2015: The Return of Large Scale NATO Live Exercises

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  with a Different Kind of ‘Forces’
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The Transformer is a bi-annual publication produced by Allied Command Transformation dedicated to the promotion of actions and ideas contributing to the transformation of NATO. Most of the authors belong to the command but the views and opinions expressed in this publication do not necessarily reflect those of SACT, NATO or its member Nations and none can be quoted as an official statement of those entities.

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In This Issue:

This edition of The Transformer magazine focuses on the changes the Alliance is going through from having an operational focus in Afghanistan to centre its activities around contingency, or being ‘ready’ and showing potential across its full mission spectrum. NATO will this year execute its largest live exercise since 2002, with over 30,000 troops — mainly in Italy, Portugal and Spain. Exercises represent the highest; the most complex form of Education and Training activities, one of ACT’s main tasks. ACT provides a coherent and integrated training system, contributing directly to maintaining a collective set of national forces in a rapidly evolving and uncertain security environment.

By scanning this QR Code with a smartphone, readers can directly access the electronic version of this edition’s index providing links to all the articles in the magazine. Comments by e-mail (see address above) is encouraged. Interactivity is also possible on Facebook at the following address: http://www.facebook.com/NATO.ACT

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EXTENDED ARTICLE ONLINE

• Transforming Leadership through a Complexity Prism in a VUCA World
A MESSAGE from SACT

Preparing NATO’s Future Through Ambitious and Complex Training and Exercises Programme

ACT continues to make great strides in the Alliance’s Transformation as Allies maintain focus on achieving the goal of NATO Forces 2020. The Connected Forces Initiative (CFI) is fully consistent with this goal and aims to ensure a high level of operational readiness of the forces relying on an ambitious training and exercise programme. CFI has introduced a new dimension in the way NATO approaches Training and Exercises. The aim of CFI is to help reorient our training and exercises towards more demanding, high intensity operations and manoeuvre warfare while capitalizing on the experience gained through recent operational commitments.

In today’s complex environment, we need to be prepared for full spectrum warfare because crises are increasingly more complex, diverse and hybrid; they can evolve rapidly from a low intensity, crisis management type environment to a high intensity, collective defence situation. This presents us with a unique challenge to remain at the forefront of readiness. To meet this demanding requirement, we built an ambitious and efficient training and exercise programme that has enough flexibility to adapt to any requirement, as demonstrated when the Ukraine crisis broke out with the need for NATO to clearly show its readiness in case of any direct threat to an Ally.

The refocusing of efforts has resulted in our exercise programme consisting of not just more exercises, but exercises of greater complexity. Across the Alliance, we have gone from conducting around 115 exercises in 2014 to over 280 as of today. The quality of our exercises has also improved by using scenarios that are more demanding and more complex to reflect the operational environment of current crises. We have introduced new dimensions such as Ballistic Missile Defence, Cyber, Joint ISR and Hybrid. These improvements in both quantity and quality are guiding the enhancement of our training and exercises for the forthcoming years.

The centrepiece of all of this is CFI which will continue to drive our ambition and acts as the engine that feeds our doctrine. It also helps us identify capability gaps and solutions while being able to test interoperability with the aim of endlessly improving readiness.

This year, we have planned two exercises to challenge our interim Very High Readiness Joint Task Force (VJTF) concept. We will also conduct the high-visibility exercise Trident Juncture 2015 in order to highlight our transformational effort and our readiness. Trident Juncture will witness the deployment of more than 30,000 troops and will mark the return of large scale, high intensity exercises for NATO; this will be the largest NATO exercise since 1998. Trident Juncture 2015 will provide a unique opportunity to train our joint forces in a very demanding environment while demonstrating NATO’s capabilities and their readiness to face a high-intensity crisis.

Turning to the future, 2016 should be considered a transition year with the integration of the fully operationally capable VJTF. 2017 will be the first year of an established “Enhanced NRF” for which training and certification steps will be fully integrated into the exercise programme. In 2018, Trident Juncture will be the key milestone for the “Enhanced NRF concept”. This 2018 exercise will integrate the full VJTF structure along with other NRF elements into a major Article 5 exercise that will take place in Norway, the Baltics and the Atlantic.

To conclude, I can unequivocally state today that we have greatly increased the quantity and quality of training and exercises across NATO. On a regular basis our forces are being trained in the full spectrum of the kind of operations in which the Alliance could be engaged in with regards to our geo-strategic environment. This effort is being led by numerous experts and professionals across the command. This has been a considerable feat when you take into account that ACT has not increased in terms of overall personnel strength. We could not have reached the level that we are at today without the unchallenged commitment and dedication of all the men and women throughout ACT. Their efforts will continue to ensure the future success of this critical mission which is achieving the best possible operational readiness.

Jean-Paul Paloméros
General, French Air Force
Supreme Allied Commander Transformation
Recent and earlier history credits different precedents of military exercises. For example, the Prussian victory over the Second French Empire in the Franco-Prussian War (1870–71) is sometimes credited to the training of Prussian officers with the game Kriegsspiel, which was invented around 1811 and gained popularity with many officers in the Prussian army. These first war-games were played with dice which represented “friction”, or the intrusion of less than ideal circumstances during a real war (including morale, meteorology, the fog of war, etc.)

The 21st century military uses war-games to simulate future conflicts and model their reactions; of course with the state of the art technique and developed tactics and procedures.

Headquarters Supreme Allied Commander Transformation (HQ SACT) is responsible for leading NATO’s Education, Training and Exercises.

Education and Training (E&T) provides a coherent and integrated training system, contributing directly to maintaining a collective set of national forces, the NATO Command Structure (NCS) and the NATO Force Structure (NFS), which are interoperable and possess the full range of capabilities and structures for the Alliance to meet its level of ambition in a rapidly evolving and uncertain security environment.

As directed at the Chicago Summit, the Connected Forces Initiative (CFI) was launched in order to maintain and continue to gain interoperability both during and post operations. Two fundamental elements underpin NATO’s approach to collective training and exercises under CFI. The first is the Alliance’s intent to move from a campaign footing (i.e. predominantly focused on COIN, Afghanistan) to a contingency footing (i.e. balanced, prepared and ready to conduct a wide range of missions) as Allies recuperate and reconstitute. The second is the Alliance’s desire to test realistically, within means and capabilities, its preparation and readiness to conduct the full range of missions, from most dangerous to most likely.

In this regard one major aim of NATO exercises is to establish, enhance and display NATO’s Military Capabilities across the Alliance’s full mission spectrum and to ensure the integration of effective and interoperable partner forces for NATO-led Crisis Response Operations (CRO) and Deployable Forces (DF) missions.

In this context, exercises represent the highest and the most complex form of E&T activities. They also serve as the venue for Evaluation and Certification. In the end, all effort is to ensure that
HQs and formations are efficiently and effectively trained to fulfill their missions within the given readiness criteria.

**TRIDENT JUNCTURE 2015**

Exercise planners from across the NATO Command and NATO Force Structures have diligently been working to design Exercise Trident Juncture 2015 (TRJE 15) since the fall of 2013. Led by HQ SACT as the ‘Officer Scheduling the Exercise (OSE)’, TRJE 15 is the flagship activity of the CFI – and as a stated outcome of the Wales Summit, it will provide a credible demonstration of Alliance resolve.

The exercise is scheduled for October and early November 2015 in Italy, Portugal, and Spain, and is divided into two parts. The first part is the Command Post Exercise (CPX), where Joint Force Command Brunssum (JFCB) as the Officer Conducting the Exercise (OCE) will exercise its Joint Task Force (JTF) role in commanding and controlling a multinational force in a Major Joint Operation. The multinational force is NATO Response Force (NRF) 2016. The national components that make up NRF 16 are the United Kingdom Maritime Forces (UKMARFOR), Italy’s Joint Force Air Component (JFAC), NATO Rapid Deployable Corps (NRDC) Spain, USA’s Special Operations Command Europe (SOCEUR), and Poland’s Combined Joint Chemical, Biological, Radiological and Nuclear Task Force (CJ-CBRN-TF). The Joint Warfare Centre (JWC) will act as the Officer Directing the Exercise (ODE) for the Command Post Exercise (CPX), ensuring that the JTF and NRF component headquarters will receive a challenging test in the scenario. The new scenario developed for the exercise, SOROTAN, will present a near peer opponent in a Non-Article V Crisis Response Operation focused in a high intensity, modern warfare setting.

The second part of the exercise is the live exercise (LIVEX), which will focus on the tactical training of the forces allocated by nations to the exercise. The exercise will gather more than 30,000 participants from more than 30 nations and more than 230 distinct units distributed over 18 exercise locations. Included in these numbers are over 220 aircraft, 50 ships, and 9 submarines. The TRJE 15 LIVEX is the largest NATO exercise since ‘Strong Resolve’ 2002 and represents an Alliance determined to maintain interoperability in a joint and combined environment that it earned in recent military operations. Planned by the Single Service Commands (LANDCOM, AIRCOM, MARCOM, and the special forces operations headquarters NSHQ) and executed by the JTF and NRF component commands, the LIVEX is subdivided into two phases; the first phase consists of the Serialised Field Training Program (SFTP) and the second phase is the Combined Joint Offensive Operation (CJOO). The SFTP guarantees joint and combined interaction from the very first day of the exercise. The SFTP will transition to the CJOO, where an offensive operation related to a scenario action in SOROTAN will be played. Within these two phases, functions of the Very High Readiness Joint Task Force (VJTF) will be tested.

In addition to the main purposes of the exercise, there is an additional focus on the Comprehensive Approach, Joint Intelligence, Surveillance and Reconnaissance (JISR) Initial Operational Capability (IOC), Cyber, Theatre Ballistic Missile Defence (TBMD), Capability Integration and Experimentation, Industry Involvement In Exercises (I3X), partner participation and observation, and many other transformational activities that concern the Alliance.

Trident Juncture 2015 promises to be a resounding success for NATO and its member nations, no doubt due to the significant effort by the many exercise planners from across the NATO command and force structure.
Trident Juncture 2015
Command Post Exercise (CPX)
“The Canadian Connection”

Over the past 12 months the NATO Joint Warfare Centre (JWC) and the Canadian Joint Operations Command (CJOC) J7 planners have been breaking new ground in the design and planning of an exceptional training event, which will allow the application of the Connected Forces Initiative (CFI) in a manner unprecedented in scope and size for both Canada and NATO.

By Captain Mélina Archambault, Public Affairs Officer, Canadian Joint Operations Center (CJOC) in Ottawa, Ontario, Canada; with support from Inci Kucukaksoy, Public Affairs Officer, Joint Warfare Centre.

S
ince the spring of 2014, JWC and CJOC J7 planners have been working hand-in-hand to link and integrate JOINTEX to the NATO flagship exercise, Trident Juncture 2015 (TRJE 15). JOINTEX is the Canadian Armed Forces’ (CAF’s) bi-annual exercise created to ensure that the Canadian military maintains excellence in the modern battle-space. The CAF leadership recognised the significance and value of linking the exercises, as it would offer an outstanding training opportunity for CAF members in a very challenging and technically complex environment.

During the CPX, Canada, as an Alliance member, will demonstrate the CFI construct by participating from Meaford, Ontario, as one of Joint Force Command Brunssum’s (JFCB) Component Commands. They will set their watches to European time, connected to JWC’s Exercise Control (EXCON) in Stavanger, Norway, and JFCB Headquarters’ Joint Task Force (JTF) in Zaragoza, Spain, while interacting with an Exercise Control (EXCON) located in Ottawa, Canada.

The contemporary security environment requires a joint response to common threats, and the CFI brings NATO Allies together to reach a common effect on the ground when required. The ultimate goal of exercises such as TRJE 15 is to validate the CFI as a valuable and impactful tool in the conduct of joint operations. As stated by Commander CJOC, Lieutenant General Jonathan Vance:

“Canada is participating enthusiastically in NATO training, and bringing Canadian Armed Forces operational expertise to these critical exercises. Our efforts demonstrate not only reinforcement to the Alliance, but also resolve with the Alliance in providing an agile and robust response when and where required.”

The CPX portion of TRJE 15 will be directed by German Army Major General Reinhard Wolski, Commander JWC. He echoed Lieutenant General Vance in saying that the exercise will provide a first-class venue for training the NATO Response Force (NRF) together with Partner nations and the larger civilian environment, and will also demonstrate the Alliance’s capabilities and readiness to provide Collective Defence and Crisis Response in a synthetic and distributed training environment.

“Together, we will train and advance our understanding of the traditional threats as well as those within the hybrid spectrum of warfare. TRJE 15 puts the NRF to the largest test ever, and it will also allow for the development of a Very High Readiness Joint Task Force (VJTF) within the NRF – and bolster its deterrence and war-fighting capabilities,” Major General Wolski added.

“TRJE 15 is based on the SOROTAN (derived from the Norwegian word for “south”, combined with OTAN) setting and scenario, and created from the ground up by a small team of uniformed officers, civilians and contractor experts from within the JWC,” said Romanian Army Lieutenant Colonel Ciprian Murariu, the exercise Deputy Officer of Primary Responsibility (OPR). In the early stages of design, SOROTAN needed to have the depth, flexibility, and most importantly, the strategic and operationally challenging dilemmas in order to become the preferred baseline choice for future scenario usage, noted Turkish Army Lieutenant Colonel Yavuz Karabulut, Chief Scenario, along with his lead developers, Dr. Dusan Marinic and Mr. Mark Blaydes. “The TRJE 15 exercise delivery and the depth level of the SOROTAN scenario might set a new milestone for JWC and NATO,” said Lieutenant Colonel Karabulut.

SOROTAN provides a setting that enables an out-of-area, non-Article 5 Crisis Response Operation, showcasing NATO’s flexibility in the face of advanced threats and addressing many NATO training priorities simultaneously. While the water conflict and the ensuing regional crisis are the focus of the scenario, SOROTAN also considers the complex, interconnected information environment, with its both rewarding and challenging modern communication technologies, and its holistic training approach.

“TRJE 15 will demonstrate our strength as the NATO Alliance,” said Major General Wolski, adding: “As its primary CPX provider, JWC’s aim is to prepare NATO for the security challenges, whether it be a cyber-attack, terrorism, a humanitarian mission or an attack on a member nation. And, we do this with our strong team and also with our great training partners, such as the Canadian Joint Operations Command. I am looking forward to a very fulfilling and demanding exercise this fall.”

“Canada is participating enthusiastically in NATO training, and bringing Canadian Armed Forces operational expertise to these critical exercises. Our efforts demonstrate not only reinforcement to the Alliance, but also resolve with the Alliance in providing an agile and robust response when and where required.”

By Captain Mélina Archambault, Public Affairs Officer, Canadian Joint Operations Center (CJOC) in Ottawa, Ontario, Canada; with support from Inci Kucukaksoy, Public Affairs Officer, Joint Warfare Centre.
Trident Juncture 15 – with a different Kind of ‘Forces’

Not everyone at Trident Juncture 15 (TRJE) will be wearing camouflage clothing, have blackened faces and be carrying out combat missions.

By Brigadier General Henrik Sommer, Danish Army, Assistant Chief of Staff Capability Engineering and Innovation.

Attendees from the defence industry will be embedded in the various Headquarters participating in the exercise, and gathering insights into how their respective companies can assist NATO in finding solutions to its future capability challenges. This is all part of a new programme started by Supreme Allied Commander Transformation (SACT) called the Industry Involvement Initiative for NATO Exercises (I3X). I3X kicked off in 2014 and will be an experiment during TRJE. During the experiment, company representatives will receive special briefings, have access to sites normally off limits to visitors, and be able to speak candidly with military operators.

The vision of I3X is to encourage innovation in all strands of capability development throughout DOTMLPFI (doctrine, organisation, training, materiel, leadership and education, personnel, facilities, and interoperability). ACT values ideas and information provided by Industry and seeks a significant involvement during NATO exercises to bring this dialog as close as possible to military operations’ realities and challenges.

The Framework For NATO Industry Engagement (FNIE) is a NATO-wide effort to render the NATO-Industry relationship more coherent and valuable. Industry has expressed a desire to gain greater insight into Alliance capability requirements, including priorities, to allow them to anticipate potential opportunities, invest and develop ideas, and ultimately offer innovative solutions for future NATO needs. To achieve this level of cooperation, greater visibility of the work carried out by NATO in the different phases of capability development, including exercises, may offer innovative solutions for future NATO

The Transformer
The ‘NATO EXTRA’ Portal: How to browse NATO Exercises

By Lieutenant Colonel Nerijus Stankevicius, Lithuanian Army, Military Analyst at Joint Analysis Lessons Learned Centre (JALLC)

When I received a project mandate nine months ago with a task of analysing the knowledge and lessons-sharing process in the NATO Exercise, Training, Reporting and Analysis (EXTRA) Community of interest, I did a quick situation analysis. What I found was interesting.

1) There was no such thing as a single exercise and training related information-sharing tool within NATO. The main actors in the exercise concept and specification development, planning and execution processes each maintained their own websites for information-sharing and working space purposes. As a result, each exercise was recorded and tracked on at least four different sites;

2) Existing sites duplicated about 80% of the same information with none of these sites having 100% of the information on the same exercise or training event;

3) Each site had a different structure;

4) Stored information was in different formats, differently organised and managed;

5) It was not possible to group and filter Lessons Identified and Lessons Learned by Stages, Phases and Sub-Phases of an exercise on the NATO Lessons Learned Portal (NLLP).

6) The Bi-SC Collective Training and Exercise Directive 075-003 identified the need for a centralised lessons and knowledge-sharing tool for the EXTRA community of interest.

All this made it time consuming to find the latest version of specific exercise or training-event related documents, and especially to access archived documents and other products from exercises and training events that had ended. These findings clearly indicated that the information sharing process across the EXTRA community of interest (CoI) had to be improved, and pointed to the need to enhance knowledge and lessons-sharing tools.

The initial requirements for the NATO EXTRA Portal came from a review of Bi-SC 075-003. However, for any such portal to be truly useful for its target audience the team had to understand the expectations, needs, and requirements of its users. The project team therefore conducted interviews with personnel in the EXTRA CoI in order to refine the existing needs and highlight new requirements. The data collected from the document review and interviews were collated, categorised, and the functional requirements for the NATO EXTRA Portal identified. The NATO EXTRA Portal was then designed and developed based on the identified requirements.

The first version of the NATO EXTRA Portal prototype was brought online early 2014. However, it required testing and further development to fully satisfy user requirements. Today, the NATO EXTRA Portal, hosted on JALLC Servers, is available for use by all NATO Command Structure (NCS)/ NATO Force Structure (NFS) headquarters and NATO nations.

So what is the NATO EXTRA Portal?

The NATO EXTRA Portal is the single centralised exercise and training-related information-sharing platform within NATO. It has been developed for the NATO EXTRA CoI in general and is dedicated to those individuals and institutions that are closely engaged in the NATO exercises and training field – and it includes a number of exciting and useful features:

• It contains Links to other NATO sites, Point of Contact lists, Calendars, a Specialized Documents Libraries and a Lessons Database, all related to exercises and training.

• It provides users, primarily the exercise or training event Officers of Primary Responsibility, Exercise Planning Groups’ and Core Planning Teams’ members, with easy access to:

  1. Overarching training and exercise reference documents such as policies, directives, studies etc;

  2. Specific exercise or training-event-related information, including the concept-development, planning, conduct, analysis and reporting documents, and other deliverables;

3. Exercise and training-related Observations, Lessons Identified and Lessons Learned.

• It allows users to filter exercises and training-event related lessons and documents by their specific stages, phases and sub-phases, as well as other relevant criteria.

• It also serves as an online forum for the NATO EXTRA CoI to exchange ideas, ask questions and announce events.

The NATO EXTRA Portal is divided into 2 levels. Level One contains pages and tools for current general exercises and training related information that apply across the whole NATO EXTRA CoI. Level Two encompasses information that is specific to an exercise or training event, whether current or completed. Current exercise-related information is grouped under the categories On-going Exercises and On-going Training Events. Completed exercise related information is grouped under Archived Events.

In short, the NATO EXTRA Portal as it now stands is an excellent tool in the hand of the NATO EXTRA CoI for achieving the aims of the Bi-Strategic Command Collective Training and Exercise Directive 075-003, serving the needs of the EXTRA CoI for sharing information, and aiding the Lessons Learned community in recording Lessons and Best Practices from exercises and training events.

The NATO EXTRA Portal was developed to facilitate rapid information-sharing across the EXTRA CoI, but it will only be successful if it is widely adopted and used to its full potential. Doing so will require the active participation and contribution of all members of the EXTRA community. If used to its full potential, the EXTRA Portal will play a vital role in the improvement of future NATO exercise and training events and so will contribute to the transformation of the Alliance.

Interested to read more about this Portal? A full JALLC Report detailing the development and testing of the EXTRA Portal as well as an EXTRA Portal User Manual can be found at the JALLC website www.jallc.nato.int
Mountain Warfare in Future NATO Operations

Why NATO’s comprehensive approach calls for specialisation in the mountain warfare case.

By Major Marjan Zupančič, Slovenian Army, NATO Mountain Warfare Centre of Excellence (in establishment)

Using existing research and development mechanisms, the Alliance—in cooperation with partners—continuously surveys the future combat environment. General future challenges are already identified through the ‘Strategic Foresight Analysis’ (SFA) and ‘Framework for Future Alliance Operations’ (FFAO). Through the scope of competition for water and other resources that are important to technology development, combined with environmental changes, the Alliance needs to be ready to perform warfare in specific environments, including mountainous areas.

Mountain Warfare (MW) is one of the areas where the Alliance could improve its readiness. Since it has focused more intensively on Peace Support Operations in the last decades, some combat-oriented disciplines remain within the national domain. The last Lessons Learned can be used to create the basis for further activities, performed within the newly established NATO Mountain Warfare Centre of Excellence (MWCOE) framework.

Mountain terrain has always been a great advantage for defence activities and a tough place to perform all forms of military attack. Similar to other specific environments, like deserts, jungles, cold areas, etc., terrain sets operational limits to a greater extent than in regular environments. In addition to the usual planning of operations, survival and movement of units must be considered more precisely to avoid specific risks that commanders and units will be faced with. At the same time they must meet challenges and exploit any new opportunity. Usually, military campaigns involve a combination of physical terrains where the forces are operating, however, in this article we are focusing exclusively on mountain terrain. Terrain, as a factor of planning, must be taken into consideration right after the mission has been received and understood. In general, it can be analysed before the mission actually occurs and many procedures can be identified, trained and synchronised before unit deployment. The MWCOE represents a tool, responsible and ready to provide proposals for improvements in this specific field. Organised to Doctrine & Standardisation, Concept Development & Experimentation, Education & Training, it will combine efforts to follow its vision—to be recognised as the MW hub for the Alliance and Partner countries. As a matter of fact, many member and Partner countries have already developed their national procedures, concepts and doctrinal basis of mountain warfare planning, training and executing, using their own special equipment. This approach can be very useful and effective when units act within national borders and involve units composed of single nation. When units have to accomplish tasks to fulfil the Alliance’s requests, issues connected to interoperability and standardisation can arise.

The need for improvements and additional harmonisations has already been identified within:

- MW terminology
- Command and control
- Equipment
- Education and training programs
- Tactical and technical procedures

These areas represent only the starting point of work in the field of MW standardisation. Based on consensus of participating countries and the wider expert community, detailed and subject focused analyses need to be accomplished in the early stage after MWCOE’s establishment. They will include a basic terminology definition, impacts on Command and Control processes using new available materiel and equipment, and finally incorporation of findings into standardisation proposals.

Smaller units, recognised as a main effort within MW, need to be taken into account before any standardisation research. Usually they are composed of top physically trained and mentally prepared soldiers who are able to complete specialised tasks. Technical climbing and assuring the passages for troops are only the basis. In addition they are also expected to act as advisors to the higher command in different fields of operation planning, preparation and execution. The role of logistics, close air support, joint terminal attack controllers, artillery, communications, medical and psychological effects, etc. must be reconsidered before deploying troops.

Currently and in the future as well, the Alliance is faced with campaigns where multinational, specialised units play a decisive role. Any concept, doctrine or program finally ends in the unit, designated to accomplish the mission. To reach the whole spectrum of decision makers, from strategic to tactical level, documents must reflect the last known Best Practices and Lessons Learned and current needs, as well as provide innovative and useful solutions to key personnel. If not so, they might be seen as an additional senseless administrative job, and consequently the process will remain unchanged.

However, MW is far from being something new in terms of military operations, the need to become standardised and unified within the Alliance is growing. When protecting common water resources, following climate changes and adapting to a new international security environment, specialised modules to joint task forces will be composed more easily, and effectiveness will arise from their interoperability and cohesion.
Resolute Support to Resolute Support

Joint Force Training Centre sets standards for new pre-deployment training

By Major Goran Pijetlovic, German Army, Joint Force Training Centre (JFTC) Public Affairs Officer and Spokesperson, Commander JFTC and Ms. Radoslawa Kubiczek, Polish Civilian, JFTC Public Affairs Specialist

In late 2014 and early 2015 media all over the world reported on the change in NATO’s engagement in Afghanistan. The ISAF combat mission came to an end and was followed by a new allied endeavor — the Resolute Support (RS) mission with the aim of training, advising and assisting Afghan National Security Forces (ANSF) and other institutions at a national level.

Although it was only a short message in the majority of the broadcasts, this change had a fundamental meaning for the Alliance and thus had a vast impact on both the soldiers deployed to Afghanistan and institutions responsible for their preparation for the mission.

New Task for JFTC

In January 2014, the Joint Force Training Centre (JFTC) that formerly focused mainly on ISAF pre-deployment training, was given the responsibility for preparing future members of the RS mission. This was the starting point of a planning and tailoring process for the new training so that it would meet new challenges and needs of the non-combat mission in Afghanistan.

The new training had to focus primarily on the functionally-based train, advise and assist roles assigned within Afghan ministries, institutions and at the ANSF corps level. Headquarters personnel dedicated to work in the RS headquarters in Kabul, as well as those working in the regional Train, Advise and Assist Commands (TAACs) and their advisors were to receive the final part of their training before leaving for Afghanistan. However, shifting the centre of gravity from preparation for a combat mission, with the task of establishing a secure environment, to teaching soldiers how to train, advise and assist their Afghan counterparts and representatives of ministries and other institutions, was a big leap in a totally new direction. Therefore JFTC specialists had to plan, prepare and execute a completely new exercise.

Tailoring New Exercise

The key element of the preparation phase was the knowledge base. In the first step it was crucial to understand how internal procedures in Afghanistan worked and to find out about the main challenges that Afghan institutions, ministries and ANSF faced.

Focused on these, teams of planners from the JFTC Training Division visited Afghanistan several times in order to get a realistic picture of the future mission. In theatre they had a chance to build up their knowledge-base and interact with staff members and advisors in the HQs in Kabul and Mazar-e-Sharif. All the information gathered plus interaction and communication laid a perfect foundation for generating a realistic and up-to-date exercise scenario for the future JFTC training exercises, created a professional training event that met the current needs and challenges that the Alliance faced.

Execution

In July 2014, the JFTC conducted the Train, Advise, Assist Command-North/Train, Advise, Assist Team (TAAC-N/TAAT) Training Event. It was not Resolute Support training in its current shape; however, it had been designed for soldiers who were going to serve in the first structures of the new mission. More than 100 soldiers from 12 NATO and Partnership for Peace nations were trained in this first combined pre-deployment training. For the future members of the TAAC-N Headquarters the event was about building capable, confident and cohesive staff, thus creating an effective new HQ. The TAATs on the other hand received a standardised preparation for their mission of training, advising and assisting their Afghan counterparts and national and regional institutions.

In November 2014, the Centre prepared and executed the first Resolute Support Training Exercise. Within this exercise specifically aimed at preparing soldiers for the new mission, advisors and staff both from the Resolute Support Headquarters and from Train, Advise, Assist Command-East (TAAC-E) were trained.

Again in January and February 2015, close to 400 people from 27 NATO and partner nations worked hand in hand in Bydgoszcz, Poland. Half of them were supporting the next Resolute Support Training Event and preparing others for the new challenges in Afghanistan, and the other half were getting ready for their deployment.

During his visit to the training area, General Hans-Lothar Domröse, the Commander of Joint Force Command Brunssum (JFCBS), thanked the JFTC Commander and his staff for the commitment:

“I could not think of a better facility than this in Bydgoszcz… It is best suited for training.”

“I’m delighted to be back in Poland, to be back in this wonderful training facility in Bydgoszcz, it’s a great pleasure to see the progress that has been achieved here.”
Countering Unmanned Autonomous Systems

Ready for Transcendence? Unmanned Autonomous Systems (UAxS) are increasingly commonplace in military forces, civilian government and Industry. Given the critical questions about the level of human control, we need a new way of thinking when considering countering these systems if used in an hostile manner.

By Major Jean-Claude Deskeuvre, Project Manager, Belgian Army, Concept Development Branch in Capability Engineering and Innovation, with support from Mr. Andy Williams, British NATO Civilian.

Ready to live in a transcendent world? It is a fact that humans are ever more intimately connected to machines. There is a clear evolution in this connection going from a distant keyboard interaction to pointing or gestures to speaking to them. Recent developments are investigating direct control by the mind. On their side, through various sensors, machines are also “feeling” humans; the ‘smart stay’ feature of a smartphone is a basic example. As a result, access to the world was never so easy.

Is today’s reality going beyond science fiction? From a technological perspective, the latest evolution is towards near-autonomous operation by combining very powerful algorithms and ultra-sensitive sensors.

BACKGROUND

From every perspective, military or civilian, Unmanned Systems with evolving autonomous capability are increasingly important and somehow intrusive in today’s environment. We see Unmanned Aircraft Systems (UASs) of varying size proliferating in both commercial and private civilian domains. On the military side, the conflicts of the past decade have highlighted the ever more prominent role of Unmanned Systems, which can now be used across the whole spectrum of operational functions by state and non-state actors, in low or high intensity conflicts and in a defensive or offensive way. And only “classical” countering means are currently available.

Underlying technologies and system costs are decreasing, and compared to the major defence platforms such as a fighter jet or tank, they are comparatively cheap, which makes their corporate and private use more attractive. There is a spiral of development in which fast evolving technology keeps the cost of such systems so low that more advanced ones become rapidly available.

This proliferation, coupled to an increasing autonomous capability in the design of systems, makes the threat more unpredictable than ever. Efforts to prepare for countering emerging potential threats based on this new technology are in their infancy. It is therefore seen as critical, especially for NATO, to increase our knowledge on these emerging threats and to think of the responses that still need to be defined, to counter them.

CHALLENGES

The autonomy of systems is a key characteristic. Their level of autonomy is of course varying and will increase as the technology evolves. Their use, however, will depend on the evolution of the perception by people and organisations that will, on a case-by-case basis, influence the legally/ethically correct authorised usage around the world.

The proliferation, the lack of common understanding about autonomy, the perception and trust issue about the man/machine interaction, the lack of trust among organisations, the challenge to define common rules, and cultural differences, are all parameters making this threat very difficult to define and contain. However, due to the nature of the threat, NATO must consider a global approach when addressing the way of implementing appropriate and efficient countermeasures. It is considered inevitable that in order to reach this goal, there must be a combination of military/civilian/national security means, and a response that considers all parameters described above.

MULTINATIONAL INITIATIVES

Because of recent proliferation of UAxS and the above-mentioned challenges, those systems constitute already an important and rapidly emerging threat. This viewpoint is valid for the whole spectrum of Unmanned Autonomous systems in air, ground, maritime and cyber domains.

Allied Command Transformation (ACT), as the NATO Transformational body, is spearheading efforts to examine comprehensively this emerging threat and to develop a concept leading to the future implementation of countermeasures.

Initial work started in January 2014 to increase the situational awareness about the evolution of the Unmanned Aerial Systems (UAS), Autonomous Systems (AxS) and Robots.

In September 2014, SACT issued a task to develop a concept addressing countermeasures. In parallel, a complementary and synergetic project led by ACT will be developed within the 2015-2016 MCDC.

The concept is expected to improve overall situational awareness, and be a trigger for envisaging differently the assessment of operational concepts across the whole DOTMLPFI spectrum.

The concept will address the way shortfalls in the domain of countermeasures can be overcome by recommending the implementation of a Counter UAxS capability and its integration with existing capabilities. The concept will improve the overall defence capability of the Alliance and will contribute to a change of mind-set in the conduct of warfare.

1. Multinational Capability Development Campaign is a USA-led transformational force-multiplier in which Allied Command Transformation (ACT) has participated on behalf of NATO since 2003. It is designed to develop and introduce new capabilities to enhance the effectiveness in joint, multinational and coalition operations
2015/2016 SACT STRATEGIC ENGAGEMENT OVERVIEW

- **26 JUN**: CMC Handover/Takeover (NATO HQ)
- **24-25 JUN**: Defence Ministers Meeting
- **28 SEP - 16 OCT**: Trident Juncture CAX/CPX
- **17-28 JUN**: Trident Joust
- **1-2 JUL**: Maritime Commanders Conference
- **11-13 SEP**: Military Committee Conference
- **22-23 SEP**: Halifax Security Forum
- **21-24 SEP**: Steadfast Pinnacle
- **21 OCT-6 NOV**: Trident Juncture Livex
- **16-20 NOV**: Cyber Coalition
- **19-20 OCT**: NATO Industry Forum
- **1-2 DEC**: Foreign Ministers Meeting
- **26 JUN**: CMC Handover/Takeover (NATO HQ)
- **30 SEP**: SACT Change of Command
- **1-2 DEC**: Foreign Ministers Meeting
All dates are tentative and to be confirmed.
Agility is the capability to successfully effect, cope with and/or exploit changes in circumstances. While other factors will also influence outcomes, C2 Agility enables entities to effectively and efficiently employ the resources they have in a timely manner in a variety of missions and circumstances.

By Major Bulent Soykan, Turkish Army, Operational Command and Control Branch, Assistant Chief of Staff for Command and Control, Deployability and Sustainability (ACOS C2DS)

To many it is evident that Command and Control (C2) Agility is a critical capability that needs to be pursued with some urgency by NATO. But what is C2 Agility really about? Why do its proponents believe it to be a critical capability? How can NATO develop this capability?

**What is C2 Agility?**

The concept of agility, as it is applied to C2, focuses on the suitability or appropriateness of a particular approach to C2 for a given mission and circumstances. Approaches to C2 differ along three dimensions: 1) the ways that decision authority is delegated, 2) the patterns of interactions, and 3) the distribution of information. These form the key dimensions of an entity’s C2 Approach Space. In practice, these dimensions are inter-dependent as, for example, the way decision rights are allocated will have a considerable influence on the patterns of interactions and information flows. Each C2 Approach occupies its own region in the C2 Approach Space. These regions vary from highly centralised, stove-piped hierarchies to loosely-coupled networks. Looking at historical cases through the lens of C2 Agility has confirmed that mission success depends, in part, upon the appropriateness of the approach to C2 that was employed. C2 experiments confirm that there is no “one-size-fits-all” C2 approach and that different missions and circumstances call for different approaches.

**Why is C2 Agility Needed?**

The 21st century military mission space is large and complex, characterised by extreme uncertainty, and exposed to increased public and media scrutiny. In addition to the high intensity combat operations traditionally associated with the military, potential missions include a wide spectrum of challenges such as counter-insurgency, counter-terrorism, stabilisation, reconstruction and support to multi-agency disaster relief. These complex endeavors require the participation and contributions of a large variety of both military and non-military actors.

Today’s military organisations are highly professional and possess capabilities not found in any other type of organisation. They perform superbly when dealing with the traditional military missions, for which they are well-prepared and equipped. However, when faced with non-traditional missions, they are more likely to encounter unanticipated problems, find that their decisions and actions have unintended consequences, and that their C2 arrangements are part of the problem, not part of the solution. Mismatches between the mission and the C2 Approach can result in mission degradation failure.

When a mismatch occurs, they have had to rely upon finding a more appropriate approach to C2 “on the fly.” Rather than having to fall back on ad-hoc solutions, C2 Agility Theory provides NATO with a more systematic way of designing an approach to C2 that fits the mission and circumstances at hand. C2 Agility Theory has now matured to the point where it can support practice efforts to develop more Agile C2 (SAS-085 Final Report).

**How is C2 Agility realised?**

NATO’s Network Enabled Capability C2 Maturity Model defined 5 increasingly network-enabled approaches and placed them in the C2 Approach Space (Figure A). We can visualise an Endeavour Space where different regions correspond to different mission challenges. Case studies and experiments have shown that each region in this Endeavour Space corresponds to its own region of the C2 Approach Space, providing a mapping from Mission to C2 Approach.

As case studies and experiments have shown, entities that carefully consider the nature of the mission and circumstances they face and initially adopt an appropriate C2 Approach greatly increase their likelihood of success. Given the many different missions NATO can expect to be called upon to undertake, it will, over time, need to be able to successfully operate in many regions in the Endeavour Space. There will also be times when an entity is engaged in a highly dynamic situation where the mission and/or the circumstances will change, and one’s current C2 Approach will no longer be appropriate. For both of these reasons there is a need to be able to employ more than one approach to C2 to be effective and to remain effective. Thus, NATO and its member nations and partners will need to develop the ability to navigate through the C2 Approach Space in response to changing missions and circumstances. This ability to manoeuvre in the C2 Approach Space is necessary for NATO to be able to manifest C2 Agility.

Although there are many published works on the theoretical aspects of C2 Agility, it has yet to become effectively incorporated in NATO policy and doctrine. The time is now.
The Force Development Board – an Enabler of Interoperability

The challenge post Afghanistan to deliver high readiness, responsive and interoperable forces underline the compelling need for ACT to deliver coordinated, prioritised and strategically directed activity. This is necessary to gain maximum effect from available resources in support of fundamental capabilities.

By Lieutenant Colonel Harribert Rahmel, Section Head for Doctrine Coherence (CAPDEV, CEI, IDLI), Wing Commander Andrew Lloyd, Staff Officer (CAPDEV, C2DS, LDS) and Staff Officer LDS Branch, Capability Development Division, Headquarters Supreme Allied Commander Transformation.

The attention on NATO’s southern and eastern flanks give added impetus to the need to deliver in support of operations that will demand rapid, effective integration of NATO forces.

Current Status and the Role of Allied Joint Doctrine

Allied Command Transformation (ACT) has maintained a steady flow of transformational activity in support of Force Development, with prominence to the Connected Forces Initiative (CFI) that continues to make a real difference. Considerable effort has been channelled into the delivery of training, education, exercises, standards and doctrine to enhance interoperability. Doctrine, that in an Alliance of 28 nations should be a baseline for the development of training and exercises, has often fallen to where it does not reflect current practice or lessons and is not relevant. This is now changing. Two highly successful Military Committee engagements on the integration of doctrine development with ACT activities, including training, exercises, lessons, policy and concepts have demonstrated that ACT is stepping up to deliver what is required to meet the challenge. To do so effectively however, a process known as Data Fusion has evolved. Practiced in some nations, ‘data fusion’ is the pulling together of multiple change agents, including Lessons Learned, Best Practice and support from Academia to analyse and then turn into doctrine; this is now under way in NATO with the assistance of 4 nations’ doctrine centres and anticipated voluntary national contribution (VNC) support. These efforts are already making a real difference. However, for data fusion to succeed in NATO and deliver doctrine fit for the member nations and fit for purpose as a baseline for training, exercises and operations, it also depends upon ACT activities being well synchronised.

The Requirement

Recognising that doctrine is a single element of Force Development, the challenge for ACT is to synchronise activity across its area of responsibility against a common picture. These activities are not only seen as complementary and essential to each other, but also — through greater synchronisation — offer opportunity to deliver significant outputs, to meet the challenges that NATO faces today.

The Force Development Board

To achieve this, there has been a major effort across the ACT headquarters involving staffs from a significant number of branches and directorates to deliver a Force Development Board, with the stated aim of enabling the Commander to prioritise, direct and synchronise activities over a five-year horizon. The first Force Development Board, Chaired by Deputy Chief of Staff Capability Development, Vice Admiral Bruce Grooms, and held in December 2014, established the Terms of Reference and immediately tasked a deeper, cross-functional analysis of 3 major program activities: Federated Mission Network (FMN), Ballistic Missile Defence (BMD) and Cyber, reported to the April 2015 Force Development Board. This work has generated significant, positive cross-functional cohesion that is enabling the Board to provide strategic direction over a longer horizon to exercise, training, concept, doctrine and capability-related activities. Although its birth came from doctrine, the Force Development Board is significantly greater in its scope, covering all aspects of the cycle (see Figure 1) to enhance synchronisation of activity.

Way Ahead

Recognising that the Force Development Board is maturing fast, it is now expected to expand and consider how to engage on this activity with the ‘JJJs’ as well as with ACO and other external bodies, cautious not to grow too fast, too soon. In the meantime, the second Board has built on the momentum gained so far, and is setting out to unify activity in Force Development with our work in Defence Planning — as well as to evaluate how we take on and begin new projects and programs to ensure alignment with SACT priorities. Activity is also underway from the Board to energise the Lessons Learned process that is seen as critical for ACT to be able to deliver relevant outputs to the front line. With this activity and much more, possessing and utilising the potential to synchronise all future efforts, the Board will mature to meet its aim of supporting the Commander in delivering his priorities — and plan ahead with the confidence that the Command is delivering cohesively.

Figure 1.
The Challenge
Following the NATO Defence Ministers’ Meeting in February 2013, the Strategic Commanders (SCs) were tasked to review the NATO Defence Planning Process (NDPP) Capability Requirements Review (CRR) and provide recommendations on how to make it simpler, faster, more adaptable, more transparent and more traceable, without compromising its analytical rigour. They were also asked to determine the broad features of a new or renovated analytical tool. The SCs, in their final report wrote that their intent was to develop a self-sustained and transparent tool to conduct all phases of the CRR-related analysis, exploiting remote online contributions from stakeholders and for ACT to continue its efforts to develop such a suite of tools.

ACT consulted NDPP stakeholders and collectively realised that developing a common suite of tools to support all 5 NDPP Steps instead of just CRR (Step 2) was more meaningful, although it expands the set of User Requirements (UR) to a different level of magnitude. In addition to the increased UR, it was emphasized that there’s a need to keep in mind these requirements will most likely change before such a tool is developed, and that it will keep on changing; considering NATO went from the DRR07 process to the transitional NDPP and now in NDPP17, are introducing the third methodology in just 5 years!

The Solution
ACT’s Defence Planning Division reviewed available development approaches and concluded that the most appropriate is the “Agile” method. “Agile” is a project management methodology built around the idea that projects should be completed in smaller chunks to achieve greater results. “Agile” projects build problem solving into the project management process and focus on self-organising iterative techniques, team interaction and adapting to current business reality rather than following a prescriptive plan. Obviously the flexible “Agile” method is “Transformational” compared to the classic project management approach. A commercial off-the-shelf suite of tools and the “Agile” approach is intended to be used by NATO staffs to develop the Defence Planning Management Tool (DPMT). We intend to start by developing a Defence Planning Management System (DPMS) demonstrator which will initially satisfy high level UR solicited from a sub-set of NDPP stakeholders. This and all following versions of the demonstrator (including the one that will eventually deliver the full DPMS solution) will be used to test/experiment and stimulate/solicit additional or improved requirements while respecting appropriate requirement change management practices. Such an approach will facilitate smooth but continuous improvement of the tool – i.e. continuous transformation to remain adaptive to current and future needs. While progress status will always be visible to all stakeholders, the gradual involvement of each stakeholder group will be facilitated and encouraged, with an aim to initially implement representative requirements from all stakeholders and across the five NDPP steps before any one is elaborated. This will facilitate evolution of the tool also in terms of interoperability and cross-functionality across NDPP Steps and stakeholders, enabling the use of the same data in support of various sub-processes.

The Benefits
Using the “Agile” development approach will minimise risk, since the team will frequently review progress, verify and update UR, and refocus on the next step. This way the team will be enabled to quickly react on “issues” before they become “problems”. It will also reduce the time and resources required as the work will be done internally. The continuous involvement of stakeholders from the early stages will facilitate familiarisation, acceptance, and integration with existing relevant processes. The recurrent tests of gradually evolving versions of the demonstrator will also train stakeholders in using DPMS while also facilitating transparency and traceability on decisions, actions, evolving requirements and versions of the DPMS demonstrator during its development. This constantly improving nature of the tool will make sure that it always is usable and relevant with any current version of NDPP sub-processes.

DPMS will offer transparency, traceability (from the Political Guidance through all Steps up to Suitability & Risk Assessment, and even to the next cycle), consistency, integration with other processes, improved Command and Control providing a common operational picture through tailored dashboards, and faster task execution times eliminating the need to move data across multiple tools. DPMS will support continuity through the availability of role-specific knowledge of previous, current and planned work, it will be able to generate NDPP reports on the spot and it will be able to interface with (or manage) additional NATO processes. DPMS will also provide the flexibility to adapt to changes of NDPP without delays and onerous costs, as NATO staffs will be able to make adjustments as necessary.

Conclusion
Through “Transforming the tools for Transformation” NATO will be able to support parts of NDPP already in this cycle, while a traditional development approach would be able to deliver such capability only during the next NDPP cycle or later.
MCDC – the Key to Leverage Multinational Capability Development

As a follow on to the Multinational Experiment (MNE) series, the U.S.-led Multinational Capability Development Campaign (MCDC) is a transformational force-multiplier in which ACT has participated for NATO since 2003. It is designed to develop and introduce new capabilities to enhance the effectiveness of joint, multinational and coalition operations.

By Lieutenant Colonel Artur Kuptel, Polish Air Force, MCDC NATO-ACT National Director, Operational Experimentation (OPEX) Branch at Headquarters, Supreme Allied Commander Transformation.

The MCDC series provides a venue for collaborative concept and capability development and, in the spirit of true partnerships, seeks to maximise opportunities to reduce individual nations’ costs by sharing resources. The community focuses on ad-hoc coalition operations, as opposed to standing Alliance operations, and ensures that its products support the Comprehensive Approach. Additionally, MCDC provides relevant and innovative solutions that are evaluated through rigorous assessment mechanisms and that add value to its customers and stakeholders. The MCDC program strives to build and strengthen multinational partnerships and promotes improved understanding of concept and capability development. MCDC has 23 partnering nations and organisations including Allied Command Transformation (ACT).

Deliverables for NATO from MCDC 2015-2016

The theme of the new MCDC 2015-2016 cycle is “Building and Maintaining Regional Security.” Among the ten projects submitted by the MCDC members, ACT is leading the “Counter Unmanned Autonomous Systems (CUAxS)” project and co-leading the “Federated Mission Networking/Mission Partner Environment Enhancement: Civilian – Military (FMCM)” project and will be contributing to three other projects: “Joint and Combined Operations in and from Confined Waters (JCoP/CW)”, “Integrated Communication Demonstration (ICDemo)” and “Multinational Defensive Cyber Operations (MDCO).” The remaining projects are: “Countering Hybrid Warfare (CHW)”, “C2 Philosophies for the 21st Century (C2 Phil)”, “The Utility of Social Media to Enhance Interoperable Coalition Operations (SoMe)”, “Understand to Prevent 2 (U2P2)”, and “Medical Interoperability in Coalition Operations (MEDICO)”. The Transformer 15

Benefits to NATO from MCDC

ACT’s participation is considered extremely valuable to support the genesis of transformational activities. In terms of investment (cost, time and resources), MCDC is seen as providing significant benefits that could not be achieved for the same level of investment through the standard ACT programme approach. ACT carefully chooses participation and leadership on topics that are extremely important for NATO. The benefits of ACT participation include:

- A low risk environment (political) in which to actively collaborate in development of interoperability and capabilities with nations outside of NATO’s formal partnerships;
- Short and fixed timeframes to develop and deliver products within a strong governance structure;
- Flexibility to study and support new and innovative subjects that have not yet entered the NATO capability development process;
- Additional Concept Development and Experimentation (CD&E) options for ACT to scope and develop ideas in a multinational environment;
- Sharing the cost and risk for development of innovative capabilities;
- Close synergies that develop transformational opportunities for ACT participation in MCDC programme and NATO CD&E;
- A venue for practical interoperability and capability development collaboration with the European Union, European Defence Agency (EU EDA);
- Proximity of HQ SACT and US Joint Staff J7, that hosts the MCDC Secretariat, facilitates day-to-day coordination, mutual support and further strengthening of the transatlantic bond in accordance with SAfT direction.

Conclusion

For NATO, the benefits and value of participation in MCDC are unchallenged. The experience and expertise provided by all participating nations and organisations facilitate the development of innovative and non-traditional solutions and helps solve complex problems. Through MCDC, ACT aims to develop solutions to build and maintain regional security and stability.
Transferring NATO Cyber Defence: An Incremental Approach to NATO Cyber Defence 2030

"Leading NATO’s military transformation and developing capabilities to address defence and security challenges by providing future military estimates, perspectives and advice is one of the key tasks given to Allied Command Transformation (ACT).“1

By Commander Jim Maher, U.S. Navy, Staff Officer, HQ SACT, Technology and Human Factors Branch.

This quote above from Supreme Allied Commander Transformation, French Air Force General Jean-Paul Paloméros in the 2013 Strategic Foresight Analysis (SFA) identifies ACT’s transformational role to develop capabilities based on the environment that the Alliance will face in 2030 and beyond. The accelerating technological change identified as part of this report will provide significant global benefits, while at the same time, increase the likelihood that NATO will be faced with greater future security challenges including cyber-attacks against its networks or military systems.2

This report along with the work resulting from the Framework for Future Alliance Operations (FFAO) will constitute the Strategic Commanders’ best military advice to ensure the Alliance is prepared to address the full range of future threats across its core tasks. FFAO identified 4 factors that will be required for Alliance forces: Operational Agility, Security Networking, Shared Resilience and Strategic Awareness. How relevant are these factors to NATO operations in cyberspace?

As the complexity and sophistication of cyber-attacks have increased over the past decade, NATO has kept pace by evolving its policy and developing the necessary capabilities to protect and defend its networks and systems. NATO now has a centralised Cyber Defence capability that monitors the status of its networks and protects against cyber-attacks. It has a new policy, the Enhanced NATO Policy on Cyber Defence, that was endorsed last year at the Wales Summit and that is in the process of being implemented. However, this is not enough, as NATO must continue to evolve and transform to keep pace with technology and emerging threats. The ability of the Alliance to effectively operate in the future cyber environment will very much depend on how NATO can apply the 4 factors identified in FFAO to cyber.

How is NATO and ACT going to accomplish this when there is so much uncertainty and change in the cyberspace environment?

No one knows for sure what the future has in store; however, by leveraging the long-term transformational work being done by the Strategic Plans and Policy (SPP) Division with the transformational work being done by the Cyber Programme (Capability Development Division), ACT has a plan to guide its future activities that is flexible and responsive enough to adapt to the changing cyber environment. ACT’s “Cyber Transformation Vector” provides the trajectory that will guide this work.

Transformation in Two Forms

Before we discuss the vector, let’s take a step back and look at transformation in general. To achieve the broader transformation that is called for in both the SFA and FFAO, ACT must look at transformation through 2 lenses.

The first lens focuses on the activities agreed upon by the Nations through the implementation of existing policy. Think of this as the ‘inside the box’ transformation. However, it is also essential for ACT to shape future policy by offering NATO’s political leadership its ‘best military advice.’ This is ‘outside the box’ transformation.

This ‘inside the box’ transformation requires NATO bodies and organisations to evolve and transform so that the objectives and principles identified in NATO’s current policy can be achieved and their benefits realised.

The second aspect of transformation, ‘outside the box’ transformation must consider factors that are constantly evolving and changing. Only through ‘Strategic Analysis and Debate’ can we identify and recognise what factors must be acted upon. This process must bring together Subject Matter Experts with a broad range of expertise. Not only cyber experts, but experts on topics such as the Readiness Action Plan, Hybrid Warfare, NATO Defence Planning Process, Russian Doctrine, Terrorism etc. These are subjects that much be understood in order for NATO to determine its future level of ambition. For this reason ACT has developed it’s “Cyber Transformational Vector.” The vector can serve as a guide to support identifying and achieving transformation objectives to influence future changes to NATO cyber policy.

Way Ahead

While NATO is evolving in the context of the current Enhanced NATO Policy on Cyber Defence, it is also evolving and transforming based on a changing political landscape and operational environment. NATO’s Cyber Defence Policy has made it clear that Cyber Defence is part of its Collective Defence. This policy has reinforced NATO’s cyber capability development and capacity-building, and is reshaping the way NATO does business. The policy has also recognised the significance of the current and emerging cyber threats; therefore, it is imperative that the current policy be continually evaluated and assessed, to ensure that it meets the Cyber Defence needs of the Alliance.

As NATO’s transformational military command, ACT will leverage the work being done in multiple areas and use the Cyber Transformational Vector and FFAO as means to achieve transformation in a manner that is both rational and achievable. 1

1 Strategic Foresight Analysis, 2013 Report, NATO HQ SACT
2 Ibid.

16 The Transformer
OLCM – Enabling Collective Responsibility for Logistics

Coordinating logistics across a multinational, joint organisation is not easy. But implementing a mind-set of collective responsibility can build a NATO logistics chain that is smaller, faster and more efficient.

By Captain Shannon Virgadamo, US Army Reserve

NA TO operations have grown in complexity at an ever-increasing pace. Previous Alliance operations have been supported by independent and often uncoordinated support systems, resulting in redundancies, lack of visibility and financial and manpower inefficiencies. This has prompted NATO to build and maintain an agile and responsive logistics network while simultaneously addressing the fiscal realities of shrinking defence budgets.

A Collective Responsibility

Operational Logistics Chain Management (OLCM) is the Logistics Committee’s response to the requirement for a “Collective Responsibility” of NATO logistics. It is NATO’s forward looking Logistics concept that links the main actors with emerging policy, doctrine and technology in order to improve logistics effectiveness and reduce costs. OLCM is a transformational improvement initiative designed to complement existing national logistics support. In general terms, OLCM will be able to provide a more efficient and effective Logistics command and control (C2) in operations. This will allow the NATO logistics chain to be smaller, faster and more efficient. It achieves this through reducing avoidable and unnecessary duplication of effort and encouraging nations to share assets. Tools to support OLCM are projects like P44 and P46. These projects will enhance logistics functionality designed to deliver common access to all logistics systems and consolidate information held throughout the logistics community of interest.

Building a Stronger Model

The OLCM capability will deliver improvements across the Doctrine, Organisation, Training, Material, Leadership, Personnel, Facilities and Interoperability (DOTMLPFI) spectrum. The Logistics Functional Service (LOG FS) Capability Package (CP) will deliver the “M” portion, which will be information tools to provide visibility over logistics assets and logistics decision support. OLCM chose the Business Process Modelling (BPM) as the appropriate strategy to improve NATO logistic networks. BPM is commonly used for managing and tracking performance of a business through continuous optimisation of business processes in a closed-loop cycle of modelling, execution and measurement. It also can formalise existing processes or informal knowledge and facilitate knowledge-transfer which can minimise the potential ‘danger’ from an issue like frequent personnel turnover within NATO.

OLCM’s role in articulating logistics demands from operational requirements has been of fundamental importance in aligning the goals of the Logistics Committee with operational requirements. OLCM is assessing a “to be” Logistics process by conducting workshops, participating in Concept Development Assessment Games (CDAGs), in Oberammergau — Germany (2013) and Maribor — Slovenia (2014), observing logistics during exercises, e.g. Capable Germany (2013) and Maribor — Slovenia (2014), observing logistics during exercises, e.g. Capable Germany (2013) and Maribor — Slovenia (2014), observing logistics during exercises, e.g. Capable Germany (2013) and Maribor — Slovenia (2014), observing logistics during exercises, e.g. Capable.

OLCM’s success is highly dependent upon the ability to understand how the logistics chain is managed, informing the development of new processes and tools. The OLCM team will return for the execution phase of TRJE15 for continued observation and discussion of logistics chain management. By focusing on multinational exercises like TRJE15, the team will be able to see logistics in action and integrate lessons learned as key functionalities within the Logistics functional service capability package and across the entire spectrum of DOTMLPFI.

NATO will continue to face an evolving environment as it transitions from being operations focused to contingency operations that demand ready and responsive military forces with equally responsive logistics networks. The OLCM capability will provide the Alliance with the ability to field modern and relevant Logistics networks within its collaborative framework.

The data collected in TRJE15 to date has been analysed by ACT and reviewed for gap analysis, automation of mapped processes, and optimisation. It will give indications on how to proceed with the development and identification of correct processes and procedures.

What is the Way Ahead?

OLCM's success is highly dependent upon the ability to understand how the logistics chain is managed, informing the development of new processes and tools. The OLCM team will return for the execution phase of TRJE15 for continued observation and discussion of logistics chain management. By focusing on multinational exercises like TRJE15, the team will be able to see logistics in action and integrate lessons learned as key functionalities within the Logistics functional service capability package and across the entire spectrum of DOTMLPFI.

NATO will continue to face an evolving environment as it transitions from being operations focused to contingency operations that demand ready and responsive military forces with equally responsive logistics networks. The OLCM capability will provide the Alliance with the ability to field modern and relevant Logistics networks within its collaborative framework.
Transforming Leadership through a Complexity Prism in a VUCA World

In the late 1990s, the U.S. Army War College coined the term VUCA describing the world we operate as Volatile, Uncertain, Complex and Ambiguous (VUCA). This is the world as we all know it and there is little problem coming to a consensus on such a conclusion for the 21st Century security environment.

By Major Ali Kucukozyigit, Turkish Army, Staff Officer Director of Staff Tasking (DOST) Resources & Management Division, Headquarters SACT.

VUCA World in Brief

Ensuring our security is complex and becoming more so with the introduction of new challenges continuously requiring an evolution of our understanding of the complex security environment, giving almost no time to comprehend let alone deal with and solve each new challenge. If the environment is VUCA, then it is evident that traditional leadership skills cannot be sufficient to survive in today’s VUCA world. Let us remember Albert Einstein who said “we cannot solve our problems with the same thinking we used when we created them”. I want to rephrase this as “we cannot lead and solve the complex problems of today and tomorrow with the education, skills and behavioural mindset intended to lead and solve traditional (or known) past problems”.

That basically means that leaders and decision makers need to acquire a new kind of leadership-mindset and skills to be able to lead in such a world. Understanding “Complexity Theory” can serve as a starting point for looking at complex and evolving new challenges from a leadership perspective. Complexity Theory may present us with a fresh look because it encompasses all the aspects of the VUCA world.

Complexity Theory as a Prism for Leadership

“Complexity Theory” is a theory that proposes a new paradigm to organisations and to their leadership. It is gaining more and more attention due to its potential to serve as a tool to think ‘out-of-the-box’, and provide novel perspectives to the modern problems with their roots to complexity. Along with many others, leadership and management science is being affected by Complexity Theory as well. A few fundamental features of complexity need to be mentioned here before focusing on what can be possible leadership-solutions in a complex environment. According to Marion it is the study of the dynamic behaviours of complexity interacting, interdependent and adaptive agents under conditions of internal and external pressure. It is too complex for one individual to comprehend in a simple and linear way of thinking. The Santa Fe Group emphasises that when we consider the fast pace of technology, the incredibly rapid flow and accumulation of information, we can articulate that the number of functions and parts of the system and its stakeholders is definitely increasing and even in the near future will become unknowable and unpredictable.

Complexity directly relates to leaders due to its great impact in the management and decision-making processes since it makes it more difficult to reach an eventual solution and/ or decision. In complex environments, leaders are uncertain about their preferences, have insufficient knowledge of conditions and they have difficulty characterising the solutions in a formal, linear way. When there is no data or understanding about the probability and necessity of the events, probability theory is likely to be impractical. It is inevitable that a new approach to leadership is needed under these novel circumstances where complexity resides. If complexity gives new perspectives to leadership and has to be recognised when studying military leadership, then what can be some leadership applications for the military?

Is your organisation a complex one?

Modern complex organisations should strive to be open, dynamic and immediately responsive to new developments. Components interact both in series and in parallel and they cannot be downsized to a sum of their components. So in this picture, conventional Command and Control (C2) models prove to be inadequate because setting goals and/ or priorities in boardrooms and passing it down to people does not work very well in these organisations. The basic reason is that the relationship in complexity is not primarily defined hierarchically and serially.

Complexity science brings the notion that leadership is an emergent event, an outcome of relational interactions amongst agents. This means leadership is more than a skill. It should shift from isolated, role-based actions of individuals to innovative contextual interactions across entire systems; include micro-strategic leadership actions across all levels and boundaries, depend on complex interactions rather than independent variables. Does any leader want to give up the ‘one-man show’ that he/she enjoys? Another massive paradigm Malitz and Witt mentions is that the shift from cause and effect assumption to systems thinking is needed when considering that system dynamics are non-linear (as stated in complexity), in this case even chaotic leadership thinking must now be reframed. The old standard leader who creates the organisational structure and passes down the action items to be achieved by the staff will eventually end up in trouble in this rapidly changing world.

To see the whole article, go to our online edition!

(Note: QR code and web address can be found on inside of cover.)

4. See footnote 3.
5. See footnote 3.

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Partnership Real-time Information, Management and Exchange System (ePRIME)

More than 4,000 partner officers participate in more than 1,200 NATO events in more than 30 different areas of cooperation a year through ePRIME.

By Lieutenant Colonel Mehmet Umut Cakir Turkish Army, Military Partnership Directorate Plans & Programme Team Coordinator.

ePRIME is the official NATO web-based application for development, management and review of the NATO cooperation programmes: the Partnership Cooperation Menu (PCM) and the Individual Partnership and Cooperation Programmes (IPCPs). They were launched after the Lisbon Summit with the aim to open all cooperative activities and exercises to all NATO partners, and harmonise NATO’s partnership programmes.

BACKGROUND
At the Lisbon Summit, NATO Heads of State and Government decided that “NATO’s partnership mechanisms would benefit from a focused reform effort to make dialogue and cooperation more meaningful and to enhance the strategic orientation of cooperation through a better assessment of the cooperation activities conducted with partners”. They also decided to streamline NATO’s partnership tools, in order to open all cooperative activities and exercises to its partners, and to harmonise its partnership programmes.

To implement the Summit decisions, Foreign Ministers in Berlin endorsed the “Policy for a More Efficient and Flexible Partnership”, which formulated strategic objectives and priority areas for dialogue, consultation and cooperation. They also endorsed the establishment of a single Partnership Cooperation Menu (PCM) for Partnership for Peace (PfP), Mediterranean Dialogue (MD) and Istanbul Cooperation Initiative (ICI) countries, as well as those partners across the globe with a partnership programme with NATO.

ePRIME TO SUPPORT PCM
ePRIME is the official system for development, management and review of activities included in the PCM. ePRIME manages all data in a centralised database and exchanges it in real-time over a secure internet connection. ePRIME facilitates a fully electronic workflow in accordance with the principles of self-differentiation and confidentiality, meaning that each proposing body is responsible for the data that they entered — and that other proposing bodies can never modify it or view it before NATO approval.

Fundamentally, the PCM and its management tool ePRIME have been designed to support partners in their development of individual programmes of cooperation with NATO, guided by NATO civilian and military staffs. Therefore, the key functions of ePRIME are aimed at facilitating identification by partners of the best possible objectives and activities/events in support of their national goals and functional requirements.

The Implementation of ePRIME
Access to ePRIME is possible to new users after an access request form has been completed. A new account is then created which gives certain rights and permissions to the new user, based on the requirements of the proposing body that the user represents. The 3 main roles that are identified in ePRIME are: (1) viewer, (2) editor, and (3) coordinator. Guidelines help new users decide which role they need to fulfill in the application. Currently, there are about 1,000 active ePRIME accounts in Allied and partner countries as well as in various civilian and military NATO organisations.

ePRIME supports the categorisation of PCM events according to the official list of Areas of Cooperation (AOCs) with their objectives, as described in the Implementing Guidance, as well as the NATO Task List and the Partnership Goals. This is a core task of the application which helps store data in a structured way, but also facilitates search and data retrieval. And last but not least, it contributes to creating a link between political objectives and practical implementation of partnership cooperation.

Besides the main functions of ePRIME, the application also provides:

- Various search functions,
- Document Libraries for PfP, MD and ICI countries,
- Mail area,
- Working Groups to share documents, ideas,
- Learning Materials,
- Technical reporting tool,
- Automated invitation mechanism for events,
- Automated feedback mechanism for events,
- An information section on NATO partner countries,
- An information section on NATO’s collaboration with partner countries.

ePRIME is NATO property and is operated under the authority of the Political and Partnerships Committee, and it is managed by NATO’s International Staff/ Political Affairs and Security Policy Division (PASP) and International Military Staff (IMS)/ Cooperation and Regional Security Division (C&RS) Divisions. ePRIME is operated technically by IS — Information, Communication, Technology Management (ICTM).
The Concept Development and Experimentation Conference – A Transformational Institution

By Lieutenant Colonel Mihaly Juhasz, Hungarian Army, Lieutenant Colonel Nikolay Nikolov, Bulgarian Army, Lieutenant Colonel Raymond Geistel, French Army and Mrs. Danielle Fenning, NATO Civilian, Headquarters SACT

The Concept Development and Experimentation (CD&E) Conference is an annual international and highly regarded event, co-sponsored by Headquarters Supreme Allied Commander Transformation (HQ SACT) and the US Joint Staff since 2001.

The 14th Conference in a row

The last conference was hosted by the General Staff of the Hungarian Defence Forces in Budapest. This was the fourteenth year this annual conference was held. The theme was “The CD&E Journey – A Roadmap to the Future.”

Conference objectives were:

- Obtain international perspectives on ideas, discuss relevant problems and challenges and explore potential solutions in workshops and seminars to provide a return on our (US Joint Staff J7, HQ SACT and Hungarian General Staff) investment.
- Create an environment conducive to information sharing and relationship building while highlighting the benefits of CD&E methodologies and practical applications – to include collaborative experimentation tools.
- Use Syndicate Working Groups to address NATO and the European Defence Agency need to look for common interest items to work on; find a way to bring in new partners; and know when to say the product or research is complete.

Ambassador Dr. Réka Szemerkényi, Chief Security Advisor to the Hungarian Prime Minister provided the keynote. Her main point was to discuss different approaches to defining and understanding future conflicts from both political and military perspectives. From a political view, she addressed what is required during tumultuous and dynamic periods of change. Militarily, Dr. Szemerkényi encouraged partner nations to work together to adopt the complex skills and tools required to be flexible and adaptive to new developments and future challenges.

Panelists of Leveraging Industry, Academia and Defence Entities for CD&E provided differing perspectives with reoccurring themes. They emphasized that when interacting and working with Academia and Industry, the role must be clearly defined. We (the military) are the customer. Not everything produced is materiel, and there is room for smaller partners; sometimes their size makes them more agile and niche-focused. NATO and the European Defence Agency need to look for common interest items to work on; find a way to bring in new partners; and know when to say the product or research is complete.

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- Create an environment conducive to information sharing and relationship building while highlighting the benefits of CD&E methodologies and practical applications – to include collaborative experimentation tools.

Seminars and Workshops

- **Collaborative CD&E in Action** – led by the General Staff, Hungarian Defence Forces
  - Nations with trust, common goals, and in similar situations have a vested interest in collaborative capability development.
  - There needs to be a “clearinghouse” mechanism to merge similar CD&E initiatives (e.g. Centres of Excellence).
- **C2 with Mission Partners: Enhancing Federated Mission Networking (FMN) Workshop** – led by US Joint Staff J6 and supported by J7:
  - Strategic Communication must be improved to facilitate FMN implementation.
- **Exercises** must be leveraged as a cost effective means to facilitate FMN implementation and experimentation.
- **Information** must be captured from the participants to facilitate continued alignment between FMN and its U.S. equivalent known as Mission Partner Environment (MPE).
- **Potential FMN and Mission Partner Environment (MPE) enhancements** must be identified and further developed in a Multinational Capability Development Campaign (MCDC) project proposal.

Shaping CD&E for the Future – led by HQ SACT:

- **NATO CD&E must enhance its process by incorporating Lessons Learned, customer feedback, and developing a monitoring and evaluation process.**
- **HQ SACT should develop and promote collaborative CD&E through online knowledge exchange and facilitate opportunities for burden-sharing amongst the NATO member nations.**
- **There is a need for greater demonstration and understanding of CD&E cost benefits and success stories to our customers and the member nations.**
- **A white-paper detailing all findings, descriptive analysis and proposed recommendations from the seminar will be published at the CD&E Working Group.**