1ST NCIA INDUSTRY CONFERENCE

TECHNET INTERNATIONAL

ROME 23-25 OCT 2012

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INTRODUCTION

The NATO Communications and Information Agency (NCI Agency) in partnership with AFCEA Europe's TechNet International hold its first Industry Conference from 23-25 October in Rome, Italy at the Parco dei Principi Grand Hotel.

This event has being organized under the auspices of the Ministry of Defence, Italy.

FIRST DAY

The conference was introduced by Mr *Koen Gijsbers*, NCIA GM, and MGen *Klaus-Peter Treche* AFCEA Europe GM.

The Hon Guest Speaker HE Adm *Giampaolo Di Paola*, Italian Ministry of Defence, gave a speech focussing his intervention on tree pillars: Inclusion, Imagination and Innovation, to be adopted in the predictable financial austerity regime and the unpredictable word-wide instability.

After a short video welcome from Ambassador *Alexander Vershbow*, Nato Deputy Secretary General, LGen. *Walter E. Gaskin*, Deputy Chairman of NATO's Military Committee in his introduction to the conference recalled the tremendous progress in technology driven by the NATO capability requirements: "there is a big gap between the threat and the technology needed to fight against", he said, this asymmetric situations has driven the new NATO strategic concept in 2010 and the Multinational Solutions Projects and the Smart Defence concepts in the following years. Future capabilities, as defined at the Chicago Summit, and the Vision 2020 will drive the future of NATO: increased Innovation and Imagination will be needed especially in communication, training and exercises. Austerity vs. Security is the real debate in every nation and there is no substitute for "readiness".

Kent Schneider, International President/CEO, AFCEA International in his intervention stressed the need of partnership between the armed forces, NATO and Industry that should provide cost effective and interoperable solutions to meet NATO and national defence needs. In light of the Smart Defence, Connected Forces and Multi-National Approaches initiatives, and in the context of the financial crisis, the need of partnership is more relevant than ever. He also reminded the audience of the similarity between the US Joint Information Environment and the NCIA.

FIRST PANEL, NATO AGENCY REFORM

The Agency reform is considered a fundamental modification of the Agency, *Wolfgang Tauber,* Head of General Services, NCIA said, for a better interaction with NATO, and should be seen as a reliable but also high demanding partner of the industry for the performance of the NATO Programmes. The aim is to optimize resources and being in line with the smart defence approach (i.e. better services taking into account costs constraints). The target requested at the new Agency is to achieve a saving of 5% in budget in 2013 and 20% in 2014.

He also introduced and described the role of the NATEX: the should be considered representative of the industry. Each nation has at leat 1 NATEX a part from France (5), US (4), UK and Gernamy (2). Industries are stongly encouraged to constantly keep in touch with their NATEX for business opportunities.

Finally he said that the fundamental program change of the Agency Reform is that the Agency will be the single entry point (in order also to facilitate procedures) and the Full Design Authority for the development of the new capabilities and will also be responsible for the full program life cycle.

Dag Wilhelmsen, Director of Transition in NCIA, is managing the NCIA transition toward the new configuration: the integration of six previous entities/agencies in the NCIA will be completed by the end of 2014.

The transition is now including 27 on going projects (business cases, among them the IT modernization study requested to NCOIC, functional transition projects and organizational transition projects). It is worth noting that during the transition projects operations will be assured and on going projects (e.g. AMN, NCIRC, ANWI etc.) will keep on being under implantation.

The Critical Success Factors, as Customer Funding, Savings, Quality of Service, Life Cycle Efficiency, Customer Satisfaction and Staff Learning & Growth are monitored by dedicated metrics. Talking of the new NCIA functions, **Kevin Scheid** recalled the evolution of the Agency from Science and Engineering to Combat Support and stressed the concept of Life Cycle Management. Adm **Vittorio Di Cecco** described what is in progress for the CIS support to Mil Operations, including the NCIRC and finally **Glen Mallette**, CIS Support, described the process to harmonize the different ITC components that were used before the Agency Reform also through the involvement of external consulting entities.

With reference to the programs/capabilities development, Gen(r) **Alessandro Pera** made a brief description of the progress of the BMD programme, and Gen(r) **Enzo Montalti** described the organization, the issues and the progress of the ACCS program and its links to the Air C2 IS program.

SECOND PANEL – SMART DEFENCE AND INDUSTRY

Panel Chair **Velizar Schalamanov**, Director of Demand Management at NCIA, introduced the debate, listing constraints and challenges: the new process is to move from the traditional Procurement approach to the support to Smart Defence & Connected Forces initiatives with a more efficient process; the funding sources are also to be taken in account. The idea of a "Catalogue" has been mentioned for Multi-Year Programme of Work (MYPOW and MLPOW). An e-procurement tool is now under implementation and will be tested and validated in the first months of 2013 and the Agency has also a twitter account to promote IFBs and business opportunities, he said.

RADM **Edward H. Deets III**, from the US Software Engineering Institute, spoke about Networked System Survivability in presence of the cyber threat. He presented the CERT/CC (Networked Systems Survivability Program) and his company experience in analysing issues and sponsoring common affordable international solutions that scale among military and industry. An example of a practical example of cooperation was then given by **Jens Elstermeier**, Logica DE (Ger). Loockeed Martin presented its vision about Smart Defence: **Gerard Fasano,** president Lockeed Martin Information Systems, focused his presentation on Increased Interoperability, Innovation & Affordability and Intelligence driven CDN subjects. Finally, **Lilian Rossini**, Capability Development, NCIA, presented examples to consider as "best practices" examples for the Smart Defence, and she mentioned the MAJIIC2 program, the Counter Improvised Explosive Devices (C-IED) Multinational Cooperation, the Cooperative Airspace Initiative, (the NATO-Russia air traffic exchange and coordination system) and the BRAAD (Balkan Regional Approach to Air Defence).

In conclusion Smart Defence is "by design", with early involvement of industry and great cooperation.

THIRD PANEL – FUTURE MISSION NETWORK AND SATCOM IMPROVEMENTS

Luigi Bella, Director Capability Development at NCIA, introduced the third panel: Future Mission Network and Satcom Improvement. The presentation of **Roberta Colombari**, Selex Sistemi Integrati, was focused on the program Forza Nec (Ita MoD) and the know-how gained by the Afghan Mission Network as Battlespace Digitalization experience for joint and international cooperation. **Diana Gowen**, CenturyLink US, spoke about the role for the commercial partners in the Future Mission Networking for text, chats, voice communications. "Today commercial networks are 7/24 available, standardized, and they have a variety of IP-based solutions", she said, and hosting centres have already the capability and the necessary bandwidth to provide dedicated solution to NATO. The NNEC past, present and future was described by **Detlef Janezic**, Chief Service Operations & In-service Management, NCIA: building from current AMN Elements the objective is to consolidate the governance structure, the training and testing and arrive to the FNM (Ffuture Mission Network). Parallel to the FMN, the provision and continuation of SATCOM beyond 2019 in the next challenge - **Eric Lievre**, Deputy Chief Comm & Networking Information Infrastructure Services, NCIA, said. The Agency

will support NATO in procuring more satellite connectivity in the next years, including also Ka band. The approach should be responsive, using Best Value approach and affordable. He also advocated interest in SHF ground segment. The panel was concluded by **Giacinto Losquadro**, ThalesAlenia Space, who described the PROSAT solution based on the Athena-Fidus program to NEC SatCom Execution Prospects.

THE SECOND DAY

The second day was opened by **Fabrizio Giulianini**, CEO of the Selex Electronic Systems. He spoke about the Smart Defence approach from an industrial point of view and gave examples from the Finmeccanica present and future activities. He concluded commenting the growing critical element of vulnerability caused by the cyber threat.

FORTH PANEL – BIG DATA AND NATO CLOUD

David Burton, CTO at NCIA, introduced the theme, referring to the big changes that these new technologies will introduce. **Peter Lenk**, Capability Development, NCIA, opened the floor defining the characteristic of the use of the Cloud approach, the motivations to use it and listed some considerations on the new cultural approach, the security which is based on trust and innovation, but that should also consider costs, and the need of a new procurement process. BIG Data means the processing of 400 Millions of emails etc per minutes, store them, perform analysis . How NATO should work on these issues is really a challenge. The approach is that NATO IT will have to be managed by NCIA at a sort of enterprise level, using where possible commercial products/services and enterprise like solutions (e.g. ERP). NCIA will become IT service providers for NATO, not just a procurement agency, with clear service level agreements and metrics to measure them (availability, security, business continuity).

Mick Keyes, HP, described the trends in using these new technologies in the civil world, and how these can be used in the military field. He described some examples: a major problem that involve BIG Data is the Global Counterfeiting issue, and he described the Anti-Counterfeiting Activity Command & Control Management; the second example is the Cloud Global Food Safety System; the Safe Cloud Scenarios working with the main NGOs (UN, charities, …) in case of a humanitarian crisis, providing information about people, situation, criticalities. All the above, Keyes said, present new challenges in data storage and analysis. **Pascal Trouvé**, Capability Development, NCIA, Chief of Battlelab project, spoke about opportunities and challenges of the large scale distributed computing. The case of NATO, with more that 27K users, >2500 servers, where the target is to rationalize the overall structure was presented. **Brian Dunleavy,** Dell and **Cameron Chehneh**, CRP in General Dynamics Information Technology described practical applications needed to follow the challenges of the rapidly changing world. The new security perimeter is the information. In a mission context, using the cloud computing, mobility is increased by real data info, agility is increased but the challenge is usually the detection of the "bad needle" in the big mass of information.

FIFT PANEL – C4ISR SYSTEMS AND TECHNOLOGY

Air Cdre **Bruce Wynn**, independent consultant, UK, introduced the C4ISR panel. **Luigi Bella** focused on how C4ISR innovation can offer better solution to the Alliance. Examples are new systems approach: eg automation in cyber defence, this area needs for speed, and only an automated process can react in the requested time; another example is the low cost unmanned technology. Other line of investigation can be the use of new technologies to revitalize old systems. **Dag Wilhemsen** described the NCIA transformation programs from Program Development to becoming an agile and highly efficient and effective organization delivering IT services to the entire NATO enterprise. To do this, the Service Management Framework (SMF) has been put in place. This hopefully will reduce the Urgent Requirement Acquisition from 48 to 11 months, or the current Acquisition Practices to be modifies with an Evolutionary Development of Capabilities. **Johann Hesse**, Security Networks AG, presented the architecture for a workflow system for a C4ISR System and **Karsten Hans Deiseroth**, IABG, closed the panel introducing the C4ISR Systems and Technology in the context of NCIAs transition.

SIXT PANEL – NCI AGENCY BUSINESS OPPORTUNITIES

Panel 6 was devoted to the forecast of procurement plan from the NCIA over the next 18 months: the global value, still not entirely approved, is of about 2.6 billion Euro. Programs presented were:

- **Cyber Defence & Assured Information Sharing** (*Brian Christiansen*) – with ca 70 M to replace NATO crypto, public key infrastructure, information exchange devices and gateway services. No proprietary solutions are accepted and items must be deliverable also to non nato nations (PFP)
- **Service Operations & In-Service Management** (*Detlef Janezic*) – Centralised CIS (16 items for about 65) , CIS budget (52) ACO & ACT (15) and agency services (20)
- **ACCS (Air Command & Control)** (*Enzo Montalti*) – Deployable Air Defence (49M)
- **Comms & Networking Information & Infrastructure Services** (*Eric Lievre*) – a total of 971M to provide CIS to ISAF (400), the NATO Comms Infrastructure (30), DCIS for NRF HQs (33), Services Management & Control (8), and NATO SATCOM (500).
- **C2 and Operations Services** (*Jean-Paul Massart*) – a total of 64 M, Logistics Functional Services (33), CBRN (6), Environmental Functional Services (7) – metereological, oceanographic services – Future Maritime C2 Information Services (10) and Geological Info Sistems Inc 3 (8).
- **ISR** (*Lilian Rossini*) – counter Improvised Explosive Devices for NRF (15) and Theatre Access Control and Threat Identification Capability (5)
- **BMD** (*Alessandro Pera*) – for a total of about 660M for BMD SE&I (60) and TBMD/BMD BMC3I Upgrades (600)
- **Enterprise Services Capability Development** (*Peter Lenk*) - For a total of about 157 M, New NATO HQ (68), NATO Information Portal (4), NATINAMDS C3 (5), Infrastructure and IT consolidations (40, S/W and H/W refresh (30), Data Management (10)

(more detailed information about those lines of budget is available on request)

THIRD DAY

The introductory guest speaker for the third day was presented by *Steven Sprague*, Wave Systems Corp. US. "there is a transition from a network based on connections to a network based on identity", he said, in the future only Trusted Computing Standards will allow the best cyber protection. Trusted Computing is then the major challenge.

PANEL SEVEN – UNMANNED TECHNOLOGY

Panel 7 – Unmanned Technologies was chaired by *Giancarlo Grasso*, Finmeccanica. "Unmanned is one of the most attractive new technologies born in the last ten years". *Claus Frey,* Cassidian, debated on the question: how UAS technologies can interact with a Network-Centric technologies? In conclusion unmanned technology is not self standing. From Booz Allen, *Rayan Kelchner*, made a short picture on the growing market for Defence and beyond, up to ca 100 B$, with an increased demand for high resolution and real time data: the future will imply partnership between departments and agencies, academia and industry to drive innovation and efficient return of RD investments. **Cagaty Soyer**, Capability Manager in NCIA, stated saying that in the future Unmanned Systems will not only be used for the Dirty Dull and Dangerous missions. Persistence, Mission Flexibility and Automation will be key requirements: certainly there are new capabilities that can be exploited, but new systems should also demonstrate the benefits for their use: this is done via experimentations and demostrations: examples of opportunities have been presented. *John Teufert*, NCIA Geo-officer, described the mini UAV experiences in Afghanistan using mini and quad helicopter mini UAV provided for experimentation by private industries. *Neset Tukenmez*, EuroHawk GmbH,

presented the "biggest UAV in the world": the Euro Hawk, a Joint Venture between Northrop Grumann and Cassidian, where Cassidian provide the Sigint Mission System.

PANEL EIGHT – CYBER SECURITY AND MISSION ASSURANCE

The panel was opened by *Melissa Hathaway*, from Hathaway LLC, US. *Brian Christiansen (Ian West)*, NCIA, described the NATO Operational Cyber Defence mission as "the NATO-wide information assurance services to protect NATO systems and information". "NCIA is the primary provider of NATO's CD systems", he said. *Giorgio Mosca*, SELEX Elsag, talked about the cyber multi-dimensional threats: the threat can attack any type of organization and the target is information. *Harriet Goldman*, Mitre Co, described the Novel Approach to Cyber Security and Mission Resilience. The 90's traditional approach, focusing on Firewall Technology, was substituted in the 2000's by the Vulnerability Assessments: but the lesson learned was that with those technologies efficiency and effectiveness of the protection was still weak. "we should adopt a threat-based cyber defence approach", she said, providing adaptive responses also using intelligence and we should balance better mitigation, detection and adaptive response. *Brian Christiansen*, NCIA, concluded describing the latest activities of the Agency's Cyber Security Assessment Team.

CLOSING REMARKS

Klaus-Peter Treche AFCEA Europe GM and *Koen Gijsberg*, NCIA GM, congratulated for the 158 Companies, 25 NATO Nations, ca 500 delegates attendance and expressed the thanks of NCIA and AFCEA to the support received by the Rome AFCEA Chapter.

Vy: Gustavo Scotti di Uccio – AFCEA Rome