE with a questionnaire to determine its readiness for NATO accreditation.
- » Accreditation Visit: TNB visits the COE to verify COE readiness for accreditation.
- » Accreditation Report: HQ SACT report/recommendation to the MC and NAC for the accreditation of the COE.
- » Accreditation Request: A formal request from a Framework Nation to request accreditation and (if appropriate) activation of COE as a NATO Military Body.
- » Approval of recommendation for accreditation by MC; NAC approval.

The overall COE establishment and accreditation process takes between 11 months and 2 years. For more details regarding the COE accreditation read NATO COE Establishment manual, which is located on TRANSNET COE Homepage under "How to Become a COE" at: <https://coe.transnet.act.nato.int/SitePages/Home.asp>



## The COE FOGO Champions System

**Senior FOGO Champion** – On behalf of SACT, DSACT as the Senior FOGO Champion will supervise and coordinate the efforts for HQ SACT's FOGO Champions.

**COE FOGO Champion** - In order to show the Nations and COEs that HQ SACT is considering the COEs as a crucial asset of the Alliance, the FOGO Champions engage their assigned COE and are, if possible, involved in the COE's events. The general idea is to match a FOGO with COEs which are somehow related to his responsibilities in the HQ. He will provide COEs with strategic direction and guidance, advice on NATO priorities and deliver better visibility for the work of both NATO and COEs. Together with the SMEs and the desk officers of the Coordination Section in the CPD branch, they are to improve the NATO RFS process, to better align the work of each COE with NATO priorities, and to provide enhanced visibility for ACT activities. COE Directors as well as the Steering Committee Chairman are encouraged to contact their responsible FOGO in order to develop closer ties and enhance the cooperation in regard to their COE program of work process.

**HQ SACT Subject Matter Expert (SME)** - The SME, usually an OF 3/4, represents HQ SACT at the Steering Committee meetings and is the most important POC for the COE at ACT. The SME is responsible to coordinate the Program of Work with the COE and according the direction and guidance he receives from the FOGO Champion.





	Centre of Excellence (COE)	FWN	Sponsor Nations	Location
1	Joint Air Power Competence Centre (JAPCC)	DEU	BEL,CAN, CZE, DEU, DNK, ESP, GBR, GRC, HUN, ITA, NLD, NOR, POL, ROU, TUR, USA	Kalkar, DEU
2	Defence Against Terrorism (DAT)	TUR	ALB, BGR, DEU, GBR, HUN, ITA, NLD, ROU, TUR, USA	Ankara, TUR
3	Naval Mine Warfare (NMW)	BEL&NLD	BEL, NLD, ITA, POL	Oostende, BEL
4	Combined Joint Operations from the Sea (CJOS)	USA	CAN, DEU, ESP, FRA, GBR, GRC, ITA, NLD, NOR, PRT, ROU, TUR, USA	Norfolk, USA
5	Civil-Military Cooperation (CIMIC)	NLD&DEU	DEU, DNK, HUN, LVA, NLD, POL, SVN	The Hague, NLD
6	Cold Weather Operation (CWO)	NOR	NOR	Elverum, NOR
7	Joint Chemical Biological Radiological & Nuclear Defence (JCBRND)	CZE	CAN, CZE, DEU, FRA, GBR, GRC, HUN, ITA, POL, ROU, SVK, SVN, USA, AUT	Vyškov, CZE
8	Analysis and Simulation Centre for Air Operation (AO COE)	FRA	FRA	Lyon Mont Verdun, FRA
9	Command & Control (C2)	NLD	DEU, ESP, EST, NLD, SVK, TUR, USA	Utrecht, NLD
10	Cooperative Cyber Defense (CCD)	EST	BEL, BGR*, CZE, DEU, ESP, EST, FRA, GBR, GRC, HUN, ITA, LVA, LTU, NLD, NOR*, POL, ,PRT, ROU*, SVK, TUR, USA, AUT, FIN, SWE	Tallinn, EST
11	Operations in Confined and Shallow Waters (CSW)	DEU	DNK*, DEU, GRC, ITA, LTU*, NLD, POL, TUR, FIN	Kiel, DEU
12	Military Engineering (MILENG)	DEU	BEL, CAN, CZE, DEU, DNK, ESP, FRA, GBR, GRC, HUN, ITA, NLD, NOR, POL, ROU, TUR, USA	Ingolstadt, DEU
13	Military Medicine (MILMED)	HUN	BEL, CZE, DEU, FRA, GBR, HUN, ITA, NLD, ROU, SVK, USA	Budapest, HUN & Munich, DEU
14	Human Intelligence (HUMINT)	ROU	CZE, GRC, HUN, POL, ROU, SVK, SVN, TUR, USA	Oradea, ROU
15	Counter – Improvised Explosive Devices (C-IED)	ESP	CZE, DEU, ESP, FRA, GRC*, HUN, NLD, PRT, ROU, TUR, USA, SWE	Madrid, ESP
16	Explosive Ordnance Disposal (EOD)	SVK	CZE, HUN, POL, ROU, SVK	Trencin, SVK
17	Modelling and Simulation (M&S)	ITA	CZE, DEU, ITA, USA	Rome, ITA
18	Energy Security (ENSEC)	LTU	DEU, EST, FRA, GBR, ITA, LVA, LTU, TUR, USA, GEO, FIN	Vilnius, LTU
19	Military Police (MP)	POL	BGR, CZE, DEU, GRC, HUN*, HRV, ITA, NLD, POL, ROU, SVK	Bydgoszcz, POL
20	Strategic Communications (STRATCOM)	LVA	CAN, DEU, EST, FRA*, GBR, ITA, LVA, LTU, NLD, POL, SVK*, FIN, SWE*	Riga, LVA
21	Crisis Management and Disaster Response (CMDR)	BGR	BGR, GRC, POL	Sofia, BGR
22	Mountain Warfare (MW)	SVN	DEU, HRV, ITA, POL*, ROU, SVN, AUT	Begunje na Gorenjskem SVN
23	Stability Policing (SP)	ITA	CZE, ESP, FRA, GRC, ITA, NLD, POL, ROU, TUR	Vicenza, ITA
24	Counter Intelligence (CI)	POL&SVK	CZE, DEU, HUN, HRV, ITA, LTU, POL, ROU, SVN, SVK, USA	Krakow, POL
25	Security Force Assistance (SFA)	ITA	ALB, SVN, ITA	Roma, ITA



# NATO CENTRES OF EXCELLENCE LOCATIONS



**Analysis and Simulation Centre  
for Air Operation (AO)**  
Lyon, France



**Cooperative Cyber Defense (CCD)**  
Tallinn, Estonia



**Counter Intelligence (CI)**  
Krakow, Poland



**Counter - Improvised Explosive  
Devices (C-IED)**  
Madrid, Spain



**Civil-Military Cooperation (CIMIC)**  
The Hague, the Netherlands



**Combined Joint Operations from  
the Sea (CJOS)**  
Norfolk, Virginia, United States



**Crisis Management and  
Disaster Response (CMDR)**  
Sofia, Bulgaria



**Operations in Confined and  
Shallow Waters (CSW)**  
Kiel, Germany



**Cold Weather Operation (CWO)**  
Elverum, Norway



**Command & Control (C2)**  
Utrecht, The Netherlands



**Defence Against  
Asymmetric Threats (DAAT)**  
Ankara, Turkey



**Energy Security (ES)**  
Vilnius, Lithuania



**Explosive Ordnance  
Disposal (EOD)**  
Trenz, Germany



**Human Intelligence (HI)**  
Oradour, France



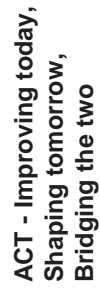
**Joint Air Power  
Centre (JAPCC)**  
Kolkata, India





	Country	Sponsoring Nation of	Framework Nation of
	<b>ALB</b>	SFA, DAT	
	<b>BEL</b>	CCD, JAPCC, MILENG, MILMED, NMW	NMW
	<b>BGR</b>	CMDR, DAT, MP, CCD*	CMDR
	<b>CAN</b>	CJOS, JAPCC, JCBRN, MILENG, STRATCOM	
	<b>CZE</b>	CCD, C-IED, CI, EOD, HUMINT, JAPCC, JCBRND, MILENG, MILMED, MP, M&S, SP	JCBRND
	<b>DEU</b>	C2, CCD, C-IED, CIMIC, CI, CJOS, CSW, DAT, ENSEC, JAPCC, JCBRND, MILENG, MILMED, MP, M&S, MW, STRATCOM	CIMIC, CSW, JAPCC, MILENG
	<b>DNK</b>	CIMIC, CSW*, JAPCC, MILENG,	
	<b>ESP</b>	C2, CCD, C-IED, CJOS, JAPCC, MILENG, SP	C-IED
	<b>EST</b>	C2, CCD, ENSEC, STRATCOM	CCD
	<b>FRA</b>	CASPOA, CCD, C-IED, CJOS, ENSEC, JCBRND, MILENG, MILMED, SP, STRATCOM*	AO COE
	<b>GBR</b>	CCD, CJOS, DAT, ENSEC, JAPCC, JCBRND, MILENG, MILMED, STRATCOM	
	<b>GRC</b>	CCD, CI, C-IED*, CJOS, CMDR, CSW, HUMINT, JAPCC, JCBRND, MILENG, MP, SP	
	<b>HRV</b>	MP, MW	
	<b>HUN</b>	CCD, C-IED, CIMIC, CI, DAT, EOD, HUMINT, JAPCC, JCBRND, MILENG, MILMED, MP	MILMED
	<b>ITA</b>	CCD, CI, CJOS, CSW, DAT, ENSEC, JAPCC, JCBRN, MILENG, MILMED, MP, M&S, MW, NMW, SP, SFA, STRATCOM	M&S, SP, SFA
	<b>LVA</b>	CCD, CIMIC, ENSEC, STRATCOM	STRATCOM
	<b>LTU</b>	CCD, CI, CSW*, ENSEC, STRATCOM	ENSEC
	<b>NLD</b>	C2, CCD, C-IED, CIMIC, CJOS, CSW, DAT, JAPCC, MILENG, MILMED, MP, NMW, SP, STRATCOM*	C2, CIMIC, NMW
	<b>NOR</b>	CCD*, CJOS, CWO, JAPCC, MILENG	CWO
	<b>POL</b>	CCD, CI, CIMIC, CMDR, CSW, EOD, HUMINT, JAPCC, JCBRN, MILENG, MP, NMW, MW*, SP, STRATCOM	CI, MP
	<b>PRT</b>	CCD, C-IED, CJOS	
	<b>ROU</b>	CCD*, C-IED, CI, CJOS, DAT, EOD, HUMINT, JAPCC, JCBRN, MILENG, MILMED, MP, SP	HUMINT
	<b>SVK</b>	C2, CCD, CI, EOD, HUMINT, JCBRN, MILMED, MP, STRATCOM*	CI, EOD
	<b>SVN</b>	CIMIC, CI, HUMINT, JCBRND, MW, SFA*	MW
	<b>TUR</b>	C2, CCD, C-IED, CJOS, CSW, DAT, ENSEC, HUMINT, JAPCC, MILENG, SP	DAT
	<b>USA</b>	C2, CCD, CI*, C-IED, CJOS, DAT, ENSEC*, HUMINT, JAPCC, JCBRN, MILENG, MILMED, M&S	CJOS
	<b>AUT (P)</b>	CCD, JCBRND, MW	
	<b>FIN (P)</b>	CCD, CSW, STRATCOM, ENSEC	
	<b>GEO (P)</b>	ENSEC	
	<b>SWE (P)</b>	CCD, C-IED, STRATCOM*	





## How Does NATO request COE products and services?

HQ SACT coordinates the submission of NATO Requests for Support (RfS) to the COE Programmes of Work (POW). The overall aim of the process is to optimize the use of the COEs and resources.

In an effort to streamline the process and better use the resources available to both NCS and COEs, NATO NCS will primarily use the Request for Support tool, in TRANSNET, to forward Requests for Support to NATO accredited COEs.

The tool was tested throughout 2018, the current version has built-in functionality and allows users to coordinate, provide feedback on the requests, monitor the progress of a particular RfS, and monitor the development of products and projects.

### 2019 RfS process steps:

1. Requestor contacts COE by submitting the RfS in the tool;
2. COE evaluates the RfS to determine appropriate expertise and available resources;
3. COE provides response (feedback) to RfS;
4. ACT (SME) provides validation and prioritization of the RfS and coordinates with the potentially affected stakeholders;
5. COE steering committee accepts or rejects the RfS for COE POW;
6. RfS is accepted and COE POW is updated, as necessary.

To request assistance from a NATO accredited COE, one must use the RfS Tool, available in COE Community of Interest in TRANSNET. To register in TRANSNET, browse to <https://portal.transnet.act.nato.int/Pages/home.aspx> and register. Once accepted in TRANSNET request COE Community of Interest access. The RfS tool is under COE POW thumbnail.

### Statistics:

- » Total number of RfSs submitted for analysis by NATO Command Structure: 160 unique RfSs (ACT: 90, ACO: 53, IS/IMS: 6, COE: 5, OTHER: 6)
- » Total number of individual RfS to all 25 COEs: 399.

### Cross functional RfSs:

- » SACT SPP - Long term military transformation POW (SFA/FFAO):

### Example of RfS in 2018

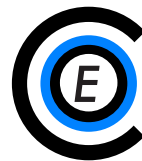
Title	Requestor
Submarine White Paper 2018	MARCOM
Middle East conflict consequences logistic analysis	ACT CAPDEV CAP
Covert REA and Covert MCM Ops in support of Amphibious Operation	CSW COE
MP Initiative under Substantial NATO - Georgia Package (SNGP)	MP COE
Conceptual framework for cyberspace operations workshop	SHAPE DCOS CCD
Delegation of Command Authority Study	ACT CAPDEV C2DS
Multinational Capability Development Campaign (MCDC)	ACT STRATCOM
Multinational Information Operations Experiment (MNIOE)	ACT STRATCOM
NATO StratCom Policy & Doctrine Development	ACT CAPDEV C2DS
Cyberspace Operations Doctrine Development and Coordination	ACT DCOS CCD
LOGFS MEDICS Medical Evaluation Manual Development	ACT MED
Distributed Simulation Laboratory	ACT FUSOL
Distributed (war) gaming platform	ACT FUSOL







## NATO EXPLOSIVE ORDNANCE DISPOSAL CENTRE OF EXCELLENCE EOD COE



### Director's Message

*What is new apart from the EOD COE director? It is the question we challenge ourselves on a daily basis. As almost everything around us is evolving, we put our effort to keep up the pace and develop in all areas including training, education, TTPs, standardization and technology. I am impressed by the achievements of our multinational hub and I feel committed to assisting in saving lives. Information and experience sharing along with knowledge are the most important ingredients, which support our success. Therefore, my ambition is to cooperate with identified community of interest not just for the benefit of our five sponsoring nations, but to the whole NATO community. At the same time, we are open to other NATO Nations to join us in our effort to improve the Alliance.*



**COL Róbert CSÁSZÁR**

### 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



The EOD COE is one of the tools of the NATO Supreme Allied Commander for Transformation aiming to improve military capabilities, value and efficiency of the Alliance. It was established by Slovakia as a Framework Nation with support of five Sponsoring Nations (CZE, FRA, HUN, POL and ROU). In January 2011 the Centre met successfully the accreditation criteria. Afterwards, the North Atlantic Council activated the EOD COE as an International Military organization on 28 April 2011. The Centre passed the periodic assessment in 2014.

In 2016, the EOD COE fulfilled the accreditation criteria in accordance with BiSC DIR 75-7 Education and Individual Training, and gained "unconditional" accreditation as the NATO Education and Training Facility.

### Vision

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

### Key Products and Activities

#### 2018

- » Provision of EOD education and training solutions to enhance NATO's Global programming framework,
- » Delivery of improved NATO EOD Staff Officer Training (SOT) by using modelling and simulation technologies,
- » Development and delivery of Joint Advanced Distributed Learning (JADL) course of the AJP 3.18 "Allied Joint Doctrine for EOD Support to Operations" in support of NATO e-learning,
- » Development and delivery of Home Made Explosive Basic Course (HME-B) in a format of Train the Trainers (T3) for Framework nation,
- » Continuous upgrade of Former Warsaw Pact Ammunition (FWPA) handbooks and provision of information via electronic means,
- » Delivery of six EOD specialized education and individual training courses,
- » Extended support to EOD related collective training and education,
- » Continuous support to the development of NATO Allied Publications,
- » Contribution to STO's project, SCI-298 - Identification and Neutralization Methods and Technologies for C-IED,
- » Management development and synchronization of the NATO EOD Terminology,
- » Preparation and execution of the NATO EOD Demonstration and Trials 2018 with focus on the newest EOD related equipment and technologies,





- » Organization of Senior Military Leaders Seminar and EOD Conference within D&T 2018,
- » Support to MILENG and C-IED COEs in organization of conference within D&T 2018,
- » Development of project - Integration of Exoskeleton in the Battlefield through organization of workshops and trials in cooperation with industry, academia, MILMED COE and NCIA,
- » Continuous enlargement of EOD COI by developing new relationships and common cooperation areas with academia and educational facilities,
- » Support the elaboration of maritime environment specifics into EOD standards,
- » Contribution to NATO Defence Planning Process (NDPP) through the MILENG Defence Planning Advisory Group (DPAG) continuous collaboration including updates of EOD related CCs/CSs,
- » Continuous support and active participation to the NATO EOD Working Group (WG), Force Protection WG, C-IED WG, MILENG WG and Allied Joint Operations Doctrine WG,
- » Support NATO exercises through development of current EO threats scripting and provision of subject matter experts to execution and evaluation phases (Northern Challenge, Ardent Defender),
- » Facilitation of the NATO Lessons Learned (LL) process by operating and maintaining EOD equipment database with operators experience and feedback. Active participation in LL community events and implementation of recommendations and outputs.



## 2019

- » Enhance NATO's Global programming framework by EOD education and training solutions,
- » Deliver seven EOD specialized education and individual training courses,
- » Support Sponsoring nations capabilities development via provision of the Mobile Training Team tailored to needs in a T3 format,
- » Reach the criteria & achieve certification of the AJP 3.18 as "NATO Approved" JADL course and deliver/manage it throughout the year,
- » Continuous support to the Allied Joint and Allied Tactical Publications development. Maintain collaboration in NSO WGs from previous years and keep continuum of progress,
- » Constantly enlarge the COI by Maritime experts and entities to support elaboration of EOD standards in a comprehensive manner. Include maritime experts in own training deliverables,
- » Contribution to collective training and education, with focus on EOD related NATO exercises mainly Ardent Defender and Northern Challenge,
- » Provide specialized EOD advice, SMEs to support multidisciplinary approach to related military disciplines and NATO exercises,
- » Direct involvement in DAT POW projects,
- » Organization of WSs and trials to finalize the project of the Integration of Exoskeleton in the Battlefield in cooperation with NCIA and Industry. Deliver Concept of Operations/Employment and Technology Readiness Level report,
- » Support elaboration of EOD equipment requirements, standards and technical specifications,
- » Maintain and update EOD/IEDD Equipment Catalogue and FWPA handbooks,
- » Organize the 7th NATO EOD workshop with focus on EOD lessons and technological trends,
- » Continuous support to NDPP and NATO Transformation.



## NATO EOD COE Contact Information

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



*Today's security environment encompasses a multitude of challenges ranging from conventional military forces, proliferation of weapons of mass destruction, hybrid warfare, cyber-attacks, and international terrorism. Therefore, NATO's core tasks of collective defence, crisis-management and cooperative security drive the need for a strengthened deterrence and defence posture.*

*To assist in addressing these requirements, the HCOE provides incredible flexibility in supporting the specialized capabilities of the NATO Response Force, NATO's enhanced Forward Presence, as well as operations in Kosovo and Afghanistan. Regardless of the task, I am fully confident that the HCOE will continue to be a key partner in achieving NATO priorities, enable the collection of relevant and actionable intelligence, and be relied upon as the principal provider of HUMINT expertise within the Alliance.*

### Director's Message



COL ROU A Florin-Vasile TOMIUC

## Mission Statement

The HCOE provides the highest quality services and products in response to the requirements and needs of the NATO Command Structure, the NATO Force Structure, the NATO Nations and, when feasible, Partner Nations.

## Who We Are

The epicentre of HUMINT knowledge, our experienced professionals endeavor to transform the NATO HUMINT Enterprise into a more interoperable and capable force that better supports NATO missions and operations. HCOE chairs the NATO HUMINT working groups, is an accredited NATO Education and Training Facility, and Department Head for HUMINT Education and Individual Training in NATO.



## Vision

The HCOE is the focal point of HUMINT expertise within NATO and is the spearhead for all major HUMINT projects and initiatives within the Alliance.

## Major products and activities

### Doctrine and Standards

- » Fulfill custodian related responsibilities for NATO HUMINT Publications;
- » Participate in Joint Intelligence Working Group and Allied Joint Operations Doctrine Working Group in order to support harmonization within Intel-series and other operational doctrines;
- » Provide SME support to related working groups, NATO exercises, courses, CD&E and LL&BP processes on NATO HUMINT Doctrine and Standards;
- » Contribute to the Information Exchange Requirements development for NATO HUMINT;
- » Update the NATO HUMINT Operator Handbook.

### Concept Development & Experimentation

- » Develop HUMINT support to Human Network Analysis and Support to Targeting;
- » Explore opportunities provided by the cyber environment;
- » Support ACT in developing Long-Term Military Transformation elements: Strategic Foresight Analysis and Framework For Future Alliance Operations;
- » Develop NATO HUMINT Operator Toolset prototypes;
- » Identify HUMINT support to the Human Aspects of the Operational Environment.





## Education & Training

- » Lead and host the NATO HUMINT exercise and provide support to other major NATO exercises;
- » Conduct NATO HUMINT individual training;
- » Lead and conduct the Human Network Analysis and Support to Targeting Intelligence Analyst Course;
- » Design and develop new courses in coordination with the Requirement Authority and ACT.

## Lessons Learned & Analysis

- » Conduct an analysis report in HUMINT area of expertise and provide a study regarding "NATO HUMINT Evolution, Challenges and Best Practices From Two Decades of Operations- Allied Military Intelligence Battalion";
- » Conduct Mobile Lessons Learned Data Collection in RSM and KFOR for collecting NATO HUMINT observations, lessons identified and best practices;
- » Participate in SHAPE Evaluation Teams for assessing the NRF preparation cycle;
- » Participate in NATO exercises UNIFIED VISION AND STEADFAST INTEREST;
- » Act as NATO HUMINT Community of Interest content manager for the Joint Analysis Lessons Learned Center portal



## Department Head

- » Engage in Global Programming with the Requirement Authority (SHAPE J2), ACT JFT, Intel Department Head Coordinator, and Education and Training Facilities to identify effective, efficient and affordable HUMINT E&T solutions. In this respect, the HUMINT DH shapes a systematic approach to the HUMINT E&T and conduct a serial of HUMINT Training Needs Analysis (TNA) Working Groups IAW Bi-SCD 075-007;
- » Lead the HUMINT Education and Individual Training Community of Interest in NATO, connected to the NATO HUMINT Working Group (NHWG), as well as ensure liaison between the NHWG and the NATO Intelligence Training Working Group (NITWG);
- » Participate in the Intel Annual Discipline Conference and contribute to the subsequent Discipline Alignment Plan;
- » Review the HUMINT Training Requirements Analysis (TRA) and make recommendations to the Requirements Authority, to include contributing in the revision of STANAG 2555;
- » Perform content assessment for the HUMINT E&T solutions;
- » Support HUMINT e-Learning development and implementation of modern delivery techniques, to include M&S solutions;
- » Provide oversight of HUMINT E&T related lessons identified and best practices.

## NATO HUMINT COE Contact Information

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[www.natohcoe.org](http://www.natohcoe.org)



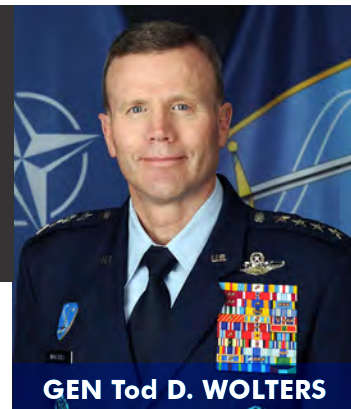


## NATO JOINT AIR POWER COMPETENCE CENTRE OF EXCELLENCE (JAPCC COE)



### Director's Message

*The Joint Air Power Competence Centre, established as the first NATO-accredited Centre of Excellence in 2005, provides subject matter expertise across a broad range of Joint Air and Space Power mission areas and leads NATO in the development of Concepts and Doctrine, Capability Development, Education and Training, Exercise Development and Execution, and Lessons Learned in accordance with NATO MC(M) 236. Within this framework, the JAPCC contributes to the transformation of Combined Joint Air and Space Power. We are NATO's Air Warfare Center.*



**GEN Tod D. WOLTERS**

### Mission Statement

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



### Who We Are

The JAPCC is a Memorandum of Understanding (MOU)-based organization made up of 16 Sponsoring Nations, hosted by Germany as the Framework Nation. The JAPCC is open to all NATO members as well as selected Partner Nations.

### Vision

Be NATO's catalyst for the improvement and transformation of Joint Air and Space Power; delivering effective solutions through independent thought and analysis.

### Recurring Projects, Activities & Events

#### Annual Conference

The JAPCC Conference attracts senior representatives from the military, industry and academia, with attendance of more than 200 flag officers in the last three years. The next JAPCC Conference will be Held on 8 - 10 October 2019. The topic will be publicized early 2019.

#### JAPCC Journal

The Journal of the JAPCC is our flagship publication reflecting key A&S topics. Deliberately considering busy readers, the Journal publishes pertinent, short (1,500 –2,000 words) articles from contributors across the Joint A&S Power community. The Journal (e-version) is available on the JAPCC website at: [www.japcc.org/publications](http://www.japcc.org/publications)

#### NATO Doctrine and Working Groups

The JAPCC is active across the spectrum of Joint Air and Space Power to ensure NATO doctrine is updated and provides subject matter expertise to numerous NATO Working Groups and Committees. As examples, AJP 3.3 Allied Joint Doctrine for Air and Space Operations and ATP 49G Use of Helicopters in Land Operations are both managed at the JAPCC, as are numerous others.

#### Exercise Support

In 2018 – just as in previous years – the JAPCC provides Air & Space power expertise to the JWC and Allied Air Command during exercises. JAPCC's role during both exercises is to provide highly dynamic and realistic Opposing Forces (OPFOR) Air, Space and Cyber play in support of OPFOR's Concept of Operations and Exercise Training Objectives by building and executing an OPFOR Air Tasking Order and injecting incidents through the Joint Exercise Management Module.

#### Rotary Wing Focus Group

At the end of 2017, the JAPCC launched the Rotorcraft Operations (RC Ops) and Helicopter User Database (Helo UDB) webpage on our website. Currently in an IOC version, the RC Ops webpage aims at increasing awareness in the larger Air, Land, Maritime and Special Forces rotorcraft communities, by providing information on events, doctrine, stakeholder activities, publications and articles on rotorcraft operations and developments in a very user-friendly way. The Helo UDB provides additional information to facilitate cooperation between the different stakeholders through a password protected account.







### Air-to-Air Refuelling

This section is a single point of reference for the AAR community of NATO, the EU and beyond. JAPCC Chairs the NATO AAR Working Group, manages 8 NATO directives, hosts training events and maintains the global AAR Clearance & Compatibility Matrix. The matrix, directives, thought papers and an event calendar at: [www.japcc.org/aar](http://www.japcc.org/aar). JAPCC also designed and leads the AAR Clearance training and Tabletop Exercise program, in coordination with the European Air Transport Command.



### Space Support in Operations

Space SME continued their work in the evolution of Space Power within NATO, mainly through their participation in the Bi-Strategic Command Space Working Group (NBiSCSWG) and undertook improvements as Department Head for the NATO discipline 'Space Support in Operations' for Education and Individual Training (E&IT). In addition JAPCC contributed expertise to Space related documents and doctrines as well as designing and executing OPFOR Space Forces in NATO Exercises. Finally, studies in the field of "Space Surveillance and Tracking" and "Space Resilience" are ongoing and will be published soon.

### Theater/Ballistic Missile Defence

JAPCC is supporting the development and integration of TMD/BMD concepts in various committees, panels and workshops like the Air and Missile Defence Committee, the Panel for Air and Missile Defence, the BMD Operational Users group, the BMD Architecture Design Document workshop or the Joint Coordination Group Ground Based Air Defence. Furthermore, JAPCC is supporting large BMD and IAMD exercises and experiments in key positions such as NIMBLE TITAN and Joint Project Optic Windmill. JAPCC's IAMD/BMD expertise is in high demand for other NATO studies and larger exercises, e.g. A2/AD, Hypersonic Operational Threats, and exercises TRIDENT JUNCTURE and RAMSTEIN AMBITION. JAPCC also contributes to the education about missile defence at NATO School Oberammergau.

## Recently Published Studies And Reports

### Future Battlefield Rotorcraft Capability (FBRC) anno 2035 and beyond

NATO's operating environment is changing at an exponential rate and is forcing the Alliance to come up with innovative solutions to successfully confront challenges, threats and potential adversaries. In order to meet current and future challenges modern and capable forces at high readiness are required with a focus on a longer term period. In addition private investment in research and development will continue to outstrip state funding and innovative products will be available to all. The future tactical battlefield will see more automated weapon systems able to make many resolutions that require humans today. This project explores how the operating environment of 2035 and beyond could shape the Next Generation Rotorcraft Capability (NGRC) in support of NATO operations.

### The Development of an improved definition of Air Level of Effort (LOE)

Previously, defining NATO's Level of Ambition (LOA), Political Guidance (PG) has used the number of sorties per day to define the Air LOE. Mostly due to decentralized and dispersed use of joint air capabilities, this metric is not inclusive of all Air Power activities e.g. Surface Based Air and Missile Defence (SBAMD), Air Component infrastructure, Air Command and Control (Air C2) requirements, Air Control and Unmanned Aerial Systems (UAS). This project defines a recommended set of new metrics for defining the Air Level of Effort, and distinguishes between operationalized quantitative aspects and infrastructural technical aspects used for defining composition and layout of tailored C2-systems used in NATO and Nations.

### RESHAPING CLOSE "AIR" SUPPORT - From Close Air Support (CAS) to Close Joint Support (CJS)

Present-day NATO CAS doctrine has evolved over the past 25 years in a relatively permissive environment in which the Alliance has enjoyed nearly complete Air Superiority or even Supremacy, with the most significant threats to CAS aircraft ranging from machine gun and shoulder-fired man-portable air defense systems (MANPADS) to relatively low-end surface to air missiles (SAMs) like the SA-6. Enemy aircraft and high-end SAMs have not traditionally been active threats. In the wake of recent geo-political changes and resurgence of near-peer or peer potential adversaries with high-end capabilities, it is necessary to explore the questions of whether the current CAS paradigm is viable in a peer conflict, and whether in an era of expanding technology and movement towards integrated multi-domain operations, has the range of tools available to support troops on the ground grown to a degree that CAS is too limiting a term? Is a new paradigm needed?

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

Director's Message

*NATO continues to be both strategically and operationally prepared with policies, plans, and capabilities to counter a wide range of state and non-state CBRN threats. Consequently, the JCERD Defence COE continues to support NATO, its nations and its partners to further develop capabilities to counter the proliferation of WMD and to defend against CBRN threats.*



## Mission Statement

Our Centre assists NATO, Participants and Partners by supporting NATO's capability development process, mission effectiveness, and interoperability by providing comprehensive and timely expertise on CBRN Defence.



## Who We Are

The Centre combines skills and expertise from more than 60 personnel from thirteen nations in the area of Concepts, Doctrine Development, Capability Development, Experimentation, Training, Exercises, Education, Lessons Learned, Modelling & Simulation, Reachback and Operational Planning Support, acts as NATO Department Head for WMD/CBRND Training and Education and forms the core of the NATO CBRN Reachback capability. We are also more and more reaching out beyond the pure military and focusing on civil-military co-operation as well as on collaboration with the European Union and other international organizations.

## Vision

The JCERD Defence COE is and will continue to be the Centre of Gravity for all CBRN Defence related issues within the Alliance and a focal point for cooperation in CBRN Defence with NATO Partners.

## Major Products and Activities

### 2018

- » Support the Committee on Proliferation (Defence Format) exhibiting COE's capabilities,
- » Support the Future Forces Forum 2018 exhibiting COE's capabilities and chairing the CBRN Congress,
- » Support of the Joint CBRN Defence Capability Development Group (JCERD CDG),
- » Chair the NATO Panels - Training and Exercise Panel (TEP) and the Doctrine & Terminology Panel (DTP),
- » Develop the Allied Joint Doctrine on Comprehensive CBRN Defence,
- » Support the concept development and experimentation of the CBRN/C-IED Exploitation Functional Concept,
- » Support the development of conceptual documents (e.g. CBRN Defence Inputs into Allied Joint Doctrines), including custodianship for the Allied Joint Doctrine for CBRN Defence,
- » Develop CBRN Capability Requirements within the NATO Defence Planning Process (NDPP) 2021,
- » Support the development of the Framework for Future Alliance Operations (FFAO) 2018,
- » Co-operate with and provide support to NATO Modelling & Simulation Group 147,
- » Implement a Standing RFI process in support of NATO Intelligence and Fusion Centre (NIFC) situational awareness,
- » Provide exercise support and CBRN Reachback to NATO's major exercise programme,
- » Provide a Mobile Education and Training Team for a CBRN First Responders Training in KWT,
- » Conduct Live Agent Training Course for NATO and EU / EU Partner participants,
- » Execute NATO Department Head role for WMD/CBRN training and education and chairing the CBRN Defence Annual Discipline Conference,
- » Contribute to and revision of the CBRN Defence requirements, concept development, planning documents and tactical procedures,
- » Support NATO CBRN Capability Roadmap Development and its implementation,
- » Implement new software of explosion and 3D simulation into its CBRN Modelling & Simulation portfolio,
- » Support the Validation of AEP-66 Ed. 1 Handbook for Sampling Identification Biological Chemical Radiological Agents (SIBCRA) and the CBR Forensic Sampling Training Concept,
- » Be prepared to provide Reachback and operations planning support to active operations,
- » Mobile education Training: CBRN Warning & Reporting System – Manual procedures Basic Course in Slovakia, Comprehensive CBRN Incident Commanders course in Kuwait,
- » Act as Chairman of the COE Directors Conference.







## 2019

- » Continue the standing tasks and responsibilities as above,
- » Develop Allied Joint Doctrine on WMD Disablement,
- » Support the development of a Joint NATO Urban, Urban Littoral and Megacity Doctrine,
- » Contribute to and revision of the CBRN Defence requirements, concept development, planning documents and tactical procedures,
- » Support CBRN Capability Roadmap Implementation,
- » Support the follow-on work (e.g. on stakeholders) of MCO603/1,
- » Implement new radiation software into its Reachback and Modelling & Simulation portfolio,
- » Integrate the new NS VTC capability into the Reachback and its battle rhythm,
- » Provide Operations Planning Support to the COPD and integrate it together with the Reachback capabilities into the planning process and CCOMC battle rhythm,
- » Support the review of the Combined Joint CBRN Defence Task Force CONOPS, the CBRN Reachback and Fusion Concept and the CBRN Reachback Element CONOPS review,
- » Training, Exercises & Education,
- » Be prepared to provide CBRN Reachback and operations planning support to active operations,
- » Experimentation Support,
- » CBRN Lesson Learned, Evaluation and Analysis,
- » CBRN Reachback and OPS support,
- » CBRN Modelling and Simulation Capabilities Development,
- » CBRN Knowledge Distribution to NATO Community,
- » Support of courses workshops and conferences,
- » Legal Support & Mutual Cooperation among Different Entities,
- » Support the NATO BMD with WMD expertise,
- » Support NATO Partners in CBRN Defence on Request,
- » Expansion of COE Participation,
- » JCBRN Defence COE Internal Improvement,
- » Scientific Studies,
- » Provide support of courses: International Radiological assistance Program Training for Emergency Response (I-RAPTER)-Basic, CBRN Analysis Super User – Refresher, Introduction to the International CBRN Training Curriculum for Trainers of First Responders to CBRN Incidents, CBRN Units Evaluators, Joint Countering WMD Planning Course, Live Agent Training, Consequence Management After CBRN Incident,
- » Emerging Relationships: NATO EURO – Atlantic Disaster Response Coordination Centre (EADRCC), European Union Military Staff, European Space Agency, European Union Horizons 2020, European Academic and Scientific Communities,
- » Supporting civil-military co-operation in the CBRN Defence field,
- » Support the development of AEP-66Ed. 2 Handbook for Sampling Identification Biological Chemical Radiological Agents (SIBCRA) and the CBR Forensic Sampling Training Concept.



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## NATO MILITARY ENGINEERING CENTRE OF EXCELLENCE (MILENG COE)



### Director's Message

*MILENG COE is the only permanently established fulltime body dedicated to NATO Military Engineering. As the major hub and advocate for MILENG in NATO and beyond we are the main promoter for MILENG in its broad sense in support of operations and are dedicated to enhance interoperability through standardisation to deliver the required effects to the benefit of NATO and our 17 Sponsoring Nations.*



**COL Thorsten LUDWIG**



### Mission Statement

MILENG COE provides a significant contribution with joint combined subject matter expertise to the various aspects of military engineering. This include concepts, materiel, doctrine and capability development, education and training and the lessons learned process in order to support NATO's military transformation, the participants and other partners thus enhancing the Alliance's military engineering capability and interoperability in order to improve the effectiveness of military engineering support to NATO's missions.

### Who We Are

The Director MILENG COE is the Principle Advisor to HQ SACT for MILENG, the Deputy Chairman of MCLSB MILENG WG, the Chairman of MILENG DPAG (to provide SME in support of NDPP) and a member of the NSJEC Advisory Board. The MILENG COE is Department Head for MILENG Training and Education.

### Major Products and Activities

- The MILENG COE provides through its Policies Concept and Doctrine Development Branch (PCD) support to NATO concepts and doctrine development, ensuring that MILENG aspects are adequately represented. The MILENG COE has a leading role as the working body for the MCLSB MILENG WG in the development of concepts, doctrines and procedures. The MILENG COE acts as custodian of Military Engineering related policies and doctrine like "MC Policy Power generation for DFI", co-custodian "MC Policy Military Engineering" and keystone documents like "AJP 3.12 Military Engineering" and follow on ATPs, STANAGs. For all aspects of Military Engineering, MILENG COE Provides direct SME support to Staff ACT and ACO.
- The MILENG COE is a NATO Accredited Education and Training Facility. The Education and Training Branch (E&T) delivers NATO Approved and Listed courses for NCS requirements, Operational level down to national interoperability and 3 ADL courses (Introduction to Military Engineering, Military Search Planning and Mobility Staff Awareness & Planning).
- The MILENG COE provides Mobile Training Teams (MTT) tailored to the HN requirements, once per year. They also provide instructor support to NATO and National Training Institutions.
- The annual MILENG COE's Industry Day and Information Exchange Seminar provides MILENG SMEs from Nations and NCS/NFS the opportunity to discuss with industry the challenges of today's operational environments, lessons learned, solutions and future developments.
- MILENG COE, with support from NATO HQ ESCD is running the NATO Interoperable Bridge Classification Project. The







intention is to have a proposed common NATO approved method, rapid and reliable, designated for calculating the Military Load Class (MLC) of existing civilian bridges in order to respond to the operational requirements of the mobility challenge.

## MILENG COE Key Events

ADC MILENG (EOD COE)	28 Jan 19
17th MILENG WG	29 Jan - 01 Feb 19
23rd MILENG COE SC	27 Mar 19
MTT (CZE)	17-21 Jun 19
18th MILENG WG (ITA)	11 - 14 Jun 19
24th MILENG COE SC	22 Oct 19
NSJEC 2019	23 - 24 19
IES 2019	03 - 05 Dec 19
MILENG COE Industry Day	04 Dec 19

Interoperability is a question of attitude.



## Course Calendar

Course Calendar The complete Event and Course Calendar can be found on our Website and the Knowledge Portal. Please register to access the MILENG COE knowledge Portal through the website at [www.milengcoe.org](http://www.milengcoe.org).

NOMECE 1	18 – 22 Mar 19
NOMECE 2	23 – 27 Sep 19
NTMECE 1	06 – 10 May 19
NTMECE 2	04 – 08 Nov 19
NMEPPPC	20 – 24 May 19
MEMAC 1	01– 05 Apr 19
MEMAC 2	14 – 18 Oct 19
MEMBC 1	25 Feb – 01 Mar 19
MEMBC 2	25 – 29 Nov 19
NBAC (TBC)	08 – 12 Jul 19
Infra Assessment Course	11 – 15 Feb 19



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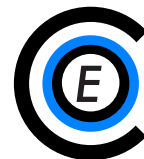
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## NATO MILITARY MEDICINE CENTRE OF EXCELLENCE (MILMED COE)

### Director's Message

NATO MILMED COE Director's priority in the next 3 years is given to the integration of all MILMED COE members into the most successful military medical team in NATO. All possible efforts to be made to enhance the relationship with the sponsoring MILMED COE nations and possible future member nations. It is also important to initiate and follow the support to NATO partner nations especially located in the eastern and southern flanks of NATO, so that MILMED COE will become the open medical gate of the Alliance.



### Mission Statement

The mission of the NATO MILMED COE is to support and assist the Strategic 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
- » Standards development and custodianship
- » Deployment related health surveillance

### Who We Are

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, Interoperability, Deployment Health Surveillance Capability (DHSC) 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.





## Major Products and Activities

- » Vigorous Warrior 2019, Multinational Military Medical Exercise in May 2019 in Romania
- » Medical Scenario Development and Ex VW '19 Experimentation
- » Successful inclusion of the Concept Development and Experimentation (CD&E) and real-time simulation activities into MILMED COE's portfolio
- » Medical Concept Development and Experimentation Workshop
- » Deployment Health Surveillance Capability – EpiNATO-2 support to NATO and EU operations
- » Medical Messenger Online Journal for publications
- » MILMED COE's Training Branch is currently offering more than 10 different courses and training for NATO and partner nations
- » Conduct trainings by Mobile Training Teams based on requests
- » Participation in Medical Evaluation of Military Medical Units
- » NATO Medical Support Education and Training Annual Discipline Conference
- » Annual Medical Sharing Group meeting
- » Developing Knowledge Management for NATO Medical Community
- » Annual Medical Lesson Learned Workshop
- » Maintenance and continuous update of Medical Standardization Documents Searching Tool
- » Participating in Future Forces Forum in October 2018 in Prague, Czech Republic
- » Close cooperation with NATO Science & Technology Organization / Human Factors & Medicine
- » Organizing the Force Health Protection NATO Conference biennially, with the latest iteration in 2018 in Litchfield, UK



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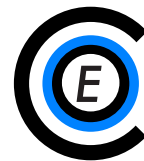
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## NATO MILITARY POLICE CENTRE OF EXCELLENCE (MP COE)

Welcome to the NATO Military Police Centre of Excellence offer placed in the latest edition of the COE catalogue for 2019. The NATO MP COE is a unique permanent NATO Military Body, which provides sustainable work on all MP aspects across the full spectrum of NATO operations. With the armed forces heavily engaged throughout the world, the need to prepare military police officers and non-commissioned officers for international cooperation is becoming increasingly important. Therefore, the Centre not only offers a variety of MP-related courses and events to fulfil those requirements but also, in cooperation with Subject Matter Experts (SMEs), prepares products and provides additional opportunity to enrich knowledge of the worldwide MP Family. It would be a pleasure and privilege to meet you in person at the NATO MP COE.

### Director's Message



COL Grzegorz WASIELEWSKI



### Mission Statement

The NATO Military Police Centre of Excellence 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

The NATO MP COE is an international military organisation which develops and provides subject matter expertise by support of, or in cooperation with, other military and civil actors for further evolution of MP standards and capabilities in order to enhance cooperation and interoperability of NATO nations and military police and gendarmeries in their role in the development

of future capability in accordance with the NATO Strategic Concept, Smart Defence Initiative and Framework Nations Concept across the full spectrum of operations.

The NATO MP COE focuses on but does not limit its activities to the cooperative aspects 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

The NATO MP COE is an organisation which provides a learning process, it develops and ensures enhanced subject matter expertise by support of, or in cooperation with, other military and civil actors for further evolution of MP standards and capabilities in order to support cooperation and interoperability of NATO nations and partner military police and gendarmeries in their role in the development of the future capability for the NATO New Strategic Concept, Smart Defence Initiative and Framework Nations Concept across the full spectrum of operations.



### NATO Approved Courses and QA guarantor

The NATO MP COE has earned an unconditional Quality Assurance Accreditation Certificate (2017-2023) and delivers five residential and three e-learning courses, using principles and methods of Global Programming and the NATO Systems Approach to Training. These courses strongly relate to the identified needs of the Requirement Authority and are based on the relevant Training Requirements Analysis as well as the corresponding Training Needs Analysis. All courses are uploaded on ETOC.





## Major Activities for 2019

### Residential Courses

- » NATO Military Police Senior Non-Commissioned Officer Course (NATO APPROVED) NATO ETOC Code: MPG-MP-21783 / ePRIME ref. No.: SrNCOC18: ACT.672.14;
- » NATO Military Police Junior Officer Course (NATO APPROVED) NATO ETOC Code: MPG-MP-21567 / ePRIME ref. No.: ACT.672.13
- » NATO Military Police Senior Officer Course (NATO APPROVED)
- » NATO ETOC Code: MPG-MP-3204 / ePRIME ref. No.: ACT.672.11
- » NATO Military Police Lessons Learned Staff Officer Course (NATO APPROVED) NATO ETOC CODE MPG-MP-32023/ ePRIME ref. No.: ACT.672.10
- » NATO certified e-Learning/ADL courses available at: [jatl.act.nato.int](http://jatl.act.nato.int):
- » ADL 186 Introduction to the NATO MP Doctrine e-Learning course
- » ADL 187 – Introduction to the NATO Lessons Learned Process for the Military Police Staff
- » ADL 188 – Introduction to the NATO Military Police Mobility Support Operations



### Events

- » Provost Marshal Forum 12-14 March 2019
- » Military Police Close Protection Forum, 1-4 April 2019
- » Cybercrime Investigation Workshop, 17-21 June 2019
- » Military Policing Annual Discipline Conference, 6-7 November 2019
- » Annual Military Police Lessons Learned Conference, 2-6 December 2019

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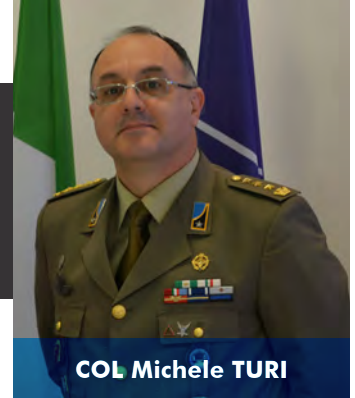


## NATO MODELLING AND SIMULATION CENTRE OF EXCELLENCE (MS COE)

Director's Message



*The NATO M&S COE is an international source of expertise and a catalyst for transformation, connecting NATO, government, academia, industry, and operational/training entities. The NATO M&S COE improves NATO and national M&S professionals through education and training; promotes cooperation and sharing between Nations and organizations; and contributes to the development of new M&S concepts and standards.*



COL Michele TURI

### Mission Statement

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

### Who We Are

An organization of experienced military leaders and young "digital generation" talents from 5 NATO Nations, representing all domains (sea, land, air, space & cyberspace) with expertise in various 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.

### Major Products and Activities 2018

#### Expanded knowledge and common understanding through education, training, executing events.

- » NATO Basic M&S Course. Fundamentals of M&S theory, applications in defense and the role of M&S in military activities.
- » NATO CAX Specialist Certification Course supported by JWC and JFTC to prepare CAX Specialists to perform duties during NATO Computer Assisted Exercises.
- » NATO M&S Cadet Course as ADL education.
- » Pilot test the new M&S Supporting CD&E Course.
- » Established the NATO Exercise Support M&S Integration Specialist Course to provide fundamental education on establishing a federation of simulations.
- » NATO M&S E&T Roadmap - led the multi-national effort to define the NATO M&S professional. Developing standards and support from Nations for inclusion of M&S courses as NATO opportunities.
- » NATO CAX Forum 2018 - led this annual event of 150 Military, Academia and Industry experts from 22 nations, promoted the information exchange and best practices among NATO and national simulation/exercise Centres.
- » MESAS 2018 - led this annual conference on the application of M&S in the Autonomous Systems domain and improved use in tomorrow's operating environment.



#### Supporting Concept Development and Experimentation

- » M&S Gap Analysis/Action Plan – provided expert analysis and recommendations about the use of M&S in NATO and development of an Action Plan to improve M&S for training.
- » M&S as a Service (MSaaS) – developed and tested an architecture and operational concept for cloud-based M&S services.
- » M&S COE Open Simlab – Established the lab as an Innovation Hub, supporting concept development and experimentation activities with NATO, Nations, Industry and Academia.
- » NATO Urbanisation Project – Megacity Modelling Support for UP's Concept Validation Wargame
- » Support Operational Concept Development and Experimentation activities for developing a C2SIM standard and extension for Unmanned Autonomous Systems (UAXS)
- » Unmanned Autonomous Systems (Air, Land and C2 domains) – Implementation of a new open, modular and standard-based M&S architecture prototype for CD&E activity on UAXS
- » Support NATO LL Process with SME; establish LL Process for use of M&S in NATO; review LL and provided Analysis
- » Cyber Synthetic Environment – developed an initial research and study for a proposal to develop a concept for an M&S solution to



support CD&E, training, Exercise and operations in the Cyber Defense Domain

- » Crisis Management and Disaster Response simulation – supported the development of standards for simulation of CMDR to improve training and readiness to respond.

### **Supporting Warfighter Training and Interoperability**

- » CWIX – Led the M&S Focus Area, improving use of M&S and enhancing interoperability.
- » Supported NATO Exercises.

### **Promoted M&S while building expertise within the Armed Services, Industry, Academia and Government Agencies; presented numerous papers at international conferences including:**

- » International Training and Education Conference (ITEC) 2018.
- » Interservice/Industry Training, Simulation and Education Conference (I/ITSEC) 2018.

## **Major Products and Activities 2019**

### **Work with M&S Community of Interest to develop, enhance and promote standardization.**

### **Support the Education and Training Opportunities Catalogue (ETOC) with courses open to NATO, Nations and Partners, through the exchange of expertise within NATO and National M&S communities:**

- » Conduct NATO CAX Specialist Certification, CAX Integration and M&S Basic Course.
- » Provide e-learning via the M&S Cadet Course.

### **Lead, Manage and Host Conferences, Workshops and Fora**

- » CA<sup>2</sup>X<sup>2</sup> Forum 2019 (Computer Aided Analysis eXercise, eXperimentation), Paris, France.
- » MESAS 2019 (Modeling and Simulation for Autonomous Systems).
- » Host and lead NMSG workshops, seminars and lecture series.

### **Support ACT M&S Concept Development activities**

- » CORESIM 2020 and Linked training - identify solutions for the next generation of NATO core simulation capabilities.
- » Modeling and Simulation as a Service – develop and implement new MSaaS concepts through our distributed simulation architecture.
- » Provide expertise and guidance to ACT concerning M&S Gap Analysis/Action Plan and NATO uses of M&S for other than training.
- » Establish certification process to verify and validate new models and simulations for NATO (IVCT)
- » M&S for Analysis and Decision Making Support – conduct experimentation and provide SME for Data Farming Services.
- » EXCON COP – Conduct demonstrations, requirements capture, and further prototype development.
- » Task Groups – Provide SMEs and lead research task groups and exploratory teams for NATO M&S.

**Exercises and Experimentation:** Lead the M&S Focus Area for CWIX and co-lead the M&S Track for ACT's TIDE Sprint.

**International Outreach and Professional Development:** Participate in ITEC, I/ITSEC, and other M&S related professional fora to share and maintain knowledge of current technology, enhance partnerships, and promote the NATO M&S COE.

**Updated list of the Nations in the COE:** Italy as Framework Nation, Czech Republic, Germany and United States as Sponsoring Nations and Canada participates as a Contributing Partner.



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

### Director's Message

*Since the establishment of the NATO MW COE in Poljče, Slovenia in 2015, the NATO MW COE serves as a hub of knowledge, information and best practice exchange in mountain warfare. The NATO MW COE was established in order to contribute to the transformation and adaptation of the Alliance' capabilities which enable its forces to better operate in the mountain environment.*



### Mission

The mission of the NATO MW COE is to assist NATO member countries, partners, other countries and international organisations, in order to enhance mountain warfare capabilities through the following core areas:

- » Development of mountain warfare-specific doctrine and tactics.
- » Concept development and experimentation.
- » Mountain warfare lessons learned process.
- » Education and training.
- » Support to capability development.

### Who we are

The NATO MW COE is a multi-nationally sponsored entity, which offers recognised expertise and experience to the benefit of the Alliance, especially in support of its transformation endeavours. One mandatory purpose of the NATO MW COE is to provide tangible improvement to NATO capabilities, thereby adding value.

It incorporates a professional core that ensures and develops the subject matter expertise to meet the requirements of mountain warfare challenges. This enhances the ability of individuals and military units to engage in mountain warfare as well as the Alliance's readiness to operate in mountainous environment.

### Vision

The vision of the NATO MW COE is to be the hub for mountain warfare expertise in the NATO community.

### Major Products and Activities

#### 2018

- » Finalization of the 1st draft ATrainP-6 Mountain Warfare Education and Training, as the NATO MW COE has been tasked as a custodian by the NSO.
- » Beginning of the NATO MW Concept development process.
- » Organization of the 1st Annual MW COE Congress to provide a deeper cognition from science, experience and real-life acting, hence involving different point of views regarding special MW-related matters.
- » Experiments and studies: survivability and mobility projects (Avalanche Risk Management, MW Battle Dress Uniform, Energy Sustainability and Load Reduction).
- » Mountain Warfare Field Manual Initial Study production.
- » Establishment of the NATO MW LL Portal/Database.
- » Attendance of annual meetings and cooperation with the wider-interest community (IAMMS, EU P&S MTI, National Mountain Schools and Training Centres).





- » Attendance of exercises (Capricorn, 5 Torri, Trident Juncture 18).
- » Liaison with civilian standardization organizations, involved in the development of safety and technical standards for climbing equipment / training / medical matters and mountain protection.
- » Seminar related to the ISTAR structure required for ensuring successful operations in the mountains.
- » Hosting of the ITEP IPB Board II at the NATO MW COE.

## 2019

- » Completion of the development process of ATrainP-6 (STUDY 6525 NTG Ed.1) and initiation of the NATO promulgation process.
- » Development of the NATO MW Concept (WS1: Understanding Mountainous Environment IOT build future MW capability, WS2: Identifying of DOTMPFLI requirements for MW, WS Discovery Experiment: Test and Clarification of future MW requirements, WS3: Analysis of the Experiment Results).
- » Development of the ATP for MW as custodian (if tasked).
- » Participation in the revision of the AJP-3.2 Allied Joint Doctrine for Land Operations and ATP-3.2.1 Allied Land Tactics.
- » Organization of the annual MW COE Congress 2019 including an industry day.
- » Continuation of the MW-related terminology development.
- » Cooperation and collaboration with international GO and NGO organizations. Following, developing and producing MW-related publications in the field of mobility, safety, mountain rescue, orientation and risk management.
- » MW courses development IAW the Bi-SC Directive by initiating the process for a possible accreditation for Infantry / Mountain Battalion level (Company / BN Commanders and Staff).
- » Seminar Combat Service Support in Mountain Operations.
- » Training programme development for Special Forces task Unit (SOTU).
- » Keeping-track of MW-related events (Trainings, EXEs, etc.) IOT build a permanent LL Community of Interest to get Best Practices, Observations, LI and LL.



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NS-WAN: SI MWCOE





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



### Director's Message

*Naval mine warfare is as relevant as ever. Modern sea mines are becoming more and more complex and sophisticated. At the same time underwater explosives in an improvised form are to be considered. Meanwhile the Allies sea mining capabilities receive limited attention.*

*The present generation of mine countermeasure ships will be replaced in the coming 10-15 years. Making use of innovative technology these new capabilities could differ significantly from the current fleets and may encompass autonomy, remote control and revolutionary ways to be deployed.*

*These new capabilities will require new doctrine and tactics, planning and evaluation algorithms, tools, and most important, education and training of personnel. The NATO Naval Mine Warfare Centre of Excellence aims to drive and support the development of all that that is required to bring NATO's Naval Mine Warfare capabilities into the next era.*



**CDR s.g. Guy TERRY**



### Mission Statement

To assist NATO, Nations, Partners and other bodies by supporting the NATO transformation and operational efforts; NATO's capability development process; mission effectiveness and interoperability by providing comprehensive expertise on Naval Mine Warfare.

### Who We Are

The Naval Mine Warfare COE started as a School, focusing mainly on the Education and Training pillar, and is currently transforming by internationalizing and expanding focus to all four COE pillars. The Belgian-Netherlands Mine Warfare School in Oostende at the Belgian coast and recognized worldwide as EGUERMIN ("Ecole de Guerre des Mines") exists since 1965 providing courses and training to NATO nations and partners. EGUERMIN became "The Principal Advisor on Naval Mine Warfare" to NATO's Commander In Chief Channel in 1975.

The Ministers of Defense of Belgium and The Netherlands formally offered EGUERMIN as Naval Mine Warfare Centre of Excellence to the Supreme Allied Command Transformation and in November 2006 the Naval Mine Warfare COE was accredited by the North Atlantic Council.

Currently MOU-negotiations with two nations to become sponsoring nations and join the NMW COE's Framework nations Belgium and The Netherlands are in the final stage. The NMW COE and EGUERMIN will remain co-located in Oostende and will continue to benefit from the combined expertise, knowledge and experience.

### Vision

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





## Major Products and Activities for 2018

- » The 2018 BI-SC NATO NAVAL Mine Warfare Conference was hosted by the NMW COE 12 June under the leadership of Maritime Command Northwood.
- » Provide Instruction and training as requested by the next Commander Standing NATO Mine Countermeasures Group 1 and Group 2 and his staff.
- » Augment Allied Maritime Command Exercise DYNAMIC MOVE 1 and 2.
- » Participate in Concept Development and Experimentation initiatives and campaigns for future Naval Mine Warfare capabilities.
- » Enhance the NMW COE produced Naval Mine Warfare Vision by studying three topics further, as was requested by the Maritime Enterprise Advisory Board lead by the Commander Allied Maritime Command. The topics: Mitigation of risk to shipping, Future Mine Countermeasures concepts and review of NATO's policy, doctrine, concepts and capabilities of mine laying.
- » Support NCIA in modernization of the legacy Planning and Evaluation software.
- » Legacy Planning and Evaluation methods for MCM are not entirely applicable to modern autonomous systems. A major focus of NMW COE's work was aimed at the development of alternative approaches to overcome these shortfalls and presenting a viable alternative approach.



## Major Products and Activities for 2019

- » Support MARCOM by hosting the 2019 NNMWC
- » Continue to be NATO's central hub leading and supporting various activities related to adapting the MCM Planning and Evaluation process with regard to modern systems
- » Augment Allied Maritime Command Exercise DYNAMIC MOVE I-2019 (Ostend, BEL) and DYNAMIC MOVE II-2019 (La Spezia, ITA).

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## Director's Message

2018 has marked a significant stage in the consolidation of the NATO Stability Policing COE within NATO and in the development of SP. Important steps forward have led to make them both real and solid: Greece joined the COE; the SP Concept was finalized and presented by HQ SACT to the MC; the COE's training offer was integrated with additional courses; the Joint Analysis Report on SP was endorsed by HQ SACT; the COE's Strategic Plan 2016-2018 has been successfully implemented and the Strategic Goal 2018 achieved. Furthermore, the COE has requested the Quality Assurance Accreditation for its products. Based on these achievements, all three pillars of doctrine and standardization, education and training and lessons learned will be challenged in 2019 by new projects intended to improve the COE support to the Alliance's efforts and, at the same time, to make the Centre more requested in the wider international arena. This ambition is reflected in the COE Strategic Plan 2019-2021, which revolves around establishing its position at the centre of the SP community of interest, for the benefit of the supporting member states and of the Alliance, as a whole.



## Mission Statement

The mission of the NATO Stability Policing Centre of Excellence 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 of an unstable area 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).

## Vision

To this end, the SP COE acts as a prime mover to increase the contribution to the Stabilization and Reconstruction efforts of the Alliance in unstable scenarios, providing the NATO with a unique tool to fill the capability gap in the area of Stability Policing.

The SP COE will help the Alliance, the Sponsoring Nations and PfP Nations to enhance and transform their capabilities, procedures and functions in order to meet potential and future security challenges in line with NATO's three declared core tasks of collective defence, crisis management and cooperative security.

## Major Products and Activities in 2018

In 2018 the SP COE kept acting in support of ACT for the Stability Policing Concept Experimentation Phase in the Viking 2018. Furthermore, the NSPCOE performed a research on SP, answering to the question "How can Stability Policing contribute to the Alliance efforts in Projecting Stability?" which outcomes were in a Joint Analysis Report.

Besides this, it contributed to NATO's Bi-Strategic Education and Individual Training Directive.

Thus, the COE contributes to the success of the "Resolute Support" Operation in Afghanistan with Trainings focused on the Afghan Uniform Police (AUP). Finally, the COE will participate in NATO and international exercises and will deliver the following products and activities:



### Doctrine & concept development

- » Developing a planners' guide on Stability Policing;
- » Contributing to the Urbanization project;
- » Contributing to NATO Strategic Foresight Analysis and Framework for Future Alliance Operations;
- » Contributing to the NATO AJD Campaign Plan 2016 – 2020.





## Education & Training

Delivery of the following trainings :

- » Introduction to Stability Policing for Leaders;
- » Crowd and Riot Control awareness in NATO Operations;
- » Introduction to Stability Policing for Field Commanders;
- » Preserving a crime scene;
- » Train the trainer;
- » Stability Policing for planners.

## Lessons Learned

- » Invest and enlarge the Lessons Learned Community of interest in Stability Policing;
- » Invest in the outcomes of the Joint Analyses Report on Stability Policing within NATO in order to make them available for the NATO community;
- » Support the NATO SP COE trainings.



## Major Products and Activities in 2019

The 2019 will be a challenging year for the COE having in mind the need to continue the ambitious projects launched by the Centre in 2017 and 2018 and taking into consideration the new projects and activities intended to be organized.

From this perspective, the main COE's projects and activities in 2019 are the following:

- » Develop the ATP-103 related to the SP activities and tasks;
- » Support the main ACT projects involving SP aspects such as the POC development program or the Urbanization Project;
- » Organize and deliver the domestic courses referring to to Stability Policing (SP);
- » Deliver trainings within the Afghan National Police mentorship program;
- » Support and participate to the main NATO Exercises;
- » Support the implementation process of the NATO SP Concept and the Joint Analysis Report recommendations;
- » Organize and host a NATO Stability Policing Lessons Learned Conference.



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## Director's Message

*"Strategic communication plays an important role for NATO countries and Centre's mission is to support countries in their Strategic Communications efforts by bringing together military, academic, business and government knowledge. This has been another busy year. We organised several trainings on Strategic Communication to NATO and partner nation senior officials, supported NATO trainings, published reports and organised our third "Riga StratCom Dialogue". These are times of uncertainties. And it is a moment where it is very important to understand what underpins the change we're seeing in our societies, in our information consumption habits, and in the way that our social processes are taking place."*



Mr. Jānis SĀRTS

## Mission Statement

Our mission is to make a tangible contribution to Alliance's, NATO Allies and Partners understanding of strategic communications and to facilitate accurate, appropriate, and timely communication among its members as objectives and roles emerge and evolve in the rapidly changing information environment.



## Who We Are

Our international team of experts conducts research in response to the needs of NATO and the governments of participating nations, designs programmes to advance the development of NATO military doctrine, and provides comprehensive analyses and practical support for decision-makers in the Alliance.

## Vision

At the NATO StratCom COE, military specialists and civilian experts from academia and the private sector have joined forces to develop a collaborative multi-national response to the challenges of our day in the field of strategic communications.

## Major Products and Activities

### 2018

- » NATO StratCom policy & doctrine development
- » Multinational Information Operations Experiment (MNIOE)
- » Multinational Capability Development Campaign (MCDC)
- » Research "Robotic networks in social media"







- » Research "Data exploitation by malicious actors"
- » Experiment on audience perception
- » Quantitative analysis of visual content in social media
- » StratCom Terminology Improvement
- » Supporting NATO and NATO nations on enhanced Forward Presence engagements
- » Course "Strategic Communication for Senior Officials"
- » StratCom education and training support to ACT
- » Exercises - international strategic level table top exercise, TRIDENT JUNCTURE 18, NATO HQ CMX, STEADFAST PYRAMID and STEADFAST PINNACLE



## 2019

- » NATO StratCom policy & doctrine development
- » Course "Strategic Communication for Senior Officials"
- » Social media seminar and course
- » StratCom education and training support to ACT
- » Supporting NATO exercises
- » Study "Application of current legal regulations on the digital environment"
- » Annual Conference "The Riga StratCom Dialogue"
- » Academic journal "Defence Strategic Communications"
- » Study "How NATO as organisation and its members can counter hostile influence"
- » Report "StratCom in Counter Terrorism: The current Information Activities by Middle East based terrorist groups"
- » Study "Strategic Communication vis-à-vis Arctic"
- » Multinational Information Operations Experiment (MNIOE)
- » Multinational Capability Development Campaign (MCDC)
- » Research "Robotic networks in social media"
- » StratCom Terminology Improvement
- » Supporting NATO and NATO nations on enhanced Forward Presence engagements

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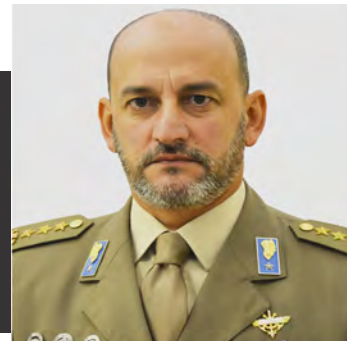
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## NATO SECURITY FORCE ASSISTANCE CENTRE OF EXCELLENCE (SFA COE)



### Director's Message



**COL Franco MERLINO**

*SFA is included in a broader strategy such as defence and related security capability building initiative which was launched during the Wales Summit in 2014. The Security Force Assistance Centre of Excellence (SFA COE) will support cooperation and interoperability by providing a hub of expertise for the benefit of the Alliance, NATO Nations and NATO partners, thus ensuring a coherent joint approach based on contributions from all participants.*

### Mission Statement

The mission of the Security Force Assistance Centre of Excellence (SFA COE) is to improve the effectiveness of the Alliance in promoting stability and reconstruction efforts for conflict and post-conflict scenarios through education, training and doctrine activities and also provide a unique capability to Alliance, NATO Nations, NATO Partners and International Organizations in the field of SFA.



### Who We Are

The SFA COE is a multinational organisation born on the 13th December 2017 when the related MOUs have been signed in Norfolk, at SACT HQ. It focused on the close cooperation that applies a joint approach to SFA capacity building in the following core areas: Doctrine and Standards Education and Training Analysis and Lessons Learned Concept Development and Experimentation. This approach requires the effective application and the harmonization of both military and civilian capabilities for conducting exercises and experiments by defining and developing scenario, programs and tools.



### Vision

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

### Major Products and Activities

Leading to the NATO Accreditation, the Centre conducted activities at national and international level in order to consolidate the foundations and to increase the current knowledge for the future implementation of NATO policy, doctrine and operational understanding of SFA. In particular, according to the four pillars of the Transformation, the Centre develops the following activities:

#### DOCTRINE and CONCEPT DEVELOPMENT

- » Analysis of NATO Operations Pre-deployment training of national units.
- » Doctrinal Seminar in favour of SFA operators (from strategic to tactical level, NATO JFTC Bydgoszcz).
- » Support to SFA-related disciplines studies through concept development and experimentation.
- » Review other related MC & AJP docs and integrate SFA properly.
- » Support to the CIMIC COE Workshop on "NATO Strategic Direction South - Projecting Stability" held in May 2018 in Rome at the NDC.





- » Participate to External courses, lectures and seminar on Security Sector Reform (Post-Conflict Operation Italian Centre, LUISS University, Ministry of Defence of Austria).
- » Establish international Relationship with other Military Centres (USA- JCISFA; MP COE; SP COE).
- » Analysis of the Allied and partners SFA doctrines.

### LESSONS LEARNED

- » Observation Mobile Team on SFA rules and activities in theatres of operation;
- » After Action Review and Gap Analysis;
- » Monitoring international SFA activities, contributing to Lessons Learned process and support ACO in effort for operations and ACT effort for doctrine development;
- » Close collaboration with SIGAR on Lessons Learned analysis established.

### STANDARDIZATION

- » Analysis of the implementation of the NATO SFA policy;
- » Mapping SFA Community of Interest (COI) and existing SFA initiatives as well practices at national and NATO levels;
- » Support to NATO COE SFA portal.

### EDUCATION AND TRAINING

- » Delivery SFA basic and advanced courses for Staff Officers (International staff officers basic SFA course and International staff officers advanced SFA course);
- » Analysis of the existing gaps in the field of SFA in order to find the right education and training solutions
- » Support to NATO and Regional Exercises providing Subject Matter Experts (SMEs) to SFA Training & Assessment Team (Provide Subject Matter Experts (SMEs) to SFA Training & Assessment Team; support NATO exercise with SME support; propose joint analysis requirements related to Security Forces; support Training Events at the NATO Joint Force Training Center in Bydgoszcz in Poland);
- » SFA operator profile definition in order to fix the fundamental characteristics of the actors involved in Training, Advising and Assisting activities;
- » Sharing of education and training experiences and expertise with NATO and partners nations in order to create a common ground in a comprehensive approach.



In line with the SFA COE's mission the Centre has planned a workshop with the aim to analyse from different points of view the challenges and opportunities of conducting SFA activities and to create a forum of discussion on the evolution of the Stabilization Concept from the 2010 Lisbon Summit until the present day.

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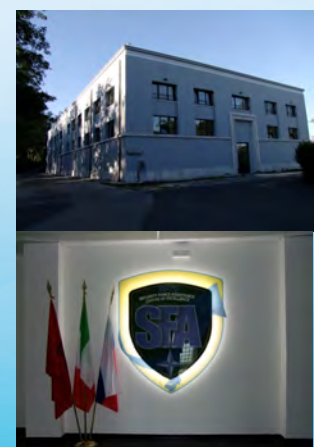
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## COE Steering Committee

The Steering Committee (SC) is the highest decision making level of the COE. It is the main body for guidance, oversight and decisions on all matters concerning the administration, policies and operation of a NATO accredited COE. The SC is responsible for the direction, guidance and supervision of the COE. It approves the POW and the budget and supervises their execution. The Terms of Reference (TOR) of each COE's SC are laid down in their Operational MOU.

. The SC consists of one representative from each Sponsoring Nation. The chair of the SC is from the Framework Nation (FN), and is not identical with the representative of the FN. The Chair does not have a vote in the SC. The COE Director also attends the meetings of the SC without a vote. HQ SACT is invited to participate, normally with the assigned SME in the relevant SC meetings to advise the SC on NATO entities' requirements and priorities. Other representatives as invited by the SC may attend in an advisory capacity. Normally, the SC make decisions by consensus of the representatives.

The responsibilities and tasks of the SC may include:

- » The consideration and approval of additional in-year requests for the POW and possible amendments to the budget.
- » Review the budget report and approve the annual Financial Statement.
- » Provide guidance on the functional relationships of the COE with other organisations and nations.
- » Review and amend the Concept of the COE.
- » Propose changes to the MOU and its Annexes.

Routine meetings of the SC take place at least once a year and the Chairman of the SC may call additional meetings.

### NATO COE Director

The Director of a NATO COE is responsible to the SC for the fulfilment of the mission, the tasks and the operation as well as administration of the COE. Taking into account the requests of HQ SACT, SNs, CPs and the other partners, the COE Director prepares and submits a draft POW to the SC for the following calendar year. SC considers all requests for services and products, including associated costs, and then approves the POW for the COE.







## HQ SACT Coordination with COEs

### Reference Documents

- A. Bi-SC DIR 80-1, Coordination of NATO COE, 8 Nov 2013
- B. MCM-236-03, MC Concept for COE, 4 Dec 2003
- C. MC 58-4, Terms of reference for SACT, 12 Apr 2010
- D. HQ SACT DIR 80-3 HQ SAXCT coordination with COE

HQ SACT – Acts on behalf of ACT and ACO as the strategic staff authority with overall responsibility for all COE and manages the ACT-COE staff level relationship (HQ SACT DIR 80-3).

As a result of NATO Command Structure Adaptation HQ SACT Transformation Network Branch (TNB) will be renamed COE Programme Development (CPD) Branch. The Branch is restructured, given a new Statement of Function and the manning of the Branch is being increased. CPD Branch is moved to Deputy Chief Of Staff Joint Force Development (JFD) within HQ SACT. This change will improve coordination and support to the NCS and the COEs in a more efficient way.

### COE Programme Development (CPD) Branch

The COE Programme Development Branch coordinates support from NATO COEs to the NCS. The Branch leads and coordinates the development and NATO accreditation of new NATO COEs, and conducts the periodic assessments of established COEs. The Branch, supported by SHAPE, leads and coordinates the military aspects of the A&I of new members of the Alliance.

#### The Branch's Statement of Function:

1. Coordinates and manages NATO COE activities within the following four pillars: Lessons Learned, Doctrine Development and Standards, Education and Training, and Concept Development.
2. Leads and coordinates the annual COE Directors' Conference.
3. Conducts periodic assessments of all NATO COEs.
4. Facilitates and coordinates the implementation of MC-236 (MC Concept for NATO COE and Functional MOUs.)
5. Conducts all negotiations with Nations through the establishment and accreditation phases for prospective NATO COEs, as envisaged in MC-236.
6. Supports NATO COEs in their efforts to establish bilateral relationships with NATO Agencies, Nations, partners, IOs/NGOs, Industry and Academia.
7. Leads and coordinates the military aspects of the A&I of new Alliance members, supported by SHAPE, as defined in Bi-SCD 010-001).
8. Coordinates ACT's TRANSNET portal and knowledge database to ensure unclassified collaboration between HQ SACT and COEs, NATO Agencies, Nations, Partners, IOs/NGOs, Industry and Academia.

The new CPD structure with staff officers dedicated to each pillar of the COEs will allow for an enhanced situational awareness and day-to-day cooperation with the COEs. These new staff officers will be able to advise and help COEs to better coordinate/cooperate with HQ SACT and over time help to navigate the rest of the NCS.



### **Coordination for Analysis & Lesson Learned**

This function will support the development, coordination and management of NATO COE activities provided to NATO within the Lessons Learned pillar by supporting the implementation of NATO COE governance within the Alliance in accordance with NATO policies and directives. The staff officer will be directly responsible for establishing, maintaining and managing a NATO COE Lessons Learned Community of Interest to better harmonize efforts and workload between NATO COEs and NCS stakeholders. This includes the management of a NATO COE Lessons Learned COI within the TRANSNET portal. The staff officer will provide guidance, information and best practices to NATO COEs regarding the NATO Lessons Learned process and activities, support the organization and coordination of NATO COEs Lessons Learned workshops and coordinate, assess and provide priority advice regarding NATO COEs activities linked to NATO's Prioritized Analysis Requirements List (PARL).

### **Coordination for Concept Development & Experimentation**

This function will support the development, coordination and management of NATO COE activities provided to NATO within the Concept Development pillar. The staff officer will be supporting the ACT FOGO champions and SMEs for the development, coordination and management of NCS requests to the NATO COEs across the Concept Development pillar. He or she is also responsible for establishing, maintaining and managing a NATO COE Concept Development Community of Interest to better harmonize efforts and workload between COEs and NCS stakeholders. This includes the management of a NATO COE Concept Development COI within the TRANSNET portal. Will offer support to NATO COEs in their efforts to establish bilateral relationships with NATO Agencies, Nations, partners, IOs/NGOs, Industry and Academia regarding Concept Development.

### **Coordination for Doctrine development**

This function will support the development, coordination and management of NATO COE activities provided to NATO within the Doctrine Development pillar. The staff officer will be supporting the ACT FOGO champions and SMEs for the development, coordination and management of NCS requests to the NATO COEs across the Doctrine Development pillar. He or she is also responsible for establishing, maintaining and managing a NATO COE Doctrine Development Community of Interest to better harmonize efforts and workload between COEs and NCS stakeholders. This includes the management of a NATO COE Doctrine Development COI within the TRANSNET portal. Will offer support to NATO COEs in their efforts to establish bilateral relationships with NATO Agencies, Nations, partners, IOs/NGOs, Industry and Academia regarding Doctrine Development.

### **Coordination for Education & Training**

This function will support the development, coordination and management of NATO COE activities provided to NATO within the Education and Training pillar. The staff officer will be supporting the ACT FOGO champions and SMEs for the development, coordination and management of NCS requests to the NATO COEs across the Education and Training pillar. Directly responsible for establishing, maintaining and managing a NATO COE Education and Training Community of Interest to better harmonize efforts and workload between COEs and NCS stakeholders. He or she will also provide support to other JFD branches in all efforts associated with Global Programming and Quality Assurance regarding NATO COE involvement. This includes the management of a NATO COE Education and Training COI within the TRANSNET portal. Will offer support to NATO COEs in their efforts to establish bilateral relationships with NATO Agencies, Nations, partners, IOs/NGOs, Industry and Academia regarding Education and Training.

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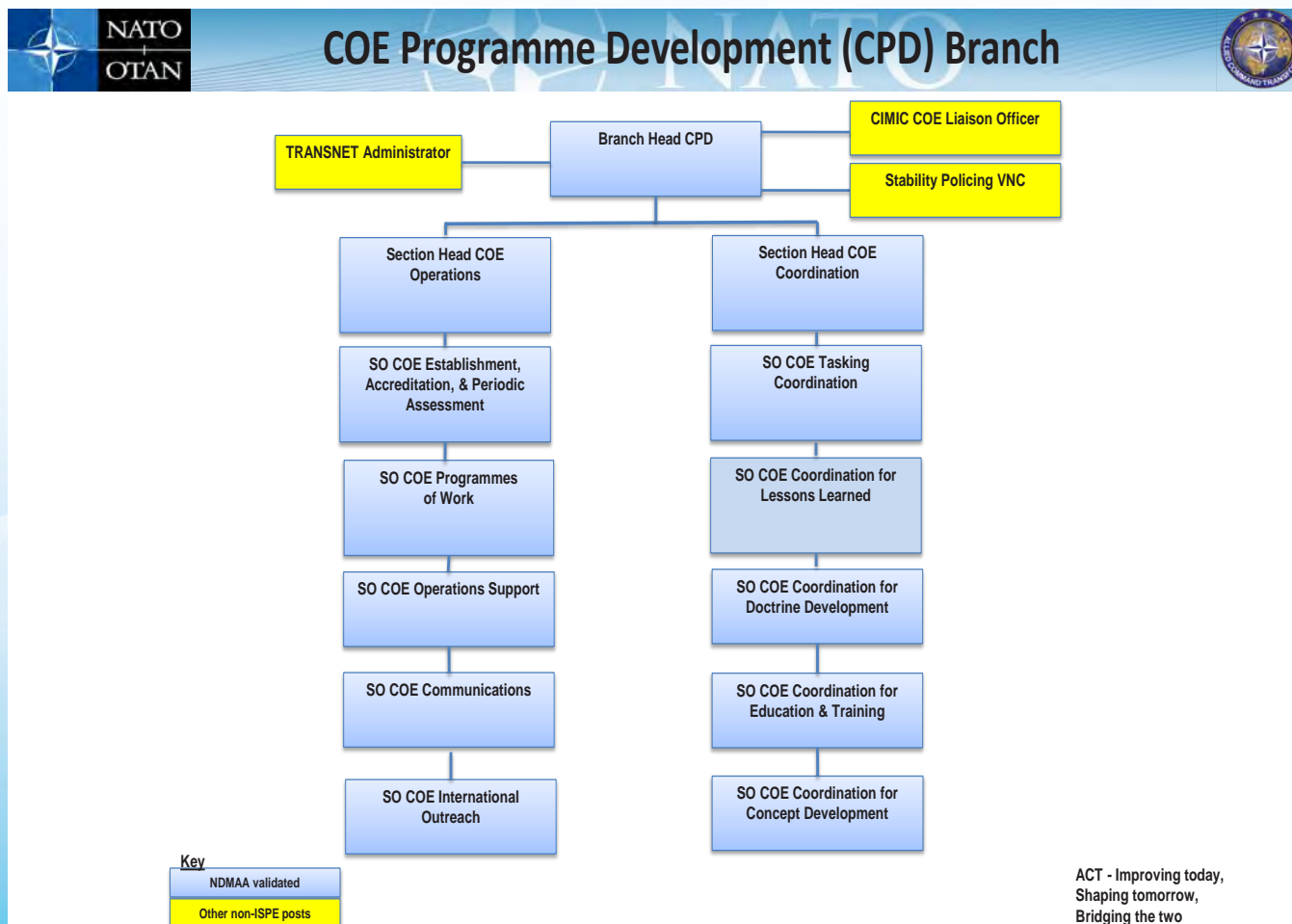
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