Leveraging Smart Defence
**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. An electronic version that includes more in-depth articles, supplementary articles and online comments is available on the ACT website (www.act.nato.int).

All articles are edited for content.

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**In this issue:**

This issue is dedicated mainly to the Smart Defence concept that will be officially promoted during the NATO Summit in Chicago, May 2012. This edition of the Transformer tackles several transformation topics, including the rationalisation of NATO Training, a global agenda for the coming months and reports on significant international meetings organised by ACT.

With a smartphone, by scanning this QR Code, readers can access directly the electronic version of this edition’s index providing links to enhanced versions of the articles in this magazine as well as supplementary articles. You can also get to it at this address: www.act.nato.int/transformer-201201. Comments and interactivity with the respective authors is encouraged. Interactivity is also possible on Facebook at the following address: www.facebook.com/NATO.ACT

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A MESSAGE from SACT

BEYOND CHICAGO: “CHANGING THE WAY WE DO BUSINESS”

The Chicago Summit will soon be upon us, and it will be most significant for ACT in many respects.

• It will be the first such event on American soil in over a decade – which resonates for us, the only NATO command on this side of the Atlantic.

• It will also be the first time a US city other than Washington DC hosts such a Summit. That the 28 national leaders will gather in the American heartland carries a powerful message: a reminder that the Alliance is dedicated to the security not only of Europe, but equally to that of its North American members, as was demonstrated in the aftermath of 9/11.

• And it is meaningful for us that the Chicago area is one of the Alliance’s main hubs in aeronautics and electronics, given ACT’s focus on capabilities and the industrial base that make them possible.

• But the agenda in Chicago is even more significant: capability issues will be front and centre, as the Nations endorse Smart Defence as the way to meet the ambitions set out in Lisbon in 2010 despite their budgetary challenges.

• As one would expect, Allied Command Transformation has been very much involved in helping put together the Chicago package. But we are losing no time in looking beyond the Summit: as Secretary General Rasmussen reminded us at the SACT Seminar last month in Washington DC, “Smart Defence is not a one-off Summit slogan”, but a change of mind-set that will continue to unfold well into the future.

• This edition of The Transformer explores many ways in which this mind-set can be applied throughout ACT’s portfolio. For example, the harmonised Education and Training landscape we are working on will make it easier to align national and collective priorities and to promote interoperability.

• I hope our readers will feel free to consult ACT’s website, www.act.nato.int, where they will now be able to engage with the authors featured in The Transformer, and more generally follow the latest transformation news both in the run-up to and in the aftermath of Chicago.
The Chicago Summit is already being hailed as a key contributor to the Transatlantic Link. The Summit will pave the way to further enhance links and relations already in existence, as well as to seek new venues of collaboration.

The 2010 Lisbon Summit challenged the Alliance to advance in many important areas. Among the many challenges were decisions to adopt a New Strategic Concept for the next 10 years and to identify capabilities shortfalls.

With the Lisbon Summit still in mind, the Chicago Summit constitutes an excellent opportunity to further increase the understanding and importance of NATO and its transformational efforts among Allies and Partners. Such an opportunity creates a new momentum for improved cooperation on issues needed to be addressed jointly, not only at the political-military level but also at the working level.

**Summit Focused Topics**

There is much to accomplish in the run-up to the Summit. Among key topics on the agenda are Smart Defence and Ballistic Missile Defence; two vital subjects which will be prominent for many years to come.

Regarding Smart Defence, ACT is at the forefront of the overall effort, driven by the NATO Secretary General’s demand for “better with the same” budget, manpower and structure; and will certainly gain more credibility following the Summit as a way ahead for the entire Capability Development community.

Ballistic Missile Defence is another important area of ACT’s work. The Chicago Summit will likely declare this system’s interim operational capability; to declare a robust missile defence capability. The efforts must be undertaken on many levels, and supported throughout the NATO Command Structure.

Security Through Training

All ACT efforts are driven by the paramount requirement for NATO forces to adapt to the new threats. Our scope of engagement is not reducing but broadening. With such an important commodity to protect, it is only logical that we analyse and work on new and emerging challenges, and also scrutinise the global security environment.

At the Summit, we also will define how we will continue to support Afghanistan during the transition phase and beyond. In this phase, training of the Afghan forces will be a key point of success. Training is an issue of growing importance for national security personnel and ACT involvement in training and education is growing steadily, alongside the training for NATO military and civilian personnel that are either currently deployed or will be deployed to perform training functions in support of local authorities. These efforts require all of us to think and act outside of our professional recognised scopes and to take into account complex interdependencies of different cultures, traditions and ideas, offering our commanders in the field the proper level of support required. Education and training institutions need to support these efforts as well as to make sure that the training being offered brings desired, high-quality results in line with NATO’s educational standards.

Trend to Efficiency

After reorganizing the Education and Training landscape over the last two years we are now completing the structure with the handover of responsibilities for exercises from SACEUR to SACT. This action allows education and training to be offered and delivered more effectively and efficiently. Thus, our commanders in the field get the best support available.

We all eagerly anticipate the Chicago Summit as a threshold that will lead to an improved, more agile and better prepared Alliance to face the conundrum of the modern global security environment. ACT continues to offer tangible, clear and well thought out inputs to this important event.
Thank you each and every one of you for the work that you are doing in this important Command. Whether you are an American service member or civilian or you are here from one of our allied countries, you are supporting and strengthening our transatlantic Alliance. As the only NATO Command in the United States, ACT is an important symbol of the importance that we place on our commitment to this indispensable Alliance.

The work you are doing here is making NATO more resilient and more innovative. ACT is at the centre of that innovation, and what you are forging here will allow NATO to adapt to changing times and changing missions and continue to bolster our collective security. The strategies and partnerships being developed by all of you are shaping NATO operations all over the world from Afghanistan to Kosovo to the Horn of Africa. And I do believe that when NATO leaders meet in Chicago next month, the work of ACT will play an important role when we discuss how best to be prepared against new and unpredictable threats.

It’s wonderful also to see what an example this Command represents. The cultures and traditions represented at this headquarters have become such a vibrant part of the Hampton Roads community. So I’m glad to be here to help kick off this year’s Norfolk NATO Festival, which has been a great tradition for many years now. I only wish I could be here at the end of the month for NATOFest, because I hear that there is quite a show of entertainment, culture, and food from around the world.

I also am aware of how this Command has really set the pace for strategic thinking, capability development, and new, innovative ways of training. We’ve been busy in NATO for the last 10 years. The lessons learned that you helped prepare are absolutely instrumental in shaping the path forward.

I was very fortunate some years ago as a senator from the state of New York to participate in a planning effort with an advisory council appointed by the then Commander [of ACT] to look at the way forward. It was after 9/11. It was in the middle of the rapidly changing environment in Europe and beyond. And I have some small sense of the importance of the work that you have done here.

For all of you who are guests in the United States and for your families, I know what a commitment it is to move everyone to serve abroad, but I’m grateful that you have done so because your families also add immeasurably to this community.

So thank you again for your service, for all you are doing to make NATO stronger. I will have more to say about that later this evening at a speech that I will deliver as part of the Norfolk NATO Festival kick-off. But it is for me a great honour to be back here to thank you, General, to thank your leadership from across NATO and member-countries, and to thank the entire team for your many contributions. NATO has stood the test of time, and I hope it always will. And with people like you, I am very confident that that will be the outcome.

Thank you very much.

Following Secretary Clinton’s visit to HQ SACT, she spoke at the World Affairs Council. That speech can be found online at: http://www.state.gov/secretary/ rm/2012/04/187392.htm
A New Alliance Goal – Capabilities for NATO 2020 and Beyond

By Colonel Franck Desit,
French Army, Capability Development PPM and
Mr. Rick Perks, Capability Development MA

In the jigsaw puzzle of initiatives and processes to build the future of the Alliance, Smart Defence emerges as a symbol of rationalisation that sticks to contemporary crisis mind-set. This successful concept is more precisely explained in this edition of The Transformer.

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he 2010 Strategic Concept articulates a vision of the Alliance for the next decade. This includes a commitment to ensuring that NATO has the full range of capabilities necessary to undertake its three essential core tasks: collective defence and deterrence, crisis management, and cooperative security. Article 5 continues to be the cornerstone of the Alliance and it will remain critical that NATO retains the requisite capabilities to deter and defend against any threat to the safety of Allied populations and the security of Allied territory. With the above in mind, a Lisbon package of NATO’s most pressing capability needs was also identified in 2010, and Allies committed themselves to seeing them addressed.

Allies have made progress since Lisbon in key long-term capability initiatives, in agreeing a new NATO Command Structure and in streamlining NATO Agencies, all supporting the intent of the Strategic Concept. However, given the constraints of an increasingly austere economic environment, NATO Secretary General Anders Fogh Rasmussen launched the Smart Defence initiative at the 2011 Munich Security Conference. His intent was to identify conceptual and practical measures to help nations more efficiently maintain and develop required capabilities, by working together.

A Reachable Goal

The Smart Defence initiative has generated momentum and encouraged thinking and new ideas across the Alliance that have, in turn, helped to coalesce a capabilities goal: “Capabilities for NATO 2020 and Beyond.” While the Strategic Concept focuses on what NATO will do in the next decade, this is an enabling goal to help define what NATO should look like from a capabilities perspective. It also serves to bring together related strands of supporting work. Key to the capabilities goal is its primary means, a Defence Package comprised primarily of Smart Defence and the Connected Forces Initiative (CFI). In the former element proposes how Allies might implement the goal in terms of efficient multinational capability development and the latter, which was launched by the Secretary General at the 2012 Munich Security Conference, proposes how Allies might continue to effectively use capabilities together in view of a decreasing operational tempo. Specifically, CFI aims to ensure that the Alliance retains the valuable gains in interoperability achieved in recent operations. To do so, it will focus on three inter-related elements; expanded education and training, increased exercises and better use of technology.

The capability goal and Defence Package are being developed for the May 2012 Chicago Summit. This will enable Alliance leaders to articulate how NATO will ensure it has what it needs to 2020 and beyond. In addition to Smart Defence and CFI, the vision also incorporates the continued adaptation of Alliance structures and procedures, partnership and industry considerations and, most importantly, sets the scene for enhancing the NATO Defence Planning Process (NDPP) to carry all of these elements into the future.

The challenge is to help align nations’ priorities with NATO collective priorities.

A New Capabilities Mind-set

On one hand, through an initial package of agreed multinational projects grouped according to the critical capability shortfalls that they address, these new capabilities provide benefits such as economies of scale, improved operational efficiencies and enhanced interoperability. Additionally, there are proposals being considered by NATO committees that could be moved forward in the near future. The intent is to agree at Chicago to implement the first ones and incorporate them as appropriate into the NDPP, while continuing to develop the others.

On the other hand, NATO has been working on many of its most important and complex priorities in a cooperative manner for some time. These focus areas are consistent with and support meeting the Capabilities for NATO 2020 and Beyond goals. Other areas including those identified in recent operations, like Air-to-Air refuelling, a critical enabler to operations, are being pursued through European Union efforts to bolster European requirements. This work will clearly benefit both the EU and NATO. The ideas and principles associated with Smart Defence and cooperation underpin and support these key longer-term focal projects.

There is a clear requirement to integrate the different capability initiatives into a coherent package containing pragmatic, achievable, and tangible initiatives in line with ongoing capability development efforts in the NDPP. The “NATO: Towards 2020 and Beyond” is the basis for a positive long-term vision for capability development that is backed by action. Allies’ strong support at Chicago represents a starting point for a new capabilities mind-set.
The Challenge of Balancing Resources with Requirements

By Colonel Craig Peterson,
United States Navy, IRM

Managing Resources during Fiscal Austerity was the exact theme of the encounter between sixteen representatives from a high-end US academic ‘Think Tank’ and Major General Ugur Tarcin in late February, an event that was hosted by the National Defense University (NDU) in Washington D.C.

Initial discussions outlined NATO’s achievements in the resource reform effort across the five main domains: NATO’s Agencies Reform, the End-to-End Rationalisation, NATO Headquarters Reform, the Comprehensive Resource Reform and the NATO Command Structure Review (NCS). Tarcin’s presentation focused on the latter two aspects of the reform, which have had the greatest impact on Allied Command Transformation (ACT).

Challenging Reforms

On the NCS, he showcased the many achievements for ACT to propose a cost neutral structure which is both efficient and effective and takes the command a step further in accommodating emergent requirements such as cyber defence through Integrated Project Teams. While the results of several months of NCS Review have been positive and well appreciated by NATO’s Member Nations, Major General Tarcin cautioned that sufficient manning levels must be maintained in new and legacy NATO Command Structures in order to ensure that the Alliance can continue to fulfill all of its tasks.

Other challenges identified by the group of experts included the demobilisation of manpower as NATO withdraws from Afghanistan – and the need for a comprehensive plan on how to maintain this high level of operational expertise, leveraging it for the future.

On the NATO Comprehensive Resource Reform, Tarcin engaged in a dynamic discussion to outline some of the achievements and challenges the Alliance faces in reforming processes across the three main pillars of Budget, NATO Security Investment Program, and Manpower. He stressed the significant progress of the NATO Resource Community’s work in improving financial mechanisms to ensure even greater levels of transparency and accountability before the Nations, employing alternative methods for manpower resourcing and introducing better planning mechanisms for the development, approval and implementation of our capability packages.

From Realism to Flexibility

Major General Tarcin shared a word of caution: “Balancing resources with requirements is a challenging task, both for the Alliance and the Resource Community. While the reform effort has tried to introduce a balance in how we manage our resources, the reality is that our required capabilities are more than the resources available and this trend will continue to gain momentum.”

This, coupled with skepticism over the current financial situation and job security rising across Europe and over the Atlantic, will pose an additional challenge to improve the corporate confidence in the public. Therefore, deliberate corporate branding is necessary – both for National institutions and international organisations such as NATO and the UN.

Further, an improvement in the manpower processes to allow more flexibility, while still maintaining control, is something to be further analysed and pursued, Tarcin said.

Specialisation and Collaboration

The group also discussed in length the Smart Defence initiative. While Smart Defence and Smart Resourcing are not new terms, the current fiscal climate will eventually force the Alliance to invigorate those efforts and move them forward. Specialisation by design is essential if NATO wants to demonstrate to the Nations a more focused resourcing of our defence and security needs. Therefore, it is believed that the Smart Defence concept and its common funding to NATO’s resource reform will gain more momentum.

Finally, both the academic and the military representatives concluded that in order for those processes to undergo a physical transformation, there is a need to achieve stronger collaboration both across the NATO Committees and among the NATO member states. NATO has a wide committee structure which can certainly be better utilised if all stakeholders work, act and think better together both as an Alliance and as members of the same team.

A Pledging Type of Encounter

The brief and discussions were very well received by the participants from Academia, and they requested more interaction of this kind as a basis of sound collaborative efforts between NATO and academic ‘Think Tanks’.

The engagement was part of the larger strategic communications initiative to increase visibility for Allied Command Transformation and NATO among the US pool of academic researchers, and solicit valuable feedback on the road to the Chicago Summit.
A Precious Anticipation

This year in Chicago, NATO aims to declare Interim Operational Capability for its first territorial missile defence capability; it will protect NATO’s 900 million citizens from the proliferating threat of ballistic missile technology and nuclear, biological and chemical weapons. The timely delivery of this capability hinged upon the use of prototypes developed under the Allied Command Transformation’s (ACT) Experimental Programme of Work (Link-16 SAMC2 Interoperability Demonstrator/LSID and Extended Air Defence Planning Tool/PLATO) by the and Consultation, Command and Control (C3) Agency.

PLATO allows the Commander to plan and prepare for battle; LSID provides a situational awareness and missile engagement tool. Both of these prototypes were funded by ACT through forward-looking experiments at a time when the Alliance was only just beginning to examine the ballistic missile threat. A few years later, when NATO’s operational community demanded fast-tracking of NATO missile defence, these prototypes were available as pragmatic and fast-effective solutions for delivering NATO’s first interim capability.

On the one hand, this shows the value of ACT’s Experimental Programme of Work in delivering urgent operational capabilities to NATO and its member Nations. On the other, it demonstrates the potential role of NATO Agencies, as a source of corporate memory and expertise, in strategic partnership with ACT, in leveraging various strands of work to address new threats and challenges in an effective and efficient manner.

Relevant and Accurate

This contribution of NATO Agencies is applicable to Smart Defence as a mindset — in addition to the Secretary General’s mantra of prioritise, specialise and provide multinational solutions. NATO Agencies can therefore add to this mantra — reuse and recycle. It demonstrates the business value of the ability of NATO Agencies to ensure that various strands of work are visible, thereby enabling effective sequencing and coherence of NATO programmes to deliver what is needed as we approach new capability development. NC3A, and soon the NCIA, can and will play a part in this vital role, but only in concert with ACT.

Industry welcomes this approach, as prototypes (if shared early enough) lower its business risk (operational requirements are well validated), and ensure quicker delivery; Nations can also reuse these capabilities for national purposes, or — very much in the spirit of Smart Defence — launch multinational projects to further develop such prototypes if modifications are required, in partnership with Industry.

How to Embed This in Smart Defence?

The question is how do we guarantee that we are equally effective in using multiple strands of work, also in the future?

It all starts with ensuring that we have a comprehensive, common operating picture of current capabilities being developed.

This must be underpinned by a long-term perspective, so coherence and re-use should not rely on the individual being a common reference point; this is an added benefit. The ability to deliver and field capabilities that are engineered to be coherent, is achieved by taking a full life-cycle approach to system design across the full spectrum of National and Alliance programmes. With ACT we are taking the first steps towards the objective by establishing a design authority in the NC3A’s Chief Technology Office.

The NATO APP Store

Another initiative must be to ensure visibility for all the development (and capabilities) that is ongoing. The NC3A is currently soliciting support for a NATO ‘App Store’ initiative that would make all applications that have been certified as eligible for release or reuse available via an easy to use online platform — for Nations and operational commanders, the App Store could also be used as a market to provide their own ‘Apps’ to other Nations.

The App Store would provide dramatic visibility of the valuable work being developed under the ACT Experimental Programme of Work, as well as in other areas; it would also be a Smart Defence tool for Nations and Industry — giving them insight into what is available as a starting point for either urgently meeting or fast-tracking industrial development.

Ready for the Future

ACT’s mission is to ensure the Alliance is ready for new threats and challenges. The case study of the territorial missile defence capability directly supports ACT’s mission by providing a coherent approach to capability development. In moving forward, NATO Agencies will support ACT and NATO overall in embedding this approach into the wider embodiment that is Smart Defence.
Smart Defence calls for NATO nations to examine the prioritisation of resources needed to sustain a ready and relevant force. At the same time most Allied nations are facing the realities of financial austerity. Therefore the need for bold and innovative partnerships is more important than ever. One model focused on partnerships already in place with proven results is the NATO Centre of Excellence (COE).

**Created by the Nations**

A farsighted idea, NATO COEs emerged in 2005 with a design to play a significant role in NATO’s transformation efforts. COEs are created by the Nations through agreements which pool resources from willing ones among them for niche areas of expertise. The centres are accredited by NATO; however, they are voluntarily established, resourced and funded solely by the Framework and Sponsoring Nations. Guiding principles such as added value, clear relationships and NATO Standards set out in the COE concept provide a framework for Nations to coalesce around needed capability areas. The symbiotic relationship between NATO and the COE’s Sponsoring Nations allow the COEs experience and expertise to benefit the Alliance and the countries that sponsor them.

The COEs are agile entities that can respond to time-critical projects and provide analysis for future needs. Nations have recognised these advantages. And as a result, 16 NATO COEs have been established through the accreditation process.

**Focused Vision on Critical Issues**

COEs are diverse in nature and support a broad scope of work. Accomplishments include events, projects, training and analysis along four main pillars:

- Education and Training
- Analysis and Lessons Learned
- Concept Development/Experimentation
- Doctrine Development & Standards

A number of COEs chair prestigious NATO Working groups. They support operations through training, assessment and reach back capabilities, and apply expertise to assist the development of critical shortfall areas such as cyber defence, maritime security and space awareness. COEs are also extremely useful to NATO in their ability to conduct dialogue and form relationships with partners in International Organisations, Non-Governmental Organisations, Industry and Academia. They operate outside the constraints of the normal bureaucracy which allows them to focus on coherent practices to address emerging challenges.

**Anticipation of the Smart Defence Mind-Set**

No one doubts the difficult challenges NATO faces in an environment where evolving threats and decreasing budgets run parallel. Despite reductions to the NATO Command Structure, the Alliance must forge ahead to maintain its strength and face changes to the way it does business. NATO strategic guidance asserts that Nations must remain committed to the value of international security. Investments in new and lasting partnerships are required to meet the demands of sustaining cooperative security.

One of the answers to these difficult challenges is the Smart Defence initiative. At the SACT Seminar held in February 2012, Secretary General Anders Fogh Rasmussen summed up the Smart Defence approach: “This is all about creating a new mind set. About better aligning our collective requirements and national priorities. And about focussing our efforts on prioritisation, cooperation, and specialisation.”

This spirit of Smart Defence is abundant in the NATO COE community. As Nations commit to long-term strategic projects for Smart Defence and seek new ideas for partnerships and solutions, they will emerge as valuable resources and successful examples of multinational cooperation. National resolve is imperative for the future of NATO, and with the guidance and assistance of COEs the Alliance will likely endure through the current constraints while continuing as a multinational force in the decades to come.
Energy Security: Tough Lessons of Afghanistan

By Mr. Mehmet Kinaci, Strategic Analysis at ACT

Increasing Military Energy Efficiency became paramount on such a far battlefield. Lessons learned are rich and promising and lead to an “operational energy” concept that could find a place in the Smart Defence mind-set.

Broad Vision

Smart Defence is a concept that encourages Allies to cooperate in developing, acquiring and maintaining military capabilities to meet security challenges in accordance with the new NATO Strategic Concept. In his closing remarks of the 2012 SACT Seminar in Washington D.C. in February, the NATO Secretary General stated that “Smart Defence is more than just a way to cope with financial austerity – it is the glue that binds the Alliance together and the way to fulfil paragraph 37 of the Strategic Concept.” Smart Defence is about member states building greater security – not with more resources, but with greater collaboration and coherence of effort. Military Energy Efficiency is an issue that should be considered as a key enabler of Smart Defence.

Afghan Energetic Battlefield

NATO’s ISAF mission in Afghanistan is the biggest expeditionary operation of the Alliance’s history. Afghanistan’s geographic location, environment and lack of locally available resources present unique challenges in sustaining the forces, in particular providing fuel to often isolated bases in the heartland. Consider the following figures: NATO Forces in Afghanistan consumed an average of 1.8 million gallons of fuel per day in November of 2011; 99% of the fuel was delivered by trucks. When Pakistan closed its border crossings, more than 4,000 supply trucks were delayed in Pakistan; and there was at least one attack per day against supply convoys on 23 days of the month. In order to overcome these challenges innovative approaches were adopted by national contingents. Nations have used better technologies, established performance standards and diversified fuels using wind and solar systems. However, exchange of information, best practices and collaboration on how to best overcome these challenges amongst Allies was lacking.

Although military capabilities have significantly improved over the past decade, modern military forces still require high-quality energy-demanding systems and large amounts of fuel to operate. Following the reality of high-energy demands of future operations, militaries have shifted focus to reduce energy dependency without decreasing operational efficiency. In order to address this challenge, there needs to be a shift of focus from national to multinational solutions within the Smart Defence context. NATO should adapt to these new conditions and introduce the concept of “operational energy” into the decision making process of our leaders and planners.

Operational Energy

A change of culture within our leadership to establish multinational responses to military energy efficiency requires a clear understanding of the impact of cultural and behavioural change of using energy in operations. Through awareness and education and training, ACT can help in the development of an energy efficient culture.

Opportunities For Improvements

It is important to share these best practices and practical solutions to increase overall awareness and to overcome the challenges presented by the operational environment. ACT can provide a platform for sharing this information and best practices by including Energy Security and Military Energy Efficiency in the agenda of upcoming “Diamond Events” such as the Strategic Military Partner Conference (SMPC) and Industry Day. ACT should also keep the Chiefs of Transformation Conference (COTC) updated in order to inform a wider audience on developments in these areas. Additionally, in close coordination with NATO Emerging Security Challenges Division (ESCD), ACT will continue to host and facilitate workshops on military energy efficiency.

These activities are the beginning of a conversation to further include international organisations, Academia and Industry.
NATO C3 Classification Taxonomy
By Mr. Peter J. Woudsma,
ACT C4ISR & NNEC

The recent speech of NATO’s Secretary General about the Connected Forces Initiative stated clearly that the Alliance has to improve its ability to work together. As transformational authority, ACT will play a key role in achieving that, finding better arrangements for a common Consultation, Command and Control (C3) environment.

Transformation
In modern times, the description of an organisational structure within its strategic, economical, technical, and operational environment is a daunting task. Performing that task in NATO, an alliance governed by 28 nations, and to capture the requirements for communications and information systems in support of improved information sharing and decision making, that’s a real challenge.

A thorough understanding of the C3 needs and requirements helps to understand the underlying fabric, and find opportunities for cost saving, and for a faster and smarter development of future solutions.

Mapping the Enterprise
The NATO Network Enabled Capabilities (NNEC) Feasibility Study of 2005 proved that the communications and information systems (CIS) environment for NATO must adapt a Service Oriented Architecture (SOA): organising software in the form of independent, interoperable services that can be composed and recomposed to fulfil multiple business requirements.

The study presented a Technical Services Framework, with a hierarchical arrangement of technical services in four horizontal classifications, plus two vertical groups: for Information Assurance (IA) and Service Management & Control (SMC). This framework was used as the basis for a reductionist description of the complex C3 structure. Soon it was recognized that this was not sufficient for a full representation and that a taxonomy should have a broader and deeper scope.

An important consideration was that the requirements for future C3 capabilities are not purely technical in nature. A framework for CIS services would only address the back-end technology solutions, and would not give any resolution about quality and quantity of services required for a particular mission. The new C3 Classification Taxonomy therefore presents both the definition of CIS capabilities and their operational context. This approach is referred to as ‘enterprise mapping’, as it aims to ‘chart’ the NATO C3 ‘landscape’.

Operational Context
The Operational Context describes the environment in which CIS capabilities are defined and used. The Alliance’s political and military ambitions, the overarching guidance and policies, and the Mission-to-Task Decomposition (MTD) are categorized under ‘Missions and Operations’. Then the needed capabilities are catalogued, operational (business) processes addressed, and information products incorporated under ‘Operational Capabilities’. This information provides the organisational perspective in which the CIS technology solutions should be deployed in NATO’s future missions.

CIS Capabilities
With the operational context set, it is opportune to link it to a technical framework of applications, services, and equipment. The CIS Capabilities span two significant categories: the ‘User-Facing Capabilities’ and the ‘Technical Services’.

The first category provides an end user with ‘User Applications’ that are designed to help the user to perform singular or multiple related tasks (analogue to the apps on modern phones and tablets).

The second category provides the foundation for the better use of technology: a set of related software and hardware functionalities that can be used for various purposes, in support of each other, and in support of the ‘apps’.

EM Wiki
ACT’s Technology and Human Factors (THF) Branch has developed a web-based platform on the basis of a wiki (similar to the software running Wikipedia) in order to record and process the growing complexities of the datasets, and to produce relevant tangible outputs. This ‘Enterprise Mapping (EM) Wiki’ is accessible via the Internet on a protected website. The enterprise architects in the THF Branch use this platform for collaboration with subject matter experts, capability coordinators, engineers, and operational users in both Strategic Commands and in the NATO C3 Agency (NC3A).

The description of NATO C3 is getting better day by day, and with the evolution of the wiki, new products can be developed, and new information discovered. Enterprise Mapping delivers the Reference Architectures that describe the future C3 solutions for the Alliance, and the mandates for NSIP projects.

The information in the EM Wiki is available to authorized users from NATO, member and partner nations, and to designated industry and academic contacts. We welcome anybody with a legitimate interest in NATO C3 to discover our data, and to contribute to the future of NATO C3. A message to tide@act.nato.int will start your journey.
GEMENT OVERVIEW

All dates are tentative and to be confirmed.
The Transformer

A Harmonised Landscape

with the present priorities of the Nations.

Holistic Approach to Education and Training

December 2012 will mark a major milestone when Allied Command Transformation (ACT) officially assumes full responsibility for the management of NATO exercises. For the first time, all of NATO’s Education and Training (E&T) needs will be directed by one entity – ACT’s Joint Force Trainer (JFT). This will enable ACT to provide a holistic approach to the planning and execution of all individual and collective E&T activities (be it e-Learning, Immersive Learning, Resident Courses, Key Leader Training or Exercises), and will span the spectrum of strategic, operational, and tactical training. While this new arrangement will allow Allied Command Operations (ACO) to be fully focused on operations, ACO, as the end user, will continue to help shape NATO training by defining training requirements and evaluating the trained units and personnel.

In his 4 February speech in Munich, Germany, NATO Secretary General Anders Fogh Rasmussen said, “We need to see how we can get even more value out of them [the education facilities], and perhaps also open up the extensive range of national facilities.”

Identifying the Strengths and Gaps in Educational Infrastructure

ACT strives to coordinate the efforts of all NATO Educational Training Facilities (NETFs), Centres of Excellence (COEs) and Partnership Training and Education Centers (PTECs) that are involved in E&T. This coordination may also encompass national facilities where Nations choose to offer education opportunities to other NATO Nations or partners. Such a coordinated network of E&T institutions requires the use of common, accepted standards; JFT has therefore agreed to align NATO E&T with international educational standards. To ensure interoperability between E&T institutions and maximum use of shared resources, NATO has adopted the SCORM industry standard. By adopting academic and industry standards, the organisation can work with NATO and partner nations using the latest technology to support the Education, Training and Exercise requirements.

To identify strengths and gaps in NATO’s educational infrastructure will require all available resources. ACT/JFT’s role will be to introduce standards and structure to ensure that NATO’s E&T requirements are met. This system will only succeed with the full backing and support of the Nations.

WWW – e-NATO: A Rational World

A new e-Learning concept was issued in November 2011. Better use of it and immersive learning opportunities will provide more attractive education and training options that will complement existing resident courses. On-line training will be used where necessary as a prerequisite to ensure collective training and exercise audiences meet required minimum standards of knowledge appropriate to the course or training event.

As Lieutenant General Karlheinz Viereck has said, “e-NATO will be the on-ramp to the NATO E&T highway. The Individual Training and Education Programme (ITEP) will combine job descriptions and E&T opportunities to assist individuals with training requirements customised to their level of knowledge, job description and scope of responsibility.” The ITEP will be available online beginning in September 2012, and will initially be populated with International Security Assistance Force (ISAF) data, Partner Requirements and will include the embedded Education and Training Opportunities Catalogue (ETOXC). By September of 2013 the electronic version, the e-ITEP, will incorporate all new Peace Establishment (PE) and Crisis Establishment (CE) manning data.

Exercises to Replace Reality

As current NATO operations wind down, there will be a need to replace real-world experience with increasingly realistic exercises that retain and update the extensive corporate knowledge gained from over a decade of combat operations. Since Nations’ defence spending is not likely to increase, we will have to spend smarter to support future exercises. One mission of the JFT team will be to ensure that collective training and exercises remain focused on the requirements of the target audience, in the most cost-effective manner.

Much to Do with Smart Defence and Connected Forces

The ongoing E&T efforts are truly a practical application of Smart Defence, which promotes the alignment of collective and national priorities. Through multinational cooperation, Nations can have access to capabilities they could not afford independently, achieve economies of scale, and improve interoperability. The new E&T landscape will not only contribute to, but will even be an essential requisite for the Secretary General’s Connected Forces Initiative.

A holistic approach to ensure that all operational and strategic E&T requirements are met must be the goal. With the economic realities facing the Alliance in this time of austerity, coordination of all resources to fill gaps and prevent duplication of effort is the only way forward. Already taking on that role of coordinating E&T landscape, ACT will be proud to prove itself worthy of the Allied Nations confidence.

1 SCORM (Sharable Content Object Reference Model)
2 LTG Viereck is the ACT Deputy Chief of Staff for Joint Force Training.
Building an Efficient “Education Platform for the Future”

Training efficiency is a great concern for Nations dealing with budgetary restrictions. How to improve it by working together was the main topic of this year’s Training Synchronisation Conference.

To achieve more effective training outcomes and more efficient training structures was the exact and collective aim that gathered more than 200 participants representing 27 NATO Nations, along with several Partners and education and training institutions, last February in Vilnius, Lithuania. The event was the 2012 Training Synchronisation Conference (TSC). So, no surprise if opening statements of Lithuanian Chief of Defence, Lieutenant General Arvydas Pocius and Supreme Allied Commander Transformation (SACT) General Stephane Abrial included strong invitations to achieve coordination of training in support of military forces.

“Unified and effective education and training leads to interoperability between forces and helps make NATO soldiers from different nations and military forces capable to conduct common operations” General Pocius said.

Touted as the “education platform for the future”, the TSC provided participants with insights on the evolution of the Education and Training architecture. The conference also offered to those who are actively engaged in the building of NATO training landscaping, the opportunity to discuss common education and training issues and synchronise their efforts and priorities.

“The only way to increase capabilities across the Alliance is to do more things together, and this is exactly what we are exploring. This is why this conference is very important,” stated General Abrial.

Four Meetings in One Conference

This high-level event covered four meetings:

• NATO Training and Exercises Conference (NTEC)
• NATO Individual Training and Education Conference (NITEC)
• Steering Group NATO Training Group (SGNTG)
• Education forum

About Synchronisation

The Military Training and Exercises Programme (MTEP) for 2012-2017 was presented during the NTEC which focused on synchronising NATO collective training and exercises. Feedback from Nations and Partner will be incorporated in the MTEP 2012-2017. The NITEC is co-chaired by SHAPE, represented by Colonel John Caron and ACT, represented by Colonel Paul Fleury.

About Individual Education

The NITEC brought together 27 Member and Partner nations focusing on the Education and Individual Training (EIT) contribution to Smart Defence. National training plans for ISAF were presented and made available online for all Troop Contributing Nations to ease identification of requirements in future ISAF rotations. eLearning as a tool for future collaboration training was presented in a concept paper covering key training activities, namely Advanced Distributed Learning (ADL), Computer Based Training (CBT), Immersive Learning, Mobile Learning and Collaborative Learning. All participants agreed that these are tangible opportunities for present and future collaborative activities.

Assurance & Accreditation initiative was introduced to further enhance common standards, explaining the necessity to move away from the control of individual courses, but instead concentrate on the Education & Training institutions where they may achieve a ‘quality seal’ through a transparent process of assessment. NITEC is chaired by Brigadier General Theodosios Dourouklis.

About Broad Guidelines

SGNTG is the highest training group forum for NATO and national Education & Training decision makers. Strategic level direction and guidance was provided to the subordinated Executive Working Group NTG (EWGNTG) on enhancing interoperability and standardisation among NATO and Partner nations in all training related matters. The SGNTG Meeting is chaired by Lieutenant-General Karlheinz Viereck, representing ACT, and a national Co-Chairman, Major General Per Ludvigsen, the Danish representative.

About the Future

The education Forum was opened by Viereck sharing his perspective on recent changes and achievements in the NATO Education and Training context. By providing an open venue where Education and Training Facilities, Centres of Excellence and Partner Training and Education Centres can discuss as equals, collectively shaping the future of training in NATO, the education Forum met its intended goal.

Everybody left Vilnius with a great amount of data, guidelines and useful contacts and all looked forward to the next conference1 to be held in Riga, Latvia, in February 2013. 

1 Brigadier General Theodosios Dourouklis is ACT Assistant Chief of Staff Joint education Training & Exercises (JETE)
2 Lieutenant-General Karlheinz Viereck is ACT Deputy Chief of Staff Joint Force Training (JFT)
3 Questions on TSC? Contact ITAF Lieutenant Colonel Felice D’Ippolito at Felice.dippolito@act.nato.int

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The ability to meet future challenges in an unpredictable global environment can be achieved with the skilled coordination of long-term initiatives and strengthening of a collective training framework.

NATO's Level of Ambition (LOA) is to cope with two Major Joint Operations (MJO) and six Smaller Joint Operations (SJO) concurrently outside the area of responsibility. This is on paper. To make it become reality, the Joint Warfare Centre is in a unique position to observe Joint Force Command (JFC) and Component Command headquarters capacities and capabilities. It's one of the objectives of the "STEADFAST" series exercises and we observed that the most successful HQs have been the ones that could quickly integrate staff augmentees into their organisation.

Success May Teach a Lot

Despite NATO’s recent success in Operation Unified Protector (OUP), where staff augmentees comprised a significant percentage of the HQ staffs, it appears that there is still a gap between the observed capabilities of our component-level HQs in the current NATO Command Structure and those estimated necessary to fully support the ambition quoted above.

OUP provides a good basis for illustration. The air component responsible for the campaign, manned with personnel drawn from a large standing staff and heavily augmented, was challenged to conduct 24/7 operations and execute approximately 120 sorties a day – which is about a third of the maximum production of a SJO (defined as 350 sorties per day). As another example, in the most recent Steadfast Juncture 2011 exercise, the NFS air component was supplemented by augmentees out numbering the core staff to support a sortie generation rate less than half that of OUP. This manning level is representative of the majority of NPS air components which may become responsible to execute NATO’s MJO LOA of 1,000 sorties a day. This implies an expected level of required augmentation of fully trained personnel that would dwarf the standing staff it was intended to complement.

In addition, the current fiscal environment creates definite challenges for NATO to maintain the expertise and infrastructure to ensure the Joint Force and component HQs receive the proper level of collective training and exercises.

Improve Realism of Training

For NATO to be more credible and effective, robust collective training and exercises challenging the Joint Force and Component headquarters are required, building a collective training framework dedicated to warfare integration as the foundation to accomplish its robust level of ambition.
What is Cultural Resource Protection and Why Should We Care?

By Commander Michael Hallett, United States Navy, Strategic Plans and Policy

Cultural Resource Protection (CRP) provides a framework both for making the difficult decision that damaging cultural property is justified by military necessity, and for working with local and external actors to protect cultural property prior to, during and in the immediate aftermath of conflict. As such it is a key capability for operationalising NATO’s Comprehensive Approach.

NATO is concerned with CRP not only because NATO forces are directed to protect cultural resources in STANAG 7141 and the fact that it is a legal obligation under international Convention for the Protection of Cultural Property in the Event of Armed Conflict (1954). We engage in Cultural Resource Protection because our NATO values demand it. The Washington Treaty establishing NATO says, “[the parties] are determined to safeguard the protection because our NATO values demand it. The Washington Treaty

The Utility of a Thinner Comprehensive Approach

By Commander Michael Hallett, United States Navy, Strategic Plans and Policy

THE THICK COMPREHENSIVE APPROACH

The CA solution comes in two broad categories: thick and thin. The thick view assumes robust collaborative interaction based on an agreed end state, overall mission objectives, and the means through which those objectives should be achieved.

Yet, this thick agreement is seldom obtainable, and when achieved suffers from three major deficiencies: failure to embrace local actor priorities; statement generation on common objectives without resource commitments; and failure to provide adequate direction for mission agreed objectives. In other words, there is a guidance gap between the thick CA political level agreement and the guidance necessary for planners to do their work.

Therefore, while working at the strategic level to operationalise the thick CA, NATO should work to operationalise a thinner version.

THE THIN COMPREHENSIVE APPROACH

Looking at CA as a design process for aligning incentives and reducing transaction costs, the process offers a practical approach to CA operationalisation for NATO. This thin CA accepts that problem management, problems of an extremely complex nature, and present security environments require activities beyond the organic capability set of any one single organisation.

The thin CA is a design process that reduces the inter-organisational interaction transaction costs and provides a structure that enables self-synchronisation among diverse organisations. The aim of the thin CA is to, through the reduction of transaction costs and alignment of incentives, facilitate mutual reinforcement of activities in the “convergence zone” where effects are beneficial for both local and external actors.

FIVE STEPS TO CONSIDER

There are five steps through which we can use this thin CA to enhance planning and operating.

1. Create a Venue — A venue, either cyber or normal, within which a community of interest can gather is required.
2. Define the Problem — Once the community of interest has been formed and is able to articulate its view, it is necessary to define the problem.
3. Inventory and Access capabilities — Inventory and access existing capabilities; creating mutual awareness and illuminating capability gaps.
4. Find and Fill Capability Gaps — Find and fill capability gaps. Closing some gaps will require only adding resources, while others will demand entirely new capabilities.
5. Support Local Solution Development — Support local solution implementation by accessing existing capabilities or modifying new capabilities, for example.

THIN CA AS PORT OPERATIONS

In practice the Thin CA is similar to the process through which railroad, trucking, shipping and port operations companies move cargo through a port; they share information and have interoperable processes in place so they may move the cargo quickly and efficiently, cooperating when it meets their interests and staying out of each other’s way when it does not. The Thin CA enables similar interaction to accomplish missions, adding energy to positive actors and isolating the others.

For more information see:

- The text of the Convention: http://www.icrc.org/ihl.nsf/FULL/400
- The International Committee of the Blue Shield www.anbcs.org
- Report by the International Military Cultural Resources Working Group on Libya http://blueshield.de/libya2-report.html

Cultural Resource Protection Benefits:

- Reduces ability of insurgent and criminal groups to raise revenue from looting antiquities.
- Provides an assessment capability to examine sites to establish their condition so NATO is not later accused of damage caused by others.
- Enables training for NATO forces and local actors to better protect cultural property.
- Serves as a transition facilitation tool, by providing other local (and international) organisations with the right information at the right time so they can prepare to make larger contributions (when conditions permit) in accordance with their mandates.

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Increasingly, more effective and efficient Training Local Forces is a key enabler for improving local resilience to future shocks and to expedite crisis recovery.

3 Levels to Share with the Nations

Training Local Forces is an example of operationalisation of the Comprehensive Approach in which many actors work to generate convergent effects. Therefore, NATO need not provide the full training local forces solution – instead, NATO will work with other interested actors to develop local capabilities in ways national authorities consider appropriate.

NATO capability development of the local security forces, just as for the Alliance’s Nations, will take place on three different organisational levels: the institutional level (the defence ministry or department), the operational level (Training the Trainers), and the actual student training in classrooms and through drills and exercises at the tactical level.

Nations are already involved in each of these areas. Therefore, to maximise the efficiency and effectiveness of its resource expenditures and speak to its comparative advantages, NATO should focus on the two upper levels, while the Nations devote most of their training resources to the two lower levels.

NATO Trains the Trainers

How will NATO add value to local actor activities (and most effectively and efficiently apply its scarce resources) by focusing on the Enhancing Training Institutions and Training the Trainers levels?

At the Enhancing Training Institutions level, NATO will support nations with expert advice and resources as they work through the organisational design issues necessary to enhance training institutions – the schools, exercise facilities, and training centres. This requires that NATO trains specialists in high level institution focused interaction to advise local forces on the organisational design process necessary to accomplish this work.

NATO support at the operational level, as it has provided in the NATO Training Mission-Iraq (NTM-I) and NATO Training Mission – Afghanistan (NTM-A), will take the form of providing the organisational backbone or structure into which the Nations can contribute trainers. By developing a standardised, interoperable instructor training, equipping and deploying process and a baseline curriculum within each functional area, NATO can help ensure that the training provided to the National forces is consistent across the entire nation and at all levels.

A Training Local Forces Capability

The TLF capability is a meta-capability: it is a capability that improves local actors’ own capabilities and more importantly, their ability to continuously enhance their own capabilities. NATO should develop its capability to train local forces in two ways:

First, it should provide training support before a crisis as part of normal interaction with other organisations and states in order to increase local resilience to future crises. Such support will add value to both local and NATO training activities. Local actors will benefit from the training to shape particular priority outcomes in positive ways, while the development of the rich, local knowledge and networks of interaction necessary for training support will provide NATO with the understanding necessary to better support those actors predisposed to act in accordance with NATO values.

... to Enhance NATO’s Reactivity

Second, improving its institutional Training Local Forces’ capability to restore or re-grow local forces, as part of a broader Stabilisation and Reconstruction (S&R) activity set, and in conjunction with other organisations, will generate a NATO capability to rapidly deploy a critical mass of Training Local Forces instructors. This rapid reaction Training Local Forces team could deploy to quickly provide training support necessary for local security sector personnel to enhance their capabilities – to prevent imminent state failure or to reconstitute and establish the basic security architecture necessary for recovery from state failure brought about by conflict or natural disaster. This surge capability, by addressing force capability issues in the often narrow window of opportunity between state fragility and total collapse, will generate dramatic positive outcomes for local people at a much lower cost to NATO Nations than that required to rebuild such a capability after it has completely dissolved. Early investment in capability building will reduce the costs generated by a major crisis and therefore this training and development support offers a cost-effective contribution to fulfilling Alliance crisis management tasks.

A Comprehensive Approach Enabler

Increasingly, training local forces more effectively and efficiently is a key enabler for improving local resilience to future shocks and to expediting crisis recovery. As an element of NATO’s operationalisation of the Comprehensive Approach, Training Local Forces is a crucial component. As Nations provide additional guidance, ACT is ready to support further Concept Development in this area.

Showcasing a New Concept: Unified NATO Security Force Assistance

Adopting the GOTEAM Framework is an example of how NATO is “thinking out of the box” to fill an identified gap for a common process: assisting foreign security forces.

Addressing New Issues Is a Mindset

In March 2012, ACT finalised a Security Force Assistance (SFA) Conceptual Study with the aim of comprehensively approaching a problem and proposing a solution. The study determined that existing identified requirements are a subset of a much broader NATO capability gap, necessitating a redefined NATO requirement – “to develop the capability to conduct Security Force Assistance”. The application of comparative interpretation1 helped to shift the focus from a “training-only” paradigm to a more comprehensive understanding of the problem that needs to be addressed.

Finding the Comprehensive Problem Behind the Requirement

The NATO Strategic Concept 2010 states that Allies will “develop the capability to train and develop local forces in crisis zones”.2 But conventional wisdom is focused too much on training and no other types of assistance. NATO operational experience shows that NATO forces provide more than just training to local security forces: NATO provides enabling capabilities, advice, and mentorship.

Whilst at a policy level NATO sticks to a paradigm of “Training Local Forces”,3 at doctrinal level the concept of “Security Force Assistance” has been adopted, but only as a subset of Training Local Forces. However, even if Concepts of Operations (CONOPS) have been developed to direct assistance efforts on the ground, there is no NATO overarching, comprehensive and unified framework for assisting local security forces.

Nations’ Approaches and the Development of GOTEAM

Such recognition of a NATO conceptual and capability gap triggered an analysis of related Nations’ approaches. The analysis revealed that Security Force Assistance (United States), Partnering Indigenous Forces (Britain), Security Force Capacity Building (ABCA4), and Operational Military Assistance (France) are all related to a common process of assisting foreign security forces. The result: the NATO military personnel and civilian specialists from partner countries and institutions”. In practice, NATO assistance tends to be limited only to providing military advisors, mentors and trainers. This leaves a gap at institutional/ministerial level of assistance, which is addressed by this framework.

Name It GOTEAM!

• GOTEAM leverages national approaches and matures further NATO’s understanding of Security Force Assistance. It resembles the collective foundation of the organisation!

• GOTEAM is a comprehensive framework that can be tailored to both current and future NATO tasks and provides NATO a flexible response. This is an opportunity for NATO to develop a conceptual framework tailored to its specific needs, rather than adopting one from a nation.

GOTEAM, Generate & Organise, Train, Enable, Advise and Mentor.

Building a Framework for NATO Security Force Assistance

Within the GOTEAM framework, NATO SFA has been defined as: the assistance provided by NATO, in a bi-dimensional5 comprehensive way, to generate and organize, train, enable, advise, and mentor foreign security forces and their supporting institutions.

The Framework also addresses supporting principles, lines of assistance, stages, types, the impact of human factors, and specific force employment and training methods.

Furthermore, a comprehensive NATO SFA concept should address the requirement for NATO to provide assistance in a unified civil-military way. That is directly related to another strategic requirement for NATO “to identify and train civilian specialists from member states, made available for rapid deployments by Allies for selected missions, able to work alongside our

Nations’ Approaches: Generate & Organise, Train, Enable, Advise and Mentor.

1 Evgeniy Ivanov, “The Method of Comparative Interpretation,” Not Published, 2011.


3 For details, refer to AJP-3.4.4 Allied Joint Doctrine for Counterinsurgency, Paragraphs 0577-0580.

4 The American, British, Canadian, Australian, and New Zealand (ABCA) Armies Program.

5 Bi-dimensional refers to the two dimensions of NATO comprehensive approach to SFA: the external – with partners, and the internal one – through unified organizational, NATO-internal civil-military effort.


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CWIX 2012 Addresses the Core of NATO Efficiency: Interoperability

The 2011 exercise enforced many major achievements, more is expected while planning for the 2012 annual event in Poland.

Interoperability Focussed Forum

The NATO Coalition Warrior Interoperability exploration, experimentation and examination experiment (CWIX) is a Military Committee directed, North Atlantic Council (NAC) endorsed and Consultation, Command and Control (C3) Board guided Bi Strategic Command (Bi-SC) programme designed to support the continuous improvement in interoperability for the Alliance. The CWIX programme provides an opportunity for NATO Nations, Partner Nations, Contact Nations, and NATO Agencies to prove, disprove, and improve NATO, National and Coalition Consultation, Command & Control, Communications, Intelligence, Surveillance and Reconnaissance (C4ISR) interoperability. CWIX is also a forum for interoperability testing of operational systems currently in use by NATO-led operations such as International Security Assistance Force (ISAF) and NATO Response Force (NRF).

CWIX provides a unique venue that allows systems and network engineers to come together to solve existing interoperability issues and explore and share potential solutions in anticipation of future operations and budget constraints. This forward thinking, coupled with solving existing interoperability issues, makes CWIX attractive for NATO and Nations. Major General Willemse remarked: “The benefit for Nations and NATO Agencies to test at CWIX continues to bear fruit. Not just in the successes but in the interoperability issues discovered now instead of during operations.”

In the Spirit of Smart Defence

To help with the budget constraints, NATO has developed a Smart Defence Concept. NATO Secretary General Anders Fogh Rasmussen has stated: “I know that in an age of austerity, we cannot spend more. But neither should we spend less. So the answer is to spend better and to get better value for money to help nations to preserve capabilities and to deliver new ones. This means we must prioritise, we must specialise, and we must seek multinational solutions. Taken together, this is what I call Smart Defence.”

CWIX embraces this concept by pooling and sharing of resources to achieve interoperability before deployment and collaboration on future initiatives in a multinational environment.

CWIX 2011 Outcome & Achievements

Participation from 13 NATO Nations, Partner Nations, Contact Nations and 7 NATO Commands brought 103 capability configurations to conduct interoperability testing. A few accomplishments included:

- Afghanistan Mission Network (AMN) Interoperability Testing — A successful demonstration of data exchange between two complex databases; Joint Fires Focus Area significantly improved the capability to automate the one-way exchange of target data from USA systems to NATO systems.
- Operational Testing Environment — Real time operational data was introduced into the NATO CWIX network. Live civilian convoy feeds were used to augment the scenario.
- Geospatial Interoperability Testing — Testing validated the NATO Bi-SC Recognized Environment Picture (REP) concept that could be implemented within the AMN.
- National Achievements — CWIX has the capability to meet the needs of Nations and NATO Agencies in the area of interoperability testing and individual training; an increased trend for Nations requesting hands-on training with C4ISR systems and other associated capabilities.

CWIX 2012: Outlook

CWIX is steered by the Senior Management Group (SMG) in which every participating Nation is represented by a national lead. The SMG decides on the Goals & Objectives at the beginning of each planning cycle. Several of them, in 2012 support the NATO Smart Defence concept and the Lisbon Summit objectives, the continued testing for the AMN, as well as Bi-SC Automated Information System (AIS), Collective Logistics and Medical, Air Command and Control System (ACCS), supporting the enhancement of NATO's overall Cyber Defence, Joint Intelligence, Surveillance and Reconnaisance (JISR) and exploring emerging or experimental technologies in the fields of cloud and mobile computing. CWIX is also in the process of linking the test results to the NATO Architecture Framework by mapping the results to the C3 Classification Taxonomy. This will enable CWIX to connect the “to be” NATO architecture to the real world systems and the test results and get the visibility over areas with or without developed systems.

A Success Story

CWIX continues to provide a unique interoperability testing venue with 139 capability configurations currently registered to participate in 2012; a 25% increase from 2011. A 100% increase in the number of NATO systems participating over the last two years has enabled more robust testing between national and NATO systems.

CWIX is the only event that encompasses all facets of the information system life cycle. It is conceivable that a system could start at an experimental stage and continue to conduct interoperability testing through implementation and to system upgrades or design changes.

For further information on CWIX 2012 contact cwix_info@act.nato.int

1 Major General Willemse is the Assistant Chief of Staff, C4ISR at NATO ACT.
Building Concepts Receives Enthusiasm

Exploring innovative visions through dynamic multinational conference and workshops, ACT and US Joint Staff prove imagination and effectiveness compatibility.

By Lieutenant Colonel Jose Richard, Spanish Air Force, Capability Development Engineering, Principles and Plans Branch

“Contribution to Effective and Efficient Capability Development While Providing Return on Investment” was the theme of the 11th Concept Development and Experimentation (CD&E) Conference, co-sponsored by ACT and the US Joint Staff and supported by the JALLC, which took place in Lisbon in November 2011. This annual event is the leading forum providing an opportunity for CD&E stakeholders to discuss and share information about the most current issues relevant to the CD&E community.

This time the objectives were to create an environment conducive to information sharing and relationship building while highlighting the benefits of CD&E methodologies. Furthermore, it brought international perspectives on ideas, relevant problems and challenges, and explored potential solutions to benefit ongoing projects focused on providing a return on investment.

Participation numbered 242 attendees from 29 nations, NATO, EU, UN, 3 International organisations (IO) and one Non-governmental organisation (NGO), including 11 Flag and General officers (FOGO) or civilian equivalents.

Efficiency First

In the opening remarks, the co-sponsors pointed out that CD&E was particularly relevant in this current, fiscally austere environment, and stressed how the community needed to find efficient and effective ways of doing business to produce a solid return on investment from CD&E efforts. Duplicative processes needed to be eliminated, and the community needed to determine how to better coordinate resources and synergize efforts to work together more efficiently. Brigadier General Steven Salazar, pointed out that this had been a transformational year with the disestablishment of USJFCOM, and stressed the need to link CD&E more closely with doctrine and lessons learned. Brigadier General Giovanni Fungo spoke about the history of CD&E, and its aim to evolve and improve.

Varied Contributions

Highlights of the first day included a Keynote panel with three non-US FOGOs and a panel on CD&E’s Role in Capability Development with J7 Joint Concepts to Capabilities Division Chief participation. Other sessions included CD&E Planning and Engagement, and its relationship to the NATO Defence Planning Process; CD&E Best Practices from a German Perspective and Developing Opportunities for CD&E. Sessions held on the second day included the Joint Experimentation Lifecycle led by the Deputy Director J7 Joint and Coalition Warfighting; Brining Analytical Rigor to CD&E; a presentation on the Joint Staff Directorate for Force Development; Applying Field Lessons to Capability Development and the role of CD&E; Missile Defence; and a panel on CD&E Organisations and National Programmes.

Focused Workshops

Over the following days participants broke into five different workshop sessions. Topics, objectives and highlights included:

1. Enabling the Joint and Coalition Logistics Enterprise: The stated key objective was to achieve enhanced international utility and relevance of the Joint CD&E project’s key product “Logistics Planner’s Guide for Complex Emergencies.” Outcomes determined that the guide’s framework was good but needed to address other perspectives in order to include NATO, coalition nations, IOs and NGOs; raised awareness about its existence and path to operationalise the Joint Logistics Enterprise; and gained an attendee’s commitment to participate in continued guide development.

2. Testing Potential Solutions in Training Environments: With a key objective to identify new and innovative methodologies to transition experimentation insights into training environments. Workshop participants reached a consensus that advancing the synergy between experiments and exercises is a must in an era of constrained resources; Modeling and Simulation may be a most difficult aspect between exercises and experiments to reconcile; and ensure an operational perspective is maintained throughout the experiment campaign.

3. NATO Sea Basing as a Force Multiplier: The key objective was a better understanding of the value of Sea Basing. The workshop outcome refined the Conceptual Proposal Summary and identified a stakeholder group.

4. NATO Collaborative Assessment: The stated key objective was to identify a requirement for NATO Collaborative Assessment. NATO HQ provided clarified views toward the project and identified a stakeholder group. The idea was accepted by the attending experts.

5. NATO Red Teaming Capability Development: The workshop objective was to review and comment on key components of NATO’s proposed conceptual framework for Alternative Analysis. The outcome validated the need and value for the capability but a different name was required. The information exchange and professional interaction was deemed deeply instructive stemming mainly from enthusiastic contributions to the innovative workshops. It promises enhanced interest in future CD&E issues at the next conference.

Vigorous Conclusions

Fungo, in his closing remarks reflected on how CD&E had progressed during the last 10 years. He challenged the audience to think about how it could be improved in all regards, being more effective and efficient. He firmly believed that NATO needed a fast track approach to capability development, and that CD&E had been touted as the solution. It was his intention to reinvigorate CD&E and give it some much needed innovation and creativity, as the keys to success for delivery of NATO capabilities. Also, implementing Smart Defence will require use of NATO’s CD&E methodology.

1 JALLC is the NATO ACT Joint Analysis Lessons Learned Centre, installed in Lisbon
2 Brigadier General Steven Salazar is Assistant Deputy Director for Joint Development US Joint Staff J7
3 Brigadier General Giovanni Fungo is ACT Assistant Chief of Staff for Capability Engineering
4 Presentations and Report are on the NATO CD&E portal (http://cde.act.nato.int). Register here: http://id.act.nato.int/arf/cde/
The Need for a Holistic Vision

What can you do to adapt to the increasing complexity of information and have an effect on the powerful demand of change?

The Flood of Transformation

Organisational systems, as well as normal life routines, are becoming increasingly complicated due to the involvement of more sophisticated information and communication technologies. The powerful demand of change, like a violent flood of water, has dictated transformation. In the context of increasing complexity in our social life, which is incorporated with many challenges, what kind of leadership style should be adopted to catch up with the pace of change and dynamism of transformation, in an organisation regarding ‘leadership’-requirements for organisational management?

Promoting diversity and encouraging different ideas should be the requisites of an environment that supports both training of “transformative” leaders and transformation of the organisation. To generate new ideas and projects, everybody should have a chance to travel freely on different trajectories without any structural or hierarchical pressure, within the limits of professional ethics.

In this 21st century era of globalism, there remains an ongoing challenge within organisations and individuals, to access up-to-date information and common knowledge worldwide. The existing ‘equilibrium’ is too delicate to be handled appropriately. The managerial requirements for organisational systems are becoming more important every day due to the increased dynamic nature of interactions and interconnectedness within system entities and functions, while the amount of resources, revenues, incomes, etc. is attenuating in contrast.

Transformative Leadership and Divergent Thinking

There is no doubt that today’s leaders are burdened with an additional responsibility of dealing with the challenges of such a complex environment. The impacts of increased interactions and interconnectedness among the system entities and functions, improving technology, changing environmental conditions, increasing situational awareness as well as social, cultural and economic transformations, have imposed great challenges for leaders and managers. So, unless one has an effects-based and realistic vision, achieving transformation in an organisation should be challenging.

Due to emergent requirements, people who lead in any organisation need to be active and cautious to perceive and interpret what is going on. They require the capability and authority to initiate and supervise all preventive actions or measures in advance for the organisation to succeed. In this regard, “Transformative Leadership” should be promoted through many different leadership styles to manage the challenges that exist in the complex organisational systems. Promoting diversity and encouraging different ideas should be the requisites of an environment that supports both training of “transformative” leaders and transformation of the organisation. To generate new ideas and projects, everybody should have a chance to travel freely on different trajectories without any structural or hierarchical pressure, within the limits of professional ethics.

The Need for a Holistic Vision

“Divergent Thinking” is thought of as a gifted virtue fostering innovative ideas, when it is actually a methodology through which new correlations are established between new terms, objects or functions. It accelerates the tempo of the organisation, motivates personnel performance and intrigues entrepreneurs for new opportunities.

Innovative initiatives and dynamism of divergent thinking would be invaluable for current and future leaders to shape and tune-up a changing environment. To that end, the leader of organisational transformation should possess a holistic vision, evolved through Systemic Thinking or Systems, while maintaining the potential to motivate individuals and teams.

Considering the fact that everyone has the potential to possess this type of thinking, the exploration of Divergent Thinking is encouraged.

11 Steps for Transformative Leaders to Think Different

1. Invest in your personal strengths, not shortcomings.
2. Establish an adaptable learning environment with a mild climate.
3. Coach people with empathy.
4. Think big.
5. Periodically reset the ambience of the living environment in a different way.
6. Be skeptic, question everything and keep the will to ‘think different’ as much as you can within the limits of time, energy and resources.
7. Make ‘Reverse Planning’ and develop ‘Effects-Based’ courses of action.
8. Utilise simple things to make you feel optimistic and positive.
9. Never underestimate the power of imagination. To boost the momentum of the system you are dealing with, try to imagine putting different things, objects, entities, functions, etc. together in a different way to generate new compositions.
10. Let evolutionary change happen in the system.
11. Above all, adopt systemic thinking.
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