

Communicator

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Road to Warsaw Summit • NATO's IT revolution • Year in review • Trident Juncture - no ordinary exercise



In Memoriam Richard van Nijnatten

It is with sadness that we inform you that Richard van Nijnatten, a founding member of this magazine and editorial board, is no longer with us. Richard passed away on Tuesday 19 January 2016, after his tremendously spirited fight against cancer.

Richard began working with NATO on 1 December 1992 and has been a pillar of the Alliance's creative community since. As of 2012 Richard served as the Head of the NCI Agency's Creative Media Centre in General Services. The Team has carved out a reputation for excellence in NATO and beyond, and holds many records, including for NATO's most successful animation.



Richard's documentary on the NATO Response Force "Ready to Go" remains the Alliance's highest awarded documentary film, having won **Hollywood's Silver Screen award**. The video testimony that Richard and his team collected in Afghanistan was shown to Committees at NATO HQ and subsequently helped shaping the debate on the fast-track of capabilities to protect soldiers' lives in Afghanistan. The Agency's logo and visual identity is one of many products delivered by the team.

Film and audio-visual work were his passion from early on. His friends enduring memories of him are with a camera in his hand. With a warm smile they remember his summer movie project, including full script and hand drawn shot list, as well as the – frequently explosive – filming of model rockets.

Just as he was passionate about his work, Richard was passionate about people, constantly challenging his team and colleagues to believe in themselves, develop and explore their potential. He was a true 'people manager' who firmly believed that you can only get the best out of people if you have a sincere interest in them - talking, listening and hearing. That takes time, but it pays off. As he fought for his life, a great source of pride was how his team had grown and how well the team coped with his absence, delivering a number of important projects successfully.

He was also fiercely proud of NATO and its role in the world and very proud of the Agency and its services. Richard was a professional member of a prestigious international film and editors association.

We have lost a great colleague and a formidable friend. He will leave a tremendous gap – personally and professionally. We express our deepest condolences to his wife, Carolien, and his family. We will always remember Richard's leadership, passion and commitment to excellence.

Carolien van Nijnatten-Korver, his wife, wrote: "He grabbed every option available to keep the cancer cells under control. For almost 20 months this determination made it possible to keep doing everything he loved to do. In the end, it was his body that gave up. I'm really sad that Richard is physically no longer at my side. Together we've had amazing experiences, we've been through a lot, witnessed more than most people, felt alive with all our senses and we discussed all and everything. I'm left with a treasure chest loaded with valuable memories with which I will live a rich life. I hope that sometimes you also will be touched by a memory, something you and Richard experienced together or something he's said to you."



*Goodbye, dear Friend.
It is with pride that we dedicate this
edition of the magazine to your memory.*

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Chief editor

Michal Olejarnik

Editorial team

Lucie Cimoradska, Lisa Shawcross, Richard van Nijnatten

Layout

Andre van Herk

Print

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GM's Outlook

Dear Colleagues,

Let me first thank you all for doing so well last year: delivering good service and capabilities to our operational customers. And for being a strong and successful team, working together well from whatever location, CSU or service line you come from. That is our strength, teamwork. Nobody can deliver successful IT alone. NCI Agency matters, you matter!

2016 will be an important year for team NCI Agency. First of all, because we have to deliver essential capability before the Warsaw Summit. We are building the IT capability for NATO Force Integration Units (NFIUs) in 6, later 8 countries; we are supporting the Multinational Corps Northeast in Szczecin and Multinational Corps Southeast in Bucharest in their roles of leading the NFIUs. We are delivering the technical part to allow NATO Ballistic Missile Defence to declare Initial Operational Capability and we are delivering the NATO Air Command and Control System - already operational in Italy - to other NATO AirC2 units to allow them to become operational.

2016 will be important as we continue to support operations and the Readiness Action Plan, of which the NFIUs are a part. As a team with the NATO CIS Group (NCISG), we will deliver C4ISR support to Operation Resolute Support and help the mission adjust to its political and military objectives. Not to forget support to NATO air policing and other operations in Turkey, Kosovo and at sea. Together with NCISG we will continue to support a host of exercises all over the NATO territory to show and further improve Alliance preparedness.

2016 will be an important year to get ready for one of the most modern IT environments in the defence world. NATO will move to its new HQ in Brussels early in 2017; 2016 we will get the new IT installed and our support team ready. In 2016 we will also select the consortium

that will build the new IT infrastructure for the rest of NATO and the first wave will become operational by end 2017. This means we will have ample time to adjust ourselves to support this new, cloud-based environment that allows for the best cyber defence and more secure, mobile operations. It means for us new processes, new procedures, additional training and where relevant adjusting the organization.

Lastly, 2016 will be an important year for our change programme. With our new director Service Strategy responsible for this programme, we will re-energize the work in the early months of this year. We will fix the fundamentals of IT capability and service delivery. We will streamline resource management and make significant further steps towards full customer funding. We will work on a people strategy. 2016 Will be the year of implementing the End State Peacetime Establishment for our military staff, which will have a major impact on our CSUs and the Operations Center. 2016 Will also be a year of major relocations to our final locations in The Hague and Mons, and we will prepare the move to the new NATO HQ, that will happen in January 2017. Not easy, but essential steps to get our teams together and further increase effective and efficient production. The construction of the new building in The Hague will start and the planning of the building in Mons will reach its definite stages.

You see that 2016 will be an important year. We need energy and focus. We have very experienced staff and a good practice of working with our customers for which the CSUs are essential. We also have strong partners like NCISG, NSPA and Industry. I trust we will do an excellent job and will deliver innovative capabilities and services within time, cost and scope. NCI Agency matters, you matter!


- Koen Gijsbers, General Manager -

New NCI Agency Chief of Staff on Board



On 25 January 2016, MGEN Luis Emilio Andrey Medina handed over his Chief of Staff responsibilities to RADM Thomas Daum. The event was held at NATO HQ in Brussels.

During the ceremony, the General Manager highlighted that the Chief of Staff is the second highest ranking leader in the Agency and also the senior military authority for the military personnel, which currently numbers 1170. His responsibilities include the daily management of NATO's largest organization, NATO Communications and Information Agency, as well as resource decisions, and responsible for the care of both civilian and military personnel.



RADM Daum, congratulations on your appointment. During the ceremony we have had the chance to listen to 'Anchors Aweigh', probably the best-known Navy march in the US, while you were formally taking over the responsibilities from MGEN Medina. Is there any particular reason why you chose this music for your inauguration?

"Anchors aweigh" is a maritime composition that for me is a symbol illustrating this event as the start of a new sea travel. The ship called NCI Agency has anchored this morning, pausing briefly in the mission execution, the commanding officer passed the XO's responsibility and now, the outgoing XO will disembark this unit, will embark another ship, will weigh anchor there and deploy for a new task. The incoming XO will take his new role as first watch officer on the bridge, will order to weigh this anchor and the ship called NCI Agency will leave the anchorage soon and continue its mission.

You have started your work in the Agency as Chief Operating Officer in November 2015, while MGEN Medina was still Chief of Staff. Did this cause any tension between the two of you?

No, quite the contrary. From my perception, we have managed best to avoid interference, we easily found mutual understanding and we worked together for the best of the Agency. What makes me a little bit concerned now is that we both already worked a lot to make the day and now, I should do this alone and on my one.

I would like to congratulate Luis for his safe navigation, taking care of his crew and always heading for mission success. And I would like to also grab the opportunity to thank him especially for his kindness and his support during those three months as it was clear from the beginning that this would announce the upcoming end of his tour.

Have you already had a chance to get better acquainted with the staff of the NCI Agency?

As far as we have already met, I have to thank them for the warm welcome and the smooth beginning of our cooperation, and also for making me aware of their expectations. It made the on boarding smooth and pleasant, I have also understood the important challenge of my future role.

What would your first message be to the Staff as Chief of Staff?

You are the NCI Agency's crew, you are the team, and I cannot be successful in my new leadership role – neither on the bridge nor in the Combat direction Centre of this ship – without your contribution. So I will need your experience, your recommendations and your advice, but I also need your loyalty, as we might agree on a lot of positions in the future but there will for sure be decisions in the best interest of the Agency that might not be in everybody's favour. Let us try our best. I – will work hard, I will take care both for the people and the mission fulfilment and – I must expect that from you as well.

How do you see your role as Chief of Staff of the Agency in the coming years?

There is only one commanding officer on board a ship, only one master next god in navy terms, who is the General Manager in case of the Agency. I will support him and the Agency to the best I can. I am fully aware of the Agency's vital role to support, be it NATO missions, be it the NATO Headquarters, the command and force structure or any organization and entity, be it NATO nations or partner nations, be it international organizations.

At least in my role as the senior military leader of this Agency I am first in line to understand the need for the best support of our soldiers and our civilian staff in missions, the support of the boots on the ground, in the air or at sea.

In the end, capability delivery in timely manner, continuous operations and imminent maintenance will allow leaders in missions to save the lives of the people attached to them or – even more relevant – entrusted to their care.

I will work for the Agency's role in this support, and will encourage our staff to always keep in mind the imminent need for the best support of our deployed forces.

RADM Daum, thank you for the interview, welcome aboard and good luck!

Anchors aweigh! Thank you very much!

-LJM-





No ordinary exercise, no ordinary support

With more than 36,000 troops, over 140 aircraft and more than 60 ships from over 30 countries, exercise Trident Juncture, in Spain, Portugal and Italy, was NATO's largest exercise in a decade. It ended in November 2015 with an impressive 'show of force'.





The exercise was a crucial one for NATO's communications and information systems. *"The challenge you and your staff faced in providing support to my headquarters, to enable the high level of connectivity the exercise demanded was immense,"* wrote General Hans-Lothar Domröse, the commanding officer for the exercise, in a letter to our General Manager.

The story of the Agency's support is one of long hours, sweat, camaraderie and ingenuity. It is difficult, if not impossible, to tell it in just a few pages.

A year-long effort

Long before the first NATO commandos hit the ground near Zaragoza, Spain, the Agency staff was working - in partnership with NATO's commands and the NATO CIS Group - to make the exercise a success. Everyone realized how important it was to get this right.

NATO Secretary General Stoltenberg emphasized this when he said *"while our aim is to train and exercise, we are also sending a clear message, to our nations and to any potential adversary: NATO does not seek confrontation, but we stand ready to defend all Allies."*

The Agency's first contribution came at the very beginning of the journey – exercise planning and coordination.

One-stop shop

"Our strength is in the wide-range of support we are able to provide under one roof," said Colonel Christian Soulès, head of the Agency's Operations and Exercises Service Line, *"The NATO CIS Group and the operational community could turn to the Agency to get both conceptual support, actual networking and connectivity, but also the urgent procurement of required hardware. For our customers, this made coordination easier – one interface for end-to-end services – from advanced modelling and simulation to rapid delivery of essential hardware."*

"Another important point is people. We have staff who have been supporting NATO exercises for decades and can bring a lot of practical experience to the table, in order to anticipate issues that can arise. This was particularly important in an exercise of this complexity," added Brigadier General Luigi Tomaiuolo, the Agency's Director of Service Operations.

From the Director of Infrastructure Services and the Network Services and IT Infrastructure Service Line, the NATO Deployable Communications and Information Systems (DCIS) service management team led by Graeme Birnie ensured that the DCIS assets operated by the NCISG were of sufficient quantity and capacity to meet the exercise requirements. This required the service manager to co-ordinate changes to the system baselines across all Agency service lines and the CIS Sustainment Support Centre in Brunssum where many of the physical and configuration changes were implemented. The DCIS system management team, service line engineers and CSSC were also able to refurbish and re-baseline at very short notice a significant amount of equipment returned from Resolute Support that was a key enabler to a successful outcome.

Don't wait for me with dinner

Anticipation and coordination was instrumental in coping with what was a very demanding workload. One example is the support provided to the Officer Directing the Exercise, who was based at Joint Warfare Centre (JWC) in Stavanger and had units at locations in Italy, Spain, Portugal and Canada.

The Agency 56-person CIS Support Unit (CSU) in Stavanger had to provide a full CIS environment for 450 Exercise Control and Response Cell participants in Stavanger and up to 200 exercise control participants in the other locations, mainly in Zaragoza, Spain.

In addition, CIS support was provided to signal detachments from Spain and Canada in order to extend their national networks. The Spanish Mission Network was extended to JWC to support Spanish C2 System SIMACET; the Canadian national classified network was extended to JWC to support the Canadian EXCON elements at JWC.

Although the CSU is not manned to provide 24/7 support, the team succeeded through careful management, particularly good planning and support of a dedicated team to provide level 1 and level 2 support as requested. Exercise simulation was maintained

with round the clock support to the simulation model and the necessary C2 interfaces.

Extended support and long hours were themes for the entire exercise; the Agency's Operations Centre and service lines provided level 3 support weekdays and weekends, both at exercise locations and from static locations ('reach back') for a number of essential services: networking, core services, specialized functional services, cyber defence, VTCs, incident management and logistics support throughout the exercise period.

Teamwork

"Just like Trident Juncture brought NATO land, maritime, air and special forces into one powerful package, so all parts of the Agency came together to deliver our support," said Major Valeri Tonev, the Agency's officer of primary responsibility for Trident Juncture, "For instance, Acquisition, the Financial Controller, service lines and our logistics depot worked together to rapidly procure networking and end user equipment; the HR team and Finance supported the quick deployment of personnel. Some teams had a huge contribution to the exercise while others were not so deeply involved but the success of this endeavour was the result of a collaborative teamwork of all."

The exercise was also good for team-building within NATO, including the partnership

between the Agency and the NATO CIS Group. The term 'two cooks, 1 kitchen' was coined to describe the close and growing relationship.

"The two cooks are very effective," said the then Commander of the CIS Group, Major General Thomas Franz, "We have made very good organizational progress – the Signal Support Group concept, Mission Information Room and the Deployable Network Operations Centre."

Ingenuity, future thinking

And this brings us to another important point. The story of Trident Juncture 15 would not be complete without the story of some really clever thinking.

For instance, the 'Mission Information Room' or MIR – the use of the cloud to deliver the mission secret network and the applications the exercise staff needed to use.

The Agency first used cloud computing in support of operations when NATO patriot batteries were deployed to Turkey; a secure private cloud allowed to cut down the number of servers (and the related logistics tail) that had to be deployed. The 'MIR' concept takes this further by creating a fully cloud-based, virtual environment for the exercise that can be accessed from both static and in-situ deployable locations.



The benefits are not just in the reduction of hardware and servers necessary to support the exercise (including the necessary logistics and support). The MIR allowed staff involved in the exercise to access the environment from their regular workstations (via the Remote Application Gateway) on the NATO Secret network. This in turn meant that when it came to the exercise, all the data was in place, all the accounts created and staff were used to the environment. Prior to the MIR, a dedicated network with new accounts would be created and huge amounts of data migrated just before the start of the exercise. With the MIR this was no longer necessary, reducing the workload and time necessary, also for 'on-boarding' the exercise staff.

Trident Juncture 15 was also the first step for the implementation of the Federated Mission Networking (Time and DNS services) and this will be continued. The Federated Mission Networking concept will mandate how Nations connect national systems for the 2016 edition of Trident Juncture.

"The Mission Information Room and the embedding of Federated Mission Networking show that we are not just scrambling to meet the challenge of the exercise, but doing so in a way that improves and strengthens NATO CIS," said NCI Agency General Manager Koen Gijsbers.

Boots on the ground

When 500 US airborne troops from the 82nd Airborne Division flew directly from their home base to Fort Bragg to join 29 other Nations for the final 'show of force', so did the Agency. In sum, 80 staff were deployed to the exercise locations, including Zaragoza. This included mentors who worked with the operators and the optimum NATO software used in the exercise.

"For us this is a crucial aspect of our support," said Tibor Kruty, head of the Agency's Functional Area Services (FAS) support team, *"Not only are we able to rapidly respond to queries, we can capture what needs to be improved in the next spirals."*

Agency staff supported both land and maritime components.

Trident Juncture also saw the first deployment of NATO's cyber defence teams to support the cyber defence of the exercise network. *"The cyber component of Trident Juncture was much stronger than any other recent exercise and we are very pleased with that,"* said the General Manager.

You would think that after the massive effort, there would be some 'down time'. Not so.

"No rest for the wicked," says Colonel Soulès, *"The number of exercises we'll be supporting in 2016 is 50% higher than that in 2015. But we'll be leveraging what we learned from Trident Juncture to further optimize our support."*

Today, NATO is being tested. Ingenuity, years of experience, commitment and camaraderie showed that NATO's CIS community is able to rise the challenge, as it did during Trident Juncture.

"The whole communications architecture worked seamlessly throughout the exercise and demonstrated NATO's ability to work not only between deployed locations in Europe, but across continents too, through our links to Canada," wrote General Domröse, *"My staff and I really appreciate your efforts and I would be grateful if you could please pass on my thanks to all involved in making this event so successful. Together we showcased NATO at its best."*

"Trident Juncture shows that NATO's capabilities are real and ready," said Secretary General Stoltenberg after visiting the final demonstration together with Ambassadors and Ministers, *"NATO is up to the test."*

"I am very proud of the team," said our General Manager Koen Gijsbers, *"On to the next one!"*



NCI Agency Team on the ground in Zaragoza
(Mr Hermann Wietgreffe, General Manager Koen Gijsbers,
Warrant Officer Douglas Smith, Mr Tibor Kruty)

NATO Security Investment Programme Training renewed

The Service Life Cycle Management (SLCM) recently provided a two-day training session on the NATO Security Investment Programme (NSIP) in Brussels. This was the first time it has been given since January 2015 and the instructors were keen to get valuable feedback from the participants as they had reviewed and updated much of the content.



Why is the training important

NSIP is the programme that provides funding for new investments across NATO's military structure. The NCI Agency is now responsible for spending more than half of NATO's investment funds, with more than €250M of spending forecast in 2015 and over €400M in 2016. NATO has approved many specific policies and procedures governing how NSIP projects are to be managed and reported, and NCI Agency staff involved in NSIP projects need to know and follow these procedures.



The topics

The training had 5 sessions covering NATO's policies and procedures for NSIP, and how these are implemented within the Agency based on the project lifecycle. The majority of the content was delivered by Selma Tatar and Keith Dixon from the SLCM branch, supported this time for acquisition matters by Dimitra Kokkali and for service transition by Dave Brown from the Independent Verification and Validation Service Line. Service transition from implementation to operations was briefed for the first time and so it is of particular interest to existing staff as well as staff new to the Agency.



The attendees

18 Agency staff attended from Brussels, Mons, The Hague, and for the first time from CSU Brunssum. They represented a mix of project managers, project support staff, acquisition staff and programmatic or line managers.



The feedback

Most participants completed a survey form where they were asked to rate each session both for content and for pace. The instructors were very pleased that all sessions received very high scores for content, but the scores were lower for pace as many attendees found the training didn't allow enough time for discussion. Participants also provided many very helpful comments which will be used to improve the content for future sessions. Many participants stressed the importance of having good templates and examples both in the training and also for ready access by staff as they plan and implement NSIP projects.



Future training sessions

The NSIP training was included in the 2016 training catalogue and SLCM may provide sessions in The Hague and Mons if the demand is high enough. The instructors are currently reviewing all the participants' comments both to improve the content and also to decide whether to extend the training to 3 days to provide additional time for discussion. SLCM is also considering providing short refresher training sessions covering only recent changes in policies and procedures.



- Keith Dixon, Service Strategy -

CSU Naples - Deployment of the Virtual Desktop Infrastructure to enhance delivery and support of client's desktops

The Virtual Desktop Infrastructure (VDI) is technology allowing users to work at their own desktop environment anywhere they are located.

It relies on the server computing model, in which the desktop virtualization is enabled through hardware and software. VDI hosts the desktop environment in a virtual machine (VM) that runs on a centralized or remote server. User interacts with a virtual desktop in the same way he/she would using a physical desktop. In other words, users will be able to access their applications and data from any device and locations, while technical support effort will be minimized.

This VDI solution has been agreed and coordinated with JFC Naples J6 customer representative as the technology of choice, to replace the obsolete legacy NS workstations.

A pilot project was successfully completed in 2014 and delivered an approved computing architecture, including hardware and software specifications, all agreed with the relevant NCI Agency Service Line.

Such pilot development demonstrated to be an effective and efficient solution to delivery of IT applications and information to the end-users at lower costs, lower energy consumption, better flexibility and speed of delivery as well as much stronger information assurance posture (no hard-drive handling, software patching and Anti-Virus run on the vMachines installed on the servers in the cloud, etc).

VDI improves the business continuity, data security and desktop lifecycle management. Furthermore, the user experience is seamless and physically user friendly (the user can log on from every desk).

So far, more than 300 endpoints have been deployed by CSU Naples. By summer 2016, the plan is to deploy additionally 330/380 end-points.

In addition, to improve our operational readiness we are going to install 50 clients in a designated area that is used for exercises and operations in order to have this pool of resources in a stand-by mode ready to be deployed in a very short term notice.

"Joint Forces Command Naples is well equipped with a modern and robust CIS infrastructure since its relocation to a new compound at Lago Patria, providing over 900 users with reliable, secure and high performance services. In close coordination with CSU Naples, J6 agreed on the implementation of the VDI project leveraging the high-performance CIS infrastructure, enhancing the quality of service and lowering the total cost of ownership to NATO. J6

having gained approval for related NATO resources and NCI Agency developing a sound technical solution, will implement 850 VDI with zero terminal clients (with 300 already deployed) by end 2016. Users can already see real improvements with a very fast access to their account and an increased security not having to deal with hard drives storage. In addition, VDIs proved to be very stable and require fewer resources for maintenance and replacement than normal workstations. The VDI environment also improves operational readiness and exercise capability with the ability to rapidly create or reconfigure VDIs at the server to quickly meet new requirements compared to deployment of full tower workstations. As an overall, the VDI project is assessed as a real success both by the users and the CIS community, and is clearly a solution that needs to be extended all over ACO headquarters", said COL Charles Verdier, JFC Naples ACOS J6.

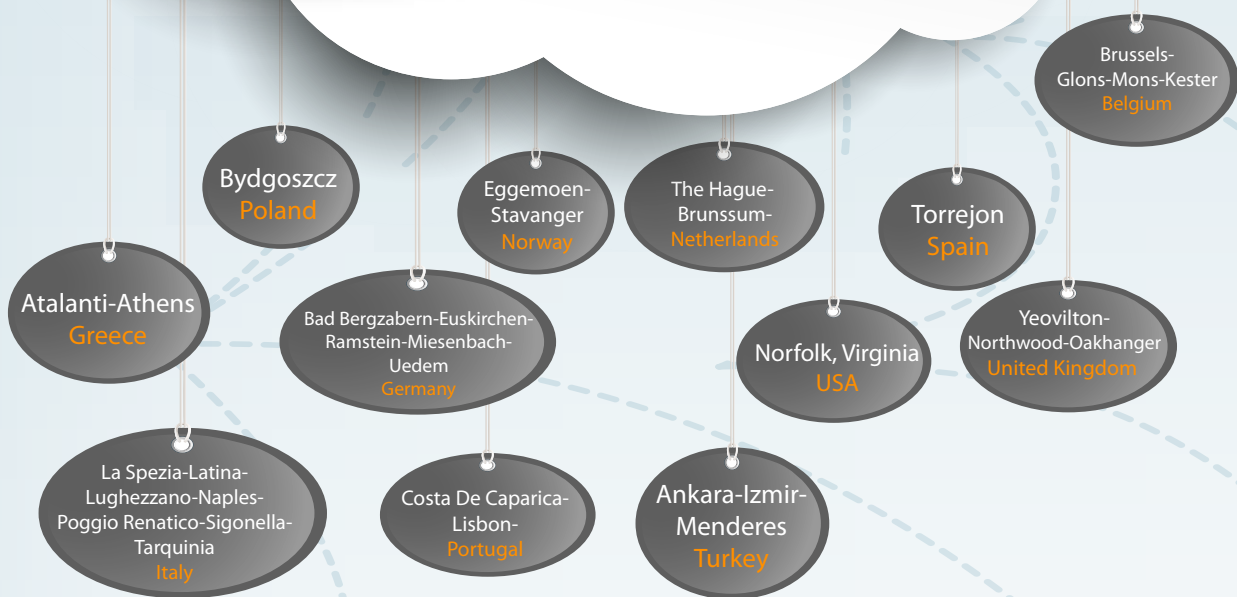
"Building a VDI infrastructure is not an easy task considering that it must be based on a really strong architectural design, especially when the final target is to deploy hundreds of endpoints. The most common mistake is to run VDIs on the IT infrastructure already on site. It fails because there are too many concurrent components trying to acquire resources from the same source. That's why in Naples we built a new dedicated infrastructure fully integrated in our Data Center and further scalable to host new emerging requirements" said Mr Flavio Bucci, the VDI Project Manager.

The initial tranche of VDI clients has now been rolled out and therefore we started users' survey in December. The feedback will help to plan the next phase of the roll out accordingly. The first data we received from users showed a high satisfaction level rate. *"I've had a VDI since mid 2014, being one of the first users. The overall WS performance has improved significantly as compared to the old physical WS. Especially the speed when browsing and/or accessing files. Every now and then, there seem to be issues when trying to log on to the server/account; however, these don't persist and can be easily overcome. Further, the Customer Service Desk is quick to respond and fix any issues. Overall, I am very pleased and satisfied with the performance and convenience the VDI client provides. Also, it is worth commenting the quick installation, which was done in a matter of minute,"* stated one of them. We are on the right way for a better service!

- Nicola Palermo, CSU Naples -

IT Modernization

NATO's First Step to a Cloud-based approach?



With the creation of the NATO Communications and Information Agency (NCI Agency) in 2012 the newly formed Agency inherited the Information Technology (IT) asset holdings of NATO. Immediately an initiative was launched to build an understanding of these assets; how they were used, and what the shortfalls were and to develop a strategy for improving the infrastructure and the Agency's ability to provide high quality, robust, standardized and cost-effective IT services. A study conducted with industry through the Network Centric Operations Industry Consortium (NCOIC) identified significant gains that could be achieved and as a result an ambitious programme to modernize NATO's IT capabilities – the IT Modernization Programme - was launched in 2013.

The expected outcomes of the IT Modernization efforts carry a lot of myths with them, from very low on the success ladder being a matter of a hardware refresh only, all the way up to being a programme that will solve all NATO's IT issues. The Agency's level of ambition is naturally that the IT Modernization efforts should bring NATO to as high as possible on the success ladder. Success of the IT Modernization Programme relies therefore on much more than providing a hardware refresh. The Agency will implement significant changes to the way capabilities are acquired, designed and consumed by implementing a Cloud-centric approach, where capabilities will be available primarily from new NATO Enterprise Data Centres through a strong

focus on the complete life-cycle management of the services provided.

Naturally, in order to achieve this, a level of standardization of hardware and software solutions is required and will be facilitated by IT Modernization by replacing legacy infrastructures throughout the NATO Enterprise. However, the true value of IT Modernization will be the increase of the efficiency and effectiveness of NATO's Information Technology infrastructure by:

- Renewing obsolete IT infrastructures with standard solutions, reducing the heterogeneity of hardware and software assets;
- Quantifying and increasing the availability of service levels;
- Implementing NATO-wide Business Continuity and Disaster Recovery capabilities;
- Enhancing the Information Security posture;
- Increasing operational agility and flexibility by enabling reallocation of resources dynamically, as dictated by the operational situation;
- Bringing new ways of working by enabling a mobile work force; and
- Reducing the manpower and operations and maintenance costs required to provide and maintain services.

The main focus of IT Modernization is clearly on achieving the expected Business Benefits by creating a scalable, dynamic and agile IT foundation for NATO. Significant effort has gone into translating the benefits into measurable Key Performance Indicators that and demonstrate that the expected outcomes has been achieved. IT Modernization will also have four new global Service Levels built-in, providing operational availability levels ranging from 98% up to the highest level of 99.99%. Disaster Recovery Time and Recovery Points are also defined, providing the foundation for clear and transparent Service Level Agreements (SLA) with our customers.

An update from the NCI Agency IT Modernization Programme Office - the journey has begun

For the NCI Agency it began with the Active Network Infrastructure (ANWI) project for the New NATO Headquarters. The Nations expressed a desire to ensure the NNHQ was equipped with modern technology to support its NATO 2020 vision. The ANWI Project Managers are guiding a multi-million euro contract that provides a virtualized Cloud environment with high capacity and secure connectivity for several thousand users at various classification and protection levels. The end users (our customers) will receive new thin clients, wireless infrastructure for flexibility, voice-over-internet protocol and mobile phone services. Data Centres are installed and becoming operational to support building and security management users today. The grand move-in date is planned for 1st qtr 2017 and the team is hurriedly preparing to ensure services are ready.

In parallel, the Invitation for Bids (IFB) for IT Modernization Work Package 1 (Infrastructure as a Service Implementation and Consolidation) was issued 29 April 2015 and marked the beginning of a five-and-a-half year journey that we are making in partnership with industry.

It will take the NATO infrastructure and put it on a modern, sustainable and efficient footing for the years to come. It will be a fundamental move for the NCI Agency in the journey from an asset-based to services-based organization.

Our Level of Ambition: Work Package 1 will establish three NATO Enterprise Data Centres in Mons, Lago Patria, and Brussels together with two new Service Operations Centres (virtually split across locations) from which central Service Management and Control of all of the services the Agency provides can be monitored and administered in a robust and resilient way.

In full strength, IT Modernization will touch 44 sites across NATO until fully implemented at the end of 2020.

With the current schedule achieving contract award by June 2016, the first wave of IT Modernization benefits will be enabled as follows:

- Business Network (NU/NR) and Operational Network (NS) Reference Environments (Mons) in operation 26 December 2016;
- Two NATO Enterprise Data Centres (Lago Patria and Mons); plus two Service Operation Centres (Mons + The Hague) 10 April 2017;
- Four Enhanced nodes operational in Norfolk, Northwood, Izmir and Sigonella 20 November 2017.
- In the coming weeks you will hear more about how these project activities will be better governed and managed following Agency Managing Successful Programs (MSP), Programme and Portfolio Management P3M, and Information Technology Infrastructure Library (ITIL)/IT Service Management principles. It is key for success that the Agency practice extensive stakeholder communication raising the awareness of the efforts and the expected business benefits.

Continuing the modernization effort:

The Agency has submitted the second stage authorization requests for Work Package 2 (Framework for Client Devices) and will shortly submit an authorization request for Work Package 6 (NCIRC Project Extension). The Framework for Client Devices will not only be the vehicle for providing client devices to eligible IT Modernization entities but also serve the future contracting vehicle when non-ITM entities require client devices.

IT Modernization will consolidate and centralize the majority of computing resources into the Data Centres (our Cloud environment) and Work Package 6 deals with extending and adapting cyber defences to be able to perform within this new service design and operational concept.

There is also a clear linkage and dependence on the NCI project which released its Invitation for Bids 30 September 2015. The NCI Project will provide the additional bandwidth, routing performance and cryptographic devices required for the interlinkage between the IT Modernization Data Centres.

In conclusion:

As Program Executive, the Directorate Infrastructure Services is closely monitoring the inter-dependencies with both the NCI Project and other key projects such as Enterprise NATO Public Key Infrastructure (E-NPKI) and will develop mitigation plans to counter unexpected delays.

IT Modernization will affect not only the NCI Agency and how it delivers services but also how our customers will consume them. It marks the start of a transition from an old Twentieth Century IT posture to a modern, future-looking Cloud-based approach. IT Modernization enabled services will in the future be facilitated through the Agency's Customer Services Catalogue, which is the ultimate source of developing Service Level Agreements (SLA), Programmes of Work (POW), Proposals and Agreements.

- Dr Gregory Edwards (DIS), Frank Mikla, Lukasz Sokolowski -

New IT for new NATO HQ

The move to the New NATO Headquarters (NNHQ) presents the opportunity to improve effectiveness and flexibility by using modern technology that is common in the commercial world while respecting NATO's need for security. As such, in addition to a modern working environment, the NNHQ staff will also receive new Information and Communication Technology (ICT) equipment provided by The NCI Agency.



Mobile Business Network

Staff will enjoy greater mobility and flexibility on the new “low-side” internet network, sometimes referred to as the Business network. More staff will have laptops as their main low-side platform, which, when they are working from their offices, will be linked to a secure Wi-Fi network and will be connected to normal monitors and keyboards through a docking station.

The Business network will replace the current LRE-based network as the main platform on the “low side”. Since the office phone will also be routed through the same laptop, staff can be productive even if they are not physically at their desk. They can take their “office” with them anywhere in the building to work temporarily with a colleague or in a task force. When working outside of NATO HQ, staff will be able to access their email, calendars, files, and other services up to the NATO Restricted level from any Wi-Fi connection in the world. Mobile devices come in the form of GSM smart phones, tablets and laptops and will be available according to the business needs of each staff member. This mobile capability also has the potential to facilitate and support HQ business continuity planning.

Security for the NATO Secret Network

The Secret network will continue to operate on a separate platform. Unlike in today’s PC-centered world, most staff will be connected to this network via a simple computer terminal, known as a “thin client”, which stores no documents or other classified information. All data and files are saved to and backed up on the remote server, much like working solely on the G: drive today.

Secure Access

A high level of security will be provided by the use of a smart card combined with a log-on password to access to NATO’s IT networks, as well as the individual’s office, remote printing facilities and the NATO HQ site itself.

Cross Network Services

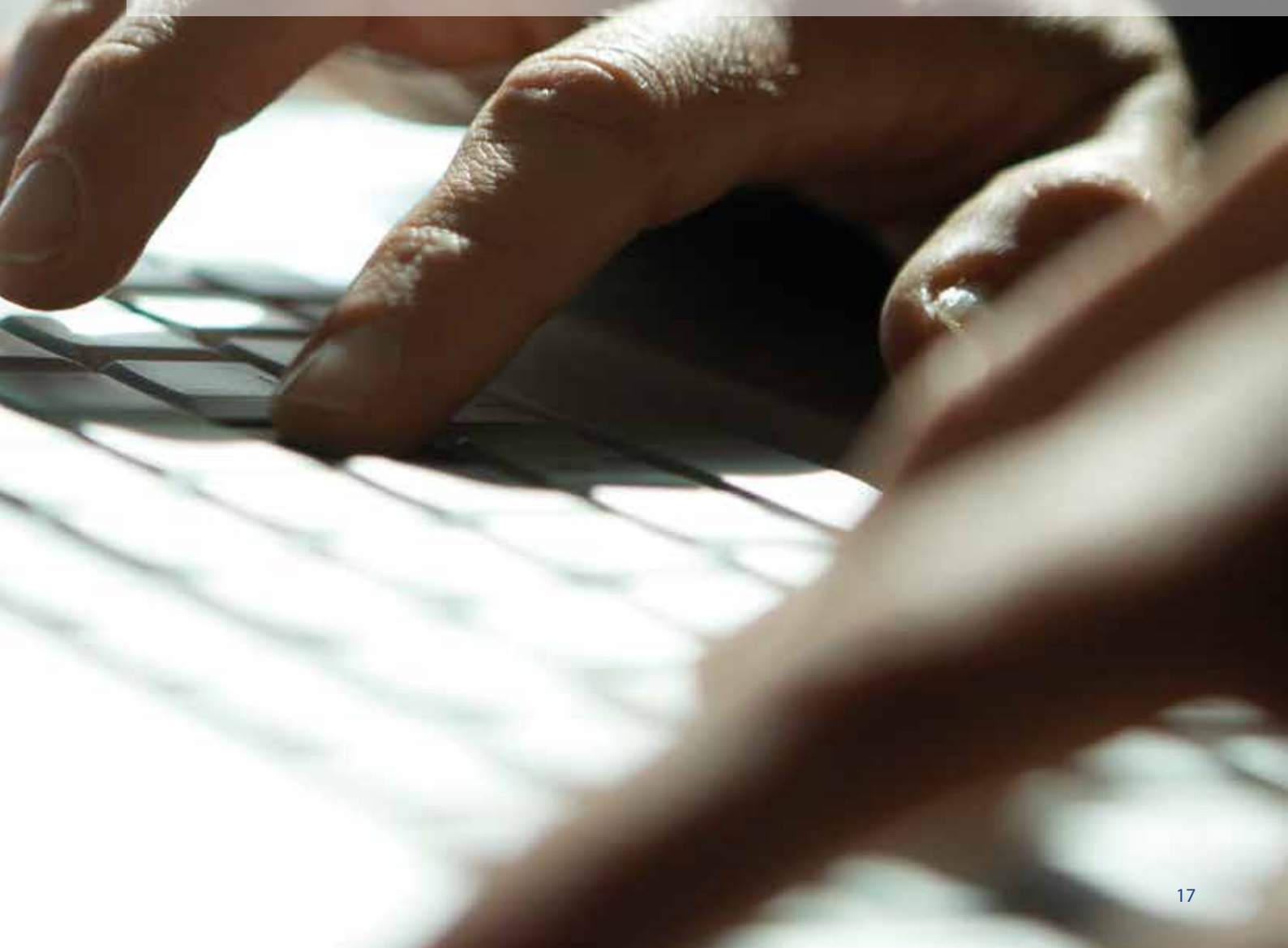
When working on both the “low-side” and “high-side” platforms, it can be tedious to transfer information from one to the other. At the NNHQ users will be able to electronically transfer information from the Business to the Secret Network without having to manually transfer data via USB sticks. Staff working on the Business Network will be notified if mail has arrived for them on the Secret Network.

Video Teleconferencing (VTC)

VTC capability will be widely available at the NNHQ. Desktop VTC will come standard on the Business network devices, allowing users to communicate via video and voice. Modern Virtual Meeting Rooms (VMRs) will allow staff at similarly equipped distant locations to appear as if they are “virtually” in the same room, whether in the same building or in a different country, making face-to-face consultation possible even at distance.

If you would like to have more information about the ICT tools that will be available at the NNHQ, book yourself a tour of the model office and meeting room being organized by the Transition Office.

- ANWI Team -



STRATEGIC PARTNERSHIP

SUSTAINING A HEALTHY RELATIONSHIP WITH OUR CUSTOMERS

If you think that 'strategic partnership' is the name of a new on-line dating service, you probably need to read this article.....

Do you know what Strategic Partnership is?



The conventional definition of a strategic partner is another business with whom you enter into an agreement that aims to help both of you achieve more success. The NCI Agency and its NATO Enterprise¹ partners have a strategic partnership, but not in the commonly accepted business sense, because both customer and supplier (NCI Agency) are part of the same supra-organization. This short article introduces you to the Agency's Strategic Partnership (SP) Team and gives a brief overview of what they do. From an organizational perspective, the small group (6) of SP staff involved are part of the Strategic Partnership & Customer Relationship Management (SP&CRM) Branch, which is itself within Demand Management (DM).

So what is Strategic partnership – from an NCI Agency perspective?

To exploit the relationship between customer and supplier, in the day-to-day delivery of C4ISR projects and services, the NCI Agency maintains an embedded staff presence within SHAPE and HQ SACT and a dedicated staff function for NATO HQ/Agencies and Nations within our Agency HQ collocated with NATO HQ. These are characterized as Strategic Partnership Offices² (SPOs) - in effect, these offices represent the "tip of the spear" in the Agency's conduct of routine and enduring Customer Engagement.³

At the time of writing, the team was:

SP Office Mons:	Steve Wallis and Bill Gray
SP Office Norfolk ⁴	Luc Barbeau and Virginie Viscardy
SP Office NHQ/ Agencies and Nations:	LTC Georgios Tsirigotakis and Nadja Elfertasi ⁵

By way of functionality, although part of DM, the SPOs provide a bi-directional gateway to interact, intelligently, between supplier and customer; this opportunity is available and can be exploited by all parts of the Agency. From a formal Strategic Partnership perspective, they are responsible for relationship management; an enduring, day to day process to manage expectations, facilitating conflict resolution and (more generally) representing the NCI Agency's interests. More broadly, they provide a "one-stop" NCI Agency presence dedicated for each of the customer groups and act as trusted advocate for both supplier and customer.

It is, perhaps, important to stress that the role and function of the SPOs does not preclude or inhibit the need for continued effective Service Line/customer interaction, where appropriate. Furthermore, it should be noted that the SPOs do not have the lead for issues concerning the delivery of ICT Services defined in the SLA; this remains the domain of the relevant CSU/CSE Commander.

Strategic Partnership Office ACO (SHAPE Mons)

DM maintains a small SPO in Mons at SHAPE, with the two Agency personnel (Steve and Bill) providing the essential conduit between the Agency staff and processes and SHAPE/ACO. In addition to the more traditional SPO activities and responsibilities, outlined above, the ACO SPO has the following additional and, in some cases, unique tasks:

- Agency advice to, and representation within, the SHAPE Urgent Capabilities Management (UCM) division within SHAPE. The division manages all requests for urgent capability requirements from the various operational theatres and liaises with the various higher level NATO authorities regarding requirements approval and funding.
- Representing the Agency at the CMRB.⁶ The CMRB is the senior ACO authority for endorsing urgent operational requirements and meets every week.
- Acting as the Project Manager for Agency support to Afghanistan Mission Network (AMN) Governance. The AMN Secretariat is also located at SHAPE and the SHAPE SPO has strong and well-established links to the AMN Secretariat staff.
- Providing the lead for CRM aspects of DM/DSO Issues Management. The SHAPE SPO works in very close cooperation with DSO and his staff, who are co-located at Mons, in maintaining and managing the various issues of common (DM/DSO) concern. This is a relatively new function and aims to underscore the importance of tracking and addressing "real" customer satisfaction issues.
- Conducting local coordination with sponsors and SHAPE finance staffs, for the 80 or so individual projects that comprise the annual ACO Programme of Work – this function is undertaken by Global Account Management staff operating within the SP Office.
- Finally, the SPO is becoming increasingly involved, in a local liaison capacity, with the emerging responsibilities from the implementation of Federated Mission Networking (FMN) within the NATO Enterprise and beyond. Primary responsibility for this rests with SStrat and others.

1. ACO, ACT, NATO HQ & Agencies and the Investment Committee (IC) for NSIP. Note: Director DM is not currently accountable for customer engagement with the IC.

2. Formerly known as Field Offices.

3. Customer Engagement through: Customer Contact & Interaction; Relationship Management; Education and Expectation Management.

4. A4 Head SP Office Norfolk under recruitment.

5. Nadja was recently selected as the Stakeholder Engagement Senior Executive Coordinator within CSO.

6. CMRB = Crisis Response Operation Urgent Requirement Management Review Board.

STRATEGIC PARTNERSHIP



Strategic Partnership Office ACT (Norfolk, USA)

DM also maintains a SPO in Norfolk (USA), supporting its other NATO Command Structure Strategic Partner, HQ SACT. The two Agency staff members, Luc Barbeau and Virginie Viscardy (V2), also work alongside the local CSU staff to provide a coherent Agency presence for North American area. The ACT SPO provides three key functions that help forge the Agency's relationship with ACT.

Transformational Awareness: Utilizing its geographic location alongside HQ Supreme Allied Commander Transformation (SACT), and key national and multinational entities in North America, SPO Norfolk provides a unique perspective on transformational activities affecting the Alliance, including:

- Enhanced education, training & exercise programmes;
- Development of interoperable military capabilities;
- Identification of future security challenges and opportunities; and
- Reinforcement of the Transatlantic Bond through close cooperation with NATO allies and partners.

Through their colocation, Luc and V2 seek opportunities to promote and align Agency strategic objectives with those of SACT and to correlate ACT's key events and exercises with the Agency's Customer Engagement Plan.

Shaping the Future: HQ SACT has provided an excellent opportunity for V2 to be embedded within its Strategic Planning and Policy Division. This closer and more proactive relationship with the Command's policy makers has achieved many positive results, including strengthening the bond between HQ SACT and the Agency and influencing the development of concepts and policies on the future of the Alliance. It also maximizes the Agency's exposure in major ACT events; this was recently illustrated by the GM's participation in the Strategic Military Partners Conference and the Transformation Seminar – events which were also attended by SACT and the NATO Secretary General.

Capability Development: SPO ACT also plays a key role in overseeing, coordinating and supporting C4ISR capability development activities, from the NATO Defence Planning Process (NDPP), through the execution of R&D activities, to the submission of Capability Packages.

So in conclusion, the Agency staff involved in the delivery of SP function do so because they recognize the importance of sustaining and developing further the positive relationships that exist. It is comparatively unglamorous and occasionally painful, but it is an important task.

Equally, as an Agency, we gain a valuable and close-up perspective on our customers and their strategic C4ISR needs – the key is to exploit that opportunity. Cementing these strategic partnerships, in order to secure the goals and objectives of our senior NATO customers, plus the large number of national customers is the motivation.

- Steve Wallis and Bill Gray -

Strategic Partnership Office for NATO HQ, Agencies and Nations

Based in Brussels, LTC Georgios Tsirigotakis and Nadja Elfertasi are the Agency points of contact for SP interaction with NATO HQ & Agencies (NHQ&A) and the various Nations. They provide the Agency's liaison and interaction function to a very broad spectrum of customers – from the International and International Military Staff, the C3 Staff, National Delegations and to a number of agencies and organizations (such as NSPA and BICES Group Executive). Given the breadth of customers, the NHQ&A and Nations SPO has a number of additional unique responsibilities:

Organizing the Senior Customer – Supplier Board (SC-SB) sessions.

The SC-SB is the principal forum to enable direct dialogue between the key NATO institutional customers and the Agency. It is a biannual meeting (Spring and Autumn) that is chaired by the Senior Customers on a rotational basis. DM provides the secretariat for the SC-SB and is responsible for the tracking and coordination of minutes, follow-on meeting and action lists. It also coordinates the Agency contribution to the meeting.

Organizing the Chief Information Officers' Conference (CIOC).

The CIOC is the principal (structured) consultation forum with national CIO's and representatives from the NATO Enterprise community. The overarching theme for the recent 2015 CIOC was "From Wales to Warsaw - NATO Interoperability: Secure, Affordable, Fast and Easy (NISAFE)". Within this theme the 2015 CIOC concentrated on efficient and effective delivery of the NATO C4ISR capabilities to the wider NCI Agency Customers. The principal focus was on: NATO First Solution (N1S) for Nations and the NATO Force Structure; support to Readiness Action Plan (RAP) implementation and finally an improved environment for connected exercises and training.

Beyond these two structured customer engagement opportunities, and on an enduring basis, the SPO NHQ&A and Nations provide the following additional support functions:

- Monitor SLA and POW development/reporting to support the relevant Account Manager's work and to provide support and assistance whenever needed.
- Monitor events held in NATO HQ & Agencies and Nations that are of generic interest to the Agency and providing support to the Agency's representatives/participants.



NCI Agency Year in review





A Stronger NATO

1. First Resolute Support training
2. Trident Jaguar - larger than ever
3. Agency team wins Locked Shields cyber exercise
4. Supporting submarine hunting
5. Steadfast Cobalt - preparing for Juncture
6. CWIX2015
7. MAJIC 2 - enhancing interoperability
8. Supporting AIRCOM in Ambition II
9. Steadfast Illusion
10. Trident Juncture 2015
11. IT Modernization project authorization
12. ACCS goes live in Italy
13. Supporting Spanish Patriot deployment
14. Federated Mission Networking plan approved
15. Agency and Poland to cooperate on missile defence
16. NATO Force Integration Units – installation of Points of Presence

Collaborating with Industry

17. NICP
18. Cyber Incubator Pilot
19. Agency in leading cyber magazine
20. Smart Defence project progress
21. NITEC Conference on business opportunities
22. NIAS2015

Innovation

23. PC on a stick
24. New ICT for NNHQ
25. HeliOps
26. New online customer service catalogue
27. Deployment of Virtual Desktop Infrastructure

Strengthening Partnerships

28. DNBL
29. Switzerland joins CFBLNet as newest Partner
30. NATO-Ukraine Agreement / NATO C4 Trust Fund
31. Chief Information Officers' Conference
32. 2015 Chiefs of Transformation Conference

Undercover in Spotlight

Chief of Cyber Security, Mr Ian West, was featured in the March/April 2015 issue of SC Magazine, the leading information security magazine. In the interview, Mr West discussed the Agency's Cyber Security Service Line, and highlighted the theme of cooperation between NATO and industry.



Best Cyber-defenders



The NATO Blue Team of cyber defenders, made-up of staff from the Agency's Directorate of Infrastructure Services, and Legal Office, won the largest international

'live-fire' cyber-defence exercise – Locked Shields 2015 in April. The winning team had to set-up a virtual network, secure it, and then defend it from relentless and skilful Red Team attacks over a two-day period.

NATO's Delight, Our Honor

The following people working for the Agency were honoured with the NATO Meritorious Service Medal 2015: Mr Davide Albertosi, COL Anthony Audrey, Mr Michael Bauer, CPO Chad Berry, Dr Philip Eles, BGD Jose Enrique Gutierrez Camacho, Mr Kudret Karatepe, LTC Brian Kastning, Ms Cristina Palacios, COL Herve Sirault, Mr Martin Steenwege.



Leaders in Training

The Agency's Development Programme for Senior Managers recently recognized the successful completion of the Programme by seven staff members from across the Agency:

Bart Salien, Bernard Frala, Frederic Cloutier, Jean Paul Massart, Jonathan Armstrong, Laura Fanti, Wolfgang Taubert.

From Air Force to Navy

Rear Admiral Dr Thomas Daum joined the NCI Agency on 3 November 2015 as Chief Operating Officer. The Admiral assumed the Chief of Staff and Deputy General Manager post from Major General Luis Emilio Andrey Medina in January 2016.

Poland's Pride

The Deputy Prime Minister of Poland - Minister of National Defence, Mr Tomasz Siemoniak presented NATO Communications and Information Agency staff member, Mrs Agata Szydelko, with a Medal of Merit for National Defence (Polish: Medal Za Zasługi dla Obronności Kraju) in June 2015.

Kabul Tales

In August 2015, Mr Koen Gijsbers visited Resolute Support Signal Support Group (RSSSG) in Kabul, Afghanistan.

Purpose of his visit was to ascertain the support provided to the Resolute Support mission by RSSSG. In doing so, he met with the key Resolute Support Command leadership and the RSSSG Commander, COL Anthony Audrey, and his staff.





Towards Warsaw

Summit meetings are the highest level of NATO decision-making. They bring together Presidents and Prime Ministers from the 28 (soon 29) NATO countries. Typically, they result in ground-breaking decisions. The next Summit will be held in Warsaw, Poland, from 8 to 9 July.

NATO's last summit, held in Wales in 2014, launched the Readiness Action Plan, established new NATO headquarters, boosted NATO's rapid response forces, dramatically increased the number of NATO exercises and ushered in a new cyber policy. Each of these decisions impacted the Agency, giving us challenging new tasks to achieve. So what can we expect from Warsaw?

Have you done your homework?

For the Agency, Warsaw is about delivering some very important homework. NATO has six new headquarters in Eastern Europe that need to be fully connected to NATO's networks by the time of the Summit. Two more will be established later.

We are also providing IT support for the multinational units that will form the backbone of NATO's new very high readiness force, a brigade that will be able to deploy within 48 hours and will eventually include 5,000 troops. We are delivering the technical part necessary for NATO's Ballistic Missile Defence to declare initial operating capability at the Summit. We are providing the networking that will connect NATO's new fleet of Global Hawk unmanned aerial vehicles and allow for the transfer of their data.

All of these tasks must be accomplished by the time of the Warsaw Summit. In total, the Agency is supporting nine of the 16 critical projects that will be reviewed at the Summit. Busy? You bet.

Well, here's some more...

While the Wales Summit agreed a series of rapid responses to the new security situation in Europe, Warsaw will discuss the Alliance's long-term adaptation to the new environment. So far, two words – resilience and deterrence – keep cropping up.

"This Summit comes at a crucial time for the Alliance, as the tectonic plates of Euro-Atlantic security have shifted both in the East and the South. In Warsaw, we will chart the course for the Alliance's adaptation to the new security environment, so that NATO remains ready to defend all Allies against any threat from any direction," said Jens Stoltenberg, our Secretary General. *"Over the last years, our world has become more dangerous, and more unpredictable. But NATO is adapting to keep our nations safe. In 2016, and in the years ahead, NATO will remain an anchor of stability. Staying strong, open for dialogue, and working with our partners around the world,"* he added.

Being a part of NATO, the Agency must be ready to 'turn on a dime'; to re-prioritize and meet new objectives. We proved we can do this after Wales; now we are waiting for the direction from Warsaw. What is certain is that life will remain busy, interesting and challenging.

The meaning of the logo

The design includes a modern depiction of the Mermaid of Warsaw, the emblem of the Polish capital, which dates back over 600 years. Legend tells us that after being rescued by local fishermen, the mermaid, armed with a sword and a shield, stood ready to protect the city and its people.

- MO -

Innovative software intensive acquisition approach: from a waterfall engineering to AGILE methodologies

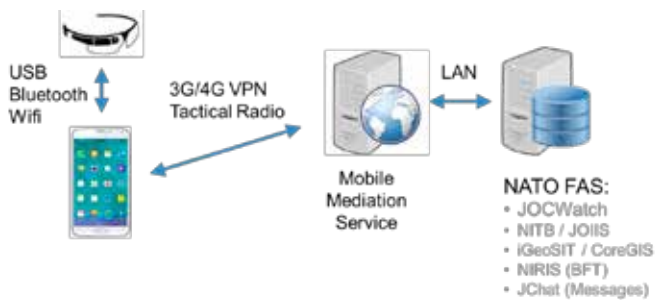


Why is innovation needed so much in the software development cycle? One can observe that traditional software development methodologies and their procurement cycles (waterfall, spiral, etc.) are often costly, prone to “scope creep” and result in products that take years to develop and/or acquire, ending up with something that the customer may not want to use because his requirements may have changed. The problem is even more relevant from a customer perspective, when the objective is maximizing the return of investment by also minimizing his effort in developing detailed requirements and reducing costs associated with change requests.

What innovation is necessary? What is needed, especially in software intensive acquisition projects, is a new way to approach software engineering, which brings the users, the customer and the developers all in the same room, has shorter development cycles and accounts for quick feedback

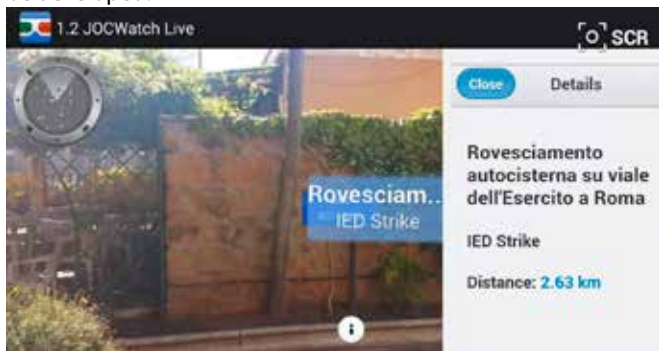
from the user community to be incorporated back into the development cycle.

The NCI Agency and the Italian MoD have been collaborating recently in developing mobile apps for the Italian “Soldato Futuro” (Future Soldier) handheld devices. The use-case for this project covers the situation when the soldier on patrol has his hands engaged while “busy” handling a weapon, and his ability to receive and send situational awareness data from his mobile device is limited. The goal is to keep a certain amount of situational awareness data available by receiving and sending this data through an augmented reality (AR) device such as Google Glasses or similar. The augmented data displayed on the device is retrieved from NATO FAS (Functional Area Services) while the data collected by the soldier is fed back to NATO FAS (and implementation of the “Soldier Sensor” concept used in the Intelligence Surveillance and Reconnaissance domain).



HW and SW architecture of project "Eye - Catch"

To develop AR apps for the Italian MoD, the Directorate of Application Services (DAS) Joint ISR service line (JISR SL) started following a new software development methodology that the Italian MoD has been applying for many years: an agile methodology, but somewhat revised to encompass the mission-critical factor of the software to be developed.



NATO JOCWatch events displayed on Google Glasses

Software Intensive Project (SIP)

To emphasize the need to innovate in the area of software development, NATO nations have recently pointed out the systematic problems experienced by the Agency through the implementation of Software Intensive Projects (SIP).

In January 2014 a SIP Task Force (TF) was set up to identify means to improve the performance of software-intensive common-funded acquisition projects within NATO. The TF is composed of key stakeholders from Allied Command Operations (ACO), Allied Command Transformation (ACT), Consultation, Command and Control Staff (C3S), the NATO Communications and Information (NCI) Agency and the NATO Office of Resources (NOR). A preliminary report identifying the problems was released to the Investment Committee in May 2014 and this identified approximately 30 different but interdependent root causes of the issues, broadly categorized as relating to requirements, regulations and risk.

To allow focus on solutions, the TF identified six overarching principles that need to be followed in order to improve the performance of SIPs within NATO. Two of the six key principles point to the lack of modern and agile software development techniques.

The first of these two key principles states the need to DELIVER EARLY AND OFTEN. This principle is aimed at changing the culture from one that is focused typically on a single delivery at the end of the development phase to a new model with multiple deliveries during development, leading to an ultimate version that supports the full set of requirements.

The second states the need for INCREMENTAL AND ITERATIVE DEVELOPMENT AND TESTING. This principle embraces the concept that incremental and iterative development and testing, including the use of prototyping, yields better outcomes than those resulting from trying to deploy large complex IT network systems in one "Big Bang".

These two principles tell us that the old-fashioned waterfall approach, in which the customer, after months of software development, is faced with a release he may not be happy with, needs to be replaced by more modern and innovative software engineering techniques and methodologies.

It is worth noting that in implementing these two principles additional costs should be considered on the "Purchaser" side to manage the sprints associated with frequent deliveries of partial capabilities.

Agile Software Development: The "Italian Army Agile"

Transitioning to agile software development is essential, not only for commercial productions but also for mission-critical applications. The main reasons are in order to stay within budget restrictions, to achieve better customer satisfaction, and to be able to adhere to requirements that can vary in the short term (volatile requirements). Although so-called "agile" programming tools and techniques have been available for more than a decade, a suitable replacement for the old-fashioned "software factory" Computer-Aided Software Engineering (CASE) tools is yet to come. What is needed is an environment that can accommodate the characteristics of agile development, including support for the establishment of the cultural environment necessary for fully agile implementation, and the associated quality and reliability. To approach this problem, the ITA Army Agile or ITA A2 methodology was devised and applied in a real working context and proved to be effective in the development of a Command & Control software system. On the cultural issue, a non-profit association called DSSEA (Defence & Security Software Engineers Association), which includes academia, industry and defence agencies, is working on defining a comprehensive environment that will allow incorporation of the new agile software engineering paradigm. Research program proposals for an "Agile-CASE non-invasive software tools" and the use of semantic technologies to facilitate definition of the user requirement are being discussed within DSSEA.

Limits of the commercial approach, need for a robust, regulated "agile frame"

The commercial versions of the "agile" methodology (e.g. Scrum, Kanban, XP, etc.) cannot be implemented as is for the production of "mission critical" software or any of the typical defence and security high-reliability applications; rather, they need substantial adaptation. The main reasons are: it is necessary to guarantee quality and security (which has to be embedded in the product beginning with the very first line of code), and the user requirements are complex and specific. This applies to the "Dismounted Soldier" segment as well, for which together with the Agency the Italian Army is developing commercially derived applications.

In practical terms, the use of quick delivery cycles lasting only three to four weeks can easily be translated into a principal focus on customer satisfaction, resulting in less and less attention being given to the quality and security of the written code. This is a typical “Android apps” approach in which the first rule is: “Do it quickly and expose the product on the market, the bugs will be taken care of later”. This is fully understandable for a production cycle that “must” get the product to the potential customer before the competitors do, but it cannot be accepted for a software product whose reliability and security are extremely important to the user even if these embedded qualities are not obvious to the customer.

Effective agile adoption requires a new culture and set of processes that may be radically different from those in many defence organizations today. Agile practices, processes, and culture often run counter to those found in long-established defence organizations. The agile model represents a change in the way a government conducts business. Program developers must rethink how programs are staffed, organized, and managed, as well as whether the business processes, governance reviews and funding models that support an acquisition are structured to support the agile approach. One of the first defence organizations to succeed in the customization of agile methods is the Italian Army.

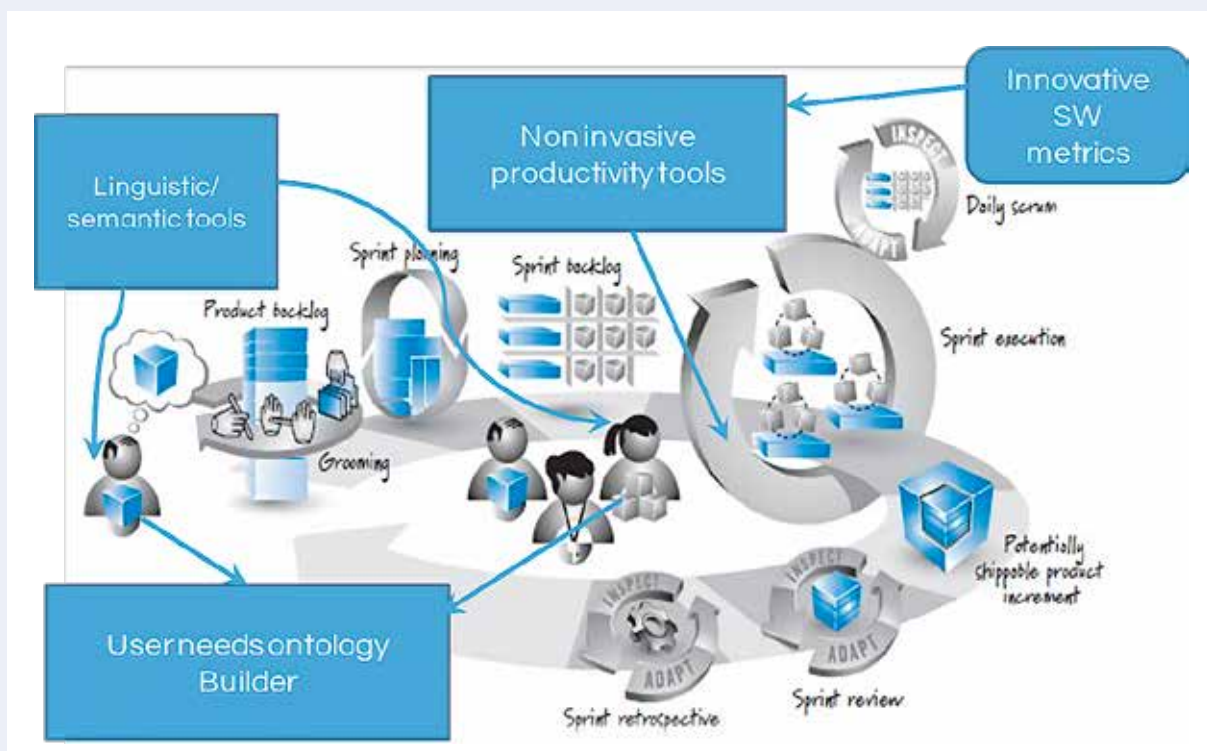
After slightly more than a year in the process, the Italian Army has seven Agile Teams in place and working. The full “scrum of scrum” complex production line is active and synchronized. The teams stepped up progressively taking charge of the full architecture of an overarching strategic Command and Control tool that implements the full spectrum of the decision support activity, ranging from facilities management to operational FAS.

The project was named LC2EVO and is now working on a 5-week “sprints” delivery cycle.

The effective transition to a customized agile methodology is based on four pillars:

1. Effective user community governance
2. Mission-critical oriented agile training
3. Innovative agile CASE tools
4. Mission-critical oriented agile doctrine and guidelines.

Pillar number 2, if not the most important, is at least the first to be implemented to create the technical-cultural environment in which “mission-critical agile” can be implemented to train the right kind of agile software engineers.



Agile SCRUM – An attempt to manage complexity using the only available tool: the human brain

100M AVERAGE LUXURY AUTO

20M NAVIGATION SYSTEM IN 2009 S-CLASS MERCEDES-BENZ

10M AVERAGE 2010 FORD AUTO

6.5M BOEING 787 DREAMLINER

5.7M U.S. AIR FORCE F-35 JOINT STRIKE FIGHTER

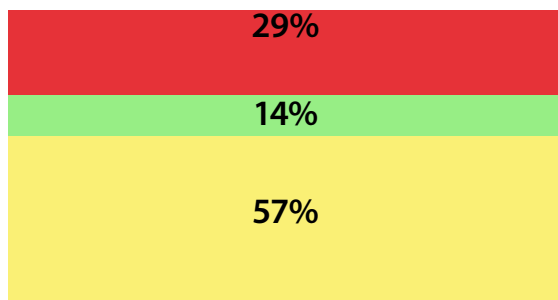
1.7M U.S. AIR FORCE F-22 RAPTOR JET

LINES OF SOFTWARE CODE IN FORD VEHICLES (MILLIONS)



SOURCES IEEE; AUTOMOTIVE DESIGNLINE

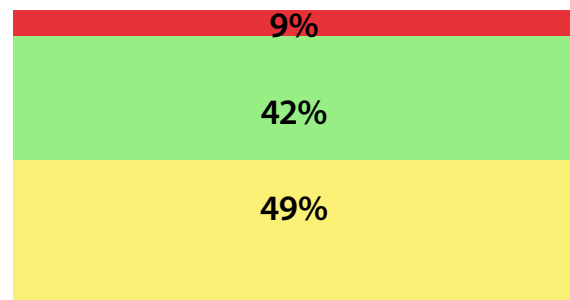
waterfall engineering



Failed

Successful

Agile methodologies



Challenged

Conclusion

The Agency, by teaming up with the Italian MoD to develop apps for the LC2EVO program to enhance soldiers' situational awareness using augmented reality, has learned important lessons in applying agile methodologies in SIP. The cooperative activity helped NATO address a certain inadequacy in the software development process/cycle, which has already been highlighted by the SIP Task Force in its report and actioned by the Agency.

The Agency is moving more and more towards an agile methodology. To do so, it is necessary to change the way NATO develops software. This is not an easy task and it will take years to eradicate old methodologies and mind-sets in staff, management and customers: changes are always hard to accept and time-consuming, but changes need to be implemented in order to improve software development methodologies and bring NATO into the 21st century.

To this extent Service Strategy, under its Innovation program, is sponsoring a one-day Innovative Software Engineering Executive class which will be held in 1Q2016.

The class examines the strategic importance and the disruptive power of the innovative approach to software development and lifecycle activities.

Management will learn to recognize the true nature of software, the complete different methodology deriving from "agile" to engineer state of the art applications, and manage intrinsic product complexity. Leveraging from the experience matured with the Italian Army in the development of the future Command & Control Operational Software, the class will tackle issues such as: building synchronized development teams, creating an effective team environment, and establishing a true, cost-effective production process. Participants will discuss what outstanding university professors and recognized "military agile" managers how to cut 50% down their production cost budgets increasing product quality and customer satisfaction at the same time.

- Dr Franco Fiore, Dr Cristian Coman, Mr Pascal van Paridon - Directorate Application Services

Recruitment Innovation: Interviews On Demand

Because we respect and value the candidates and the organization!

Recruiting for NCI Agency is a continuous challenge, for both the candidates and the recruiters, the hiring managers and the panel members. How do we know that we interview the best? How can we make the recruitment experience easier and more satisfying for the applicants? How can we involve staff from all Agency locations in the recruitment process without travel costs? When all staff are busy, how can a panel find time to evaluate candidates together?

We are recruiting for an IT organization where change, innovation and development are key words, and we try to adapt and evolve, to keep the pace with the changes inside and outside of our organization as well as with the best practices within the specific industry. Our recruitment process covers the well defined process of attraction, selection and offer steps. Please check our web page (<https://www.ncia.nato.int/Pages/Employment/Recruitment-Process.aspx>) for more details regarding the recruitment process.

NCI Agency's recruitment team follows the latest innovations, such as digital interviewing to improve the efficiency of the recruitment process and give a better hiring experience for both managers and candidates.

The NCI Agency Innovation Programme seeks to implement innovations which improve Agency services or reduce Agency costs. Through this programme we implemented Asynchronous, or "On Demand" Interviews, using HireVue, a plugin to our Taleo recruitment platform to provide NATO's first digital interviewing service.

Digital interviewing, or On-Demand, interviews are an efficient, innovative new way to implement the pre-screening interview process of recruitment. The hiring team simply provides their questions, either as text or a short video. Candidates simply record their answers to these pre-set interview questions using their computer and webcam, or their mobile device. Candidates have a defined timeframe to record their answers to prevent searching the web

for answers. Their answers are automatically saved and both the candidate and the evaluator are notified. Subsequently, multiple evaluators can check candidates' responses, assess their skills and expertise against specific criteria precisely matched against the essential requirements of a post under recruitment, and based on this evaluation make a more informed decision on who to invite for a face to face interviews. On-demand interviews are helping the recruitment team and hiring officials to get a better understanding of the people behind the papers.

Since the recruitment team introduced pre-screening interviews by Skype, travel costs to bring in candidates reduced. But Skype was not always reliable, and it still meant the hiring panel had to gather in the same time and place to conduct the pre-screening interviews.

Current experience with on-demand interviews shows candidates prefer it to a Skype interview, recruiters love that it allows them to interview more candidates, and managers rave that on-demand interviews are a much faster and more convenient way to find the best person for a post. What is in it for each of them?

"Being able to conduct the interview at my preferred time and pace was a great experience. Scheduling such as for Skype interviews was not required so I was able to find the time slot which I found fitting to my agenda and decided to start the interview at my convenience.

The candidate is being provided with additional explanations and can perform a test-interview to get accustomed to the way of how the interview will be conducted, but as most of the steps are truly intuitive, I had no need to read into the documentation.

The test-interview helps a lot as it simulates the upcoming question – answer process and allowed me to better understand which steps I can expect in the real scenario. Way to go, Recruitment!" (Gregor Gosepath, Head Belgium Section, Core Enterprise Services)



Managers want to select the right candidate for the position advertised. By using on-demand interviews they can get the right candidates faster; they can screen the candidates at their own time and place, so no more conflicting pre-screening interview times; candidates can be easily shared with other evaluators; visual reports are accessible to compare candidates easier, and select the best for the next stage.

"One of the main challenges in pre-screening candidates through interviews on Skype has been to find a suitable time for both the candidates and the interview panel members. HireVue allows us to evaluate candidates asynchronously and on-demand. That means evaluating when we want and where we want even when we are mobile. Likewise, the candidates can choose their suitable time to record the interview. As a result, interview planning is simplified and turnaround times are reduced ... we find the comparative report of candidates provided by HireVue very useful for selecting the shortlist of candidates for in-person interviews."(Dirim Ufuk, Deputy Chief C2 Services)



"The introduction of HireVue dramatically improved the efficiency for screening potential applicants. It eliminates the effort and delay inherent in finding a common Skype meeting time for the participants on both sides. Instead, both the applicant and the hiring manager can complete the process during the gaps in their respective schedules with the added convenience of using mobile devices." (Bruce MacLennan, Head, C2 Information Services, C2 Services).

Recruiters, as the link between the candidates and the managers, are in an evident advantage: stress free time management; getting the best candidates for the next steps in less time; reducing the costs for recruitment process and the list can go on.

Applicants get the convenience (to complete the interview when and where they want thanks to 24/7 system availability); they get the opportunity to bring their application to life rather than be confined to a fixed form). You do not need a computer to perform the interview: applications are available to be downloaded on your tablet or on your smart phone.

The system ensures fairness and consistency as the same questions are asked in the same way, the same tasks are set for each candidate and the same skills are tested across all candidates. If there are doubts about the process, the questions and answers can be reviewed whenever needed.

On-demand interviewing is being provided by the NCI Agency across NATO, with users in NATO HQ and elsewhere also enjoying the service. Bringing effective, efficient IT Innovations to NATO users is one of the key aims of the NCI Agency's Innovation Programme.

To summarize: using this innovative tool helps all parties involved in the recruitment process to enhance the quality of their performance and to reduce the time and cost. This easy-to-use, convenient innovation is helping all of us to see people, not resumes! And it saves time and money too!

Hope you will enjoy the new experience!

For any questions regarding HireVue, please contact NCI Agency Recruitment team at recruitment@ncia.nato.int.

For more on the HireVue tool please see:

<http://hirevue.force.com/E2user/>

For more on the NCI Agency's Innovation Programme, please contact us at innovation@ncia.nato.int.



Why is it necessary to update our Strategic Plan so soon after it was written?

It is a reasonable question. Why is it necessary to update our Strategic Plan so soon after it was written?

I could answer that by mentioning the Governance requirements of the Agency Supervisory Board, the need to emphasize a specific short-term NATO initiative or the desire to show we are operationally focused – but the truth is things have changed in NATO in the last year and will change again soon. We do not know the full implications yet – opinions are divided and will remain so until the Warsaw Summit – but we cannot ignore the realities.

Since the Wales Summit, the significance of the Readiness Action Plan to NATO's post-International Security Assistance Force (ISAF) strategic reposition from operations to preparedness has taken on a new more fundamental purpose – the demonstration of NATO's resolve not just towards deterrence but towards the collective responsibility to show that NATO has not lost the will and determination to fight to preserve the right of its members to determine their own futures, free of intimidation and threat. The Readiness Action Plan, or RAP, is the first step toward, what I believe, will be a reawakening in NATO. A reawakening of the danger it faces from inertia and false commitment as much as from genuine and real threats emanating from 360 degrees.

The NCI Agency is critical to the NATO body. We provide the nervous system, whose many sensors pass information to the centre. We deliver the many services that support the vital organs of decision making and control, thus enabling the body to function. With our partners in industry and academia, we build many critical capabilities which show the body is strong and ready: Ballistic Missile Defence, Joint Intelligence Surveillance & Reconnaissance; NATO Computer Incident Response Capability, Air Command and Control, increased exercise support and connectivity to NATO Force Integration Units. We are as symbiotically essential to NATO's purpose and functioning as they are to us. The RAP is a growth spurt for that body. It is so fundamental to the way that body will grow in the near future, that we need to ensure we fully engage in that growth. The Strategic Plan 2015-2020 was built with the RAP fully in mind but the update to the Agency's strategy in 2016 re-emphasizes the focus on the RAP.

The changes in the Strategic Plan for 2016 are not major, but where they are made, they are significant for what we do. The General Manager was deliberate in his intent in the Plan, when he wrote,

*"...the Agency is very clear on its vision of supporting NATO Forces 2020 as part of this Preparation **and focusing in the near term to enable RAP implementation.** Many of the RAP activities and critical capabilities endorsed at the Wales Summit are activities being supported or capabilities being delivered by the Agency*

...the Agency will deliver those activities and capabilities as a priority." Further, the Agency will "...work towards enabling NATO's Connected Forces, providing and in time modernizing, the infrastructures and networks that glue together NATO's C2 structures and support the RAP, operations and a growing Training and Exercise agenda." Emphasizing that the Agency "will build strong partnerships with NATO HQ, the NATO Command Structure and NATO Force Structure (particularly focusing on structures underpinning the RAP)" and that we are "...fully committed to the CIS support to all NATO operations, in particular to Op RESOLUTE SUPPORT and the NCISG (especially in its RAP (NRF) Role). This support will continue with high priority."

A strong statement backed up by the issuing of an Agency Strategic Priorities list in the updated 2016 Strategic Plan:

Strategic Priorities

1. Our activities directly contributing to the delivery of the RAP and those activities we are undertaking with Allied Command Operations and the NATO Force Structure Nations (especially their formations) to ensure the RAP is viable and credible
2. Our programmes, projects and training activities that contribute to a robust and sustainable integrated 24/7 air and missile defence capability
3. Activities we undertake to ensure NATO retains credibility as an Alliance and ensure its C2 structures are not diminished in peace, crisis or war as a consequence of cyber threat or attacks – resilient and protected
4. Activities that position the Agency to support Adaptation of the Alliance Building a "One NATO" network that connects all of NATO in one coherent communications and social media platform

So, to answer the question posed in the title of this article, I'll close with the General Manager's final words in his intent statement: *"Through the minor but significant focusing of this strategy in 2016 on RAP implementation, the Agency will be well positioned in 2017 to develop a strategic plan fit for the outcome of the Warsaw Summit and NATO's Adaptation to meet the new strategic environment it is facing."*

- Paul Smith, Chief Strategy Officer -

Pilot boosts New Ways of Working



As part of a pilot project in partnership with Industry, on November 17, 2015 a Polycom Real Presence Centro solution was installed in Mons, Belgium. This new solution – provided to the Agency at no cost, as part of the trial - is the first ever installed in NATO. The aim is to evaluate the technology's suitability for wider NATO use. The idea is to accelerate adoption and utilization of virtual meeting rooms and new ways of working through more user-friendly and completely automated operations including high quality video, audio and data collaboration. As part of IT modernization virtual collaboration and new ways of working will become a core business capability throughout the Alliance.

Unlike typical virtual meeting rooms, the Centro contains a 360 degree camera allowing full vision of all participants, touch-screen HD displays, automatic activation when a person enters the room,

charging ports for BYO devices, integrated annotation (whiteboard), under-light showing the status of the system and much more....

It's not about the buttons, this new solution is all about return on investment, saving resources, expanding applications and maintaining advantages for NATO. Trends of collaborative solutions are showing reduced pricing with increased quality. For the Agency this means – saving time, resources, working securely from almost anywhere and an exceptional user experience! *"Walk into the room and you will realize this is not a traditional VTC room,"* says BGEN Luigi Tomauiolo, Director Service Operations NCI Agency. Instantly the system will activate based upon motion detection, touch the location (s) you desire to connect with and start working! Comfortable, yet still as formal as desired, everyone feels like distance has been erased.

- Catherine Galoppin and Gus Mommers -



When in Mons, please visit

NATO's newest collaborative technology "Centro" to experience the possibilities of New Ways of Working at NCI Agency - Building 302A, Room#101.



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NCI Agency
events@ncia.nato.int
Tel: +31 (0) 70 374 3040



AFCEA Europe
europe@afcea.org
Tel: +32 (0) 2 705 2731



NATO Communications and Information Agency
Agence OTAN d'information et de communication

Bâtiment Z
Avenue du Bourget 140
1110 Brussels
Belgium
www.ncia.nato.int

