NATO
OTAN

2020

COE CATALOGUE

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Editor: Maj Ferit GURBUZ, ferit.gurbuz@act.nato.int Designer: MC2 Michael GENDRON

NORTH ATLANTIC TREATY ORGANISATION

SUPREME ALLIED COMMANDER TRANSFORMATION

I am pleased to present the 2020 NATO Centres of Excellence (COE) Catalogue. This catalogue offers basic information on the growing NATO COE enterprise, which now consists of 25 accredited COEs, with three under development.

NATO accredited COEs play an important role in the domains of innovation, education and training, doctrine, and capability development, through experimentation and recommendations. They are also hubs, in their respective domains, for the enhancement of Allies and partners interoperability, where ACT plays a key role, along with innovation, to ensure that we remain capable of operating together. COEs also proved to be a very practical way of NATO-EU cooperation.

COEs' recognised expertise and experience is invaluable to our warfare development efforts, supporting the adaptation of our military capabilities. We consider the COEs as centrepieces of NATOs expertise network, and most COEs have proven to be a successful model for effective multinational solutions.

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 its structure, and is now better suited to coordinate, cooperate with, and support the COEs. We established a new COE Programme Development Branch, formerly the Transformation Network Branch, with the mission to ensure that COEs are recognized as the Alliance's expertise providers, which support NATO's operations and warfare development in a timely and effective manner.

I would like to thank all the NATO and Partner nations that contributes to the success of the COEs, through commitment of personnel and resources.

And, I encourage everybody in the Alliance to utilize unique knowledge and expertise of the COEs. They represent reliable source of expertise, unique within NATO. 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 the 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 criteria was defined. In 2004, IMSM-0416-04, "NATO COE Accreditation Criteria" was agreed on and the first NATO COE was formally accredited on 01 Jun 2005.

Definition of a NATO COE

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

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 for each one. Key points of interest:

- 1-21 Sponsoring Nations (SN).
- 26 of 29 NATO nationsand 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 Structures are supported by robust network of COEs, which are nationally or multi-nationally managed and funded and open for participation by NATO and Partner Nations.

* New "MC 0685 Military Policy for COEs" is under development

COE Questions & Answers

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 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 a greater flexibility in the relationships with other international and civilian entities.

Where does the idea for a new COE come from? Can NATO "initiate" a NATO COE?

The idea for a new COE generally can come from within NATO or a NATO Nation. If the idea comes from within NATO, it is the result of an identified capability shortfall. If the idea comes from a NATO Nation missing that NATO can not establish a COE, 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 established by HQ SACT 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. Any other COE is a national COE which is not accredited by NATO.

Can NATO task the COEs?

No, NATO cannot task the COEs, because they are not under command authority of SACT. In fact, COEs are "not part of the NATO Command Structure; they are owned by their sponsoring nations. SACT has a coordination authority.

How does NATO request COE products and services?

NATO can request support from a COE by submitting a Request for Support (RfS) through the RfS (POW) tool, through a process named "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. Decisions are provided 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 are 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). More information is provided on page 40.

COE Programme Development (CPD) Branch in 2019

The following two pages provide information about the key ACT/CPD activities that took place in 2019. Throughout 2019, ACT continued to work diligently to expand the NATO COE network. The number of NATO accredited COEs continues to grow with an additional three potential new NATO COEs that are currently being developed.

The TNB branch was transformed into COE Programme Development (CPD) Branch in January 2019. Further information about the branch is available on page 69.

CPD finalized the revision of ACT directive 80-3 and started the revision of the base-line documents for NATO COE: MCM 236-03, MC Concept for COEs, and eventually the Bi-SC 80-1. The draft MCM 236 was submitted for Military Committee approval. Since February, several MC Working Group Meetings have been conducted.

In 2019 one of CPD's main objective was to further improve the relationship between NATO Command Structure and NATO's accredited COEs. Through the restructuring of the CPD branch, adding a new section, and increasing FOGO Champion engagement, this effort is making good progress. Another important objective was and still is, to increase and maintain NATO, NATO Nations and partner's awareness and knowledge about NATO COE and their contribution to NATOs Transformation.

Promoting NATO COEs is a continuing effort, performed in close cooperation with the individual COE. As a good example for this effort, the 2019 COE Marketplace which was held in NATO HQ in 15-16 July 2019 was a great opportunity for all 25 COEs to promote themselves to NATO HQ using booths, documents and visuals. The COS of ACT, VAdm Paul Bennett, briefed the MC three times on COEs in 2019, promoting them as well as their products and services, stressing their most significant value for the Alliance.

The 2019 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 Mountain Warfare Centre of Excellence hosted the 2019 Centres of Excellence Director's Conference, in Bled, Slovenia. The Conference was co-chaired by ACT CPD Branch Head, Colonel Francesco Pacillo and by NATO MW COE Director, Colonel Bostjan Blaznik. Slovenian Minister of Defence Karl Ferjavek attended the morning session of the first day and gave the opening remarks, praising the COEs' contribution to the Alliance. Deputy Assistant Secretary General for Public Diplomacy Mrs.Carmen Romero, Deputy Supreme Allied Commander Transformation, Admiral Manfred Nielson, ACT Chief of Staff Vice Admiral Bennett and SACTREPEUR Brigadier General Eduard Simion were engaged in fruitful discussions with the COE Directors. Among the topics were Centres of Excellence Programme Development (CPD) Branch organization and the functions of sections, new COEs, coordination and cooperation of COEs Program of Work and other COE topics. The Stability Policing COE in Vicenza/Italy will host next year's COE Director's Conference in July 2020.

NATO Command Structure Adaptation

The COE`s contribution to the 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. By the time this article was drafted, this revision is expected to be finalised by December 2019. The MCM 236-03 will be renamed into MC 0685 and will be the MC Policy for COEs.

COE Marketplace 2019/ NATO HQ

COE Directors Conference 2019 Bled/SVN

CPD has specifically contributed to the discussion about optimizing the use of COEs in the future NATO Command Structure. CPD 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.

COE Establishment, accreditation and Periodic Assessment

In 2019 CPD provided advice and assistance throughout the establishment process of the Maritime Security (MARSEC) COE, Integrated Air Missile Defense (IAMD) COE and Maritime Geographical Meteorological and Oceanographic (MGEOMETOC) COE. CPD also continued to conduct Periodic Assessments of already accredited 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 2019 and all of the assessments resulted in a positive outcome.

COE Request For Support (RfS) tool and COEs Programme of Work(POW)

To improve the coordination between NATO and COEs, HQ SACT is managing an online tool for the continuous submission and coordination of NATOs RFS. This online tool is hosted on TRANSNET (unclassified restricted access Internet), and offers a possibility to submit and review RfSs 24/7, which provide increased flexibility and visibility over the COE POW development. No COE POW Workshops were conducted in 2019.

ACT CPD Branch 2019/2020

CENTRE OF ANALYSIS AND SIMULATION FOR THE PREPARATION OF AIR OPERATIONS (CASPOA) 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. With more than a year under my belt as Commander of CASPOA, the Air Operations CoE, I am now "up-to-speed" on the continuing excellence of this accomplished, professional Centre and its peerless cadre. They continue to impress as they 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, support of Joint Air Power doctrine development and visions of the future in multi-domain ops and AI integration. 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 VILLEVIEILLE

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

CASPOA, the Air Operations CoE, is a multi-national manned, French funded organization, 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

AO 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 2019

Major activities carried out in 2019 by the Air Operations CoE:

- Delivered roughly 65 training events including via mobile training teams, educating and training more than 900 personnel from 38 NATO and Partner Nations;
- Designed, planned and implemented a multi-nation 10-day Air C2 JFAC theatre level computer assisted exercise;
- Underwent the periodic Quality Assurance Accreditation, maintaining unconditional accredited status;
- Supported the NCS/NRF preparedness by educating, training and contributing Air C2 SMEs to training events;
- Finished: a technical infrastructure upgrade for Computer Aided Simulation that increased workstation support by 160% (130 workstations possible simultaneously); a touchscreen/video wall projection capability upgrade that

enhanced student-teacher interaction;

- Implemented a fundamental rewrite of the JFAC Planning course, adapting the scenario/pedagogy to remain in-step with both current events and a more comprehensive understanding of critical thinking/planning;
- Shared our vision and expertise with the NATO Scientific Technology Organisation (STO) through membership in the NATO Modelling and Simulation Group (NMSG);
- Fed Lessons Learned process from exercises and operations both national and multinational into the Air Operations Community of Interest, to include Joint Air Power Competence Centre (JAPCC), directly supporting the JALLC;
- Contributed to 10 Allied Joint Publications, 1 Air Intelligence Publication and 1 Tactical Publication related to Air Operations;
- As the DH for Air C2 systems appointed by NATO, continued to contribute to the evolution of the Global Programming Framework and the ongoing transformation of the Air Operations Discipline;
- Contributed to the NATO Autonomy Programme with technical guidance on the integration of artificial intelligence (AI) in Air C2 ETEE;
- Hosted NATO Modelling and Simulation Group (NMSG) 165 in order to continue to push the boundaries of M&S in ETEE.

Major Products and Activities in 2020

As for major activities scheduled for 2020, AO CoE will:

- Deliver 67 training events and welcome roughly 1000 students;
- Design, plan and implement a multi-nation 10-day Air C2 JFAC theatre level computer assisted exercise;
- Continue to 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;
- Focus on the integration of multi-domain strategy and thinking into all AO CoE courses
- Provide guidance for the Allied Command Operations joint targeting community both as an SME and training provider;
- Continue to contribute to planning and testing of the E-JFAC concept/integration of AI within the JFAC/ETEE, specifically hosting a Canadian Simulation company, CAE, who will observe current ExCon tasks in order to find the most profitable ideas for AI integration;
- Continue to collaborate with the NATO Scientific Technology Organisation (STO) through membership in the NMSG;

Contact Information

Mailing Address:

CASPOA-Air Operations COE
Base Aérienne 942, BP 19
69579 LIMONEST Cedex
France
N 45° 51' 05 E 4° 47' 12

Director:

Colonel Yann VILLEVIEILLE
Phone : +33 (0) 4 81 18 33 55
NU Email : yann.villevieille@intradef.gouv.fr

Contact:

Phone : +33 (0) 4 81 18 33 56/53
Fax : +33 (0) 4 81 18 33 58
NU Email : ikm@caspoa.org (general purpose)
studentoffice@caspoa.org (only for course purpose)
Website : www.caspoa.org
NS: http://wise.defensenns.gouv.fr/WISE/CASPOA

NATO COOPERATIVE CYBER DEFENCE CENTRE OF EXCELLENCE (CCDCOE)

Director's Message

"The importance of cyberspace for our societies will only grow. At the same time, threats and vulnerabilities in cyberspace are becoming more sophisticated and complex. As NATO-accredited cyber defence hub, the CCDCOE continues to expand its reach and pool of expertise to provide added value to the militaries of our member nations and NATO as an alliance from strategic to tactical level. The unique flagships of CCDCOE have helped to build trust and collaboration in the cyber defence community. The challenges in the cyber domain can only be tackled with an interdisciplinary approach, through cooperation among like-minded nations, engaging military, academia, government and industry.„

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, in an interdisciplinary manner. The CCDCOE embodies and fosters the cooperation of like-minded nations in cyber defence. Our member nations are NATO Allies and like-minded artners beyond the Alliance.

Who We Are

The NATO 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 facility 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 25 member nations. Many nations are aspiring to become members in the future.

Research Areas

Among the research topics that the the CCDCOE experts are currently working on, is 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.

The 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 legal, technical, strategic and operational assessment of cyber scenarios and with publication of the Cyber Commanders Handbook, a practical reference material for Cyber Commands.

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 (INCYDER) and comprehensive overviews of national cyber security organizations are regularly updated.

Education and Training

The CCDCOE promotes lifelong learning in cyber security. Our training courses are based on our latest research and cyber defence exercises. We are continuously updating the selection of training courses to address the emerging demands in the cyber defence.

To best meet the training requirements of our Allies, Partners and NATO as a whole, we provide courses in different formats and locations, including e-learning or training by a mobile team, covering a broad range of topics in the technical, legal, strategic and operational cyber security domains. NATO ACT has provided CCDCOE with an unconditional Quality Assurance accreditation for its contribution to high-quality NATO Education and Training.

Appointed by NATO as the Department Head for Cyberspace Operations Discipline, the CCDCOE is responsible for identifying cyberspace operations training needs and matching them with education and training solutions for all NATO bodies across the Alliance.

CCDCOE Training/Courses in 2019:

Strategic Training

» Executive Cyber Seminar

Operational Training

» Critical Information Infrastructure Protection Course

» Operational Cyber Threat Intelligence Course

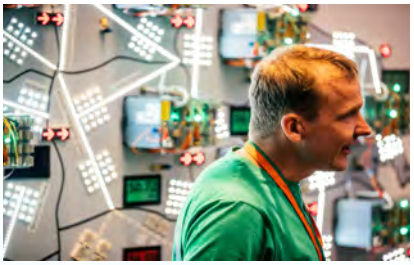
» Cyber Planning at Operational Level Course

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
» Advanced Web Application Security
» Industrial Control Systems Security Introductory Course
» Industrial Control Systems Pentesting Course
» Smartphone Security and Forensics Course



Exercise 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 challenges, cutting-edge technologies and simulating the entire complexity of a massive cyber incident, including strategic decision-making, legal and communications aspects. More than 1400 cyber experts from 30 nations took part in Locked Shields 2019.

Exercise Crossed Swords

Crossed Swords is the technical red teaming cyber defence exercise organized by the CCDCOE, training penetration testers, digital forensics professionals, special forces operators and situational awareness experts. In 2019 Crossed Swords took place in Tallinn, Estonia 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 various military units.

International Conference on Cyber Conflict (CyCon)

The annual International Conference on Cyber Conflict hosted by the 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 60 countries. In 2019 the event focused on the theme of Silent Battle. Keynote speakers included H.E. Kersti Kaljulaid, the President of Estonia, Dr. Antonio Missiroli, NATO Assistant Secretary General, Admiral Manfred Nielson, DSACT, Vice-Admiral Arnaud Coustillière, Director for Cyber Defence in the French Ministry of Defence and many others distinguished experts. CyCon 2019 featured a Cyber Commanders Panel moderated by Adm (ret.) Michael Rogers, Former Commander of U.S. Cyber Command and Director of NSA.

In 2020, the 12th CyCon entitled Vision 20/20: The Next Decade will take place on 26-29 May in Tallinn.

CCDCOE Nations

To date the Centre is staffed and financed by 25 nations: Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Spain, Sweden, Turkey, the United Kingdom and the United States. Canada, Japan, Croatia, Australia, Slovenia, Switzerland, Luxembourg, Ireland and many others are also on the path of joining the Centre.

Contact Information:

www.ccdcoe.org
Connect with us in Twitter @ccdcoe
Ccdcoe@ccdcoe.org

+372 717 6800

NATO COUNTER INTELLIGENCE CENTRE OF EXCELLENCE (CI COE)

The world is changing rapidly. New innovations, the modern interconnected society and rapidly evolving technical solutions, artificial intelligence… everything to help people to live more easily and comfortably. Paradoxically, all these modern solutions make us a more dependent and vulnerable society.

After a period of peace and quiet, many countries are now facing complex and evolving security challenges that increase overall global instability and result in rising extremist violence, human suffering, and reduced personal freedoms. Terrorist organizations employ tactics in the name of various radical causes which are in contradiction to the values of democratic countries. Some authoritarian regimes are becoming more and more aggressive and ignore the boundaries of international law. One of the pillars for geopolitical stability is NATO, which acts to prevent or minimize the possible impacts from all the above-mentioned challenges on a global scale. These challenges are very often supported by hostile intelligence services, and countering their efforts requires a proper long-term planning, skilled human sources, and adequate but and clear preventive actions on the national and international stage. In this context, counterintelligence is a vital component of the NATO response, having the ability and tools to quickly detect and neutralize the threats and hence reduce the risks. However, only 'a modern' counterintelligence capability, ready to act in a constantly and rapidly changing environment - including the virtual world - will be ready to tackle existing and future threats.

The NATO Counter Intelligence Centre of Excellence is an important element in the unified Alliance's efforts to reduce the destructive influence of hostile intelligence services. It serves as a force-multiplier for CI efforts of NATO operations, exercises, policies, concepts, and strategies; and functions as a hub for resources, subject matter experts, and innovation to engage existing hostile activities and emerging cyber and hybrid threats.

Director's Message

COL Martin Achimovic

Who We Are

The NATO Counter Intelligence Centre of Excellence was established in 2015 under the Paris Protocol and formally opened, after the accreditation process, in 2017. The Centre is located in Kraków, Poland, and has full 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 original Sponsoring Nations. Additionally, the nations of France and the United States were granted observer status. However, on 1 July 2019, the United States of America joined the NATO CI COE as the 11th Sponsoring Nation. The NATO CI COE works to synchronize NATO CI publications, integrate best practices, and serve as a hub for CI expertise, enabling NATO forces to achieve the highest levels of interoperability and integration. The majority of efforts is focused on education and training, so the Centre provides CI-focused courses, seminars, conferences, and workshops to establish a CI Community of Interest within the NATO Command Structure, NATO Force Structure, and NATO Nations.

Vision

The NATO Counter Intelligence Centre of Excellence acts as a catalyst for the evolution and adaptation of CI principles for NATO operations by supporting the development, promotion, and implementation of new policies, concepts, strategies, and doctrine that transform and enhance NATO CI capabilities and interoperability.

Mission

The NATO Counter Intelligence Centre of Excellence is charged with enhancing CI capabilities, fostering interoperability, and providing comprehensive expertise to the Alliance and its Nations in order to increase overall global stability and reduce the impact and scope of hostile intelligence efforts.

Key Products and Activities

Completed in 2019

In 2019 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 conducted five classes: Three iterations of the NATO CI Course ("NATO Selected" certified), one NATO CI Source Operations Course, and one NATO CI Analyst Course. The Centre also developed some new and highly specialized courses, in partnership with other NATO entities and prestigious academic researchers, to support the NATO CI Community. The Mobile Education and Training Team (METT) conducted six courses for NATO countries and organizations, based on operational need. A CI awareness seminar was delivered to a NATO nation on request.

In the field of doctrine development and standardization, the Centre worked together with all NATO member states and developed a new NATO CI publication, Allied Intelligence Publication 19 (AIntP-19). As a result of this joint effort, the final version of the document (Final Draft) was released to the Nations by the end of the year.

The multidimensionality of the military environment has significantly developed in recent years, and promises to grow even faster in the future. The traditional methods in which the CI operators perform their tradecraft must be integrated with the newest technological capabilities. 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 (SME), the Centre designed and will be continuing its thematic Workshop series.

The Centre took also responsibility for the CI Lessons Learned (LL) Community of Interest to harmonize the NATO CI LL activities among NATO Nations, based on their willingness to exchange information on LL and identified best practices. In May 2019, the NATO CI COE hosted a NATO Lessons Learned Spring Week attended by key representatives of the NATO Command Structure Headquarters, other NATO COEs, and NATO Force Structure Headquarters.

In 2019, the NATO CI COE established cooperation with The Kosciuszko Foundation to partner in the organization of CYBERSEC 2019, a conference dedicated to strategic security aspects of the global technology revolution.

Programme for 2020

Education and training

- Enhance standardization and interoperability within the Alliance, in support of the NATO operations, by again delivering five iterations of the three residential courses for NATO countries and organizations in partnership with the most relevant NATO CI entities;
- Support the NATO CI exercise STEADFAST INTEREST 2020 (SFIN2020) with SMEs to improve the training component of the exercise;
- Support various NATO exercises with SMEs;
- Continue to cooperate with Academia and other NATO organizations to design and deliver new educational solutions for NATO countries and organizations;
- Work with other intelligence-related COEs to design and deliver a multi-discipline educational solution to NATO countries and organizations, under NATO Intelligence Academy guidance;
- Use the CI community related events to brief the NATO countries and organizations about the Centre's main educational solutions, and propose new ways of adapting the training solutions to the constantly changing global security environment;
- Improve the Centre's educational solutions visibility through updating and improving the Education & Training Branch page on Centre's webpage on BICES;
- Host Training Needs Analysis Workshops in order to get the new educational solutions certified by Allied Command Transformation (ACT) and support the Centre's efforts to get Quality Assurance accreditation;
- Attend NATO education and training relevant events (conferences, seminars) to be updated with the NATO trends and predictions related to future training requirements;
- Support projects in other CI COE lines of effort--Doctrine & Standardization, Concept & Development, Analysis & Lessons Learnedwith Education & Training Branch SMEs as needed.

Doctrine & Standards

- Provide custodianship for AintP-19 development;
- Support the development and harmonization of NATO policies, doctrines, and other publications in the CI field.

Concept Development & Experimentation

- Development of tools/standards for CI operators, in relation with AIntP-19, by a continuous research activity within technology and methodology domains;
- Organize Innovational Workshop series;
- Test and evaluate NATO CI COE products.

Analysis & Lessons Learned

- Provide SMEs in CI courses and exercises, as well as advice on NATO member's requests;
- Facilitate the comprehensive approach and make the best use of combined experience and capabilities of all Sponsor Nations and NATO members;
- Provide a repository for International, National, and NATO shared information, analysis, and CI lessons learned in close cooperation with the Joint Analysis and Lessons Learned Centre (JALLC) through the NATO LL CI Community of Interest.

Contact Information

Centre of Excellence
Rakowicka Street 29
30-901 Kraków 50, Poland

Tel: +48261131688
Fax: +48261131540

e-mail: cicoe.registry@cicoe.org

Public Affairs Officer
Tel. no: +48 261 131 594
e-mail: pao.media@cicoe.org
Website: www.cicoe.org

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 2020 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:

- Make the C-IED CoE to continue being 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 reference body for the training and education subject matter experts (SME's) for C-IED related activities.
- Improve 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.
- Maintain its 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 the NATO C-UAS POW under Air and missile defense committee
- 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, DEU LE 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

Contact Information

Contact:
Phone: 0034 91 856 10 48
Fax: 0034 91 856 23 90
Email: info@ciedcoe.org
Web: www.ciedcoe.org

Address: Crta. M-618 Colmenar Viejo - Torrelodones km. 14, 28240, Hoyo de Manzanares , Madrid, Spain

Director
Colonel Jose A. Cruz Moro, ESP A
Phone: +34 918562482; Email: jcruz@ciedcoe.org

CIVIL-MILITARY COOPERATION CENTRE OF EXCELLENCE (CIMIC COE)

Director's Message

As NATO continues to adapt to the changing strategic / security environment, CIMIC as a military joint function remains vital as an integral part of modern multidimensional operations.
We support NATO's transformational and operational requests with priority and this requires up-to-date expert evaluation of relevant trends in the broadest sense. The CCOE strongly advocates comprehensiveness, with efficient and effective solutions through independent thought and analysis as a result.
The CCOE is the recognized hub of expertise and knowledge and your partner for Civil-Military Cooperation!

COL (GS) Frank van BOXMEER MSc

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 CMI.

Who We Are

The CCOE was activated as a NATO accredited Centre of Excellence on 31 July 2007 and is located in The Hague (The Netherlands), the International City of Peace and Justice. We aim to enhance comprehensive engagement with national and international stakeholders. Through the CCOE's sponsoring nations, the CCOE has access to a variety of knowledge and expertise.

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.

CIMIC Key Leader Conference 2019 in Tirana, Albania

Education and Training

The CCOE is Department Head for CIMIC and CMI. This means that we coordinate and align all training requirements on CIMIC and CMI from NATO. We are also an accredited Education and Training Facility and very capable to train all CIMIC Military personnel that work on all levels of NATO CIMIC positions and operations. In our 10 years of experience in CIMIC and CMI, the CCOE has established a comprehensive catalogue of training solutions and continues to improve the quality of courses and tailored mobile training teams, including the use of modern training techniques like Simulations and Gaming.

Main Events

CIMIC Key Leader Conference (CKLC)

25 - 29 May 2020 Budapest (HUN)

Annual Discipline Conference (ADC)

23-25 June 2020 Amsterdam (NLD)

Analysis and Lessons Learned

CCOE supports the CIMIC community by providing external and internal observation, lesson and analysis delivery. CCOE contributes to the development of stronger and closer information sharing between NATO, countries and international organizations. The focus for 2020 is the implementation of CCOEs concept for CIMIC Lessons Learned and Best Practice.

Concept Development and Experimentation

CCOE supports the CIMIC community by providing external and internal observation, lesson and analysis delivery. CCOE contributes to the development of stronger and closer information sharing between NATO, countries and international organizations. The focus for 2020 is the implementation of CCOEs concept for CIMIC Lessons Learned and Best Practice.

Doctrine Development and Standards

The CCOE is the custodian for CIMIC and CMI in NATO doctrine at the operational level. The CCOE contributes to the development of doctrine at all levels. The portfolio includes the MC 411, the AJP 3.19 and the CIMIC elements in other NATO Allied Joint Publications. Furthermore the CIMIC Functional Planning Guide and Tactics, Technics and Procedures. For standardization of CIMIC in NATO, the CCOE has developed the CIMIC Handbook as an effective application:

https://www.handbook.cimic-coe.org/

Contact Information

Contact:

CIMIC Centre of Excellence

Brasserskade 227A, 2497 NX The Hague

The Netherlands

Email: info@cimic-coe.org

Web: www.cimic-coe.org

Mail Address:

PO Box 90701, 2509 LS The Hague
The Netherlands

Director:

Colonel (GS) Frank van Boxmeer MSc, NLD A
Phone: +31 (0)15 28 44796

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. Our projects over the past year have included maritime cyber security, the use of maritime unmanned systems in the maritime domain, and a heavy focus on being 'ready to fight and win' in the North Atlantic, including the development of Joint Force Command Norfolk. Next year's exciting and demanding program of work will focus on four lines of effort: The integration of Maritime C2 in the Joint and Combined space, the development of Alliance amphibious capability, the development of unmanned systems and analysis of competitors' capabilities, all of which support the Alliance and our Sponsor Nations' aims in maritime warfare development. Interoperability and integration 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 support the Sponsoring Nations (SNs) and NATO in improving their ability to conduct Allied combined joint operations from the sea in order to counter current and emerging maritime global security challenges.

Who We Are

CJOS COE provides a maritime focus for Alliance warfare development, acts as a conceptual trans-Atlantic bridge for the Alliance Maritime Enterprise, drives maritime interoperability and integration, and supports the four pillars of NATO transformation. Independent of the NATO command structure, the Centre 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 drive maritime warfare development. CJOS COE also enjoys particularly close cooperation with Allied Maritime Command (MARCOM), other NATO commands, maritime COEs, and national commands.

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 US CSGs and ESGs, SNMG Commander, Staff, and flag ships, and to cooperative deploying units joining US CSGs;
- 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

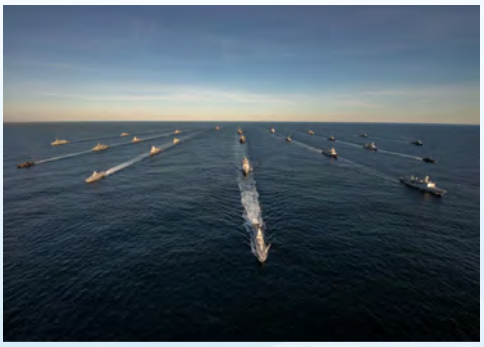
- Joint Exercise analysis and lessons (focused on the 'Trident' exercise series, BALTOPS, and US Navy Cooperative Deployments);
- Maritime contribution to ACT's Strategic Foresight Analysis and Framework of Future Allied Operations;
- Maritime Security Regimes Roundtable, which attracted participants from Africa, the Middle and Far East, North and South America as well as Europe, to be repeated next year;
- Maritime Big Data Analysis and Cyber Threat Analysis.

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;
- Maritime Unmanned Systems EXTAC;
- 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;
- NATO Amphibious Leadership Expeditionary Symposium (NALES) Initiative, including the development of war-game scenarios and a concept on the aggregation of NATO amphibious capabilities;
- Development of the Maritime Security Awareness network.

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;
- Author and Custodian of Maritime ISR Doctrine (ATP 102);
- Chair for Interoperability and Integration Action Group (I2AG).



Contact Information

Contact:

CJOS COE
1562 Mitscher Ave Suite 250 Norfolk, Virginia
23511 Fax: +1 757-836-3437
Website: www.cjoscoe.org
Email: usff.cjos.coe@navy.mil
Twitter: @CJOS_COE

Director
VADM Bruce H. Lindsey, USA-N

Deputy Director
CDRE Tom Guy, GBR-N
Phone: +1-757-836-2452

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

Director's Message

Proudly forming part of the wider network of NATO Centres of Excellent (COE), the CMDR COE contributes to the Alliance's transformation and adaptation serving as a hub of expertise and a platform for information, knowledge, and good practices exchange in the crisis management and disaster response (CMDR) domain. Exceeding at CMDR requires both a deep insight in what is already at hand and a keen foresight in what lies ahead. Undoubtedly, and in a complex security environment, collaboration is key to success and the CMDR COE exerts dedicated efforts at establishing constructive partnerships and at nourishing a keen community of interest. For we 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 Orlin NIKOLOV

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

2019

- NCRS Course for BGR Experts - 29-31 Jan
- Lessons Identified Conference for the EARDCC Exercise "Srbija 2018" - 29-31 Jan
- Gender Focal Point Course - 5-7 Feb
- Crisis Management and Disaster Response Course - 18-22 Mar
- ESDC Climate Change Course - 23-25 Apr
- Disaster Management Course - 13-17 May
- MSG 147 - Main Planning Conference for Limited Objective Experiment 3 (LOE 3) – 3-4 Jun
- 7th CMDR COE Annual Interagency Interaction in CMDR Conference - 5-6 Jun
- Planning and Conducting Disaster Relief Operations Course (METT) – 10-12 Sep
- Crisis Response Operations Planners Professional Development Course – 16-20 Sep
- Exercise Balkan Bridges 19 – 30 Sep-4 Oct
- Crisis Management and Disaster Response Exercise Planners Training Course – 14-18 Oct
- Strategic Decision Making for Crisis Response Operations Course – 18-22 Nov

2020

- Gender Focal Point Pilot Course (NATO APPROVED; NATO ETOC CODE: GEN-GO-25432) – 5-7 Feb and 6-8 Oct
- Crisis Management and Disaster Response Course – 23-27 Mar (NATO APPROVED; NATO ETOC Code: ETE-CM-21784)
- ESDC Climate Change and Security Course – 21-24 Apr
- Disaster Management Course – 18-22 May (NATO ETOC CODE: ETE-CM-22007)
- 8th CMDR COE Annual Conference "Interagency Interaction in CMDR", 3-4 Jun
- Planning and Conducting Disaster Relief Operations Course (METT) – 10-12 Sep
- Crisis Response Operations Planners Professional Development Course – 21-25 Sep (NATO APPROVED, NATO ETOC CODE: JPL-OP-31878)
- Crisis Management and Disaster Response Exercise Planners Training Course – 19-23 Oct 2019 (NATO APPROVED: NATO ETOC CODE: ETE-CM-21785)
- Strategic Decision Making for Crisis Response Operations Course – 23-27 Nov (NATO APPROVED, NATO ETOC CODE: ETE-CM-41879)
- CMX 21 Final Planning Conference – Nov
- NATO Building Resilience through Civil Preparedness Course (jointly with CCOE) – 8-10 Dec

Contact Information

COE Contact Information:
Phone: +359 2 92 24705
Fax: +359 2 92 24755
E-mail: office@cmdrcoe.org

Mailing Address:
34A Totleben Blvd. 1606 Sofia, Bulgaria

Director
COL Orlin NIKOLOV
Phone: +359 2 92 24700
E-mail: orlin.nikolov@cmdrcoe.org

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

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 2020 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 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 the development of high standard capabilities and skill forward.

Activities for 2019 and 2020

- 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;
- 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);
- Contributing to the ACT led initiative to provide a C-UAS handbook for NATO C-UAS WG;
- Supporting the NATO Maritime Unmanned Systems (MUS) Initiative as part of the Staff Advisory Groups (SAG) inside the Steering Board;
- Supporting the NATO´s Industrial Advisory Group (NIAG) study on "Industrial perspective on NATO's military digital underwater communications capability and new fields of applications";
- Supporting Georgia within the framework of the Substantial NATO-Georgia Package (SNGP) in the area of harbour protection;
- Developing an updated 2nd edition of the COE CSW Study Paper "Prospective Operations in Confined and Shallow Waters";
- Fostering a common understanding and the development of Operational Maritime Law, inter alia by conducting the annual "Conference on Operational Maritime Law";
- 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;
- Developing Live Virtual Constructive – Training (LVC-T) in the Maritime Domain Concept and - Implementation Paper for MARCOM. Collaborating with MARCOM and the NATO Modelling and Simulation Group and the affiliated Research Task Group to exploit synthetic training needs to enhance the operational readiness of maritime forces;
- Supporting the NATO maritime Lessons Learned and Analysis process as well as the evaluation process of NATO Maritime Forces and NATO Response Forces (M) Headquarters;
- Acting as Department Head of the Maritime Operations discipline, translating NATO's maritime training requirements into individual and collective Education & Training solutions;
- Acting as Vice-Chairman in the Above Water Warfare- and Under Water Warfare Capability Group, subordinate to the NATO Naval Armaments Group (NNAG);
- Acting as Deputy Chairman of the CME-Panel under the NATO C-IED WG and as official Liaison Element between C-IED WG, FP WG and MAROPS WG.

Contact Information

Contact Information:
Phone: +49 431 71745 6310
Fax: +49 431 71745 6099

Address:
Schweriner Strasse 31, 24106 Kiel, Germany

http://www.COECSW.org
Unclassified e-mail: info@coecsw.org
NSWAN: info@csw.coe.nato.int

Director: Rear Admiral Christian Bock, DEU-N Phone: +49 431 71745 1000
dir@coecsw.org
Executive Director: Captain Eike Wetters, DEU-N Phone: +49 431 71745 6000
execdir@coecsw.org

COLD WEATHER OPERATIONS CENTRE OF EXCELLENCE (COE CWO

NATO forces must be prepared to operate in any challenging environment, also to include cold weather operations. The level of training required not only to survive but also to operate is high. The risk to experience a considerable skill fade is high if not cold weather operations are part of a regular training cycle.
COE CWO focus is support to the NATO Alliance with expertise and experience on cold weather operations in a joint dimension.

Director's Message

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 COE CWO has expanded core staff with 5 posts to 22 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 and the Norwegian Defence Research Establishment. This also includes NATO and PfP Cold Weather community of Interest in addition to 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 2019

- 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.
- Host the Cold Weather Operations Network Group(CWO NWG).
- Host the Joint Expeditionary Force Working Group Cold, Mountain and Arctic Operations.
- COE CWO participate in planning of the exercise Cold Response 2020 and focus 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 2020

- Continue to provide Cold Weather Operations courses for both the tactical and the staff planning 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
- COE CWO will participate in planning and execution of the exercise Cold Response 2020, focused on foreign units and their ability to conduct cold weather operations and SME support to EXCON for the CPX/CAX part of the exercise.

NATO CWO COE Contact Information

Contact:
Centre of Excellence Cold Weather Operations
FVS, Terningmoen
P.O. Box 393
N-2403 Elverum
Norway
Email: coe-cwo@mil.no
Website: www.forsvaret.no/en/education-and-training/coe-cwo

Director
Colonel Jo Haugom
E-mail: johaugom@mil.no
Phone: +47 6240 8160

NATO C2COE

COMMAND AND CONTROL CENTRE OF EXCELLENCE (C2 COE)

Director's Message

COL H.A.C.B. MEEUWSEN

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, information & knowledge management and human factors such as leadership. At the NATO C2COE we are "Agents of Change". As such, we support ACT with the transformation of NATO, specifically on Command and Control.

Who are we?

We are an International, small and highly motivated organisation with a "can do" mentality. Since its start, the centre is truly joint and combined where our international staff combines a unique combination of experience, maturity and knowledge in all aspects of Command and Control. Our staff automatically brings an individual set of communication channels to build our international network. We, as a unique social group, "own" the centre.

The Netherlands is the so called "Framework Nation" of the C2COE and provides the centre with infrastructure, support resources and the main manning body. On top of that the C2COE is reinforced by six "Supporting Nations": Germany, Estonia Slovakia, Spain, Turkey and the United States of America. Our Subject Matter Experts are staff officers from various military backgrounds. All military services are represented within the centre.

Mission Statement

The C2COE will support NATO, nations and international institutions/organisations with applicable knowledge on Command and Control (C2) at the operational and higher tactical level.

Vision

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

Major Products and Activities in 2019

» **Department Head:** The C2COE has become the Department Head for Operations Planning, Operations Assessment and Alternative Analysis NATO E&T Discipline as of 1 September 2019. This new role requires the C2COE to be an active coordinator between E&T Requirement Authorities and Education & Training Facilities as solution providers. The C2COE has intently worked on implementing the DH function into the its structure. This process required and will require heavy planning and investment on time, personnel, and legal procedures.

» **The Future of the Command Post:** In June 2019, the C2COE published part 2 of the study "The Future of the Command Post", looking at the human perspective on the impact of introducing new technology into a joint operational level command post. This part of the study was based on an extensive survey and interviews with senior

leadership. The centre studied the C2 aspects from 2035 and beyond. Human Aspects, as well as Information & Knowledge Management will play a big role while Catalysing C2.

- **Multi-Domain Operations (MDO) C2 Demonstrator.** Throughout 2019 to 2020 the C2COE develops an ambitious project on the MDO C2 Demonstrator, which aims at convincing commanders and their staff that implementing the current available technology
- **Seminar 2019:** From June 25th till June 27th the C2COE hosted the annual C2 Seminar in Brussels, Belgium. The theme "Get Connected" was illustrated by speakers with a wide variety of expertise and provided valuable insights in many levels and means of communication. The seminar equally provided ample personal and professional networking opportunities. The review document is available.
- **Multi Domain C2:** In the last quarter of 2019 the OA Branch focuses on the theory and hierarchy of Multi-Domain C2 and related terms and concepts which will enhance their performance during the Decision Making Process (DMP) while helping procurement officials to define these requirements.

Major Products and Activities in 2020

- **Department Head:** The C2COE plans to host several meetings for introduction to community of interest. Also, the first Annual Discipline Meeting to be hosted for Operations Planning, Operations Assessment and Alternative Analysis NATO E&T Discipline in 2020. Also, there will be a number of visits to Education and Training Facilities for collaboration on course certification processes
- **Seminar 2020:** In 2020, the C2 Seminar will be hosted in Bratislava, Slovakia. The exact theme has not yet been decided upon, but the character will most likely be "Multi-Domain".
- **Exercises:** The C2COE will expand its knowledge on Multi-Domain C2 and apply findings in TRIDENT-exercise series.
- **MDO C2 Demonstrator:** A Roadshow after Summer 2020 will demonstrate the potential of this application to enhance military C2 efficiency and the DMP.
- **Study:** Study on NATO Command and Control Relationships and authorities.

NATO C2COE Contact Information

Find us on:
Website: www.c2coe.org

Twitter: https://twitter.com/nato_c2coe

Facebook: https://www.facebook.com/NATOC2COE

Youtube: NATO C2COE

LinkedIn: NATO Command and Control Centre of Excellence

Visiting Address:
Kromhout Barracks,
Herculeslaan 1 Building K1, 4th floor,
3584 AB, Utrecht

The Netherlands
Contact:
Phone : +31 (0)30 2187012
Fax : +31 30 21 87022
Web :www.c2coe.org

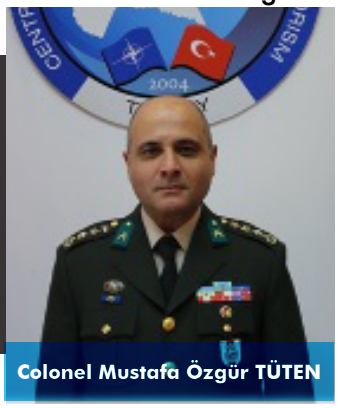
Mailing Address:
PO Box 90004
3509 AA Utrecht
The Netherlands

Director:
Colonel H.A.C.B. Meeuwsen (NLD A)
Phone: +31 (0)30 21 87000
Email: HACB.Meeuwsen@mindef.nl

CENTRE OF EXCELLENCE DEFENSE AGAINST TERRORISM (COE DAT)

Director's Message

Terrorism seeks to break down normal international relationships between nations and peoples. Our world order which is based on trust and mutual respect is challenged by the threat terrorism represents. Only through collaboration and cooperation between nations can a safe and secure environment be established and sustained. The most effective methods to counter the security challenge terrorism presents are: developing a comprehensive understanding of the origins of terrorism; sharing of best practises and experiences; and education between NATO and partner nations, international organizations, and academic institutions. I invite you to participate and contribute to COE DAT activities.



Colonel Mustafa Özgür TÜTEN

Mission Statement

Provide key decision-makers with a comprehensive understanding to terrorism and Counter-Terrorism (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 eight nations focused on terrorism and CT challenges. COE DAT is NATO's hub for all Terrorism, Counter-Terrorism, and Defense Against Terrorism education and training. COE DAT provides three main services to NATO: the Department Head for Terrorism/CT/Defense Against Terrorism Education and Training solutions including the increasing amount of CT E&T delivered by the Alliance to NATO partner nations, as an Education and Training Facility focusing on both Alliance and Partner Nation needs, and as a think tank supporting and feeding the other two roles and NATO leadership. Since COE DAT's inauguration in 2005, the Centre has worked in partnership with over 2721 guest lecturers, conducted 235 educational and training activities on site or through Mobile Training Teams, and hosted over 13,459 participants from 114 countries on a myriad of terrorism and CT topics impacting NATO and partner nations.

Vision

An internationally recognized and respected resource for Defense 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 2019

Education & Training

Courses

- Defence Against Terrorism Course, 11-15 February 2019
- Defence Against Suicide Attack Course, 15-19 April 2019
- CT/Attack the Network Course, 1 - 12 April 2019 - with C-IED COE in Madrid Spain
- 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
- CT/Attack the Network Course, 9 - 13 September 2019
- CT/Attack the Network Course, 7-18 October 2019 – with C-IED COE in Madrid, Spain
- Terrorism and Media Course, 21-25 October 2019
- Border Security, Refugees and CT Course, 18-22 November 2019

Mobile Training Teams and Advanced Training Courses

- African Union: Defence Against Terrorism, 31 March – 4 April 2019
- Morocco: Defence Against Terrorism, 23 - 25 April 2019
- Tunisia: Defence Against Terrorism, 6 – 8 August 2019
- Jordan: Border Security, 8 – 10 October 2019
- Istanbul Cooperative Initiative Regional Centre: Border Security, 3 – 11 Nov 2019

Seminars

- Annual CT Discipline Conference, 29-30 May 2019
- Defence Against Terrorism Executive Level Seminar, 25-26 November 2019

Transformation (Concept and Doctrine Development)

- Women in Terrorism and Counter Terrorism Workshop, 27-28 May 2019; a WS report including a summary and the key findings published on the COE-DAT website.
- Terrorism Experts Conference, 15-16 October 2019; " Terrorism as a violent Change" supports concept development with trend analysis to identify future CT challenges.
- Supported the development of the Strategic Foresight Analysis report.
- Contributed to the 2018 Framework for Future Alliance Operations report.
- Contributed to the NATO Modelling and Simulation Group Crisis and Disaster Management Processes and Climate Change Limited Objective Experiment
- Concept development for Chiefs of transformation 2019 breakout session on Hybrid and Counter Terrorism' relation to resilience.
- COE-DAT continues to publish work derived from its activities including two Defence Against Terrorism Reviews, an international peer-review journal published in 2019.

Knowledge (Analysis and Lessons Learned)

- COE-DAT CT Lessons Learned Workshop, 16-17 December 2019, developed modules on resilience for integration into COE-DAT's critical infrastructure protection course and to identify if there is a need for an advanced critical infrastructure protection course.
- Crisis Management in Terrorism Seminar, 9-10 December 2019
- Supported NATO Intelligence Enterprise's Countering Hybrid warfare initiative by developing the logical framework for CT and hybrid warfare resilience
- module in coordination with the NATO Intelligence Enterprise

Key Products and Activities for 2020

Education & Training

Courses

- Defence Against Terrorism Course, date TBD
- Defence Against Suicide Attack Course, date TBD
- Counter Terrorism / Attacking the Network Course, date TBD – with C-IED COE in Madrid, Spain
- Terrorist Use of Cyber Space Course, date TBD (W/Cyber COE)
- Critical Infrastructure Protection Course, date TBD
- Terrorist Use of WMD Course, date TBD
- Counter Terrorism / Attacking the Network Course, date TBD – with C-IED COE in Madrid, Spain
- Terrorism and Media Course, date TBD
- Border Security, Refugees and CT Course, date TBD

Mobile Training Teams and Advanced Training Courses

- Up to two Border Security MTTs in the MENA, dates and locations TBD

Seminar

- Defence Against Terrorism Executive Level Seminar, date TBD

Conferences, Seminars and Workshops

- Training Needs Analysis (TNA) Workshop, date TBD
- Annual CT Discipline Conference, date TBD

Transformation (Concept and Doctrine Development)

- Terrorism Experts Conference 2020, date TBD
- Gender (Women) in Terrorism and Counter Terrorism Workshop, TBD
- Contribute to doctrine development/review processes within our areas of interest.
- Based on the results from TEC 2019, support the development of concept proposals by conducting two workshops in cooperation with stakeholders from NATO, COEs, national institutions and Universities
- Partnering with Academic Partners to develop a Defence Against Terrorism handbook.
- Support to JWC for development of MEL/MIL workshops for Exercise Steadfast Jupiter/Jackal 2020.

Knowledge (Analysis and Lessons Learned)

- Support NATO Intelligence Enterprise's Countering Hybrid warfare initiative to develop CT and Hybrid Warfare modules focused on data sharing and building common operational and INTEL pictures.
- COE-DAT CT Lessons Learned Workshop x2, dates TBD

The complete Event and Course Calendar can be found at our Website and Knowledge Portal at (www.coedat.nato.int).

Contact Information

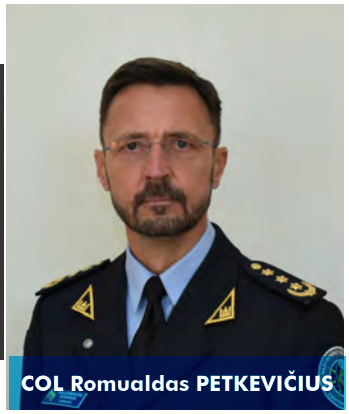
For unclassified: info@coedat.nato.int
For classified:
info@ptcak.mod.tu.nato.int
Mailing Address: Terörizmle Mücadele Mükemmeliyet Merkezi Devlet Mahallesi, İnönü Bulvarı, Kirazlıdere Cd No: 65 06582 Çankaya, Ankara / TURKEY

Director:
Colonel Mustafa Özgür TÜTEN (TUR A)
Phone: +90 312 4258215/1002,
Email:mustafaozgur.tuten@coedat.nato.int
Deputy Director:
Colonel Daniel STONE (US Air Force)
Phone: +90 312 4258215/1003,
Email: daniel.stone@coedat.nato.int
daniel.stone@coedat.nato.int

NATO ENERGY SECURITY CENTRE OF EXCELLENCE (ENSEC COE)

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.

Director's Message



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

NATO ENSEC COE will be the leading expert on Energy Security for the Alliance, providing a platform for military, government, industry and academic cooperation.

Major Products and Activities

2019

CONFERENCE

"Climate Change and Energy Security for NATO Nations – Geopolitical and Defence Implications" is going to be held on 6th of November 2019 in Paris, FRANCE.

EDUCATION, TRAINING AND EXERCISES

- Critical Energy Infrastructure Protection & Resilience Course (Kuwait City)
- Baltic Defence College Operational Level Energy Security Course
- Regional Energy Security Symposium/Advanced Symposium in Tbilisi, Georgia and Baku, Azerbaijan
- Energy Efficiency in Military Operations Course (with US NPS)
- Energy Security Awareness Course (NATO School Oberammergau)
- Turkish General Staff PfP Traning Centre ENSEC Awareness Course
- Tabletop Exercise on Infrastructure Protection/Maintaining Natural Gas Supply to Baltics
- ADL/e-learning updates and course creation (ENSEC Awareness and Critical Energy Infrastructure Protection)

EXPERIMENTATION and CONCEPT DEVELOPMENT

- EMMEE Project: During 2019, the Energy Management in a Military Expeditionary Environment project concluded the energy management case study undertaken with the French military at an air force base in West Africa, and conducted two further case studies. One of the new case studies was undertaken with the German battle group at the NATO enhanced Forward Presence (eFP) camp in Lithuania, and one was undertaken with the Canadian battle group at the NATO eFP camp in Latvia. The three case studies involve applying the three pillars of energy management in a deployed operational setting: command and control; technological application; behaviour change. Once the energy management pillars have been implemented, data is compared between before and after the implementation to ascertain the value of introducing energy management practices to military camps.
- HPGS Project: The Hybrid Power and Generation System (HPGS) prototype system was tested in a very challenging environment in 2019 - the cold Canadian Region. This activity provided the first set of information about the system's ability to operate in such a tough temperature environment, in order to produce electricity for expeditionary forces, where energy efficiency is a mandatory mantra because of the difficult fuel supply capability.
- The system was also exploited in a multinational logistical exercise (Capable Logistician 2019) in order to test and improve NATO's interoperability in power generation domain. Reports will be available for the Nations by the end of 2019.

» Doctrine Development: As an important and standing commitment, support to developing NATO concepts and doctrine on energy security issues continued during 2019, through SME participation in the most relevant and important conferences, meetings, and NATO working groups. The highest priority in 2019 was to work within a team of NATO experts on the project 'Military Aspect of Energy Security Roadmap'.

STRATEGIC ANALYSIS

» Publication of Operational Highlights 12: Beyond the Era of Fossil Fuels. The publication identified some of the risk factors associated with the integration of Renewable Energy supplies to energy systems.
» Cyber risk study of NATO Central Europe Pipeline System (CEPS) and recommendations.
» Strategic Analysis and Research Division's Informative Notes on Energy Security (SARDINES) on IMO 2020 Regulation and the Potential Effects to the Refining and Shipping Markets. In cooperation with Bilkent University, the analysis piece looked at the military considerations around the International Maritimes Organization's regulation on Sulphur content in marine fuels, which will be effective from 1st of January 2020.
» Support for Education, Training and Exercises Division's Tabletop Exercise Coherent Resilience 2019 in scripting scenario, providing expertise and advice.
» The research report "Nuclear energy and the current security environment in the era of hybrid threats" (in print, 2019).Together with NATO CCD COE and NATO STRATCOM COE, NATO ENSEC COE contributed to a European Centre of Excellence for Countering Hybrid Threats led project on the hybrid threats related to nuclear energy in Europe. The NATO ENSEC COE's case study included an overview of the Belarusian Nuclear Power Plant - Ostrovets.
» Strategic Analysis Study on Fuel Supply Chain (in review, forthcoming 2019). The aim of this study is to provide an assessment from an energy security point of view on PSC capacities in the Southern Flank NATO Nations and risks associated with HNS for the NRF/RAP exercises and deployments. This assessment is intended to be utilized by the NATO PC and Nations.
» 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.
» Analysis on NATO Nations Dependency on Russian Crude Oil and Gas.
» Strategic Analysis of Fuel Supply Chain – Baltic States Region.
» An analysis on Nord Stream 2 and its consequences for NATO Energy Security.
» Permanent monitoring of energy security developments in the Baltic Sea region as well as permanent monitoring of energy security developments in the East Mediterranean, the Middle East and Caspian/Black seas regions.

2020

EDUCATION, TRAINING AND EXERCISES

» Baltic Defence College Operational Level Energy Security Course
» Eastern Mediterranean & MENA Energy Security Workshop (with US NPS and Bilkent University)
» Regional Energy Security Symposia (Caucasus)
» Energy Efficiency in Military Operations Course (with US NPS)
» Energy Security Awareness Course (NATO School Oberammergau)
» Turkish General Staff PfP Training Centre ENSEC Awareness Course
» Tabletop Exercise on Resilience Against Hybrid Threats in Black Sea Region (Ukraine)
» ADL/e-learning course creation (Energy Efficiency in Military Operations)

EXPERIMENTATION and CONCEPT DEVELOPMENT

» EMMEE Project: The results of the energy management case studies undertaken in 2017-2019 will be used to develop a NATO ENSEC COE Energy Management Handbook, which will be delivered to NATO as a possible cornerstone for future NATO concepts, policy, doctrine, STANAGs, and training material related to energy management.
» Electrical Mobility: A study accompanied by several experimentations about tactical electrical mobility for Special Forces will be performed in the period of 2020-2021. General usage advice will be delivered by the end of 2020.
» Hybrid Power Generation: New technologies will be tested in deployed military environment settings, in order to develop standardization recommendations for the nations.
» Doctrine Development: The DCD Division will continue to support the development of NATO concepts and doctrine on energy security issues through SME participation at the most important conferences, meetings, NATO working groups.

STRATEGIC ANALYSIS

» The NATO ENSEC COE will support national authorities in protecting critical energy infrastructure, as well as the enhancement of their resilience against energy supply disruptions by sharing knowledge and expertise through lectures and presentations during national as well as international Table Top Exercises.
» Further support to 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 regions inside the NATO and surrounding the NATO.

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.

Contact Information

Contact:
Phone: +370 5 203 26 86

Email: info@enseccoe.org
Website:www.enseccoe.org

Facebook: www.facebook.com/NATOENSEC/

2019 COE Marketplace 15-16 July, Brussels/Belgium

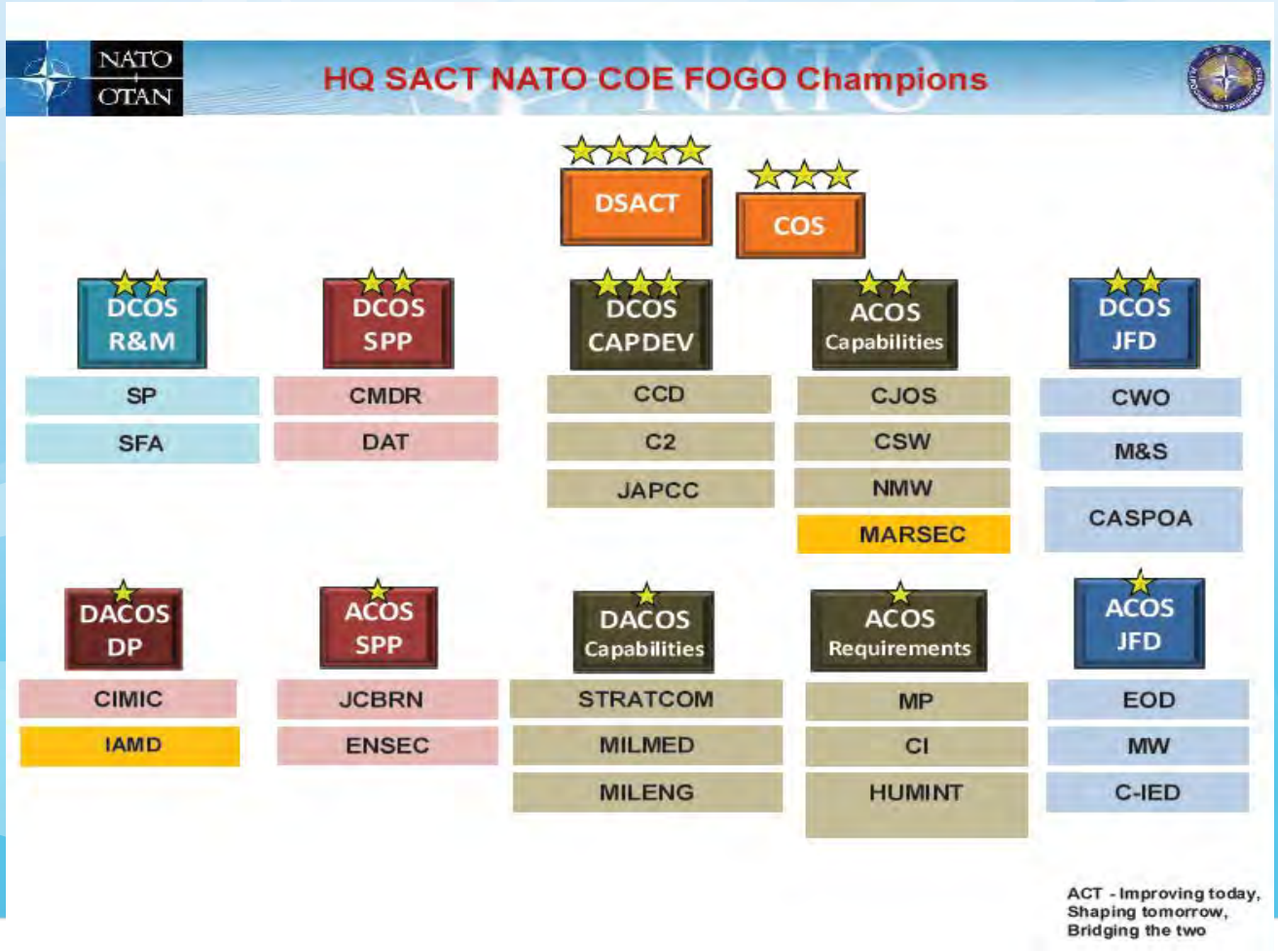
2019 NATO COE Directors Conference 9-11 July, Bled/Slovenia

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 their responsibilities in the HQ. They 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 HQ SACT. The SME is responsible to coordinate the Program of Work with the COE and according to the direction and guidance they receives from the FOGO Campion.



	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, DNK, 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	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	CAN, 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 Assistence (SFA)**	ITA	ALB, SVN, ITA	Roma, ITA

In Red: Partner Nations ***: In Process of Joining**

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 Aga** — Ank
- **Energy S** — Vilniu
- **Explosive C** — Trenč
- **Human Inte** — Orad
- **Joint Air P** — Cen — Kalk

Joint Chemical Biological Radiological & Nuclear Defence (JCBRND)
Vyškov, Czech Republic

Military Engineering (MILENG)
Ingolstadt, Germany

Military Medicine (MILMED)
Budapest, Hungary

Military Police (MP)
Bydgoszcz, Poland

Modelling and Simulation (M&S)
Rome, Italy

Mountain Warfare (MW)
Poljče, Slovenia

Naval Mine Warfare (NMW)
Oostende, Belgium

Security Force Assistence (SFA)
Roma, Italy

Stability Policing (SP)
Vicenza, Italy

Strategic Communications (STRATCOM)
Riga, Latvia

inst Terrorism (DAT)
ara, Turkey

Security (ENSEC)
us, Lithuania

Ordnance Disposal (EOD)
in, Slovakia

lligence (HUMINT)
ea, Romania

ower Competence tre (JAPCC)
ar, Germany

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

P: Partner Nation ***: In Process of Joining**

MC and COE directors during COE Marketplace NATO HQ, 16-17 July 2019

COE Director`s Conference, 9-11 July 2019, Bled/Slovenia

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). This process is called "RfS Process". The overall aim of the process is to optimize the use of the COEs.

In an effort to streamline the process and better use the resources available to both NCS and COEs, the NATO NCS should primarily use a tool called "RfS Tool",which is in TRANSNET, to forward Requests for Support to NATO accredited COEs.

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. HQ SACT (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 the 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 the 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 the COE POW thumbnail.

Some Examples of RFS in 2019

Title	Requestor
Human Capital Gaps Analysis	HQ SACT JFD
Long Term Military Transformation	HQ SACT SPP
NATO Warfighting Capstone Concept	HQ SACT JFD
NATO EOD Staff Officer Training	EOD COE
Integrated NATO Maritime Logistics	MARCOM
NATO Maritime Live Virtual Constructive Training	MARCOM
Support to Georgia in the maritime domain	NATO IS
NATO HUMINT Exercise STEADFAST INTEREST 20	SHAPE
Lessons Identified from SEAD Operations	IMS
CIMIC Seminar	NRDC-GR
Unmanned systems in support of ASUW, ASW and MCM in CSW	TUR NAVY
strategic, operational concepts & future NATO force requirement	ITA NAVY
The possible future appearance of Czech Tactical Air Force	CZECH MOD

RfS Process

REQUEST
Requestor submits the RfS in the RfS tool Status: TBA
COE coordinates with HQ SACT SME and requestor
COE evaluates the RfS Status: feasible/
If feasible, HQ SACTFOGO champion assigns ACT priority
COE Steering Committee analyses draft POW
If accepted, the RfS is introduced in the COE POW
COE change RfS status Status: accepted
COE develops product
COE completes product
Requestor receives the product and validates it
ACT RfS manager is notified about RfS completion
RfS tool updated: RfS COMPLETED
NATO PRODUCT

EXPLOSIVE ORDNANCE DISPOSAL CENTRE OF EXCELLENCE (EOD COE)

Director's Message

The NATO EOD COE's contribution is still in high demand; the number of applicants for COE courses, standardization tasks and project assignments is a sign of rising interest. Keeping the brisk pace and progressive development is the basis of building our future.

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 SACT aiming to improve military capabilities, value and efficiency of the Alliance. The Centre was established by Slovakia as a Framework Nation with support of five Sponsoring Nations (CZE, FRA, HUN, POL and ROU). The North Atlantic Council activated the EOD COE as an international military organization on 28 April 2011.

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

Vision

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

Key Products and Activities

2019

- Support to NATO's Global Programming Framework
- Specialized EOD advice as support to NATO's multidisciplinary approach within military disciplines (MILENG, C-IED, CBRN)
- Delivery of eight iterations of the EOD specialized Education and Individual Training (E&IT) events
- Provision of Mobile Training Team (MTT) to Sponsoring Nations for building up their national training capabilities including MARITIME aspects to the NATO EOD SOT curricula
- Successful certification of the HME-B course as NATO APPROVED
- Implementation of Best Practices in E&IT Quality Assurance
- Contribution to Collective Training and Exercises (CT&E), mainly Ardent Defender, Northern Challenge and Toxic Valley
- Collaboration with NSO WGs
- Continuous support to the development of NATO Allied Publications including takeover the custodianship of AJP 3.18 (Allied Joint Doctrine for EOD Support to Operations)
- Management, permanent development and synchronization of NATO EOD Terminology
- Support the elaboration of maritime environment specifics into EOD standards
- Contribution to the NATO Defence Planning Process (NDPP) through continuous collaboration with MILENG Defence

Planning Advisory Group (DPAG) including updates of EOD related CCs/CSs

- Continuous support and active participation in the NATO EOD Working Group (WG), Force Protection WG, C-IED WG, MILENG WG and Allied Joint Operations Doctrine WG meetings

2020

- Enhance NATO's Global Programming Framework by EOD education and training solutions
- Host the 4th MILENG Annual Discipline Conference
- Ensure quality assurance through continuous improvement of E&IT
- Deliver eight iterations of the selected E&IT events
- Complete preparation process of the HME-B course to be hosted in Romania
- Conduct two iterations of the HME-B course at the Romanian EOD Training Centre
- Refresh delivered knowledge of the ADL EOD doctrine course in line with NATO respective standards update
- Facilitate NATO organized CT&E (a Trident series) by the EOD COE SMEs (on request)
- Contribute to EOD related CT&E (Northern Challenge, Ardent Defender, Toxic Valley)
- Continuous support to the development and update of Allied Joint and Allied Tactical Publications
- Organize a series of writing sessions focused on the update of Allied Joint Doctrine for EOD Support to Operations (AJP 3.18)
- Maintain collaboration with respective NSO WGs from previous years and keep continuum of progress
- Manage development and synchronization of NATO EOD and C-IED Terminology
- Engage directly in DAT POW projects
- Prepare and execute NATO EOD Demonstrations and Trials 2020
- Maintain and update EOD/IEDD Equipment Catalogue
- Continue the development and update of a series of FWPA handbooks, including publishing of a new Volume 4 – Fuzes and Primers
- Support the further development of SFA and FFAO
- Support to NATO Transformation and NDPP – including updates of EOD related CCs/CSs

Contact Information

Contact:
Explosive Ordnance Disposal Centre of Excellence
Olbrachtova 5, 91101 Trenčín, Slovakia
http://www.eodcoe.org

Director:
Director: Colonel Róbert CSÁSZÁR
Phone: +421 960 333 500
Email: robert.csaszar@eodcoe.org
IKM cell: OF-3 Zuzana ČAHOJOVÁ
Phone: +421 960 333 559
Email: zuzana.cahojova@eodcoe.org
Mrs. Anna FARKAŠOVÁ Phone: +421 960 333 562
Email: anna.farkasova@eodcoe.org

NATO HUMAN INTELLIGENCE CENTRE OF EXCELLENCE (HUMINT COE)

NATO HUMINT Centre of Excellence celebrates in 2020 a decade of active contribution to NATO, shaping important landmarks in the HUMINT capability development.
We face a continuous challenge that involves processes, technologies and human capital in a competitive endeavour for adaptation of the current capacities, as well as initiation of new ones. This approach is strongly supported by a comprehensive top-down and proactive bottom-up system, based on mature lessons learned competence, concept development, innovative thinking and modern management, with tangible output in enhanced HUMINT practice.
In this respect, our overall focus is directed towards superior, fit for purpose capacities, and an increased level of interoperability promoted by standardization, as well as individual and collective education and training. Moreover, we bring our own contribution to promoting NATO's core principles and values in relation with the general public and Academia.
After having successfully completed in 2019 the reaccreditation process as NATO affiliated, Memorandum of Understanding-based organization, HUMINT COE being reconfirmed as NATO accredited Education and Training Facility, with a solid Quality Management System and relevant contribution to our Alliance, I confidently look forward to the next decade, when we intend bringing new dimensions to our working standards and providing enhanced support to the transformation of HUMINT in NATO.

Director's Message

COL ROU A Florin-Vasile TOMIUC

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

Mission

HUMINT COE provides the highest quality services and products in response to the requirements and needs of the NATO Command Structure, the NATO Forces Structure, the NATO Nations and, when feasible, Partner Nations.

Vision

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

Doctrine and Standards

- Fulfill custodian related responsibilities for NATO HUMINT Publications;
- Participate in Joint Intelligence Working Group and Allied Joint Operations Doctrine Working Group, and overall 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;
- Develop an Interrogators Handbook.

Concept Development & Experimentation

- Explore opportunities provided by the cyberspace domain in support of HUMINT;
- Research technology developments for HUMINT enhancement.
- Validate HUMINT concepts through experimentation.
- Develop STANREC for NATO HUMINT Operator Toolset;
- Develop a HUMINT training range concept.

Education & Training

- Provide support to NATO HUMINT exercise and other major NATO exercises;
- Conduct NATO HUMINT training on all levels (operator, collator, leader and staff);
- 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;
- Provide ADL products to the NATO community, for better understanding and integration with HUMINT domain.

Lessons Learned & Analysis

- Active support to SHAPE J7 for conducting a Joint Evaluation during NATO Exercises (TRIDENT Series), in order to assist COM NRF in its preparation for the NRF stand-by period;
- Participate, provide support and collect NATO HUMINT observations, lessons identified and best practices from NATO exercises;
- Provide support to Joint Analysis Lessons Learned Centre and NATO Command Structure, on request;
- Chair the NATO HUMINT Lessons Learned/Best Practice Community of Interest;
- Act as content manager for NATO HUMINT Lessons Learned/Best Practice database on NATO JALLC portal;

Department Head

- Engage in Global Programming with the Requirement Authority (SHAPE J2), ACT JFD, 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&IT and conducts a serial of HUMINT Training Needs Analysis Working Groups, in accordance with Bi-SCD 075-007;
- Lead the HUMINT Education and Training Community of Interest in NATO, connected to the NATO HUMINT Working Group (NHWG). Ensure the liaison between NHWG and 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 and make recommendations to the Requirement Authority;
- Contribute to the revision of STANAG 2555;
- Perform content assessment of the HUMINT E&IT 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;
- Promote and support HCOE Academic Outreach.

Contact Information

CONTACT DETAILS :
NATO HUMINT Centre of Excellence
Armatei Romane 24
410087 Oradea
Romania
+40 259 434 932
registry@natohcoe.org
www.natohcoe.org

JOINT AIR POWER COMPETENCE CENTER (JAPCC)

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.

JAPCC Mission

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.

Vision

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

Who We Are

The JAPCC is based on a Memorandum of Understanding (MOU) and sponsored by 16 NATO nations who provide a variety of experienced Subject Matter Experts (SMEs) from Air&Space, Land and Maritime services.

Recurring Projects, Activities & Events

Annual Conference

The annual JAPCC Conference takes place in October and attracts senior representatives from the military, industry and academia, with the attendance of more than 300 flag officers in the last three years.

JAPCC Journal

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

NATO Doctrine and Working Groups

- JAPCC is custodian for 19 doctrine, policy and tactical publications, including AJP 3.3 NATO Air and Space Operations.
- JAPCC contributes to 17 additional Alliance documents.
- JAPCC chairs the NATO Air Operations, Air Transport, Air to Air Refueling, and Force Protection Working Groups.
- JAPCC co-chairs the Maritime-Air Coordination Committee with MARCOM Air.
- JAPCC participates in then NATO Aviation, Air and Missile Defence, and Electronic Warfare Advisory Committees as well as the Bi-Strategic Command Space Working Group, Helicopter Inter-Service Working Group, and several more.

Exercise Support

In 2019 – 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.

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.

JAPCC SUBJECT MATTER AREAS:

Space – Air to Air Refueling – Air Battle Management – Air C2 – Air Operational Planning – Air Transport – Close Air Support & JTAC – Cyber – Training & Exercise Support – Electronic Warfare & SEAD – Force Protection – SBAMD & BMD – ISR – Logistics – Manned Air – Fixed & Rotary Wing Maritime Air – Plans & Concepts – Development & Vision – Rotary Wing & Special Air Operations – Maritime Patrol Aircraft - Unmanned Aerial Systems – Air-Land Integration – Precision Munitions – Research, Analysis & Intelligence Support

JAPCC FOCUS AREAS:

Space & Cyber Integration – Multi-Domain Operations & C2 – Rotary Wing/Vertical Lift Transformation – Joint ISR & Big Data Management – Integrated Air & Missile Defence – Electromagnetic Spectrum Operations – Logistics Support to Air Operations – Unmanned Air Systems/Countering Unmanned Systems – Force Protection – Resilient Basing – Emerging Technologies

SBAMD / Ballistic Missile Defence

JAPCC is supporting the development of SBAMD/BMD 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, and the Joint Coordination Group Surface Based Air Defence. Furthermore, JAPCC is supporting large BMD and SBAMD exercises and experiments in key positions such as NIMBLE TITAN and Joint Project Optic Windmill. JAPCC's expertise is in high demand for other NATO studies and larger exercises, e.g. A2/AD, Hypersonic Operational Threats, and exercises TRIDENT SERIES and RAMSTEIN AMBITION. JAPCC also contributes to the education about missile defence at NATO School Oberammergau and other entities.

Recently Published Studies And Reports

Transforming Joint Air and Space Power – The Journal of the JAPCC – Edition 28

We have a variety of articles in this edition that will whet your appetite and we start off with an interview with the Romanian Air Chief Major General Pana, who offers us great insights into the changes of the past 15 years, since the Romanian Air Force joined NATO and the challenges lying ahead with the rapidly shifting and evolving requirements for a successful and reputable Air Force.

The Implications for Force Protection Practitioners of Having to Counter Unmanned Systems

The subject of Counter-Unmanned Air Systems (C-UAS) has become what can best be described as a 'hot-topic', not just for the North Atlantic Treaty Organization (NATO) but, globally. The primary question that this think-piece seeks to explore is whether this challenge is new and unique or, whether it is actually just one of many threats that NATO faces that can be addressed with a little intellectual effort and with existing technology or, novel use of existing technology?

Command and Control of a Multinational Space Surveillance and Tracking Network

This white paper aims at providing a reasoned compendium about SST and multinational SST networks. In particular, it addresses the analysis of several architectural solutions for SST networks to identify and evaluate applicable C2 models. The document starts with a knowledge base about SST and its contribution to SSA. It defines the relevant terms of reference and describes its applications, both for civil and military purposes.

CONTACT US
Online: www.japcc.org
Via email: contact@japcc.org

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

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 JCBRN 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.

Director's Message

Mission Statement

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

Vision

The JCBRN 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.

Who We Are

The Centre combines skills and expertise from more than 70 personnel from fourteen nations in the areas of CBRN Concept and Doctrine, Capabilities Development, Defence Planning, Experimentation, Training, Exercises, Education, Lessons Learned, Reachback, Modelling, Simulation and Operations Planning Support; acts as NATO Department Head for WMD/CBRND Training and Education; and forms the core of the NATO CBRN

We are also expanding our reach-out to civil-military, European Union and other international organizations and industries co-operation.

Major Products and Activities

2019

- Implemented Accession of Canada as a Sponsoring Nation,
- Organized Annual COE Advisors Conference,
- Contributed to revision of MC Concept for COEs (MCM 236) and CBRN Defence Concepts (MC 511 and MC 590),
- Supported follow-on work of NATO CBRN Defence concept MC 603/1,
- Supported development of the Strategic Foresight Analysis (SFA) 2019 Report,
- Supported Committee on Proliferation (Defence Format) exhibiting COE's capabilities,
- Supported Joint CBRN Defence Capability Development Group (JCBRND CDG) including Chair and secretary of the Training and Exercise Panel (TEP) and the Doctrine and Terminology Panel (DTP),
- Developed Allied Joint Doctrine on Comprehensive CBRN Defence and subsequent tactical publications,
- Supported concept development and experimentation of the CBR/C-IED Exploitation Functional Concept,
- Supported development of AEP-66 Ed. 2 Handbook for Sampling Identification Biological Chemical Radiological Agents (SIBCRA) and the CBR Forensic Sampling Training Concept,
- Continued custodianship for the Allied Joint Doctrine for CBRN Defence,
- Developed CBRN Capability Requirements within the NATO Defence Planning Process (NDPP) 2021,
- Supported CBRN Capability Roadmap Implementation,
- Provided CBRN Knowledge Distribution to NATO Community,
- Supported NATO BMD with WMD expertise,
- Developed additional CBRN Modelling and Simulation Capabilities including new radiation software,
- Integrated NS VTC capability into the Reachback and incorporated into the CCOMC battle rhythm,
- Provided Operations Planning Support to the COPD and integrate with the CCOMC battle rhythm,
- Provided CBRN Reachback to active operations and experimentation,
- Enhanced Emerging Relationships: NATO EURO – Atlantic Disaster Response Coordination Centre (EADRCC), European Union Military Staff, European DG DEVCO 'EU CBRN Risk Mitigation CoE Initiative' and DG HOME 'Community of Users (CoU) on Secure, Safe and Resilient Societies', EU PESCO project 'Surveillance as a Service',
- Supported European Commission with analytical expertise in UAE,

- Supported NATO Partners in CBRN Defence on Request (Kuwait, UAE),
- Conducted JCBRN Defence COE courses,
- Information exchange with CBRN capability development relevant industries
- taking over the role of EU Discipline Leader for CBRND Education and Training (E&T) Discipline
- Provided Training Requirements Analysis and the Training Needs Analysis for the NATO WMD/CBRND Education and Training (E&T) Discipline,
- Acted as Department Head for NATO WMD/CBRND E&T Discipline,
- Supported to SACEUR's ANNUAL Guidance on Education, Training Exercises and Evaluation development,
- Supported to Multinational CBRN and NATO TRIDENT series exercises,
- Supported to Lessons Learned (LL) process in the CBRN domain – the Revision of the CBRN LL concept,
- Supported of international workshops and conferences.

2020

- Conduct Quality Assurance Re-accreditation,
- Continue development of COE Participation Expansion,
- Organize Annual COE Advisors Conference,
- Support Committee on Proliferation (Defence Format) exhibiting COE's capabilities,
- Support Joint CBRN Defence Capability Development Group (JCBRND CDG) including Chair and secretary of the Training and Exercise Panel (TEP) and the Doctrine and Terminology Panel (DTP),
- Support NATO CBRN Defence Doctrine and Terminology Development including Allied Joint Doctrine on WMD Disablement; and Joint NATO Urban, Urban Littoral and Megacity Doctrine,
- Support, cooperate and coordinate with FNC Cluster CBRN Protection
- Provide custodian for AJP-3.8 (Allied Joint Doctrine for Comprehensive CBRN Defence) in support of the development and regular update of the relevant Doctrine,
- Contribute to revision of CBRN Defence requirements, concept development, planning documents and tactical procedures,
- Provide support to development of CBRN Reachback CONOPS
- Support development of AEP-66 Ed. 2 Handbook for Sampling Identification Biological Chemical Radiological Agents (SIBCRA) and the CBR Forensic Sampling Training Concept,
- Support Multinational Capability Development Campaign (MCDC) Countering Weapons of Mass Destruction (C-WMD),
- Issue WMD/CBRND Discipline Alignment Plan after the Annual Discipline Conference in 2020,
- Provide CBRN Knowledge Distribution to NATO Community,
- Develop additional CBRN Modelling and Simulation Capabilities including epidemiology,
- Enhance use of secondary network through increasing the number of operational RFIs and subsequently the requirement for technical support,
- Act as Department Head for NATO WMD/CBRND Education and Training (E&T) Discipline,
- Support to SACEUR's ANNUAL Guidance on Education, Training Exercises and Evaluation development,
- Support to Multinational CBRN and NATO TRIDENT series exercises,
- Support to Lessons Learned process in the CBRN domain – the Revision of the CBRN LL concept,
- Conduct to JCBRN Defence COE courses,
- Contribute to development to CBRN Defence, planning documents, concept of operations and tactical procedures,
- Improve CBRN risk considerations across operational intelligence and planning process through the engagement of Operations Planning Support and Reachback,
- Enhance operational capability of ACO organisations exploiting NCIA approved NATO IS.
- Support of DG DEVCO 'EU CBRN Risk Mitigation CoE Initiative' by providing a Mobile Training Solution to MOROCCO
- Support of a possible MN CBRN Defence Command
- Support of international CBRN related workshops and Conferences (CBRNe Summit, NCT)
- Continue information exchange with CBRN capability development relevant industries
- Act as Discipline Leader for EU CBRND Education and Training (E&T) Discipline

JCBRND COE Courses

ETOC Code/ePRIME Code	Course Name	Date
N/A	CBRN Analysis Users Workshop	03 – 04 Mar 2020
WMD-MD-21769/ACT.575	Introduction to the International CBRN Training Curriculum for Trainers of First Responders to CBRN Incidents	20 – 24 Apr 2020
WMD-CD-25502	International Radiological and Nuclear Training for Emergency Response (I-RAD) (METT in Greece)	11 – 15 May 2020
WMD-MD-35522	Introduction to NATO WMD Disablement	08 – 12 Jun 2020
WMD-CD-25502	International Radiological and Nuclear Training for Emergency Response (I-RAD) (METT in Austria)	13 – 17 Jul 2020
WMD-MD-21245	CBRN Warning and Reporting Specialists Course	01 – 03 Sep 2020
WMD-CD-31883/ACT.603	Live Agent Training	12 – 16 Oct 2020
WMD-CD-41764/ACT.574	Consequence Management After CBRN Incident	23 – 27 Nov 2020

Contact Information

JCBRN Defence COE Address
Joint Chemical, Biological, Radiological and Nuclear Defence Centre of Excellence
Víta Nejedlého
682 01 Vyškov, Czech Republic

COE Contact Information:
Phone: +420 973 452 805Fax:+420973452 800
Email: postbox@jcbrncoe.cz
Website: www.jcbrncoe.cz

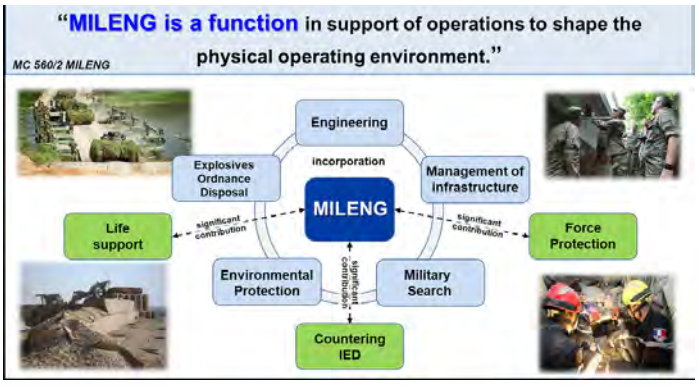
Director
Colonel Vratislav Osvald, CZE A
Phone: +420 973 452 801
Fax: +420973452 810
Email: osvaldv@jcbrncoe.cz

MILITARY ENGINEERING CENTRE OF EXCELLENCE (MILENG COE)

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 standardization, to deliver the required effects to the benefit of NATO and our 17 Sponsoring Nations.

Director's Message

COL Thorsten LUDWIG



Mission Statement and Vision

MILENG COE provides a significant contribution with joint combined subject matter expertise to the various aspects of military engineering. This includes 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 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 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 essential SME support to Staff ACT, ACO, NATO-HQ's, nations and numerous Standardization Working Groups.

•The MILENG COE is a NATO Accredited Education and Training Facility. The Training and Education branch (T&E) delivers NATO approved and listed courses for NCS requirements, operational level down to national interoperability and three ADL courses (Introduction to Military Engineering, Military Search Planning and Mobility Staff Awareness & Planning).

•The MILENG COE provides a one-week Mobile Training Teams (MTT) tailored to the HN requirements, once per year. Furthermore, the MILENG Steering Committee permits the MILENG COE to conduct additional MTT's per year within its means and capabilities.

•The MILENG COE is also running the Bridge Assessment Course (BAC). This course is a pilot "Train the Trainer" course designed to train MILENG personnel on the rapid bridge assessment methodologies proposed as common NATO standards for bridge assessment, in order to facilitate the training of the personnel from their home nations.

•The annual MILENG COE's Industry Day and Information Exchange Seminar provides MILENG SMEs from Nations and NCS/NFS the opportunity to discuss with the industry about the challenges of today's operational environments, lessons learned, training requirements, solutions and future developments.

MILENG COE Key Events

4th MILENG ADC	28 Jan 19
14 Jan 20	29 Jan - 01 Feb 19
19th MILENG WG	28 – 31 Jan 20
25th MILENG COE SC	28 Apr 20
MTT (BEL)	01 – 05 Jun 20
20th MILENG WG	15 – 19 Jun 20
26th MILENG COE SC	20 Oct 20
NSJEC 2020	21 – 22 Oct 20
IES 2020	08 – 10 Dec 20
Industry Day	09 Dec 20

Interoperability is a question of attitude.

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 trough the website at www.milengcoe.org.

NOMEC 1	09 – 13 Mar 20
NOMEC 2	21 – 25 Sep 20
NTMEC 1	04 – 08 May 20
NTMEC 2	16 – 20 Nov 20
NMEPPPC	25 – 29 May 20
MEMAC 1	23 – 27 May 20
MEMAC 2	12 – 16 Oct 20
MEMBC 1	17 – 21 Feb 20
MEMBC 2	30 Nov – 04 Dec 20
BAC (Bridge Assessment Course) 1	11 – 15 May 20
BAC 2	26 – 30 Oct 20
Infrastructure Assessment Course	22 – 26 Jun 20

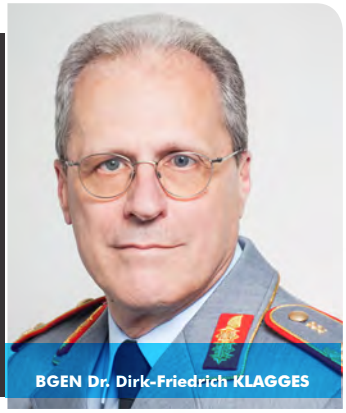
Contact Information:

Military Engineering Centre of Excellence
Pionierkaserne auf der Schanz
Manchinger Str. 1
85053 Ingolstadt
Germany
Email:info@milengcoe.org
Phone: +49 (0)841 88660 5101
Fax: +49 (0)841 88660 5102
Website: www.milengcoe.org

MILITARY MEDICINE CENTRE OF EXCELLENCE (MILMED COE)

The Centre of Excellence for Military Medicine (MILMED COE) is an international military organization with the core task of enhancing interoperability between military medical services in NATO. It was accredited by NATO on 12 October 2009. The MILMED COE consists of the founding Framework Nation (Hungary) and 10 member nations: Czech Republic, France, Germany, Italy, The Netherlands, Slovakia, Romania, the United Kingdom and the United States of America. The Centre, located in Budapest, Hungary – with one satellite branch in Munich, Germany – is composed of four medical branches (Deployment Health Surveillance Capability Branch, Training Branch, Lessons Learned Branch and Interoperability Branch) as well as the Department Head function.

Director's Message



BGEN Dr. Dirk-Friedrich KLAGGES

Mission Statement

The mission of the 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

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. 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. MILMED COE develops and implements projects to empower superior and effective medical support services across NATO, during missions abroad and in their home countries. 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. MILMED COE aims to remain a hub of military medic expertise and a focal point of knowledge, providing invaluable training, education and deployment health surveillance capabilities, lessons learned databases and concept development support. From 9th July 2019 the Centre is being led by Brigadier General Dr. Dirk-Friedrich Klagges, General Officer of German Armed Forces Medical Services.

The biggest achievement of MILMED COE in 2019 is the organization of Vigorous Warrior (VW) 2019 NATO Medical Exercise

with the involvement of all MILMED COE Medical Branches. VW is the largest multinational military live exercise series in the world. This year it was conducted from 01-12 April at the Joint National Training Centre in Cincu, Romania with 2600+ participants from 39 nations co-organized by MILMED COE, the Romanian Armed Forces General Staff and the Romanian Ministry of Defence Medical Directorate as host nation. This exercise is internationally acknowledged as a high-quality exercise and referred to in multiple military medical working groups, conferences both within and outside of NATO. The exercise planning cycle of VW 2021 has already been started, which will take place in Italy co-organized by MILMED COE and the Italian Armed Forces.

In 2020 MILMED COE will organize the 6th NATO Force Health Protection (FHP) Congress which will take place at the École du Val-de-Grâce in Paris, France, 21-23 September. The congress is held biennially for Medical Advisors, Preventive Medicine Staffs and associated Medical Support personnel. The objective is to provide pragmatic updates of contemporary issues and scientific advances in the field of FHP, to stimulate thinking and discussion, and to foster mutual exchange of information and building of networks. The theme for the congress is "Force Health Protection and Health Promotion within NATO: Co-operation to enhance force readiness and preservation of fighting strength in the changing operational context".

Contact Information

Contact:
Phone: +36 1 883 0100
Fax: +36 1 883 0127
Email: info@coemed.org, dir.pr@coemed.org
Web: www.coemed.org

Róbert Károly krt. 44.
H-1134, Budapest, HUNGARY

Postal Address:
NATO Centre of Excellence for Military Medicine
H-1555, Budapest, P.O.B.: 66, HUNGARY

NATO MILITARY POLICE CENTRE OF EXCELLENCE (MP COE)

The NATO MP COE is a unique permanent NATO Military Body which provides complex and effective work on all MP aspects across the full spectrum of NATO operations. With the armed forces as well as civilian organisations heavily engaged throughout the world, the need to prepare efficient military police officers and non-commissioned officers for multinational co-operation is becoming increasingly important. Therefore, the Centre not only offers a variety of MP-related courses and events to fulfil those requirements, but also prepares high quality products in co-operation with Subject Matter Experts (SMEs), and provides additional opportunity to enrich knowledge of the worldwide MP Community of Interest.

Director's Message

COL Mirosław ŁABĘCKI

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 co-operation with other military and civil actors for further evolution of MP standards and capabilities in order to enhance co-operation 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 and the 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 and Standardisation,
- Concept Development and Experimentation
- Education and Training
- Analysis and Lessons Learned

Vision

As a Military Police (MP) think tank and the motor for innovation, we build bridges between nations, organisations and institutions for the further evolution of MP standards and capabilities to support co-operation and interoperability of NATO and Partners.

NATO Approved Courses and QA guarantor

The NATO MP COE has earned an unconditional Quality Assurance Accreditation Certificate (2017-2023) and delivers residential and 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 the Education and Training Opportunities Catalogue.

Major Products and Activities for 2019

Involvements and Achievements:

- Department Head for Military Policing Discipline
- Chairmanship of MP Lessons Learned Capability Writing Team within NATO MP Panel;
- Chairmanship of the Doctrine development team within NATO MP Panel

- Custodianship of ATP 3.7.2 Military Police Guidance and Procedures
- Member of Multinational Joint Commission MP-Subcommittee, Ukraine
- International Conference MP in Hybrid War Report
- NATO MP COE Mobile Training Team contribution to the process of transformation of the Georgian and Ukrainian MP
- Management of an MP LL Portal – platform for NATO Military Police as well as NS and NS MP CoI on NLLP – managed by JALLC;
- NATO Military Police Close Protection Handbook the 1st edition 2020
- NATO MP report Handbook, the 3rd edition
- NATO & PfP Military Police and Gendarmerie Type Forces Handbook, the 4th edition
- NATO MP COE Lessons Learned Reports Booklet – 4 editions;
- Establishment of a reach back system for doctrinal issues (e.g. Provost Marshal Office (PMO)JFC Brunssum, JFC Naples, EUROCORPS, ACO PMO, NATO Multinational MP Battalion (MNMPBAT), eFP PMO, Framework Nation Concept Military Police Cluster).

Contribution to:

- JFTC Resolute Support Training Event Series 19, Crossed Swords 19, Angel Guardian 19, MNMPBAT exercise, Sharp Lynx 19 and NATO Georgia Exercise 19,
- Development of NATO Transparency, Accountability, Counter Corruption Handbook,
- Framework Nation Concept Military Police Cluster;
- Hybrid Threat Project led by the JALLC
- NATO MP Capability codes development
- NATO Military Police Close Protection Handbook the 1st edition 2020;
- Training of NATO Multinational Military Police Batallion;
- NATO Urbanization Concept and MP Future Capability Study
- Development of operational level MP doctrine for Ukraine Military Law and Order Service
- Revision to Stability Policing doctrine (ATP 103, RFF AJP 3.22.)
- The implementation of Allied Joint Doctrine for Military Police 3.21 (AJP 3.21)into trainings and exercises;
- Revision of Allied Joint Doctrine;
- Development of MP terminology
- Development of ACO Functional Planning Guidance for CPERS handling;
- Review of Couter-Terrorism Concept, SP Concept, NATO Warfighting Capstone Concept;
- Effort to Human Security Concept Development.

Major Products and Activities for 2020

Residential Courses:

- NATO Military Police Senior Non-Commissioned Officer Course (NATO APPROVED) NATO ETOC Code: MPG-MP-21783 / ePRIME ref. No.: SrNCOC18: ACT.672.20; Course: 12-16 October 2020, Small Group Facilitator Training: 06-09 October 2020;
- NATO Military Police Junior Officer Course (NATO APPROVED) NATO ETOC Code: MPG-MP-21567 / ePRIME ref. No.: ACT.672.19; 21-25 September 2020;
- NATO Military Police Senior Officer Course (NATO APPROVED);
- NATO ETOC Code: MPG-MP-3204 / ePRIME ref. No.: ACT.672.18, 01-05 June 2020
- NATO Military Police Lessons Learned Staff Officer Course (NATO APPROVED) NATO ETOC CODE MPG-MP-32023/ ePRIME ref. No.: ACT.672.17; 20-24 April 2020

NATO certified e-Learning/ADL courses available at: jadl.act.nato.int:

- ADL 186 – Introduction to the NATO MP Doctrine e-Learning course – updated based on a newly promulgated AJP-3.21Allied Joint Doctrine for MP
- ADL 187 – Introduction to the NATO Lessons Learned Process for the Military Police Staff updated based on Bi-SCD 080-006
- ADL 188 – Introduction to the NATO Military Police Mobility Support Operations

NATO certified e-Learning/ADL courses available at: jadl.act.nato.int:

- Provost Marshal Forum 30 March – 4 April 2020, Washington
- Military Police Close Protection Forum, 30 March – 4 April 2020
- Military Policing Annual Discipline Conference, 4-5 November 2020
- Annual Military Police Lessons Learned Conference, 7-11 December 2020
- Military Police Hybrid Warfare Workshop, October 2020 Lviv, Ukraine

Contact Information

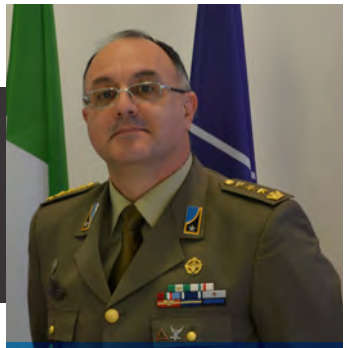
Contact:
Phone: +48 261 410 052
Fax: +48 261 410 059
Email: MPCOE.CentralRegistry@mp.coe.nato.int Twitter: @MP_CoE
Facebook: @natompcoe
Website: www.mpcoe.org
Instagram: @natompcoe
Address: Szubinska 105, 85-915 Bydgoszcz, entrance from 14 Potockiego Street

Director:COL Mirosław ŁABĘCKI
Phone: +48 261 410 052

NATO MODELLING AND SIMULATION CENTRE OF EXCELLENCE (M&S 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

Who We Are

An organization of experienced military leaders and "digital generation" talents from 5 NATO Nations, representing all domains (sea, land, air, space & cyberspace) with expertise in both combat and combat support roles, and in the application of modelling and simulations in support of military activities.

Vision

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

Mission

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

Major Products and Activities 2019

Experimentation

- Cloud-based simulation – further developed M&S as a Service (MSaaS) concepts
- Autonomous Systems - created a simulation prototype for experimentation with autonomous systems
- Warfighter Interoperability – led the M&S focus area in CWIX
- Cyber - developed a prototype for simulation of cyber effects for operational unit training
- Concept Development activities – refining the M&S Gap Analysis/Action Plan; establishing a central node for distributed M&S environments for training and experimentation; improving 2D/3D model of future urban terrain; researching production of a Virtual Operations Center for training

Operational Support

- Wargaming, Decision Support and Analysis – research the tools and technologies to support this expanding field; research Data Farming Services
- Establish an interoperability verification and certification process for NATO M&S
- Support interoperability experimentation for crisis management and disaster response exercise
- Building new capability to support defining technical specifications for new or updated simulation centers

Supporting Warfighter Training and Interoperability

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

Events and Education to Professionalize NATO M&S

- NATO CA2X2 Forum 2019 – led NATO's annual M&S event for hundreds of Military, Academia and Industry experts from more than 20 nations, promoting the exchange of information and best practices among NATO and national simulation/exercise centers.

- MESAS 2019 – led the annual conference focused on the application of M&S in the autonomous systems domain, to promote better use of M&S in tomorrow's operating environment.
- Provided M&S Courses from the beginner to intermediate levels to over 80 participants from 10 Nations. These courses provide essential skills to help maximize the value of M&S to NATO and Nations.
- Developing a NATO M&S E&T Roadmap as part of a multi-national effort to establish the necessary knowledge for a NATO M&S professional.

Major Products and Activities 2020

Experimentation

- Cloud-based simulation - develop and test architecture and operational concept for cloud-based M&S services.
- Research and development in support of the ACT Autonomy Programme
- Cyber - continue developing methods to implement simulation of cyber effects
- Expand the M&S focus area in CWIX to advance NATO's interoperability efforts

Operational Support

- Wargaming, Decision Support and Analysis – building a wargaming capability to use for experimentation, decision support, analysis, concept validation, etc; experimentation with Data Farming Services and its value in decision support
- Provide supporting analysis using M&S for NATO deployments
- Support the simulation of cyber events in exercises through work with Nations and other COEs
- Establish the interoperability verification and certification process for NATO M&S

Events and Education Professionalize NATO M&S

- Work with M&S community to develop and promote standardization and certification for NATO M&S professionals
- Provide M&S Courses and expand our catalogue to include education for senior leaders and advanced M&S users
- Lead, Manage and Host Conferences, Workshops and Fora, including:
  - NATO CA2X2 Forum 2020 (Computer Assisted Analyses, eXperimentation and eXercises)
  - MESAS 2020 (Modeling and Simulation for Autonomous Systems)
- 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.

Contact Information

Contact:
Phone: +39 06 4691 4365
Fax: +39 06 4691 3641
Email: info@mscoe.org
Website: https://www.mscoe.org
Twitter: @MSCOE_NATO
LinkedIn: NATO M&S COE

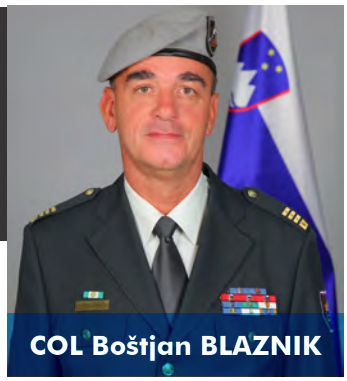
Address:
NATO Modelling & Simulation
Centre Of Excellence
Piazza Villoresi, 1, 00143
Rome / Italy

Director:
Col. Michele Turi
(ITA Army)
Phone: +39 06 4691 4361
Fax: +39 06 4691 3641
Email: director@mscoe.org
mscoe.director@smd.difesa.it

NATO MOUNTAIN WARFARE CENTRE OF EXCELLENCE (MW COE)

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 exchange of best practice in mountain warfare.
The NATO MW COE was established to contribute to the transformation and adaptation of the Alliance's capabilities, which enable its forces to better operate in the mountain environment.

Director's Message



COL Boštjan BLAZNIK

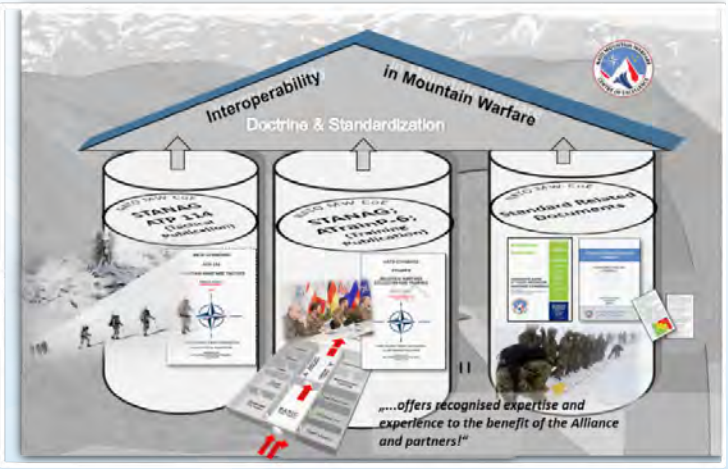
Mission

The mission of the NATO MW COE is to assist NATO member countries, partners, other countries and international organizations 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 for capability development.

Vision

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



Who We Are

The NATO MW COE is a multi-nationally sponsored entity which offers recognized 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 in NATO's 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 the mountain environment.

Major Products and Activities

2019

- NSO Ratification Process of the ATrainP-6 Mountain Warfare Education and Training publication;
- Organization of the annual MW COE Congress 2019 with the topic "Risk Management", including an industry day;
- Continuation of the development of MW-related terminology;
- Beginning of the development of the Mountain Warfare Allied Tactical Publication – ATP-114, as a custodian, tasked by the NSO.
- Beginning of the MW Concept development process through the organization of conferences, workshops and a discovery experiment:
- 1st Conference and WS1: "Understanding the Mountain Environment in order to Build Future Mountain Warfare Capability" in Ljubljana, Slovenia, MAR 2019,

- 2nd Conference and WS2: "Combat Power in Mountain Warfare" in Bolzano, Italy, MAY 2019,Discovery Experiment, Exercise "CHESSBOARD", Udine, Italy, SEPT 2019,
- 3rd Conference and WS3: "MW Capabilities and Derived Requirements", Wien, Austria, DEC 2019;
- New LL Portal/Database on the NATO MW COE website;
- Attendance at MW exercises (Lavaredo, Italy, JUL 2019; Common Challenge, Montenegro, SEP 2019; Rhodope, Bulgaria, SEP 2019);
- Participation in annual meetings and cooperation with the wider-interest community (IAMMS, EU P&S MTI, National Mountain Schools and Training Centres);
- Provision of two MW COE NATO-listed courses dedicated to small units with the purpose of providing a light infantry company commander with specific knowledge of movement, survival and planning of operations in mountain terrain in summer conditions, JUN and OCT 2019.

2020

- Development of the Mountain Warfare Allied Tactical Publication – ATP-114, as a custodian, tasked by the NSO;
- Organization of the annual MW COE Congress 2020 with the topic "Joint Personal Recovery in Mountainous Terrain", including an industry day;
- Continuation of the development of MW-related terminology;
- Acting as a MW LL hub (Collecting Observations, Best Practice, LI, LL from the MW-related events, permanent building of the LL COI);
- Continuation of the Concept Development Process with WS4-DOTMLPFI and Validation Experiment (CAX);
- Provision of MW COE NATO-listed courses dedicated to small units (in summer and winter conditions) MAR, MAY 2020 and the same course with METT in Poland in JUN 2020;
- Provision of a MW Staff Officer Course as the second level of progressive light infantry officer education preparing students to carry out staff duties in mountain operations, in OCT 2020;
- Seminar "Fire Support in Mountain Operations" with the aim of analyzing and discussing the capabilities of fire support units as part of a Light Mountain Infantry Brigade, in NOV 2020.

Contact Information

Contact:
NATO Mountain Warfare Centre of Excellence
Poljče 27, 4275 Begunje na Gorenjskem
Slovenia

Phone: +386 4 532 3610
E-mail: info@mwcoe.org
Website: www.mwcoe.org
NS-WAN: SI MWCOE

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, the threat of improvised underwater explosives has to be taken into account. Meanwhile, the Allies sea mining capabilities receive limited attention.
The present generation of mine countermeasure vessels is to be replaced over the course of the next 10 to 15 years. Implementing the use of new innovative technologies, these capabilities will differ significantly from the current means and will include autonomous, remote controlled and other revolutionary techniques to be deployed.
These new capabilities require new doctrine and tactics, planning and evaluation algorithms, tools, and education and training of personnel. The NATO Naval Mine Warfare Centre of Excellence aims to guide and support the development of all that is essential to take NATO's Naval Mine Warfare capabilities into the next era.

CDR Herman LAMMERS

Mission Statement

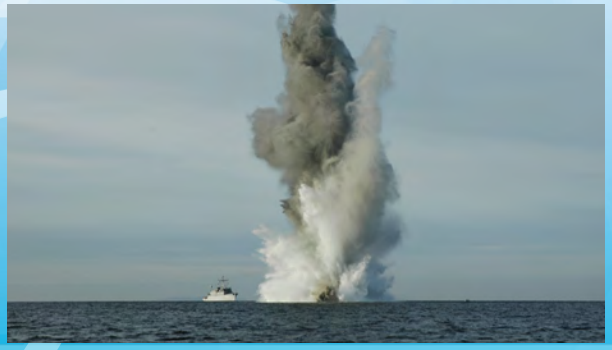
To assist NATO, Nations, Partners and other bodies by supporting the NATO transformation and operational efforts; NATO's capability development process; mission effectiveness and interoperability by providing comprehensive expertise on Naval Mine Warfare.

Who We Are

The Naval Mine Warfare Centre Of Excellence (NMW COE) started as part of the Belgian-Netherlands Mine Warfare School in Oostende, recognized worldwide as EGUERMIN (Ecole de GUERre des MINes). As part of EGUERMIN the NMW COE mainly focused on the Education and Training pillar, but is currently being transformed by internationalizing and expanding focus to all four COE pillars.
EGUERMIN exists since 1965, providing courses and training to NATO nations and partners and it 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 North Atlantic Council accredited the NMW COE.
In 2015, it was decided to separate EGUERMIN and the NMW COE in order to fulfill ACT requirements for COEs. Belgium and the Netherlands still act as Framework nations and in 2018, a MOU was signed with Italy and Poland in order for them to join the NMW COE as Sponsoring nation. The NMW COE and EGUERMIN remain co-located and will therefore continue to mutually 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 Naval Mine Warfare for NATO, Allied and Partner nations, and their associated research institutes in support of NATO transformation.



Major Products and Activities for 2019

- The 2019 BI-SC NATO Naval Mine Warfare Conference was postponed and the NMW COE organized a NMW Seminar instead, held at the NMW COE on 4-5 June. Theme topic was to discuss present and near future developments within NMW.
- Provide Instruction and training as requested by the next Commander Standing NATO Mine Countermeasures Group 1 and Group 2 and his staff.
- Support and augment Allied Maritime Command Exercise DYNAMIC MOVE during preparation and execution.
- 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 are: 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 aims at development of alternative approaches to overcome these shortfalls and presenting a viable alternative approach.
- Requests for support from NATO Command and Force Structure: NATO Defence Planning Process (NDPP), Support to Allied Command Transformation's Focus Areas, Standing Naval Forces Mine Countermeasures Headquarters Evaluation.
- Contribute to the Maritime Observation Team for Lessons Learned and Analysis during Exercise BALTOPS 2019.

Major Products and Activities for 2020

- Support MARCOM by hosting the 2020 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.
- Participate in Concept Development and Experimentation initiatives and campaigns for future Naval Mine Warfare capabilities.
- Support and augment Allied Maritime Command Exercise DYNAMIC MOVE I-2020 (Ostend, BEL) and DYNAMIC MOVE II-2020 (La Spezia, ITA).
- Provide instruction and training during the NATO NMW staff officers' course.

Contact Information

Phone: +32 2 44 31133
Fax: +32 2 44 39184
Email: NMW-COE@mil.be
Website: www.eguermin.org

COE Address
NATO Naval Mine Warfare Centre of Excellence (NMW COE)
3de & 23ste Linieregimentsplein
B-8400 Ostend, BELGIUM

Director:
CDR Herman Lammers, NLD-N
Phone: +32 2 44 31126
Email: Herman.Lammers@mil.be

NATO STABILITY POLICING
CENTRE OF EXCELLENCE

NATO STABILITY POLICING CENTRE OF EXCELLENCE (SP COE)

The NATO Stability Policing Centre of Excellence provides a solid platform of expertise for contributing to the development of doctrine and standards, training and best practice in the area of Stability Policing. In 2019, the Centre harnessed its unique position to provide a tangible contribution to the efforts of the Alliance and to engage in numerous projects with partners within and beyond NATO, such as the European Union, Interpol and the Special Inspector General for Afghanistan Reconstruction (SIGAR). In 2020, it will continue to engage with NATO Partners and Member States as well as with International Organizations to pursue the Strategic Goal 2019-2021: "The NATO Stability Policing Centre of Excellence is the undisputed NATO authority in the specialty, being acknowledged as a modern, adaptive, cooperative and supportive organization, whose high quality knowledge and products are requested by a network of customers and partners from within and outside NATO. It is the Alliance's interface with International Organizations and non-NATO institutions in the area of Stability Policing"

Director's Message

COL Giuseppe De Magistris

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).

Who We Are

The NATO SP COE was formally established, on 9th April 2015, upon the entry into force of the two Memorandums of Understanding (MoUs) ruling the internal functioning of the NATO SP COE, the chain of command, the external relations and the functional relationship with ACT. The early Parties were Italy, as the Framework Nation, and the Czech Republic, France, Netherlands, Poland, Romania, Spain, Turkey, as the Sponsoring Nations, as well as the Allied Command Transformation (ACT). On 4 October 2018 Greece joined the Centre.

Vision

The vision of the NATO SP COE: a. to operate as a prime mover to increase contribution to the Alliance stability and reconstruction efforts in conflict and post-conflict scenarios; b. to provide an unique capability to Alliance, NATO Nations, NATO partners and International Organizations in the area of SP.

Major Products and Activities in 2019

In 2019 the SP COE worked together with the EU and Interpol by providing training to the Iraqi Armed Forces in order to help them gathering evidence in the Battlefield. Furthermore, the NSPCOE delivered a Lessons Learned conference in which they brought together NATO, the EU, UN and the AU, discussing about the importance of concurring spoiler threats. Besides this, the Centre developed a planner's guide on Stability Policing in order to support NATO's planning process. Thus, the SP COE, being the international hub for Stability Policing, contributes to the NATO and its partners as well as its operations. Finally, the COE will participate in NATO and international exercises and deliver the following products and activities:

Doctrine & concept development

» Development of the ATP-103;
» 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 in a NATO Operation;
» Train the Stability Policing trainers;
» Stability Policing for planners.

Lessons Learned

» Invest and enlarge the Lessons Learned Community of interest in Stability Policing;
» Invest and develop in the cooperation with Special Inspector General for Afghan Reconstruction (SIGAR);
» Support the NATO SP COE trainings.

Major Products and Activities in 2020

The year 2020 will be a new challenging year for the COE having in mind the need to continue the ambitious projects launched by the Centre previously also taking into consideration the new projects and activities intended to be organized.

From this perspective, the main COE's projects and activities in 2020 are the following:

» Finishing the ATP-103 related to the SP activities and tasks;
» Support the main ACT projects involving SP aspects;
» Organize and deliver the domestic courses referring to Stability Policing (SP);
» Support and participate to the main NATO Exercises;
» Organize and host an annual conference;
» Conduct a research in cooperation with SIGAR on the effects of the mission in Afghanistan with a special emphasis on policing.

Contact Information

Contact:
Phone: +3904441449604
Email: info@nspcoe.org
Website : www.nspcoe.org

COE Address:
NATO Stability Policing
Centre of Excellence
Via Giacomo Medici 87
36100 Vicenza, Italy

Director:
Col. Giuseppe De Magistris
Office: +39 0444 1449601
Email: director@nspcoe.org

NATO STRATEGIC COMMUNICATIONS CENTRE OF EXCELLENCE (STRATCOM COE)

Director's Message

"Strategic communications play an important role for NATO countries. Our mission is to support countries in these efforts by bringing together military, academic, business and government knowledge. In 2019 the Centre celebrated its 5th anniversary. In the five years since our foundation, we have carried out significant research enhancing NATO nations' situational awareness of the information environment and have contributed to exercises and trainings with subject matter expertise."

Mr. Jānis SĀRTS

Mission Statement

Our mission is to make a tangible contribution to 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.

What We Do

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. We are the COE for StratCom and all its core communication capabilities and functions: Information Operations, Psychological Operations, Public Diplomacy, Public Affairs and Military Public Affairs.

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 in 2019

- Custodianship of NATO StratCom doctrine – AJP-10
- Role of the Department Head for NATO Strategic Communication
- Course, "Strategic Communication for Senior Officials"
- Course, "Online and Social Media Analysis"
- Supporting NATO exercises (CMX, Trident series, Steadfast series etc.)
- Academic journal "Defence Strategic Communications"
- Research "Protecting elections – a StratCom perspective"
- Research "Robotic networks in social media"
- Research "Russia's (dis-) information campaigns in Nordic-Baltic countries"
- Research "Quantitative social media campaign research in the Far East context"
- Research "StratCom in Counter Terrorism: The current Information Activities by Middle East based terrorist groups"
- Research "Russia's footprint in the Western Balkan information environment""
- Research "Emerging issues in social media"

- Research “Strategic Communication vis-à-vis Arctic”
- Research “Use of geolocationing as a tool to maliciously manipulate with public information”

Major Products and Activities in 2020

In 2020, the NATO StratCom COE will continue to deliver direct support to NATO structures, organise StratCom and social media courses as well as provide expertise to NATO Member and Partner Nations. We are planning to publish over 20 reports on research projects conducted in 2020 and continue to issue the only StratCom academic journal - “Defence Strategic Communications”

Major Events in 2020

- “Riga StratCom Dialogue” conference (16-17 June)
- “Emerging Trends in Social Media” conference (9 March)
- Annual Discipline Conference for NATO Strategic Communications (31 March – 1 April)
- “Digital Communication Strategies” conference (end October)

Direct Support to NATO in 2020

- Custodianship of NATO StratCom doctrine – AJP-10
- Role of the Department Head for NATO Strategic Communication
- Preparations, planning and execution of main NATO exercises incl. CMX and TRIDENT series
- Supporting role in the development of NATO StratCom STANAGs

Courses in 2020

- "Strategic Communication for Senior Officials” course
- “Online and Social Media Analysis” course
- Support to national and international staff officers education in main E&T facilities incl. NATO School Oberammergau and Baltic Defence College

Courses in 2020

- Robotic networks in social media
- Russia’s (dis-) information campaigns in Nordic-Baltic countries
- Russia’s footprint in the Western Balkan information environment
- Emerging issues in social media
- Role of the Communicator in the StratCom oriented organisation
- StratCom in Counter Terrorism: How terrorist groups use new media for recruiting campaigns
- An Overview on Deep Fakes – What have we seen and what to expect
- Legal foundations and implementation procedures of StratCom and Models for Intra-governmental StratCom Coordination
- Measurable Effects of Conducting NATO StratCom
- Counter-Narrative Strategies, Narrative Development and Assessment

Contact Information

Kalnciema iela 11B, Riga, LV-1048, Latvia
Office: +371 6733 5463
Mobile: +37126533953
Facebook.com/stratcomcoe
Twitter.com/stratcomcoe
www.stratcomcoe.org

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 and interdisciplinary 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 research, 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 of December 2017 when the related MOUs were signed in Norfolk, at SACT HQ. The Centre focuses on the close cooperation that applies a joint approach to SFA capacity building in the following core areas: Doctrine, Standards Education, Training Analysis, Lessons Learned and Concept Development and Experimentation. This approach requires the effective application and harmonization of both military and civilian capabilities for conducting exercises and experiments by defining and developing scenarios, programs and tools.

Vision

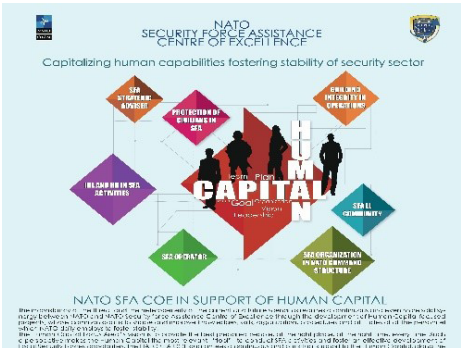
The SFA COE is to be an internationally recognized focal point to expand capabilities of NATO, Nations and other partners by providing comprehensive expertise and support in the area of SFA.

Major Products and Activities

Since the NATO Accreditation, last December 2018, the Centre conducted activities in order to consolidate the foundations and increase the current knowledge for the future implementation of NATO policy, doctrine and operational understanding of SFA.

The Centre will focus its attention to the Human Capital (HC) as the most relevant "tool" to conduct SFA activities. The inconstancy of the threat and the heterogeneity of the current and future scenarios requires a continuous and even higher development of Human Capital. The NATO SFA COE guarantees a continuous and punctual support to the HC through the study, analysis and research aimed at improving the capabilities of NATO personnel in the field of Security Force Assistance and related areas of interest at any level of operations. In particular, according to the four pillars of the Transformation, the Centre develops the following activities:

LAW AND POLICY



- 2nd SFA Strategic Advisor Workshop on the implementation of the advising mission of SFA in order to establish and integrate good practices.
- Legal Roundtable on "Rule of Law for SFA activities in crisis zones" to discuss the main legal challenges and the importance to ensure that local forces operate in a clear legal framework.
- Build Law Training Programmes for NATO personnel deployed in fragile countries for promoting the knowledge of international law, anti-corruption, reintegration of former combatants and protection of civilians.
- Signed International Agreements of cooperation with NATO HQ International Staff and NRDC-ITA.

DOCTRINE AND CONCEPT DEVELOPMENT

- Doctrinal seminars in favour of SFA operators, from strategic to tactical level, providing SMEs to NATO JFTC Bydgoszcz, JFC Brunssum and NRDC-ITA.
- Support NATO in reviewing AJP 3.22, AJP 3.4.4 through RFF and join in the Building Integrity Handbook writing team.
- Support to NATO ACT Joint Strategic Foresight Analysis/Framework for Future Alliance Operations Workshops focused on regional perspectives providing information and contributions connected to SFA vision.

LESSONS LEARNED

- Collect and gather information and reports from Afghanistan and Iraq theatres, providing Observation Mobile Team in order to have updated data where NATO and NATO Partners are deployed.
- Field research, with the support of the Office of Military Psychology of the Italian Army General Staff, to define a common SFA Operator profile within NATO (Advisor, Mentor and Trainer) in SFA operations.
- Start up with a Community of Interest (CoI) and Lessons Learned Community through the organization of the 1st Lessons Learned.

STANDARDIZATION AND INTEROPERABILITY

- Start up with a study paper, reporting the SFA Concept execution within NATO Command Structure (NCS) and HQs, identifying gaps and providing recommendations.
- Provide seminars in close coordination with Joint Force Command Brunssum (JFCB) and NRDC-ITA.
- Create a common and available database reporting all Organizations and Entities, SFA initiatives and best practices both at NATO and national level related to SFA domain.
- Contribute with the NATO SFA approach to the US Multinational Capability Development Campaign (MCDC) and its related project for an Interoperable Multinational Resident Advisor Capacity (IMRAC).

EDUCATION AND TRAINING

- Contribute with chairmanship of SFA cluster of Military Contribution to Peace Support discipline.
- Deliver the first NATO certified course – "SFA OPERATORS COURSE".
- Support the BI discipline and the development of the "BUILDING INTEGRITY IN OPERATION COURSE (BIIO)".
- Support to NATO Exercises and Regional Exercises providing Subject Matter Experts (SMEs) to Joint Force Training Centre (JFTC) and to Joint Warfare Centre (JWC).

Contact:
Phone: +39 06469163511
Email: natosfacoe@nsfacoe.org

COE Address:
Via della Stazione di Cesano
423 - 00123 Roma

Website: www.nsfacoe.org
Twitter account: @NATOSFACOE

Director:
Col. Franco MERLINO
Mobile: +39 3887858880

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 SC Chair 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

Main COE Documents

A. MC 58-4, Terms of reference for SACT, 12 Apr 2010
B. MCM-236-03, MC Concept for COE, 4 Dec 2003*
C. IMSN-0416 COE Accreditation Criteria, 11 Jun 2004
D. Bi-SC DIR 80-1, Coordination of NATO COE, 8 Nov 2013
E. HQ SACT DIR 80-3 HQ SACT coordination with COE

HQ SACT – Acts on behalf of ACT and ACO as the strategic staff authority and coordination authority 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) was renamed as COE Programme Development (CPD) Branch. The Branch was restructured, given a new Statement of Function and the manning of the Branch was increased. CPD Branch was moved to Deputy Chief Of Staff Joint Force Development (JFD) within HQ SACT.

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, conducts the periodic assessments of established COEs and promotes COEs to the Alliance. 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 relevant policies.
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, 46 COE COIs, Os/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 advice and help COEs to better coordinate/cooperate with HQ SACT and over time help to navigate the rest of the NCS.

* Under revision, will be replaced with MC 0685 Military Committee Policy for Centre of Excellence.

Coordination for Analysis & Lesson Learned

This function will support the development, coordination and management of all 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 (COI) to better harmonize the 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 all 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. He or she 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.

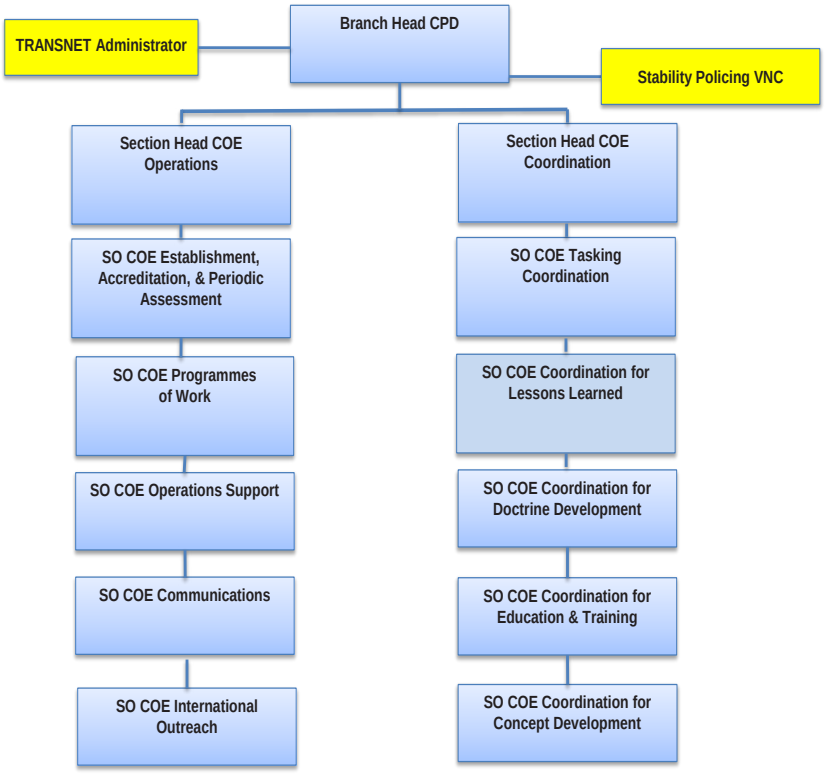
Coordination for Doctrine development

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 COI 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. He or she 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 COI 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. He or she 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.

COE Programme Development (CPD) Branch



Supreme Allied Commander Transformation
7857 Blandy Road, Suite 100
Norfolk, Virginia 23551-2490

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