

“Connectivity is the prerequisite for successful political and military engagement.”

Kurt Herrmann

Against the background of the increasing number of combined missions as part of NATO-controlled operations, the provision and maintenance of secure and interoperable communication and information networks has become of critical importance for the successful accomplishment of these missions. The central responsibility for secure end-to-end communication and information system (CIS) infrastructures within NATO has been assigned to the NATO Communication and Information Systems Services Agency (NCSA) headquartered in Mons, Belgium. ESD spoke with the Director of this agency, LtGen Kurt Herrmann (GAF).

ESD: By the time that we are conducting this interview, you have been in your current position as the Director, NCSA, for about ten months. Can you provide a brief survey of your military career before?

Herrmann: I joined the German Air Force (GAF) in 1969. After pursuing an education in aeronautical and space engineering at the Air Force Technical Academy (later the Federal Armed Forces University, Munich), I studied computer science at the Technical University in Munich and received my diploma in 1977. Subsequently, I gathered some national and NATO experience in various assignments, e.g. as Squadron leader, ACOS Logistics, Staff Officer CIS planning in the Air Staff, Force Planner with SHAPE, and Staff Officer of Military-political affairs in the German MoD.

As a Colonel, I commanded a Service Regiment, headed a Branch in the Joint Staff, and was the Deputy Commander and Chief of Staff of the 1st German Air Division for two years. In 2000, I was appointed General for further development of the German Air Force. In January 2002, I became the first commander of the German Armed Forces Joint Strategic Reconnaissance Command. After three years in this fascinating job, I took over the position of Head NATO Military Liaison Mission (MLM) in Moscow, Russian Federation, being promoted to the rank of Major General. On return from Russia, I assumed the position of the Deputy Command-



LtGen Kurt Herrmann (left), Director of NCSA, visits Admiral Mark Fitzgerald, Commander Joint Forces Command Naples. Photo: Karla Bustamante, JFC Naples.

ing General of the German Joint Support Command in Cologne. And, since April 2009, I have been the Director of NCSA, now in the rank of Lieutenant General.

By the way, details of my career, as well as some news and background of NCSA, can be found on our homepage:

<http://www.ncsa.nato.int>.

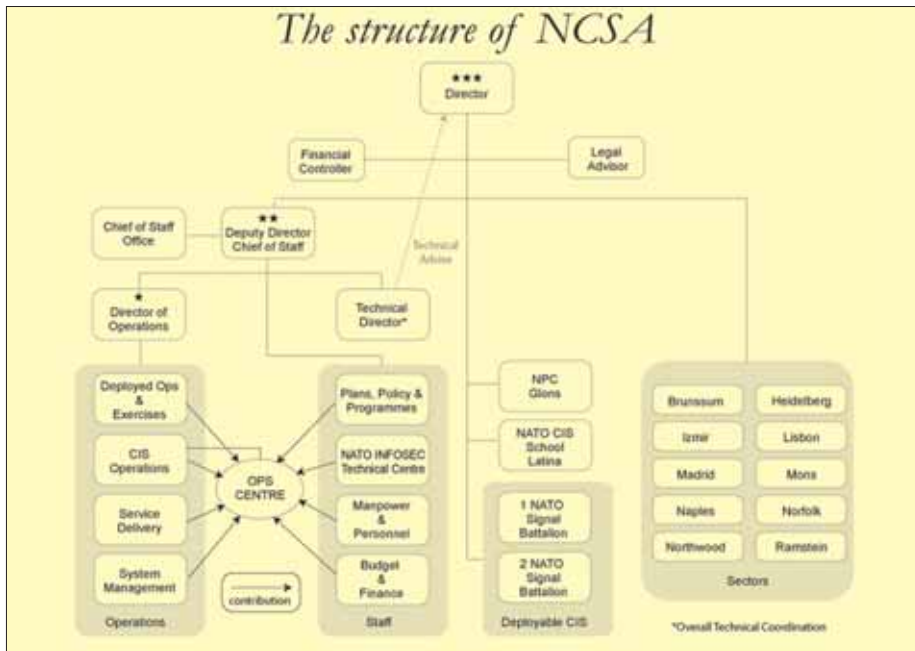
ESD: How does your agency fit into the overall structure of NATO's command authorities and agencies? Whom do you report to? What is NCSA's mission?

Herrmann: Let me respond to these questions in some hopefully digestible steps:

- NCSA is a force provider, force enabler, and force multiplier. In fact, we are a hybrid structure with unique capabilities. NCSA is a constituent element of the NATO Consultation, Command and Control (NC3) Organisation, but is under the operational control (OPCON) of SACEUR (ACO) for CIS support to operations. This is a very important distinction to understand NCSA's role and responsibility. The NC3 Board provides non-operational direction for NCSA. The NC3 Organisation embraces the NC3 Board (as a high level committee under the NAC/Defence Planning Council) with its perma-

nent body, the NC3 Representatives, its sub-structure of subcommittees and working groups, and its two agencies, NATO Consultation, Command and Control Agency (NC3A) being responsible for the procurement and implementation of CIS, and NCSA, being responsible for operations and maintenance of CIS in service.

- NCSA has an indivisible mission and needs to be tasked as a whole organisation or process oriented entity. One focus of our mission is support to static headquarters; the other focus emphasises support to deployed operations and exercises. Therefore, when SACEUR exercises his tasking authority over NCSA to support a particular NATO operation, it always impacts the whole NCSA structure. This support does not discretely pertain to just NCSA's deployable elements. There is a constant reach-back and an integrated "business process" within NCSA that comprises all functions of the static support and the deployable elements of the Agency.
- NCSA's mission is: "To ensure the provision of secure end-to-end CIS services required for NATO Consultation, Command and Control, using fielded communications and information systems in the most cost effective manner."
- We are living in the information age. Connectivity is the prerequisite for successful political and military engagement in support of



Organisational structure of the NCSA Headquarters and sectors.

Graphic: NCSA

Herrmann: This year NCSA will be transformed from the so-called Spearhead structure into the new Focus structure. The new structure is much better shaped to fulfil the new level of ambition of NATO and reflects our new technological developments.

NCSA is designed in a three sectional approach: The centralised elements are formed by, the strategic 3-star HQ in Mons (BEL), the NATO Signal School in LATINA (ITA), the Centralised Logistic Depot in Brunssum (NLD) and the NATO Programming Centre in Glons (BEL). The static elements of the second NCSA pillar are built by the 5 new sectors and their subordinate squadrons and detachments, providing the day-to-day CIS support to the co-located operational commands at the strategic and operational level.

Several additional squadrons or detachments are affiliated to Allied Training/Warfare Centres or Combined Air Operations Centres. In the third and increasingly important section of our overall structure, the deployable elements are massively enforced. They are big elements in the new structure. Under a new regiment staff, located at Brunssum (BEL) in future, three CIS battalions with headquarters in DEU, ITA, and POL will provide the mobile or expeditionary CIS functionality for NATO.

But, NCSA always needs to be seen as a service provider; therefore all elements are involved in providing CIS services every time, seven days a week. NCSA has established a very strong reach-back functionality and the deployed CIS forces will be deeply supported by our centralised system management from Mons and the Sectors. NCSA Staff, among all assets, is composed of 21 Nations. Our organisation is comprised of approximately 82% military personnel and 18% civilian personnel from most of the 28 NATO member nations. We will grow up to a total strength of approximately 4,000.

ESD: *What kind of capabilities are required from NCSA operational staff?*

Herrmann: Against the background of a very dynamic technological CIS area, NCSA needs to stay at the forefront of state-of-the-art developments. According to this, the NCSA operational staff must be highly professional, extremely flexible, and adaptive, always creative, and very much pro-active if they are to successfully leverage their high level technical knowledge and ability when delivering CIS support to operations.

As the operational role can be very complex and demanding, NCSA staff cannot rely on their high level technical knowledge alone. If they are to succeed, they must link their technical knowledge with creative and flexible solutions that should be delivered with focus and determination to ensure the mission is achieved. It is these qualities that I foster within the NCSA organisation, which enable us to successfully support operations around the world.

And, it should not be forgotten that NCSA staff deployed to fulfil mission critical CIS roles

peace and stability. A truly comprehensive approach requires network enabled capabilities. NCSA is a major stakeholder in the entire CIS process and a strong promoter of NATO Network Enabled Capabilities (NNEC).

- In today's complex CIS environment, it is necessary for NCSA to have a clear strategy on how to support NATO's level of ambition. The NCSA Strategic Framework defines NCSA's vision supported by specific goals and objectives necessary to achieve the OPTIMISED NCSA. These are categorised into external and internal goals. The external goals relate to how NCSA will meet our customers expectations. The internal goals aim at improvements in NCSA's internal working processes.

- Support to NATO operations is NCSA's highest priority for achieving an OPTIMISED NCSA. This priority establishes the need for NCSA to provide a secure environment in which quality CIS services are centrally coordinated and delivered. These services are enhanced through the internal improvements of NCSA's business processes. The customer will garner service benefits through improvements in cost, quality, and response times. Technological innovation allows NCSA to anticipate the customers' future needs; devising reliable product and service offerings, and rapid service deployment with sustainable support and quick response to failures. Continuous improvements to business processes and product capabilities

are essential for long-term success. NCSA's key to innovation is the expertise and insight of its employees. Investing in their professional development will enable NCSA to harness their knowledge, which is critical to our success as NATO's single CIS service provider. Therefore, the NATO CIS School (NCISS) in Latina (Italy), which is also subordinate to Director NCSA, represents a most valuable asset in the NCSA structure.

ESD: *How is NCSA's organisation structured, and what is the composition of your staff, both in terms of citizenships and military as opposed to civilian personnel?*



"Connecting NATO" – as the only organisation within the structure of NATO NCSA is responsible for the operation of end-to-end CIS connections.

Photo: NCSA



NCSA employs civilian and military personnel from some 20 NATO nations.
Photo: NCSA

within operational theatres have to meet the necessary military standards on physical fitness; the skills of a soldier become very important when the conditions they encounter are unpredictable and austere.

ESD: *What are current NATO operations that your organisation is involved in?*

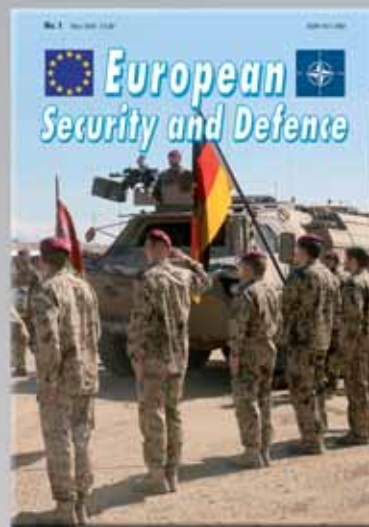
Herrmann: NCSA's business is "CONNECTING NATO!" We are the driving force behind NATO's CIS and, as a consequence, NCSA is a very vivid, dynamic, and complex military organisation with an active involvement in the full spectrum of all of NATO's current operations. Of course, support to the ISAF mission in Afghanistan continues to be our highest and most immediate priority, and this is a very dynamic and fast-moving area. Over the next year, NCSA will progressively enhance its support to ISAF until it can assume and then maintain responsibility for in-theatre CIS and support of the NATO Training Mission-Afghanistan. The main initiatives in this area are the NCSA Mission Detachment – ISAF, covering the organisational and manpower aspects; the Afghanistan Mission Network (AMN), implementing a network-centric CIS system for integrating services; and the development of a Service Management Framework (SMF) that we will establish to define and install state-of-the-art standards of the services to be provided.

Additionally, NCSA supports other ongoing major NATO operations, like the training mission for Iraq (NTM-I) and the peace support missions in Kosovo (KFOR), Bosnia and Herzegovina (EU Operation ALTHEA), Darfur (AMIS), the Article V Operation ACTIVE ENDEAVOUR in the Mediterranean Sea and Anti-Piracy engagements of NATO. This is all on top of the considerable amount of work the NCSA sectors and squadrons are involved in, providing support to all of NATO's standing headquarters throughout Europe and the United States. And, not to forget, the CIS support to a rigorous exercise programme that has included over 80 NATO exercises in 2009, with special focus on preparing staff and troops for deployments to current missions as well as training and certifying NATO Response Forces.

ESD: *Providing CIS services to the major HQs of NATO and in the theatres of operation requires to deploy forces around the globe. What are the major challenges with regard to interoperability between the players involved?*

Herrmann: Interoperability between NATO's member states' communication and information systems is key to mission success. Furthermore, standardisation and interoperability of CIS are required to ensure a trusted coalition interchange in a complex multinational environment; making command and control more efficient. Just to recall, ISAF in Afghanistan is currently comprised of 44 participating nations in an international coalition force structure. Therefore, interoperability is a fun-

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ISAF, KFOR, ALTHEA, AMIS, ACTIVE ENDEAVOR – NATO-lead operations around the globe require CIS support. Photo: NCSA

damental prerequisite for providing a comprehensive, accurate, and reliable battlefield picture. No doubt, a common situational awareness on all levels of command is indispensable for adequate decision-making processes and successful conduct of all types of Operations.

NCSA itself constantly strives to provide services that are compatible with CIS used by its member states. This of course is a most challenging undertaking. It is a difficult and complex area, even nationally. I am sure you would agree getting the national army, air force, and navy of any one country seamlessly interoperating is challenging enough; so you can see how the multinational environment of all of NATO's operations and, even more, of an expanded coalition, adds another level of complexity. But, we are making progress and, in particular, the employment of commercial off-the-shelf technology (COTS) and modern approaches on system and service architecture are quite promising.

ESD: What kind of equipment is NCSA in control of? Do you have your own procurement authorisation/procurement responsibilities? What can you tell us about your/NCSA's budget and how it is allocated and spent?

Herrmann: Ownership of the equipment remains with the organisation, which funds the acquisition. However, we provide property management, operations, and maintenance services for all equipment used for NATO military in-service CIS systems. We do have a small acquisition organisation for specific short notice contingency cases. However, generally NCSA is not responsible for the major system acquisition actions. This responsibility usually lies with NC3A. Our teams are mostly engaged in contracting commercial support services for those in-service systems we are taking responsibility for. Our funding comes from three main

sources – the NCSA Admin Budget, which provides for salary and administrative expenses of the NCSA organisation itself; the NATO Centralised CIS Budget (NCCB), which provides the technical support to NATO-wide systems; and the individual fund allocations from supported HQs, which provide for local CIS services. Collectively this amounts to approximately 200 M Euros per year. Needless to mention, these budgets are currently under tremendous pressure. And, also as a matter of top priority, we are continuously analysing our structure and processes in order to adjust them to cost efficiency as much as possible.

ESD: How is the cooperation with national military assets organised?

Herrmann: The provision of CIS services to any customer in theatre or at exercises is always a very complex collaborative effort between the various actors with different responsibilities. NCSA as NATO's single CIS service provider is responsible for the end-to-end service to all eligible units at theatre or exercise. Currently the different systems of the Nations do not allow for a simple or common "plug in" solution. So, normally we have to provide CIS detachments to the eligible national HQs to establish and ensure the required level of connectivity. For future optimisation of operational efficiency and effectiveness, NATO is envisioning NATO Network Enabled Capabilities (NNEC). NNEC, without going into too much detail, brings fundamental change in the way we are working currently. It will change from "Need to Know," to "Responsibility to Share." We need and will leave the old hierarchical organisations with pockets of information and knowledge and move to a system which is based on cross collaboration, seamless sharing of information, and theatre-wide constant secure connectivity.

ESD: What can you tell us about your responsibilities in the area of cyber defence?

Herrmann: Since the NATO summit in Prague, 2002, cyber defence has been given a high priority in NATO. This bears testament to the importance that the Alliance places in the security of its CIS infrastructure, which is critical to every mission that NATO undertakes and every part of our daily business.

NATO remains committed to strengthening key Alliance information systems against cyber attacks. We have recently adopted a Policy on Cyber Defence, and are developing the structures and authorities to carry it out. Our Policy on Cyber Defence emphasises the need for NATO and nations to protect key information systems in accordance with their respective responsibilities; share best practices; and provide a capability to assist Allied nations. We look forward to continuing the development of NATO's cyber defence capabilities and strengthening the linkages between NATO and national authorities. An Alliance-wide body has been instituted, bringing together all those involved in the operation and defence of our information systems. This body, the Cyber Defence Management Authority directs all cyber defence activities.

As the primary provider of secure end-to-end information services, NCSA is at the forefront of these activities. My agency contains NATO's only operational cyber defence unit: the NATO Computer Incident Response Capability's (NCIRC) Technical Centre.

I would like to see additional positive steps towards enhancing this critical collaboration on a global scale. None of us, connected to the global networked infrastructure, can remain "in splendid isolation" facing modern and dynamically enhancing threats to cyber security. These attacks originate from within the physical boundaries of a nation but can affect the entire global community. This calls for collective and coherent collaboration and defence amongst governments, industries, and the public. Within NATO, we are trying to address this need for collaboration by constantly improving our liaison with our military and commercial partners.

ESD: Are there any other issues that you would like to address?

Herrmann: The people, the military and civilian experts, are the most valuable and important resource in NCSA. Therefore, not only is efficient recruitment of highly professional, motivated, and extremely innovative personnel a basic prerequisite for NCSA, but also modern, positively motivating leadership, and the promotion of a good team spirit, favourable corporate identity, and acknowledgement of bright ideas; as well as outstanding engagement are key to the success of our still young, but already fully mature organisation. ■

General Herrmann, thank you very much for this interview.

The interview questions were asked by Jürgen Hensel.