Communicator

CWIX2013
leverages cloud computing

NCI
AGENCY

Connecting Forces Initiative: JWC • The Hills of Verona • Agency battle rhythm put to the test

NIAS IACD 2013

SYMPOSIUM & EXPO

NIAS 2013 NATO's Premier Information Assurance and Cyber Defence Symposium

SECURING C4ISR IN THE NATO CLOUD

NIAS 2013 Theme

Securing C4ISR in the NATO Cloud
This year the NATO IA Symposium will focus on the threats and security issues that NATO will face in the era of cloud computing.

NATO is modernizing its IT-Infrastructure through consolidation, virtualization and cloud computing. It is hard to ignore the benefits of cloud technology to NATO: cost reduction, flexibility, new ways of working, enhanced storage and mobile access to data. However, cloud technology brings new security issues that need to be understood and managed.

Data consolidation and the move towards cloud services require new thinking for our security personnel and development of new security services and solutions.

NIAS 2013 Highlights

About the NCI Agency
The challenge of change.

Keynote speakers
Leading visionaries from NATO and Industry.

IA and CD workshops
Detailed discussions on numerous IA and CD topics.

Vendor expo
Industry leaders in IA & CD
solutions and services.

Industry Opportunities in NATO's C4ISR Day
Friday 20 September – Industry Only

Location
NCI Agency, SHAPE
Mons, Belgium

DATE
Tuesday 17/09/13 -
Thursday 19/09/13

Time
09:00 am - 4:30 pm

NCI AGENCY
a NATO Communications and Information Agency Event

April June 2013

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Passing on the benefits of reform

Dear colleagues,

Happy Birthday! *This edition of our Team magazine was not designed as a special or anniversary edition. But since it does come out on our first birthday, it offers an opportunity to look back on a very eventful first 12 months.*

What am I proud of, what do I believe is going well? Just like on day 1, I remain deeply inspired by your dedication, hard work and commitment to our customers and mission. From supporting those who are helping Afghanistan to take charge of its own security, or the Secretary General and Delegations at NATO HQ, or those that protect our populations against cyber and missile attacks - our services are at the heart of a 21st century, connecting NATO.

When NATO Heads of State and Government called for the Agency reform, the potential benefits were clear. What was daunting was the challenge of making a fundamental change while continuing to deliver our critical services, particularly in support of operations.

Building trust

So on our first birthday, I am proud that we have not just succeeded in keeping services going, but that we have been able, in only a few months, to pass on the first benefits of reform to our customers.

Take "Active Fence", NATO's support to Turkey, which is covered in a feature story in this edition. We designed and deployed a new solution to meet specific operational requirements in three weeks, over Christmas. We were able to do that because teams that prepared the solution and then deployed it worked seamlessly together, under one roof. It would have been much more difficult if we were still five separate Agencies.

Similarly, as NATO defines the way forward for "Resolute Support" - the Alliance's new mission in Afghanistan - the Commanders on the ground just have one Agency to talk to about their changing CIS requirements, from concept to operation and maintenance. That makes their planning task much simpler, at least on the CIS side.

What is in it for them?

This is something that I hope to see more and more of: clear examples of the benefits of reform for our customers.

This is important because we cannot be naive about the fact that the next months will bring significant challenges. As I have said from the outset, the main difficulty of our reform is not our ability to execute it, but the fact that our stakeholders and customers must change and adapt as well, including to full Customer Funding.

At every opportunity, we should communicate and work with them to explain what is in it for them. We are not changing for ourselves. We are changing in order to better support our customers in achieving NATO success. The fact that we are 'inside the fence' and committed first and foremost to the Alliance's goals is a key aspect of our value proposition.

I am also happy that we have been able to take forward quick wins based on suggestion from staff and senior managers. Change is not easy in NATO and requires both time and 'spend to save' investments (these investments in turn require more time, in order to secure them). This is why, were possible, we should do what we can to generate momentum, try new approaches, build savings. These will not replace the need for significant external resourcing for major projects, but they have built credibility with the Nations as we seek the resources required to achieve the ambition of reform.

My approach is simple – demonstrate how we will deliver better value to our customers as reform progress, and continue to make this Agency the most attractive place to work for the best and the brightest. As the benefits of reform become clearer, both externally and internally, we will be able to push forward more rapidly.

- Koen Gijsbers

Connected Forces Initiative
Part II: NATO Joint Warfare Centre, Stavanger

Joint Warfare Centre

The Joint Warfare Centre (JWC) was established on 23 October 2003 at Jåttå, Stavanger, Norway and aligned as a subordinate command of Headquarters, Supreme Allied Commander Transformation (HQ SACT), Norfolk, Virginia, United States.

JWC has a staff of 250, who provide NATO's training focal point for the full spectrum of joint operational level warfare.

For that purpose, JWC conducts two major ISAF exercises, two ISAF-related Individual Augmentee Pre-Deployment Training (IAPDT) exercises, and two major NATO Response Force (NRF) STEADFAST/TRIDENT series exercises per year.

JWC Mission:
JWC provides operational level joint training in support of ongoing operations;
JWC conducts and supports collective training of joint and combined staffs of the NATO Command Structure and NATO Force Structure for Major Joint Operations and Small Joint Operations, integrating NATO Members' national capacities, regional security organizations' initiatives and Partnership for Peace;
JWC provides key leader training capability;
JWC supports adherence to joint operational warfare doctrine and standards;
JWC assists the developmental and experimental work of Allied Command Transformation (ACT) on new concepts, technologies, modeling and simulation;
JWC performs joint analysis, collects lessons learned and feeds them back into the transformational network through the Joint Analysis and Lessons Learned Centre (JALLC).

Over the years, JWC has become an essential force for transformation throughout NATO and accumulated a history of unique achievements as the Alliance's premier operational level training establishment. During this ten-year period, JWC has trained more than 30,000 personnel for the full spectrum of joint operational warfare; either it prepared deploying units for their missions in Afghanistan or trained key staffs to serve within the NRF. JWC's operational-level collective training has constantly evolved and progressed due to new threats, redefined missions and lessons learned.

In recent years, JWC partnered with U.S. Joint and Coalition Warfighting to conduct highly complex, four-tier, multinational ISAF pre-deployment training events. It witnessed the immediate relevance of its training efforts in real-world operations when the training it provided in December 2010 significantly contributed to the success of NATO's Operation UNIFIED PROTECTOR in Libya, which started in February 2011.

Connected Forces Initiative

State-of-the-art military training centre
Always adaptive, JWC has integrated new capacities into the exercises and delivered NATO's new Skolkan scenario, a fictitious NATO-led Crisis Operation setting complete with cyber, space and missile defence challenges. With its new training facility in Jåttå, operational since 2012, hosting one of NATO's most advanced Information Technology platforms and providing a training capacity of 650, JWC today stands out as one of the world's most state-of-the-art military training centres.

Clearly, mastering this new technology represents the highest risk item that must be managed by the local NCI Agency Squadron Stavanger (NCST). The ambitious and dedicated Squadron's

Recently, JWC hosted the semi-annual meeting of ACT's initiative for Technology for Information, Decision and Execution Superiority (TIDE), the so-called TIDE Sprint. During this sandbox event, approximately 140 briefing sessions and workshops were conducted on eight tracks making extensively use of the JWC's 600-seat auditorium and its numerous conference facilities.

NATO's gateway to Norway
Serving as the NATO's gateway to Norway, the NCST area of responsibility also comprises a bulk of NATO and national services terminating at, or passing through, NATO's point of presence at Jåttå, in support of locations spread across the whole country.

technicians and engineers bring a variety of useful skills and experience to the table from industry, science and military.

From the purpose-built CIS Operations room, four major and three small networks are managed and controlled. The major networks, which have the capability to expand significantly, include two exercise networks, currently dedicated to NRF and ISAF related exercises respectively. The flexible concept, with an IT platform being virtualized down to the desktop, would allow to meet other NATO entities' demand for server and desktop provision, including a significant number of Functional Services, i.e. military function-specific applications, databases, and secure interfaces to external systems. In the future, the NCST will be able to provide a range of scalable cloud computing services as part of its service model, thereby releasing its customers from the burden of funding and managing the underlying infrastructure and software.

JWC is furthermore capable of accommodating conferences and events or concept development and experimentation/inter-operability projects of a larger scale thanks to its capability to rapidly supply (i.e. surge in) additional personnel, hardware or software and other infrastructure on a case-by-case basis.

The permanently evolving requirements of JWC and NCST staff striving to fulfil these to the best of its ability have led to a development programme aiming to look at how NCST can improve its service provision activities and cope with its challenges by utilizing its existing virtual infrastructure in a more efficient and secure way. The need to support JWC events at several locations evokes a project that has the ambition to increase CIS services for both deployed Exercise Control personnel as well as for Training Audiences, using both static and deployed communications infrastructure.

NCST recently participated in exercise Steadfast Cobalt 2013, which was designed to assess and validate deployable Communications and Information Systems in support of the NRF. Making use of the experience gained from last year's edition of the Coalition Warrior Interoperability eXploration, eXperimentation, eXamination, eXercise (CWIX), the NCST team, supported by the NATO CIS Group and two companies, i.e. VMware and Riverbed, provided evidence that the usage of Virtual Desktop Infrastructure (VDI) via satellite communications may offer a robust and efficient solution to support deployed staff with mission-tailored virtual desktops hosted in a remote data centre.

The advanced technology used showed that typical problems due to high latency or temporary disruptions of connections could be overcome and data could be compressed to a fraction of their original size, thus leading to an optimized usage of limited bandwidth. This will most certainly contribute to alleviating the provision of timely, reliable, interoperable and secure communications for the activities of Joint Forces in theatre.

Another promising effort undertaken by the NCST and scheduled to be tested at the CWIX 2013 is the creation of a self-service portal where authorized users can download inter alia NATO proprietary applications, following the concept of an App Store able to supply multiple NATO entities. The NCST has been quite successful in virtualizing applications both on the server and the client side. This would perfectly tie into the Future Mission Network Training concept, which recommends making NATO tools available to all NATO nations for the purpose of exercises, training and operations in order to improve national staff's familiarization with those tools.

JWC Deployable Kit
In order to host ISAF and NRF related exercises external from JWC, a requirement came up to design, build and implement a virtualized IT infrastructure that can be rapidly deployed, thereby enabling full-blown exercises to be held at distant locations. Thus, the concept of the JWC Deployable Kit was born.

In essence, the deployable kit comprises a number of physical servers hosting VMware ESXi 5.0, a HP MSA storage solution, a separate back-up server along with Cisco and Brocade switches.

These are all configured together in three ruggedized containers that can be transported easily by air, sea or land to the desired exercise location. The kit can be used in one of two scenarios, either as a stand-alone capability or with the option of having a rear link connected back to JWC, thus providing more bespoke Functional Services to the end user and customer. The deployable kit had its baptism of fire during the ISAF Training Event 12/02, held at Grafenwöhr, Germany. It proved to be an extremely valuable asset and a great capability for JWC, whilst providing over a thousand ISAF exercise participants with very high-end IS Services. Due to its successful deployment, the kit is currently been configured and prepped again, ready for use during ISAF TE 13/02.

These and other projects aim to assist JWC in its efforts to continuously lead the way for operationalizing transformation within NATO and are part of the NCST's aim to provide an outstanding contribution to JWC, a busy facility that is actively engaged in a key mission for NATO: providing high-quality, professional training to personnel set to deploy on major NATO operations. This, of course, requires NCST to adapt at all times, both technically and organizationally.

Commenting on these challenges, LTC Atle Kjosnes, Commander NCST, said: "*Acting at the forefront of technology, and in light of our customer's rapidly changing requirements, we are in need of a more flexible approach in aligning our organizational structure to our customer's needs and hence utilize our staff at an optimum. Paired with attractive jobs being offered in the vicinity of Stavanger as well as in other parts of NATO puts extra pressure on the management chain to retain our high calibre staff, and the permanent challenge to get military billets filled adds to this task. Thus, it is paramount to keep staff members motivated by shortening the period of the NCI Agency Transition to the maximum extent possible and make their future as predictable as possible.*"

- Uwe Sprenger, Head IS Services,
NCI Agency Squadron Stavanger

Capability in the spotlight:

Test, Train, Trust. CFBLNet !

After 2014, NATO is expected to shift its emphasis from operational engagement to operational preparedness. The NATO Connected Forces Initiative aims to find new ways to cooperate more closely towards modern, tightly connected forces that are equipped and trained, so that they can operate together and with partners in any environment. The NCI Agency in its role as a multinational executive coordination agent for the Alliance supports many capabilities that underpin this initiative. Fundamental to linking NATO and nations in training, testing and exercises is the Combined Federated Battle Labs Network (CFBLNet) hosted and supported by the NCI Agency.

In connecting NATO, nations and customers, CFBLNet supports the network infrastructure for a majority of NCI Agency capabilities. Since its inception in 2001 it has linked coalition members to each other for C4ISR research, development, trials, assessments, exercises, testing and training. Catered to meet the challenges that nations face when having to maintain multiple potentially overlapping bilateral and multinational collaboration infrastructures, CFBLNet has recognized that trust is a key enabler for any joint endeavour. Since a coaltion cannot function without trust, likewise technology cannot meet the mission without being interoperable. Besides a focus on training, CFBLNet supports initiatives to improve coalition information exchange capabilities, explore and experiment with emerging capabilities or to examine and resolve deficiencies in existing applications, systems or equipment.

A global cloud
Operated as a true federation no single nation owns CFBLNet and thefore each member (nation) is responsible for providing and operating its own sites and systems. Currently, CFBLNet connects 268 global locations in 14 countries, with a robust and security cross-certified and accredited network, and with a charter that supports access by 33 countries. Composed of core mission partners and a growing number of guest mission partners, CFBLNet currently includes a total of 34 mission partners spread around the globe. These mission partners are: all 28 NATO Nations and Austria, Australia, Finland, New Zealand, Sweden and the NATO organizations. Determined to remain the coalition's infrastructure of choice, CFBLNet has undergone rapid expansion in recent years.

Building on the successful support to the Coalition Test and Evaluation Environment (CTE2) supporting Coalition Interoperability Assurance and Validation (CIAV), the federation has provided the secure communities for various initiatives, including the Afghanistan Mission Network (AMN) training, NATO –Active Layered Theatre Ballistic Missile Defence distributed Integrated Test Bed, Joint Intelligence Surveillance and Reconnaissance Initiatives and many more, added to the list in 2013.

Testing and Training in 2013 and beyond
Any capability needs strong technical support and leadership. As the NATO operational authority for CFBLNet, the NCI Agency provides the European and NATO CFBLNet Network Operation Centre (NOC) and NATO Point of Presence (PoP). The NCI Agency is therefore a cost effective central network hub for nations and NATO organizations. Furthermore, the Agency's General Manager Mr Koen Gijsbers is the NATO Senior Steering Group representative for CFBLNet through endorsement of the NATO Secretary General. In this respect, the NCI Agency hosted the CFBLNet Annual Management Meeting in The Hague (NLD) from 17 to 20 April 2013, which was a gathering of the members of the federation who discussed priorities and the way forward to remain the coalition's infrastructure of choice.

The first half of 2013 has been eventful for CFBLNet, in support of a plethora of events that NATO and Nations engaged in. In May 2013, CFBLNet was the core network for tactical data link (TDL) traffic at EAMDEX 13-1, the second in a series of Integrated Air and Missile Defence (IAMD) Exercises led by USEUCOM and the first to take advantage of CFBLNet. With a simulation scenario involving multiple simultaneous ballistic missile threats, the

exercise successfully met joint USA and NATO goals to use the CFBLNet to support training in Ramstein without interfering with the current operational mission in Turkey. The leave-behind CFBLNet installation will support many future NATO and member-nations Integrated Air and Missile Defence (IAMD) exercises.

From 28 May to 6 June, the NCI Agency contributed to Joint Project Optic Windmill/ Joint Project Optic Alliance 13 (JPOW), the largest exercise in Europe devoted to air and missile defence. The joint and combined Integrated Air and Missile Defence exercise was conducted by the Royal Netherlands Air Force, in close cooperation with Allies and Partners. This exercise was run over CFBLNet providing a test and evaluation network, which now allows the Air Command to participate in exercise and training events without any interference to its operational mission. The JPOW exercise allowed operators to use this enhanced capability in a simulated but realistic environment that will pave the way for them to be fielded to support operations shortly after.

In June 2013, the capability was at the heart of the Coalition Warrior Interoperability eXploration, eXperimentation and eXamination eXercise (CWIX). Mr Syvert Maesel, (NCI Agency CWIX lead coordinator, deputy Project Manager CFBLNet): *"CWIX this year was a more distributed exercise than ever before. Multiple sites from all over the world could particpate simultaneously thanks to CFBLNet used as the backbone for the testing."*

Future Mission Network
Building on the success of the AMN, NATO looks at working towards building the Future Mission Network (FMN). The FMN will leverage the interoperability gains achieved with the AMN for future operations, and will be a key enabler for the Connected Forces Initiative. The FMN Concept is also to set a vision for the long term evolution of mission networks. According to Chairman of the CFBLNet Executive Group, Mr Steve Pitcher during the 2013 Annual Management Meeting: *"CFBLNet's federated infrastructure is uniquely postured to support the requirements for the Future Mission Network. This is evidenced in the fact that despite the austere global financial climate, CFBLNet is experiencing increased demand to validate the interoperability of NATO, CCEB (Combined Communications Electronics Board), and US capabilities."*

For the AMN, CFBLNet was selected as it mimics the operational federated infrastructure of the network and is able to create the required community within a short time frame due to its network range within the participating nations and NATO. Through this application issues were resolved without affecting ongoing operations.

"Because of CFBLNet's 10+ years' experience federating networks and working with customer requirements, CFBLNet's network and security engineers have an opportunity to assist multiple CFBLNet customers plan to benefit from the online availability of the other initiatives' capabilities. This in order to broaden the results of their interopera-bility assessments, and significantly increase both the operational and resource return on their investments. This synchronization of efforts is essential to ensuring the myriad of coalition nation's C2, ISR, logistics and other capabilities are interoperable and available to support operations on day one," said Mr Pitcher, Chairman of the Executive Group.

Smart Defence
The significant cost reduction CFBLNet offers to each of the national participants through the mechanism of one capability being re-used by many partners, is regarded a valuable feather in CFBLNet's cap. Dr Pascal Trouvé, CFBLNet Executive Group Representative for NATO and NATO Nations, and sponsored guest nations indicated during the Annual Management Meeting: *"CFBLNet is a renewed culture of cooperation that encourages Allies to cooperate in developing, acquiring and maintaining military capabilities to undertake the Alliance's essential core tasks agreed in the new NATO strategic concept. That means pooling and sharing capabilities, setting priorities and coordinating efforts better. Therefore it is not only supporting the Connected Forces Initiatives, but it is also fully in line with the Smart Defence approach."*

Mr Edgar Harmsen, NATO CFBLNet Lead Representative, Project Manager European and NATO CFBLNet NOC&PoP - Cyber Defence and Assured Information Sharing Capability Area Team adds: *"The more nations participate, the more the service costs are spread, essentially lowering the cost for nations. Avoiding duplication, rethinking existing dedicated solutions and enabling nations and NATO to trial, test, exercise and train in a common assured manner between members is true Smart Defence."*

For more information visit: http://cfblnet.info or contact the NATO CFBLNet lead representative Mr Edgar Harmsen

NATO-wide Executive Development Programme

The NATO-wide Executive Development Programme (NEDP) has been received with great interest throughout NATO. It has been highly encouraging to see so many top-quality candidates expressing interest in this prestigious programme. For the NCI Agency, a total of 49 applications were received and reviewed by the Executive Management Board on 8 March. 12 nominees were short-listed and their applications were sent to the NATO-wide Selection Board. This Board received a total of 34 short-listed nominees from 11 NATO bodies. The NATO-wide Selection Board met on 2 May to review the nominations and the NCI Agency was represented by Chief of Staff, Major General Luis Andrey. The NCI Agency has been awarded 8 places out of the 24 available places in the Programme.

The nominees who have been selected to take part in the 2013-2014 programme are:

Mr Jean-Francois Agneessens - Computer Security Engineer

Jean-François Agneessens is a Computer Security Engineer working for the NATO Computer Incident Response Capability – Technical Centre (NCIRC TC), part of the NCI Agency. He joined NATO in 2007, after a short career in the Belgian Army heading a cell designing and implementing national extensions to classified networks. He is currently deputizing for the Data and Application Management Cell Head, with responsibility for managing cyber security tools and the accuracy of data associated with these. During his ten years working in the CIS Security field, Jean-François has focused on data collection, correlation and visualization, steering several initiatives to help his current customers, the Security Analysts and Incident Handling Officers, to better understand the surrounding context of security incidents. Jean-François has obtained several professional certifications in the field of Information Assurance and recently published a paper covering the attack vectors of the Unified Extensible Firmware Interface (UEFI). He holds a Master of Science in Telecommunication Engineering from the Belgian Royal Military Academy.

Ms Ida Conti - Infrastructure - Health and Safety Engineer

Ms Ida Conti took up the post of Infrastructure/Health and Safety Engineer for the NATO Communications and Information School (NCISS) on 1st July 2010.

Prior to this she was the Automation and Manufacturing Manager in Janssen-Cilag, a Johnson & Johnson company, in Italy. The team lead by Ms Conti, using the Six Sigma approach, lead to two main Plant awards: J&J World Wide Most Valuable Transformation Impacts Project (Award in 2006 – Project "IPC-MD") and J&J World Wide Most Innovative Project (Award in 2009- Project "Automation Layer"). She worked at J&J from 2002 to 2010.

Ms Conti holds a bachelor of engineering degree from "la Sapienza" in Rome and she is part of the Italian Senior Engineers Association since 2002.

She is married with Giorgio Michele Anastasia and they have a daughter, Alessia.

Ms Maïcha Cornerotte - Payroll and Benefits Manager

Ms Maïcha Cornerotte is currently leading the team responsible for Payroll & Benefits, Leave, Contract Management, Privileges & Immunities and Removals administration. She moved to The Hague where she was appointed as Payroll and Benefits Manager with the Agency (then NATO Consultation, Command and Control Agency) in June 2009.

She started her carrier in Human Resources in 2003 as Associate Analyst, Compensation & Benefits with MasterCard Worldwide. She then worked for The Bank of New York Mellon as Payroll Specialist before joining the NGO International Crisis Group in April 2007 where she was in charge of the Payroll and Benefits Administration for local and expatriate staff worldwide.

She holds a Master's degree in Applied Social Communication, Public Relations from IHECS, Brussels and studied Human Resources Management at ISC-Saint Louis, Brussels.
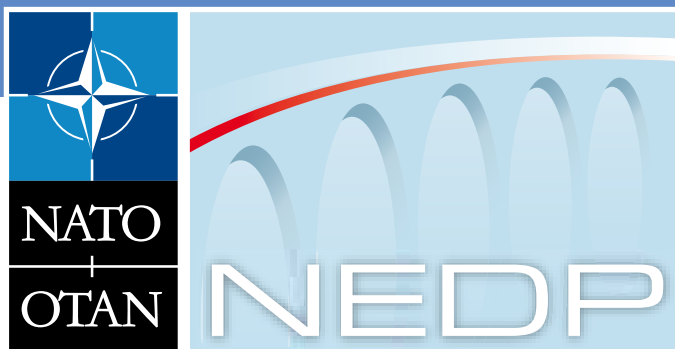
Mr Xavier Desfougères - Principal Account Manager for the Demand Management Account Nations

Mr Desfougères was appointed Principal Account Manager for the NATO Communications and Information (NCI) Agency on 1st July 2012. He is responsible for all bilateral cooperation with NATO and partner nations as well as multinational Corps.

Previously, since 2011 he served as Principal Business Manager for the NATO Consultation, Command and Control Agency. He was assigned to NC3A as a French Major in 2004, and then joined in 2007 as a civilian. He worked as a Project Manager, mainly on the Land Command and Control Information Services project, until implementation of the first increment in the NATO Command Structure in Europe. In 1999, Mr Desfougères joined the International Business Department of the C4ISR branch of the DGA (SPOTI), where he represented the DGA in NATO as the C3 Interoperability Coordinator and led the French participation in the JWID (Joint Warrior Interoperability Demonstration) exercise. After two years of success in the French participation at JWID, he was nominated for EXAC C3R (Experimentation for the Acquisition of C3 capabilities). After graduating in 1994 from the ENSIETA, a French Military Engineering School, he worked in Paris in the CIS Rapid Prototyping Centre of the French Procurement Agency (DGA), attracted by the challenge of integrating new Information Technologies in the operational processes.

Mr Groves Alexander - COMSEC Implementation Engineer

Alexander Groves is a COMSEC Implementation engineer involved in the project planning, installation and upgrading of NATO networks. He project managed the introduction of the latest encryption devices across the KFOR Mission Secret network and travelled extensively throughout Afghanistan carrying out urgent modifications to the Afghanistan Mission Network. His main role is supporting NATO's Mission Dedicated Systems, but currently he is also involved with aiding the Norwegian Defence Logistics Organisation (NDLO) with its encryption device modification program for its NATO dedicated Radar sites.

He served with the British Army from 1983 to 2005. His varied career included being involved in the upgrade of the Falkland Islands digital trunk networks in 1988 and then from 1989 to 1992 serving as the technical representative for the Allied Staff Berlin inter-sector telecommunications networks between the then British, American and French sectors in West Berlin. He later, during 1998 to 1999, became the technical engineer for the armoured electronic warfare (EW) component of the British Army during the introduction of the first modern digital EW assets. In 1999 he arrived at SHAPE joining ACE COMSEC, which is now the NATO Information Assurance Technical Centre (NIATC) and has continued to work for NATO in the same organisation ever since, in both a military and a civilian capacity.

Mr Ioannis Lazarou - ACCS Replication Site Manager, Air C2/Programme Implementation Branch

Mr Ioannis Lazarou is a retired career officer of the Hellenic Air Force (HAF). From 2012 till now he has been working in the NCI Agency/AirC2 as the ACCS Replication Site Manager. In 2007, he joined the NATO Office of Resources as an expert on AirC2 and Missile Defence. From 2000 to 2006 he worked exclusively on NATO common-funded infrastructure issues, representing Greece in various NSIP and AirC2 Working Groups and Committees. From 1983 to 2000 he served in many technical posts related to fighter aircrafts and air defence systems. He entered the HAF Academy in 1979 and graduated in 1983.

He has a Master's Degree in Digital Computer Engineering. He is married with one daughter.

Mr Bart Saliën - Principal Finance Administrator

Mr Bart Saliën assumed the role of leading the Accounting & Operations Branch under the Financial Controller in July 2012. Before, since the end of 2008, he worked as the Head of the Financial Unit in NATO C3 Agency in Brussels.

He moved to NATO C3 Agency in The Hague in 2000 as Budget and Customer Officer where he contributed in the start-up and development of the Customer Funding Regime at NC3A. In the following years he expanded his knowledge and took up Treasury, Fiscal and Accounting functions. He graduated in Accountancy and Tax Systems in 1991 and started working with the Ministry of Finance where he continued his education at the Ecole Nationale pour les Finances et la Fiscalité and performed tax audits for a number of years. In 1997 he started working for NATO in Versailles, France, at the Central European Pipeline Management Agency.

Mr Çağatay Soyer - Principal Scientist at NCI Agency Service Supply Capability Area Team for Intelligence, Surveillance and Reconnaissance

Mr Çağatay Soyer joined the Agency (then NC3A) in 2003 and since then he has been working on projects supporting NATO Airborne Early Warning and Control Force, Allied Command Transformation, Alliance Ground Surveillance Program, national ISR programs and urgent operational requirements for ISAF.

Prior to this, he was conducting multi-disciplinary research on mobile robots and robot vision systems. At the same time he worked in industry as an engineer and entrepreneur on a wide range of topics including automation systems, embedded systems design and virtual reality applications.

This prestigious nine month programme will start in September 2013. The nominees will undertake a series of residential and distance learning courses in order to enhance their knowledge of NATO, its identity and core values, as well as give an insight into a rapidly changing world.

The NEDP academic element will provide a learning opportunity and continuity between residential modules. The involvement of external academics will enable participants to understand their management abilities, personal styles, strengths and, importantly to recognise areas for self-improvement.

As a key learning experience throughout the programme, these motivated and successful individuals will choose and work on a project that is of current interest and importance to the Agency. We may, therefore be approached by group members in search of project ideas. I would highly recommend that we take advantage of this talented resource.

The next call for applications for the NATO-wide Executive Development Programme will be in February 2014.

Christophe Picot
Head of Human Resources

Ever heard the story about "Quick Wins"?

It was in Autumn 2012 when it was realized by Service Delivery colleagues that some of the intended transition goals of our agency were delayed due to the ongoing operational, political or financial challenges we were experiencing. The daily pressure of providing support to theatre operations, building-up new capabilities such as Active Fence or Sector ISAF, participating in the transition activities of our agency and the same time keeping current services up and running demanded solutions. The Service Delivery team asked themselves the question how can we help with our experience and skills to achieve potential savings and improvements, and at the same time prepare the ground for the future TIPs or other initiatives such as the IT Modernization. The idea of Quick Wins was born.

Managers were tasked to submit their ideas and in response to this rolled-up their sleeves and provided their assessments on what levels of rationalization, standardization, consolidation or centralization could be achieved by their proposed quick-win initiatives. One of the key lessons learnt was that in many areas the SMEs have the knowledge and skills to achieve optimization goals in line with state-of-the-art technology and processes matching industry standards and best practices. Often they just lacked the manpower, funding or sometimes decisions to move forward since too many activities were concurrently happening thus locking up the available resources.

The basic principles guiding quick-wins are clearly identified aims that must be completed within available in-house Service Delivery resources and technologies. In addition, it is essential that quick-wins are completed within a maximum of 12 months and must have measurable performance and savings criteria enabling their monitoring over time. Also they must aim to assist in preparing the ground for future initiatives such as TIPs and projects and be fully in line with the goals of our General Manger and his senior executives. In order for quick-wins to succeed it is necessary to create a climate of open minds enabling pragmatic and proactive approaches. It must also be kept in mind that any quick-win must be seen as an enabler for the future NCI Agency. To conclude, in simple terms all of the quick-win initiatives are intended to achieve more with less and in a timely manner. Quick-wins are also a positive sign to the outside world that the transition of NCI Agency has started to deliver positive benefits.

Currently, Service Delivery identified the first wave of three quick win initiatives to demonstrate our agency's capability to provide more efficient, effective and coherent solutions.

They are:
- Quick Win Initiative No.1: Central Email Account Management the Microsoft (MS) Exchange Mail-Server infrastructure on NS WAN will be upgraded, as a minimum, to version MS Exchange 2007 and by using the enhanced bandwidth availability resulting, as a first step, in the retirement of up to 70 MS Exchange servers on the NS network. All MS Exchange servers will be managed centrally from Mons thus releasing manpower from the Sectors.
- Quick Win Initiative No. 2: Central NATO-wide VTC Management with the help of the ongoing NSIP project the current VTC capabilities will be upgraded enabling centrally managed seamless VTC services for the 1st time. This will be achieved by implementing the latest VTC hardware & software including a self-service booking service package. The new capability will be centrally managed through the primary VTC NOC in Mons. This approach will improve VTC service quality and also result in manpower resource savings.
- Quick Win Initiative No. 3: Central Service Desk -- existing local service desk instances including their toolsets, processes and manning will be merged to achieve a single centralized service desk providing for the first time 24/7 NATO-wide service desk coverage. This will be achieved by toolset standardization and centralization and by the optimization of our processes, initially focusing on incident management as the kick-off for the migration to BMC ITSM as mandated by our CTO. This will provide manpower optimization and savings.

All 3 Quick Win initiatives attempt to shift workload to the center of the Agency's Service Delivery lines with actual 24/7 NATO wide services and optimized processes. The PE-positions at some point are envisioned to follow the workload. Therefore approximately 117 PE Posts will be relocated to Mons and Brunssum. Around 100 PE positions are expected to be deleted. Converting this released manpower into financial terms it could lead into possible savings as much as 15 million € with the added benefits of more effective and efficient use of organic resources. So far the three stated quick wins are on track. Service Delivery is currently looking into other opportunities and synergies that may produce further quick wins such as the Consolidated OPS/NETOPS/Cyber Defense Centre or the CORE GIS database consolidation. We all have the ability to contribute to possible quick wins. We must be proactive and innovative in order to shape the future of our NCI Agency.

- Michael Loat, Detlef Janezic

The Afghanistan Mission Network Operations Centre

Part 1

When the ISAF Joint Command Headquarters moved to the Kabul Afghanistan International Airport North (KAIA (N)) location from HQ ISAF in 2009 the NATO Communications Operations Centre moved with it. The Operations Centre initially provided the C4ISR operational Level 1 – 3 management for all the NATO deployed C4ISR capabilities and reached back to Mons and Industry for additional Level 3 and 4 support. With the stand-up of the new headquarters a server room was designed and built into what were effectively the old gymnasium changing rooms to provide C4ISR capability to the new HQ.

In 2010, the Afghanistan Mission Network (AMN) came into being and the network operations centre transformed into the Afghanistan Mission Network Operations Centre (AMNOC) providing not only the C4ISR operational management of all the NATO C4ISR, but now acting as the focal point for all the nations connected into the AMN across the NATO provided AMN Backbone infrastructure. AMN Liaison officers were then housed in the AMNOC to provide a focal point for their nations and enable expedient fault rectification. The already crowded operations centre was by then bursting at the seams and not a sustainable working environment. CUR 319 was devised to provide a hardened AMNOC and Data Centre to meet the current and future requirements for the ISAF mission in Afghanistan.

The AMNOC from Above

The AMNOC was designed to be a mission essential 24/7/365 capability providing the System Management and Single Enterprise Service Management of all the NATO C4ISR capabilities deployed in Afghanistan by the Sector ISAF Commander for a team of up to 100 Network Operations Engineers. The design incorporated hardened building with a resilient power (standby generator and UPS) and a Air Conditioning Unit (ACU) capability to meet the very demanding environment within Afghanistan, and ensures that Sector ISAF Commander can deliver the required C4ISR capabilities to the warfighter even during an attack on KAIA (N). The facility is monitored by Closed Circuit Television (CCT) and accessed via a card reader access system that will integrate into the Theatre Access Card Threat Identification Capability system developed by the NCI Agency. The design also incorporated the capability for a working environment that enables a sustainable working environment for the AMNOC team. The building has been scaled to allow for the hardened AMNOC to host the servers from building 300 under a future project, increasing the network core services and FAS resilience.

Although there had been preparation work for the AMNOC from April 2012, the NSP Agency only started to break ground and lay the foundations for the new AMNOC in September 2012. BGEN Adam (Commander KAIA (N)) stated during a site visit to the AMNOC that "*the rise of the AMNOC from the ground of KAIA (N) has been phenomenal in such a short time since he took command last year*". During his visit to the AMNOC he expressed his admiration that all the teams involved had provided such a capable facility within KAIA (N). The close coordination between the NSP Agency and the NCI Agency has been absolutely critical for the design and implementation of the C4ISR systems.

The NCI Agency through CAT 9 (Service Supply) has provided the design, build and implementation of the C4ISR infrastructure requirements for the AMNOC which includes a multi classification data centre, communications hub, structured cabling design and network monitoring and management facility in close coordination with the user community. The project was initially managed by LTC Pierre Calvez who did much of the initial preparatory work starting in early 2011; on his departure Jeff Wisnom became the PM and Adrian Johnson continued as the DPM whilst the in-theatre implementation has been managed by Andy Forbes MBE. Technical support has once again been provided by Martin Peake and Berend Seegers back in The Hague whilst essential contractual support has been provided by Alain Courtois in Brussels. Thales has been the NCI Agency contractor for all phases of the project.

The customer for the AMNOC has changed from the start of the project from IJC CJ6 to Sector ISAF and, as the final project implementation and migration of users moves closer, the Sector ISAF Commander COL Gonzales and Andy Forbes have been working closely to ensure the project meets the user requirements.

There have been several visits to the AMNOC and one of the most memorable comments from the AMNOC director was: "*This is the best designed and built facility and capability I have seen in Afghanistan and even at home. It has shown how the requirements of the operational community have been captured by the NSP Agency and the NCI Agency, and delivered to the user; outstanding.*"
The project is not over yet and in "The Afghanistan Mission Network Operations Centre – Part 2" the author will describe how the old AMNOC migrated to the new AMNOC and how the users found their new capability.

- Andy Forbes

Foundations

Outer Shell January 2012

Main Entrance

CUSTOMER FUNDING ROADMAP

2014 will be the first year of full Customer Funding for the Agency. This means that for 2014 the Agency is to recover all of its costs through charging its multiple customers for the services provided over its diverse business segments and programmes of work. This includes a very wide range of activities from the following business segments:

- Service Delivery: providing CIS services and support to NATO Command Structure, NATO Headquarters and Nations;
- Capability Development: acquiring and developing C4ISR capabilities for NATO and Nations;
- AirC2 Programme: developing and delivering an integrated Air Command and Control Capability to NATO and participating nations; and
- BMD Programme: development and implementation of Active Layer Tactical Ballistic Missile Defence Initial Operational Capability.

As the NCI Agency implementation of full Customer Funding is a process with NATO-wide implications, the Agency is working closely with its customers in the implementation of its Customer Funding model to ensure incremental and transparent progression. The Agency will present its 2014 Financial Plan to the ASB for screening and approval in November 2013, upon which it will be forwarded to the Budget Committee for information.

Customer Funding will be implemented following a smart, gradual approach that brings clarity to the business requirements, costs to fulfil requirements and metrics to monitor satisfaction levels and performance. The process will fully respect that customers and the Agency need to acquire new skills and adopt new processes throughout this period. The overall intention is to have a mature Customer Funding model in place for the year 2016 with significant implementation earlier and continuous improvements afterward. By 2016 customers will be able to select different service levels, from a catalogue of services. To some degree the demands of customers will be influenced by the cost and to some degree the costs of service will be influenced by benchmarking against external and comparable service delivery entities.

2014 will be the first year of operation in a full Customer Funded model, reflecting the following underlying business requirements:
- Professional service programmes of work, supported by specific task orders, pricing based on the agreed scope and level of work required and specific deliverables that meet customer requirements.
- Service provision packages, identified in advance collaboratively on the basis of fixed price service level agreements.

For this first spiral of Customer Funding in 2014, the Agency is building upon the mechanisms, practices and definitions already in place under the Capability Development segment; namely, the identification and classification of its resources, as defined in the NCIO charter, between direct (production) and indirect (support); and the development of customer rates, applying service industry best practices (based on standard labour costs and an amount to recover the indirect expenditures), resulting in:
- a "bridging model" for Service Delivery based on existing SLA and on a transitional/simplified cost model;
- existing "project cost model" for Capability Development;
- conversion of the legacy AirC2, BMD Programme Office budgets using NSIP Project Service Cost model;
- NATO Programming Centre in Glons, the NATO CIS School in Latina and the CIS support provided to NATO HQ by the ICTM team will be performed on a cost reimbursable basis.

It is expected that the implementation of Customer Funding will not significantly impact the overall cost of the work to be performed. For operational reasons, the total costs should not exceed the cost of the former Administrative Budgets plus Consultancy projects. Similarly, it is expected that the workforce for 2014 (considering the same workload) will not exceed the Agency's 2013 ceiling.

By 2016, the intention is to fully adopt a mature, service based, harmonized Customer Funding model reflected in a full life-cycle service catalogue.

A key enabler, the Enterprise Business Applications (EBA), being implemented in the NCI Agency in 2015, will provide the streamlined processes and the tools to implement full Customer Funding by 2016. It will provide best practice based, life-cycle Project Service Costs (PSC) harmonized across the Agency that will generate savings for the Agency. These savings will be magnified by: the implementation

of a Time Accounting System (TAS) throughout the Agency; by the NATO shared services initiative; by IT-Modernization; and by concluding the transition programme.

The development of the mature Customer Funding model will require involvement, cooperation and understanding from customers and stakeholders if a practical and comprehensive funding mechanism is to be established. A continued improvement process focussing on repeatable, measurable and transparent processes and planning mechanisms will be undertaken. The Senior Customer Board will help ensure the Agency continues to meet, and eventually exceed, customer expectations against planned and measured performance.

2014 Customer Rates

As mandated by Nations upon the decision to establish the NCI Agency and as per the terms of its Charter, the Customer Funded nature the Agency means it must recover all of its costs from the work and services it provides its NATO and National customers. The customer rates, or professional fees the Agency charges its customers must be based on its total cost to serve with the aim of achieving, over time, financial break-even.

Applying service industry best practices, the NCI Agency applies standard customer rates (or professional fees) including standard labor costs per personnel category and recovery charges following the break-even principle.

Classification	Category	Personnel Grades
F1	Senior Expert	A4 and above
F2	Expert	A1 to A3
F3	Senior Technician	B5 and B6
F4	Technician	B4 and below
F5	Military Expert	OF/OR
F6	Industry Provided Expert	

Military staff constitutes a significant and valuable portion of the Agency workforce contributing decisively to the delivery of services and projects. As military staff are provided by Nations at no cost to the Agency, there is no labor cost charged to customers. Nevertheless, military workforce does attract part of the Agency overhead, which is recovered from customers.

Unlike the military, industry contracted workforce do bear a direct cost to the projects and services provided by the Agency. Also these attract a share of the overhead, which is recovered via an allocation of their fair share of support costs to their direct contractor rates.

The allocated costs charge varies amongst the different NCI Agency business segments according to the size of the operations, locations and nature of the services provided. These are allocated on a per capita basis and include:

- a fixed recovery amount of corporate overhead – these include general management type functions overseeing the whole of the Agency to be allocated proportionally across the entire organization, e.g. Office of the General Manager, Legal Office;
- a fixed recovery amount of specific indirect – related to support functions allocated by business segment so to ensure costs "lie where they fall" and to avoid cross subsidization between funding sources, e.g. general procurement, general services; and
- a fixed recovery amount of shared direct – tied to functions of a direct nature that provide an oversight or support to specific portfolios of projects or services, e.g. BMD and AirC2 programme management, logistics and wharehousing.

The customers rates therefore result from a set of blended Agency direct NATO civilian labor rates, aggregated by business segment according to the categories listed above, plus a fixed recovery amount for the Agency generic corporate overhead and the indirect and shared direct costs specific to each business unit. Once agreed, these customer rates will be used by the Agency to price the level of effort of each of the different projects and services to be provided in 2014.

The standard labour cost is based on the annual projected average costs of the civilian staff members in each grade as per the personnel benefits entitled by the NATO Civilian Personnel Regulations (NCPR).

With the purpose of harmonizing the standard labour costs across the entire Agency, for 2014, the Agency has developed a set number of categories aggregating the different personnel grades according to their professional skills (e.g. engineers and technicians) and experience (junior and senior).

It should be noted that Military capacity has declined significantly and continues to be of concern. The capacity estimate for 2014 is based on an assumed continued fill rate for military posts. Any decision by an individual Nation to withdraw military personnel would have significant effect on Agency ability to deliver service. Due to the significant delta between the direct cost to NATO of military personnel against their civilian counterparts or contractors, backfill of these posts to maintain service levels would carry significant cost implications for NATO.

- Finance Team

NCI Agency
Year in review

First NCI Agency Communicator magazine released

NIAS2012 - Evolution, collaboration and innovation

NCI Agency Team delivers jammers against remotely controlled IEDs

First NCIRC FOC generation sensors

Team NCI Agency successfully delivered an upgraded AirC2 capability in ISAF

First NCI Agency Senior Customer Board Meeting

NATO Agency's Ballistic Missile Defence Programme receives international award

Agency provides support to Active Fence in Turkey

NATO and Russia successfully execute Cooperative Airspace Initiative exercise

1 A
1 Ratio

SACEUR and NCI Agency GM Gijsbers sign C2 arrangement

NCI Agency Industry Conference in Rome with record attendance

Timothy J. Harp elected Chairman of NCI Agency Supervisory Board

Agency Supe approves transition

NCI Agency signs agreement with Lithuania on AirC2 Procurement

NCI Agency team supports successful relocation of JFC Naples' Joint Operations Centre

NCI Agency hosts first CIO Conference

Sec

Stand-up of NCI Agency

NCI Agency Directive 1

BMD Programme Office successfully conducts 'Ensemble Test 2'

NCIRC FOC - Critical Design Review achieved

| 2012 | July | August | September | October | November | December |

Non-Real Time Interim (NRTI) test facility was opened at NPC Glons

C Next-operational

The first NATO CIS School Virtual-Lab training

NATO Parliamentary Assembly visits the NCI Agency

Modernized ISAF Force Tracking System now fully operational

New ISAF commanders benefit from linked training

First European theatre missile interceptor system achieves NATO interoperability

NCI Agency 1 Year

Transition Update - First steps forward for IT modernization
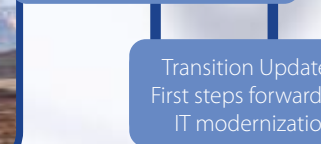
Agency Directive 2.1 - Contract Policy

Ministers of Defence highlight Agency project as top priority

Directive Amendment nalization Stage

General Managers joint statement on NSPA - NCI Agency collaboration

Major achievement for NATO Air Command and Control System

NATO contracts major missile defence upgrade

NCI Agency hosts first 1st AirC2 User Conference

ervisory Board s Directors, way ahead

NATO Team wins Cyber Defence Exercise

Launch of SPS projects in Mongolia

Broadcast & Ship-Shore System Test Integration and Verification facility delivered

ctor ISAF is official

NATO Nations launch multinational cyber defence project

First element of NATO's future AirC2 system delivered

| January | February | March | April | May | June | July | **2013** |

Agency battle rhythm
put to the test

On 21 November 2012, Turkey made a request to NATO for the Alliance to augment Turkey's air defence capabilities to defend the population and territory of Turkey, to contribute to the de-escalation of the crisis along NATO's south-eastern border, and to show Alliance solidarity to Turkey. On 4 December 2012, NATO Foreign Ministers agreed to this request.

Defensive deployment

The decision for deployment followed discussions held by the Alliance under Article 4 of the NATO Treaty, which allows any Ally to call for consultations if the security of any of them is threatened. These discussions were largely prompted by two incidents earlier in 2012, namely the shooting down of a Turkish jet by Syrian forces in June and the killing of five Turkish civilians in Turkey by Syrian shelling in October. Under Standing Defence Plan Active Fence, Allies have committed six Patriot batteries to augment Turkey's air defence; Germany, Netherlands and the United States provide two batteries each. These defensive deployments aim to contribute to a de-escalation of the crisis along the Alliance border. The batteries are supported by up to 400 troops from each of the contributing nations.

Battle rhythm

Based on the CIS Operational Requirement validated by Supreme Headquarters Allied Powers Europe (SHAPE), the NCI Agency in liaison with A6, SHAPE J6 and the NATO CIS Group, quickly started to work on identifying possible CIS technical solutions. A core planning team was constructed which consisted of all of the organisational elements required to design, build, deploy and support sustainable CIS. To ensure optimum information exchange, a coordination meeting 'battle rhythm' was established and all commanders were kept up to date with the ever changing situation. Over the holiday period the essential organisational elements of the NCI Agency were placed on high readiness to support. This included personnel being put on two hours recall notice.

These preparations resulted in the NCI Agency providing the CIS services to integrate the deployed Patriot battalions and

Turkish Control and Reporting Centre (CRC) and Combined Air and Space Operations Centre (CAOC) into NATO Command and Control (C2) systems and structures.

There are five sites in Turkey: three Patriot battery sites and two static sites (CAOC & CRC). The systems are deployed in Kahramanmaras, Adana, and Gaziantep.

The NCI Agency conducted end-to-end tests with the Nations to verify that the Recognized Air Picture was properly shared between all C2 entities and that auxiliary capabilities – XMPP/JChat, email, Voice over IP phone – functioned properly before handing over these capabilities to the NATO CIS Group for operations. Overall, the NCI Agency met the nations' needs for Patriot deployment and is prepared for sustained operations. The final of six Patriot missile batteries deployed to Turkey was declared operational under NATO C2 on Friday, 15 February 2013.

LTC Bernard Combot, Agency CIS Operations Division team at SHAPE

What were the challenges for meeting this request?

Our main challenges concerned changing requirements and time. Planning to deliver CIS services with changing requirements is always risk for any operational planning, but for Active Fence the risk of the changing requirements was enhanced by the compact timelines and the changing NATO structures. The transformation of the NCI Agency and the NATO command structure reforms made the whole process of planning quite challenging. Moreover, working for the first time within the new C2 arrangement between SACEUR and the NCI Agency General Manager challenged all elements involved. From the Agency perspective, the major challenge was that an operational planning cell had to be set up and configured to meet the planning requirements. Of course, time is always challenge. With the holiday season approaching in December 2012, this element was a very real factor in terms of manpower and logistics availability.

What does the support currently encompass?

All NCI Agency locations provided support and upwards of 200 personnel have been involved in Active Fence. Current support includes monitoring of the CIS services and equipment to ensure availability; the NATO Component Command (NCC) manages all trouble tickets and provides the NATO CIS Group with a daily status report; ongoing vulnerability assessments (NCC NCIRC); CIS Sustainment Support Centre (CSSC) in liaison with Squadron Izmir continues to provide all logistic support to Active Fence; and System Management Division (SMD) and Ballistic Missile Defence (BMD) support the deployed systems (software and hardware) and manage change.

All NCI Agency sectors continue to support the mission by providing manpower to augment AirCom Ramstein.

- GrM

Coalition Warrior Interoperability eXploration, eXperimentation and eXamination eXercise

leverages cloud computing

From 3-20 June, the NCI Agency participated in CWIX 2013, the largest annual NATO interoperability event held at the Joint Forces Training Centre (JFTC) in Bydgoszcz, Poland. For the first time the Agency presented itself as one team for the testing of interoperability between NATO and national systems. Uniquely this year the event benefitted from the Agency technology that enabled cloud computing and distributed testing to save cost to Nations.

The event under the lead of Allied Command Transformation (ACT), NATO's leading agent for change, attracted this year over 1,000 military and civilian specialists representing close to 20 NATO and Partnership for Peace (PfP) Nations as well as 12 NATO Commands and Agencies. The aim of CWIX was similar to recent years to test, assess, and improve the interoperability of NATO and national CIS systems with particular emphasis on those that would be deployed with NATO-led operations such as ISAF, Active Endeavour, KFOR and Operation Ocean Shield, or within a NATO Response Force (NRF).

Growing national interest
"*Historically the CWIX event grew out of the Joint Warrior Interoperability Demonstration (JWID), Coalition Warrior Interoperability Demonstration (CWID) in the late 90's and early 2000's,*" explained CWIX Director, CDR Knut Behrends during his opening brief. Nations came to test their systems and recognized that they received value for their particpation in return. NATO

systems functioned as a reference for Nations to test their systems to, while the exercise also facilitated nations to learn from working in a multi-national exercise environment.
"*Instead of testing against certain systems, which is essential for any software team, CWIX allowed them to test against a wide range of NATO and national systems during one focussed event. National participation in CWIX is therefore strong with no exceptions this year. Even in times of austerity national participation continues to grow, underlining that this is an important event to the Nations,*" said Mr Kell Hvolbol, Deputy Director for CWIX.

Cloud computing
CWIX 2013 did not only provide an opportunity for the NCI Agency to take its capabilities forward and test interoperability in a multinational environment. The JFTC in cooperation with the NCI Agency set-up a Virtual Cloud infrastructure that enabled participants to utilize virtual servers during the exercise to run their systems on. Besides flexibility for the teams to configure their servers remotely in advance of the exercise and reduced hardware shipments, this had the additional benefit that the JFTC training facility had less power and heat to handle during this edition of CWIX. The NCI Agency Squadron Bydgoszcz under the lead of the Commander LTC Wojtek Czerwinksi cooperated with

CWIX 2013

Even more so, not having to send all staff over to Poland saved some significant cost to nations as well." Mr Kell Hvolbol added: *"While multinational cooperation at the network level seems very complex, and to some extent it surely is, having the infrastructure and accreditation in place already allowed for very easy and rapid event setup."*

The NCI Agency's contribution to CWIX 2013 aimed at validation, interoperability assessment and experimentation. Sponsored by ACT, ACO, the C3 Board, and the AMN Secretariat, it tested 22 capabilities including the new NATO Air Command and Control System (ACCS) Level of Capability-1 Combined Air Operations Centre (CAOC) and Deployable ARS (DARS). The highly modular Interoperability Experimentation, Testing and Validation (IETV) capabilities allowed CWIX participants to test against a NRF test bed with NATO systems and tools.

Furthermore, tested and demonstrated were the NATO SOA (Service Oriented Architecture) Platform Services, NATO Medical Information and Coordination System (MEDICS), NATO BI-SC AIS Core Geospatial Services (Core GIS), NATO Maritime Command and Control Information System (MCCIS), NATO NALES Logistics Interoperability Experiment with Nations for Operations Logistics Chain Management (OLCM), and the NCI Agency AMN/FMN Core Services Pilots. The NATO Interoperability Test and Assessment (IOTA) Tools Suite proved to be very useful in identifying and assessing interoperability issues during the exercise.

Future Mission Network
The FMN Core Services Pilots by Mons and The Hague were of special interest to this edition of

the JFTC and ensured smooth event-setup. The Squadron is running a Virtual Desktop Infrastructure (VDI) pilot in collaboration with the Stavanger and The Hague teams that will allow nations to also bring less workstations to future exercises.

Contrary to previous editions, the event in 2013 had a stronger focus on distributed experiments. Agency technology (CFBLNet) linked 21 test sites in Europe and USA to Bydgoszcz for real-time interoperability testing. *"The nations have been able to efficiently test their equipment while not having to bring all of them to Bydgoszcz,"* explained Mr Syvert Maesel, NCI Agency CWIX coordinator and CFBLNet deputy project manager. *"Due to CFBLNet, testing also occurred remotely within a secured enclave that respects national security accreditation.*

CWIX. For CWIX a mission network was built that included Agency developed core services such as Voice over IP, JChat/XMPP chat, email, web browsing and document handling. *"We assessed in CWIX those core enterprise services in order to speed up participation in future coalition infrastructures,"* said LTC Jenniffer Romero, USAF, CWIX Future Mission Network focus area lead. While still under development, the FMN implementation plan will be further developed this year to be approved by the NATO Military Committee in November. Once the FMN governance structures are finalized the FMN can be taken forward, in this regard the next edition of CWIX could be a major event towards achieving NATO's desired operational preparedness after 2014.

- GrM

Meet the Sector Commanders

From 15-16 May, the second NCI Agency Leadership Conference was held in The Hague. The event focused on the next steps in transition and aimed at further enhancing communication between locations. The session was attended by the A5 leadership, the Sector and Squadron Commanders of the NCI Agency's main locations. These Sector and Squadron locations connect the Agency to the operational community and include support to major customers including Joint Force Commands, Allied Command Transformation and Allied Command Operations. The Sector Commanders are introduced in this edition of the Communicator, followed by the Squadron Commanders in the next issue. The introductions of the NCI Agency Executive Management can be found in Communicator 2.

COL Wouter Bouwmans

Commander CIS Sustainment Support Center (CSSC) Brunssum

COL Wouter Bouwmans was appointed Commander CIS Sustainment Support Center (CSSC), formerly called CIS Logistics Depot, in August 2010.

COL Nicolas Fourmond

Commander, Sector Lisbon

COL Fourmond has been Commander Sector Lisbon since 19 September 2011 and as of 6 July 2013 he will be working on the Optimize Service Delivery Sub-structure project that is to decide on how the future structure of Agency locations will look like.

Did you know:
Colonel Fourmond was assigned at the French Army Headquarters to be in charge of the Army involvement in International Security Assistance Force and Operation Enduring Freedom. He was awarded with the "Legion d'Honneur" award due to his several deployments overseas and the Military Valour in Rwanda.
(*The NCI Agency Sector Lisbon will close this summer. However, there will be a detachment starting on the 1st of July 2013 : Commander of the detachment will be OF3 Nelson Martins.*)

COL Frank J Gonzales

Commander, Mons and Sector ISAF

COL Frank J Gonzales assumed command of Sector Mons on 27 June 2012 and is currently serving on a tour in Afghanistan as the Sector ISAF Commander on a 6 month rotation.

Did you know:
COL Gonzales has a Masters of Science in Interdisciplinary Telecommunications and a Masters of Arts in Strategic Studies. He has been awarded the Bronze Order of Mercury by the US Army Signal Corps Regimental Association and has served in Europe for over 12 years during his military career.

COL Claus Kampschroer

Commander, NPC Glons

COL Claus Kampschroer has been the Commander of the NATO Programming Centre since January 2013.

Did you know:
COL Kampschroer has an excellent background on transformation and change management from various previous assignments.

COL Manfred Krätzig

Commander, Sector Brunssum

COL Manfred Krätzig was appointed Commander NCI Agency Sector Brunssum as of July 2012. Previously, he was Commander NCSA Sector Brunssum.

Did you know:
Colonel Krätzig was the Commander of NPC Glons in the period 2002 – 2006. Prior to his current appointment, he commanded the Mobile C2 Support Regiment / German Armed Forces. During this period, he was deployed to ISAF in 2010 as CJ6 in HQ RC North.

Mr Glenn Mallette

Commander, Sector Brussels

Mr Mallette was appointed Commander NCI Agency Sector Brussels and Head of IT support on 1 July 2012 from his existing post in NATO HQ ICTM as Head of Operations.

Did you know:
Mr Mallette comes with the IT Management experience from several international organizations including the OSCE Mission in Kosovo and the Multinational Force and Observers in the Sinai.
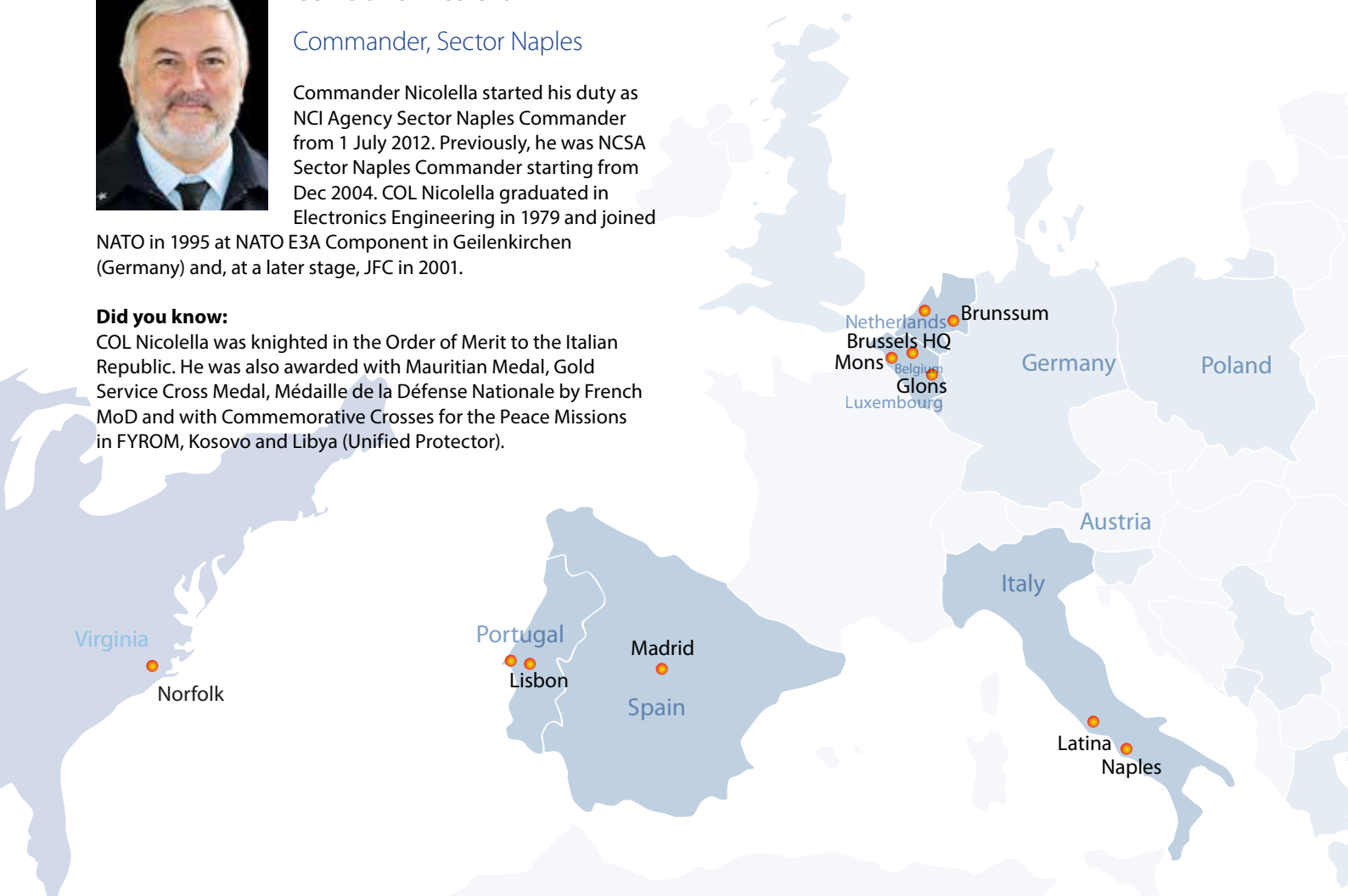
COL Dario Nicolella

Commander, Sector Naples

Commander Nicolella started his duty as NCI Agency Sector Naples Commander from 1 July 2012. Previously, he was NCSA Sector Naples Commander starting from Dec 2004. COL Nicolella graduated in Electronics Engineering in 1979 and joined NATO in 1995 at NATO E3A Component in Geilenkirchen (Germany) and, at a later stage, JFC in 2001.

Did you know:
COL Nicolella was knighted in the Order of Merit to the Italian Republic. He was also awarded with Mauritian Medal, Gold Service Cross Medal, Médaille de la Défense Nationale by French MoD and with Commemorative Crosses for the Peace Missions in FYROM, Kosovo and Libya (Unified Protector).

COL LaVon R. Purnell

Commander, Sector Norfolk

COL Purnell has been the Sector Norfolk Commander as of 1 May 2011.

Did you know:
COL Purnell served at the Pentagon as the Chief of Strategic Plans Analysis and Assessments Division, Human Resources Directorate Information Officer, Office of the Deputy Chief of Staff, G-1. In this position she was responsible for analysing and assessing behaviors and trends of the Force and the effectiveness of policy and programs which contribute to disciplined, resilient and ready soldiers, Department of the Army Civilians, and Army Families. She is also the first woman to serve in the Sector Norfolk commander position.

COL Marcello Turchetta

Commander, NCISS Latina

COL Turchetta has been NATO CIS School Commander since August 2011.

Did you know:
COL Turchetta worked for over 9 years at the National Security Authorities in the staff of the Prime Minister. He received various honors from National and International bodies and the benevolent apostolic blessing of the Holy Pope. According to his colleagues COL Turchetta is a brilliant tennis player and superb volleyball team leader.

The Hills of Verona

View of the site with
RADOME and UHF DAMA control antennas

Nestled in the gentle slopes of the lower Dolomites some 40 kilometers north of Verona one finds NATO Satellite Ground Terminal (SGT) F14. Although not easy to spot, the site is characterized by the large white sphere—RADOME—which the locals refer to affectionately as il Pallone or large ball. Established in the mid 1980s the site is home to 23 dedicated NATO military personnel of the Italian Air Force (technicians/support personnel) and one NATO International Civilian Engineer. The site is commanded by an Italian Air Force Lieutenant Colonel, and is part of NCI Agency Sector Naples. For over three decades, F14 has provided high-capacity satellite links and CIS services to NATO Commands, out-of-area operations and exercises. Additionally, the site operates the UHF DAMA Control Center complying with the NATO Post 2000 SATCOM mission. This new project has brought with it a flurry of visitors to the site as well as new interests in the area with a focus on the local slopes and valleys, which produce some of Italy's best foods and of course wines.

Valpolicella territory
The area around the site is known as Valpolicella, a name derived from Latin—Val Poli Cella—Land of Many Cellars. It produces fine wine of the same name and a variety of many of the best wines in Italy. Valpolicella consists of four valleys, which extend eastward from the Lake Garda toward Venice and offers many interesting places to explore. The Negrar valley, for example, is the most populous in the Valpolicella and has been inhabited since prehistoric times. The valley has an agricultural vocation and is specialized in fruit (cherries and grapes for the production of quality wines). Mining is also important and the characteristic stone of Prun, is extracted and exported from the Negrar hills. Various programmes have been created recently with offers of panoramic hiking and biking excursions.

Where to Stay

For both closeness to the site, surrounding area and an occasional trip into Verona, Hotel La Pergola nearby Grezzana has become the hotel of choice. You are warmly welcomed by the owners Monica and Guido and the hotel offers, apart from modest prices, a pool and fitness center, free internet and simple but elegant food choices. The place is 10 minutes from SGT F14 and 20 minutes to Verona.

Where to Eat

The hills are rich in numerous ristoranti, trattorie, osterie and wine bars. All excellent, but for a truly memorable experience, a visit to Trattoria Caprini located in Torbe di Negrar is a must. This restaurant has been operated by the same family for over a

century (established in 1907). The trattoria which began as a small osteria/grocery-store/bakery has been modernized over the years, but remains loyal to traditional foods of the area. People come from far to taste the hand rolled and hand-cut lasagnette or noodle pasta covered with a tomato, meat or locall black truffle sauce. A variety of grilled meats to include a young horse steak, pork and veal chops are also available as well as roasted baby goat, lamb or stewed horse meat - a Verona delicacy. The restaurant is run by Pierina, one of the eight grandaughters of the original owners, together with her sons Nicola, Sergio and Davide Bonaldi, who will guide you through a selection of menu items and fine wines from their well stocked cantina or a simple but wonderful vino della casa produced by Pierina's husband Francesco.

Where to Taste/Purchase Wine

Valpolicella is replete with wineries too numerous to count. Each local farmer produces wine at least for his own consumption and may even sell some to round the family income. Many produce world-class wines. One of the very best is the Tommasi estate. Their winery was established in 1902 and is currently run by the family's fourth generation – each person with a specific task and responsibility. Giancarlo is the wine maker, Pierangelo is the marketing and export manager, Piergiorgio is the domestic market manager, Stefano is the regional market manager and Francesca and Erica handle all administrative matters. Their parents keep a watchful eye on the business and together with their children manage the estate with boundless energy and enthusiasm.

The Valpolicella wine is a blend of three grapes - corvina, molinara and rondinella - and depending on the processing method this blend produces a Valpolicella Classico, Classico Superiore, Ripasso or the famed Amarone, a full bodied high alcohol wine produced using grapes dried in the winery's attic for four months. Recioto, a sweeter desert version of Amarone, rounds out the prized reds. Additional white and red wines are also produced.

As the SGS project progresses and NATO travel increases to the area, the F14 Command and staff hope to share the professional enrichment, as well as this piece of culture heritage, and lift a glass in friendship.

- Dennis Salerno, SGT F14 Satcom Engineer
Verona - Network Squadron, Lughezzano

CSSC Brunssum
the Agency logistic heart that unites,
supports and sustains the NATO CIS community

From static headquarters to deployed mission theatres, the NCI Agency bears the responsibility for all NATO Communications and Information Systems (CIS). With ownership comes responsibility, NATO and Nations demand all money to be spent very consciously by the Agency, but equally an assurance that capabilities are maintained and supported in an effective and efficient manner. In this respect, the NCI Agency CIS Sustainment Support Centre (CSSC) in Brunssum (formerly known as the CIS Logistics Depot) is the NATO sustainment centre - particularly for mobile CIS - but also the specialized entity providing engineering and maintenance, and material management services to the Agency and its customers.

Commander COL Bouwmans

Co-located with Joint Force Command Brunssum and NCI Agency Sector Brunssum, the total number of people working at JFC and NATO agencies in the Brunssum area consist of 1,500 military and civilian personnel drawn from NATO, PfP Nations and the local community. Situated in the South of the Netherlands on the plateau bordering the Belgian Ardennes and the German Eifel mountain ranges, Brunssum has developed in the past decades from a quiet parish into an internationally oriented municipality. NATO has established good relationships with the local community, and its presence is an important and positive economical factor to the province.

Customer Focus

"*It is more than a change of name*" says COL Bouwmans, Commander of the CIS Sustainment Support Centre in Brunssum. The new name was chosen to reflect the main focus of this entity and expresses CSSC's role as the supporting facility for the entire Agency with regard to life-cycle sustainment support of NATO CIS. "*We have also changed our structure, this way we better ensure that we are not only doing a good job, but that we also can show that we do it in an effective and efficient manner*".
In the making is a model through which CSSC will offer a one-stop-shop concept, streamlining the Agency support to NATO, facilitating the Agency CIS ownership responsibilities, and in light of the upcoming Customer Funding regime ensuring full transparency with regard to CIS sustainment. "*This reflects the full CIS life-cycle approach,*" the Commander added.

Supporting ISAF and future missions

The CIS Sustainment Support covers a variety of operations, exercises, static locations and projects for CIS in both static and deployed situations, with support to Allied Command Operations (ACO) and the NATO CIS Group in specific. Repeatedly equipment, requiring meticulous cleaning, is transferred back to Brunssum for systematic maintenance, while in support of customers teams from CSSC also deploy to theatre to carry out in field Preventive Maintenance Inspections (PMI). Theatre specialized teams both perform maintenance and instruct customers on how to maintain CIS equipment, thus ensuring the ISAF CIS capabilities are maintained to the highest standards.

"*As we are approaching the end of the current ISAF mission, we expect an increase in the material being returned to us. This means an increased workload in addition to the changes that the accelerated pace of the Agency reform brings along. We are confident in our delivery to our customers and we will ensure that this process is as smooth as possible for the Agency and especially for ACO,*" said the Commander Bouwmans.
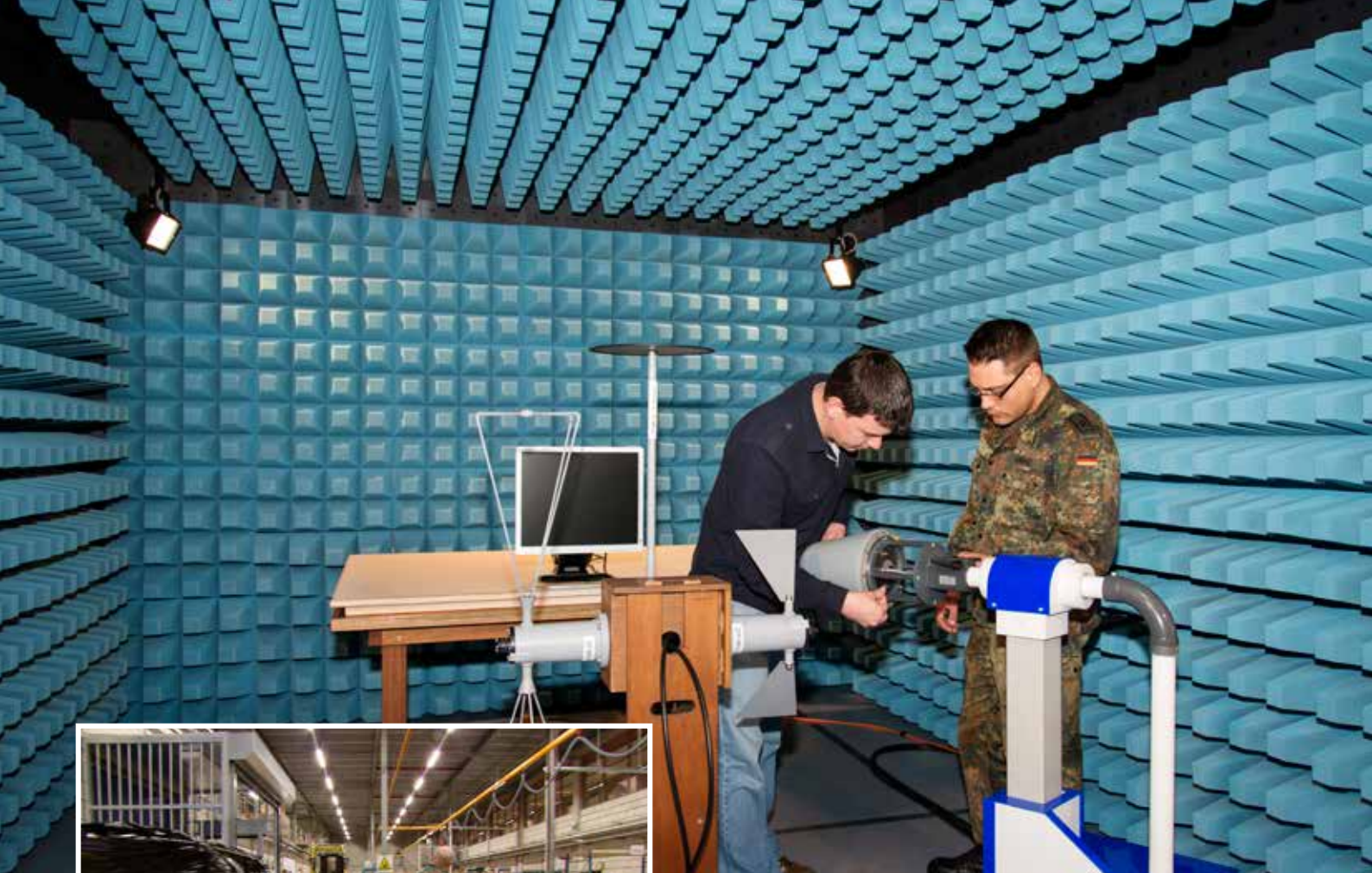
Quick facts: 230 staff, PE 75%, co-located with Joint Force Command Brunssum and NCI Agency Sector Brunssum.

See More
http://www.youtube.com/user/nciagency

Due to the close ties with operations, and the aim of the centre to function in the most effective and efficient manner, the structure is organized and divided into specialized groups in their area of supporting responsibility. On one side of the house is the Engineering & Maintenance Group, which provides up to 3rd Level Maintenance Capability, on the other side the Material Management Group whose main focus is on Central Material Management and Central Property Accounting for all NATO CIS and Central Asset Management of NATO CIS. With the Customer Funding regime approaching it is important that customers understand what they will be charged for and why, therefore CSSC is currently adapting changes to make sure it is ready when the Agency will be fully Customer Funded in 2014.

Community

The Centre's remarkably clean engineering and workshop areas are illustrative of the good mix of military and civilians working in unison. "*The civilians bring continuity and expertise regarding the latest technologies, while the military staff is much more experienced with theatre specific situations and conditions. This mix creates a multinational and pleasant working environment,*" says Commander Bouwmans. The new name and structure mixed with the Centre's rich heritage, enable CSSC to demonstrate why it is the capable deliverer of expedient support to the Alliance and the NCI Agency during times in which NATO transforms to meet new challenges.

-GrM

Towards a single Agency wide corporate security pass and identity card

The stand-up of the NCI Agency has brought many complex challenges, one of which is the expression of our new Corporate Identity. The acquisition of a single corporate Identity Card and Security Pass is one way of expressing who we are and what we are. Recent relaxation of NATO security rules, plus an exciting ACO managed project, has provided a window of opportunity that we are now seeking to exploit.

ACO is currently studying a methodology (the ACO and Mission Identification System (AMIS)) that should improve the ACO security posture and complement existing security procedures through the provision of a secure, cost-effective, single identity management (IDM) system that would replace the multiple, non-integrated identification and badging systems currently in use throughout ACO. The study determined that: by using the Automated Personnel Management System (APMS) as the platform for storing and managing all identity (ID) data, the proposed AMIS solution could produce a standard ACO wide Security Pass & ID Card that would combine a modern IDM system, with current NATO security and cyber defence requirements within a single ACO-wide electronic ID (eID) card (hereafter called the AMIS card).

Today, all in–use current security pass production systems are stand-alone with no interface with other NATO CIS, although some of the locations do have the necessary CIS to allow for all data capture to be completed at the same time, and for this information to be exchanged between systems for ID Card and Security Passes. Each location has varying degrees of embedded technology within their in-use cards, from simple Radio Frequency Identification (RFID), to the use of microchips and biometrics. Moreover, all ACO units have recognised the potential benefit of a generic combined ACO eID Card & Security Pass. However, it is also true that every ACO unit currently has a different access control infrastructure that would require investment to modify or replace. This is also true of the NCI Agency. Therefore, a generic, combined ACO eID Card & Security Pass must be interoperable with all current ACO unit access control systems.

Reducing the plethora of ID cards and Security Passes presently deployed will undoubtedly produce a number of benefits: positive access control will be more easily and accurately achieved; production costs will be reduced; there will be concomitant saving of man hours; and, there will be reduction in the purchase costs of all consumables. Finally, a modern eID system would offer the opportunity for enhanced centralised management of the complete process and this too could lead to economies of scale and significant savings. ACO has now received the official go-ahead from the NATO Office of Resources (NOR) and both parties now agree that the introduction of an ACO-wide AMIS card, useable across all current ACO access control systems, will be achievable at relatively low cost. They also agree that by using APMS the proposed AMIS card would be capable of handling NATO Public Key Infrastructure (NPKI) derived certificates and biometric data. Once the funding issues have been resolved, ACO aims to start a staged introduction of the AMIS card beginning in the 3rd Quarter of 2013 and we, as an Agency, are currently negotiating with the ACO Project Team to establish when and how we can take part in this exciting and very necessary project. We will keep you updated on progress.

- Gerard J P Moore, NCI Agency Security Manager

LOCKED SHIELDS 2013
International Cyber Defence Exercise

Exercise LOCKED SHIELDS 2013 was a real-time cyber network-defence exercise organized by the NATO Cooperative Cyber Defence Centre of Excellence (CCD-COE) in Tallinn, Estonia, together with its partners. After two days of high-intensity cyber activity, the NATO Blue Team was declared the winner. The winning Agency team shares some of the factors they believe made the difference between victory and defeat.

Cyber attacks continue to grow in frequency, complexity and intensity. In 2007 Estonia endured a four-day full-scale cyber attack that disrupted the country's banks, media and political institutions. The attack shook the international community and brought the cyber threat into focus. In that same year NATO established and began developing the NATO Cooperative Cyber Defence Centre of Excellence, which concentrates efforts on research and training. The annual exercise LOCKED SHIELD has the goal to train teams of IT specialists from different Alliance and partner countries in how to detect and mitigate the effects of large-scale cyber attacks and to deal with incidents, while collaborating with other teams.

Scenario

Held in April 2013, the exercise scenario was imaginary, based on the concept of Red Team attackers versus Blue Team defenders conducting a cyber-war campaign, but the methods of attack and defence, and the conditions were real. Blue Teams, tasked to secure and defend their computer networks were from Estonia, Finland, Lithuania, Germany, Netherlands, Italy, Poland, Spain, Slovakia and the NCI Agency.

During the exercise, many attack scenarios were launched against the Blue Team's given virtual systems, starting with attacks against very vulnerable Internet facing systems. Internal users were targeted by phishing-based attacks, luring them into clicking weaponized PDF files and malicious links.

The NATO Blue Team of defenders was made up of specialists from the Agency Service Delivery NCIRC Technical Centre and System Management Division (8 from NCIRC TC, 2 from SMD), together with a member of the Agency Legal Advisor's office (Brussels). The demonstrated array of specialist areas included: penetration testing, Linux and Windows system administration, Firewall and Intrusion Prevention System (IPS) configuration, end-point security and legal expertise.

LOCKED SHIELDS presented a superb opportunity to practice the combination of varied skill-sets in a high-tempo cyber campaign.

"Talking the same language is essential. When I was told by the team leader to do a ping command, I looked at him like he was from Mars. This highlights the need for lawyers and technical staff to cooperate more closely to develop a common language. This was one of the aims of the exercise."

Vincent Roobaert – Assistant Legal Advisor

Additionally, it achieved an excellent international liaison between the players and the staff. According to the team, crucial components to their success included:

Leadership – the team had a clear common goal – defending its networks. If a dilemma was identified, they discussed the options as a group before the decision was made. Due to the large amount of incoming attacks, the team leader had to prioritize defensive tactics.

Communication – the team members were briefed every morning, working through ideas, individual tasks, team priorities and systems assignments. Plans had to remain dynamic, depending on the tactic used and systems involved. To maintain their situational awareness, they were encouraged to be vocal in describing what they saw, what they were doing and on what system, at all times. Each night, they had an internal 'hot wash-up' debrief to learn from the events of the day and prepared for the next day.

Preparation – the NATO Blue Team prepared in advance for the exercise by analyzing potential attack scenarios, which included direct attacks to unpatched websites, phishing scams, insider threats and denials of service. Vulnerable systems were built in the test environment and repeatedly tested against these attacks,

until the team had a way of securing their network in each of the potential scenarios.

Resource Management – the team focused on the efficient deployment of its members, utilizing their broad skill bases and their careful preparation. The maintenance of situational awareness was essential to the effective use of their assets and the countering of Red Team attacks. A key advantage was the ability of their multi-skilled individual members to work on a large selection of their different systems, at a moment's notice. This helped them to thwart Red Team attacks.

Dynamic Strategy – their approach had to adapt to the attacks identified and the methods the Red Teams employed while attempting to bypass Blue Team defences.

Network Understanding – all members of the team had memorized all of their networks. They knew all their systems, where they were located on each domain, and what services were running on each system.

Great Teamwork and Collaboration– if one team member identified a way to resolve a particular issue it was shared, firstly

internally with all members, then released to all other Blue Teams, to better help them defend their networks too.

System Availability – points were awarded for the 'up-time' of specified 'required services'. The team ensured that its network was continuously monitored, well protected and that systems were fully operational at all times.

Defence-in-Depth – many teams were compromised while attempting to patch their systems. One of NATO Blue Team strategies was to protect all systems through various methods first, to thwart any attacks. Only after the systems were under three layers of protection, they were able to start patching them without being exploited.

"As in any other area of NATO operations, our cyber defenders must be able to train as they operate. Exercise LOCKED SHIELDS provides our experts with a realistic but virtualized cyber environment where they can practise their mission of defending NATO critical networks against serious and sustained cyber attacks" said Ian J. West, Director, NCIRC Technical Centre, NCI Agency.

Team members and their (initial) roles:
Nuri Fattah (NCIRC-TC) – Team Leader (Strategy/IHO/Ticketing/PR)
Roberto Suggi Liverani (NCIRC-TC) – Deputy (Web Apps/sandboxing)
Sascha Gornik (NCIRC-TC) – Windows Lead, Internal Networks

Whilst this was not the first exercise organized by the CCD COE, it was the first one that included legal advisors.
As any other type of military operations, cyber operations are governed by the laws of armed conflict. For example, there are limitations as to the type of targets you can aim at. This raises two challenges. First, there is a need for both the lawyers and the technical staff to understand each other and develop common understanding and common language. This is important because decisions need to be taken on the spot given the speed at which these operations are conducted. Secondly, while there is a consensus that the laws of armed conflict apply to cyber operations, there is still some uncertainty regarding the actual implementation. Indeed, many laws and regulations governing warfare were agreed upon before computers were invented. The question is then how to adapt the "old" rules to the cyber environment.
The exercise was a great experience because it allowed the lawyers to have a feel of cyber operations and it also highlighted where the law may not yet be clear enough and requires more developments.
In practice, the lawyers received some tasks which were scored as part of the overall team score. These included legal briefings to the team, reports to the chain of command, reports to the media and also some technical tasks aimed at teaching us the basics of computer operations.
Vincent Roobaert

Dariusz Dworznik (SMD) – (Network based firewall & IDS)
Kurt Roelens (SMD) – Windows deputy, Internal Networks
Omer Hasret (NCIRC-TC) – Endpoint security deployment, Internal Network
Diego Gianni (NCIRC-TC) - Endpoint security deployment, Internal Network & testbed administrator
Slawek Roginski (NCIRC-TC) – Internal Firewalls, switches and routers
David Andre (NCIRC-TC) – IPS Analyst
Ian Kingsford-Smith (NCIRC-TC) – IPS Analyst
Vincent Roobaert (NCI Agency - Brussels) - Assistant Legal Advisor

In addition to the Blue Team, the NCI Agency also supported the Red and White teams during the exercise. Based in the Exercise Control Centre in CCDCOE, Estonia, the following personnel played crucial roles:
Squadron Leader Rob Esposito (NCIRC-TC) – Red Team
Frederic Coene (NCIRC-TC) – Red Team
Basilio Caculli (NCIRC-TC) – Red Team
Emmanouil Christofis (NCIRC-TC) – White Team

The NATO Blue Team would like to thank the CCDCOE and the participating teams for a highly professional exercise, and is already looking forward to next year!

- NATO Blue Team

State-of-the-art radio studios for the Combined Joint Psychological Operations Task Force (CJPOTF) Headquarters

On 11 April 2013, the NATO Communications and Information Agency - CAT9/Service and Supply, successfully delivered the world's most state-of-the-art PSYOPS radio studios to the Combined Joint Psychological Operations Task Force (CJPOTF) HQ at Kabul International Airport North, Kabul, Afghanistan. The new studios enable CJPOTF to deliver timely and effective influence activity mission support, better communicate with the Regional PSYOPS Support Elements (RPSE), conduct interactive radio call-in shows, and provide multi person/expert round-table interviews inside the studio.

The system achieved Initial Operational Capability (IOC) after testing and transferring of the services, from the old to the new radio studio, resulting in no loss of service to more than 100,000 listeners.

The Combined Joint Psychological Operations Task Force (CJPOTF) is the sole ISAF asset of Commander ISAF (COMISAF) and Commander ISAF Joint Command (COMIJC) to communicate directly to the local population through organic mass media. It forms the centre of gravity of the ISAF information effort towards the population within the ISAF Area of Operation (AOO's). CJPOTF's task is to influence and to inform specific target audiences approved by the NAC and to explain ISAF mission and activities to a broad public. Furthermore it creates a supportive atmosphere for the conduct of military operations under ISAF mandate. The Radio Editor produces high quality radio broadcast material for CJPOTF radio (Sada-e-Azadi).

The original CJPOTF Radio studio (Sada-e-Azadi) was established in 2004 in Kabul. The newly built studios enhance the CJPOTF mission and solve the operational requirement by upgrading the overall capabilities of the Psychological Radio Network (PRN) to provide dual language (Dari and Pashto) broadcast capability.

NCI Agency contracted B.BEAM SPRL (a small Belgium company) to build two, double radio studio containers, consisting of a broadcast studio and a distribution studio. The broadcast studio can deliver live or automated radio programs and is designed with one main studio and two sub-studios dedicated to a specific AFG language. The distribution studio is a post-production studio, but also has the capability to fully support program broadcasts, if the primary broadcast studio fails.   The studios were designed to provide state-of-the art capabilities similar to those of commercial radio stations. B.BEAM also provided several days of training to both CJPOTF's military and local Afghan radio personnel.

Special appreciation to the following personnel:

CAT9/Chief: Malcolm Green
Line Manager: Mike Brown
Project Managers: LTC Pauline A. Haughton (USA) and LTC Christos Athanasiadis (GRE)
Contractor: Joseph Vitale
Integrated Logistics Support: Heinz-Mueller, Jackie Robinson, Ron Spijkerman and Richard Proietto
NCI Agency ISAF Portfolio Manager: Jonathan Copner
Deployable Field Engineers: Andrew Forbes and Kit Bailey

NCI Agency Crossword No. 3

There are no anagrams and **bold clues** follow the same theme, finding the theme will help you solve those clues.
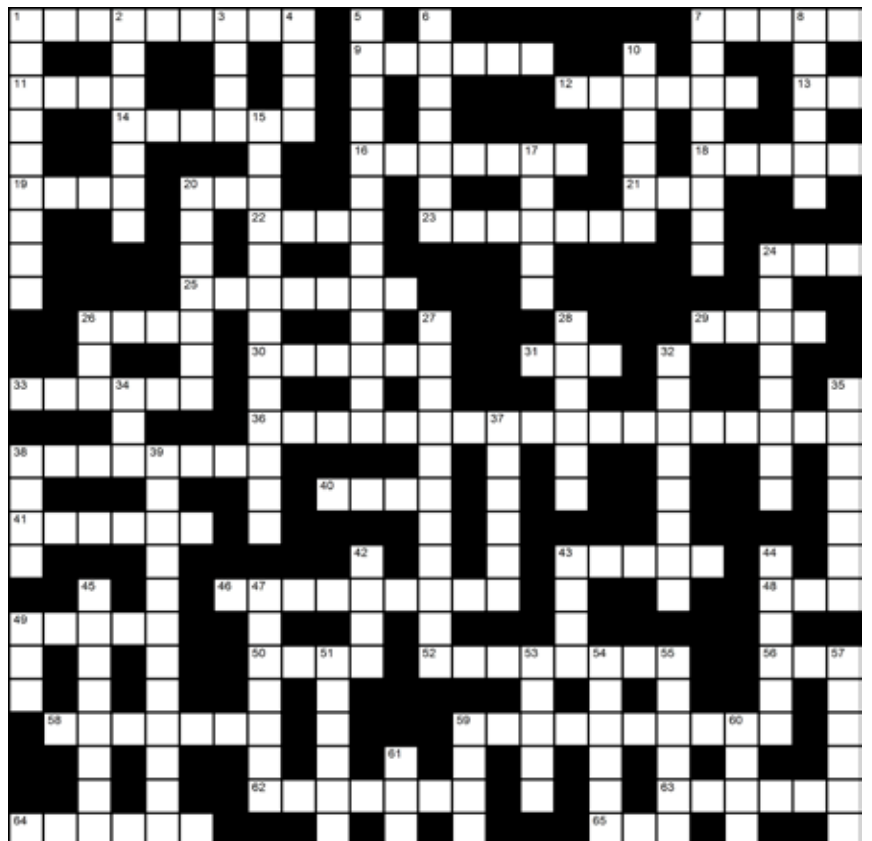
Across

1. Traditionally, the man cooking outside (9)
7. Fabled writer (5)
9. **Watch out for the trolls! (6)**
11. Country of Asterix and Obelix (4)
12. **Shares a border with the Netherlands - but in the Caribbean! (6)**
13. Bovine draft animal (2)
14. **Doh! Not that Homer's home! (6)**
16. **Home of Kiiking (7)**
18. Red or monochrome mammal (5)
19. Soya-bean curd - yum! (4)
20. Colour (3)
21. Abbott and Costello for example (3)
22. 50% of the world's supply comes from Portugal (4)
23. **Its eagle looks both ways (7)**
24. Initially a healthy sandwich (3)
25. **Kant you guess where you're from Immanuel? (7)**
26. The Hague's Karate Club is running for this charity (4)
29. Ding Dong! (4)
30. Comes in three sizes: miniature, standard, toy and maybe also medium. (6)
31. Andy's art (3)
33. **Come here for oil and wrestling - together! (6)**
36. Afghan mixed martial artist as seen on the NATO Channel (3,8,7)
38. **Well known for its "inexperienced" wine! (8)**
40. It's English for sör, pivo and bjór! (4)
41. **Land of the first decorated Christmas tree (6)**
43. **Home of Chuba Chups™ (5)**
46. **Famous for Zeppelin™ shaped dumplings (9)**
48. Spiny, electric or conga! (3)
49. This beer could mark cattle! (5)
50. Heartbroken by Narcissus she pined away until only her voice was left :((4)
52. **The 1st parachute patent was filed here (8)**
56. Ball (3)
58. **The best place to meet a brown bear on the east side of the pond (7)**
59. **Richest in the EU (10)**
62. **Niels Bohr modelled the atom here - but not with Lego™! (7)**
63. Buddha's favourite tree perhaps? (6)
64. Stop that! (6)
65. Eggs (3)

38. Literally a handy beer (4)
39. **Its government is decided by a race between a donkey and an elephant (6,6)**
42. Wrestling in a proper ring (4)
43. You could comfortably host foreign troops with one of these! (4)
44. Vietnamese delta (6)
45. Psychotropic state, possibly due to nitrogen or helium (8)
47. **Is it really Oh So Quiet here?! (7)**
49. If you cannot borrow or steal then... (3)
51. All of us (6)
53. Between Prancer and Comet (5)
54. It's the Japanese "thing to wear"! (6)
55. Occupies just one cell! (6)
57. Edible fruit (6)
59. According to Suzanne Vega he lives on the 2nd floor (4)
60. Tear or rip (4)
61. With this recommendation I'd lend you money (3)

Answers will be provided in the next issue.

Down

1. Edible French sticks (9)
2. **Tintin's homeland (7)**
3. Encourage action (4)
4. Scandinavian boy, likes ancient letters (4)
5. **Cup of tea anyone? :) (6,7)**
6. **Dog spotted here! (7)**
7. Nemesis of Eliot Ness (2,6)
8. Eggs but not rugby balls (6)
10. Shares its Queen with the UK (6)
15. **Big Bohemian beer producer (5,8)**
17. **More UNESCO World Heritage Sites than anywhere else in the world (5)**
20. **Go from Tokaji to Unicum here! (7)**
24. **Home of Europe's first Christian monastery (8)**
26. White wine with blackcurrant liqueur (3)
27. **Home of the best DJ in the world (11)**
28. **Has a subterranean cathedral made from salt (6)**
32. **Lipizzans are a national animal here (8)**
34. Precedes bag, ten and kat (3)
35. Prophesied the destruction of Jerusalem (7)
37. Greek beverage with 3, 5, 7 or 12 star varieties (6)