

What is NNEC?

The original definition, written several years ago, of NATO Network Enabled Capability states that the NNEC program is the Alliance's ability to federate various capabilities at all levels, military (strategic to tactical) and civilian, through an information infrastructure. Today we realize this is a limiting statement, and although this is still true, today's main objective of NNEC is that the program is about people. To make NNEC effective we need the people of NATO to make use of the NNEC principles in their daily work.

What is the purpose of NNEC?

NNEC enables dynamic battle command, that is to say, through the federation of key command, control and support capabilities, sharing information in real time, NATO commanders will have unparalleled situational understanding facilitating effective engagement in a comprehensive approach. The basis of the comprehensive approach is typified by the NNEC slogan: "Share to Win". Everyone must have a "share" mentality which will be essential in implementing the NATO network-capability program. A new way to look at NNEC is *people, processes, and then technology*. It is these capabilities which include how people interact with each other, processes or doctrine for conducting business, and how to better use current and future technology.

How does NNEC benefit the Alliance as a whole?

By creating an open and dynamic information environment NNEC increases both the efficiency and effectiveness of the Alliance. Current capabilities are functional but "stove-piped" in that they do not easily share information. This approach is very resource intensive in terms of personnel, information technology and bandwidth. The NNEC approach, building on the foundation of dynamic information sharing and standards, will eliminate these stove-pipes and enable cross-discipline information sharing, resulting in resource savings.

The NNEC program provides various benefits to all levels, military and civilian. Everyone will see improved collaboration between nations and the saving of money. More specifically, NATO will realize an improved efficiency, drastic increase in interoperability between nations, and a better trusted and secured way of information sharing. This improved information sharing will improve situational understanding and facilitate system-to-system interaction facilitating reduction in resource requirements allowing commanders greater flexibility in force structure and organization for operations putting the right force to the right mission at the right time.

What does 'information superiority' mean?

Information Superiority refers to the ability to get the right information to the people who need it at the time that they need it. This does not just refer to "data" being presented to the individual but instead fused information that leads to actionable knowledge. *Information Superiority* means that you have the right information earlier than your opponent. Considering that *Information Superiority* directly leads to *Decision Superiority*, this is an important component of the overarching goal of *Decision Superiority* which also means making better and faster decisions. In the fast-paced operations NATO faces today and in the future, operations which range from humanitarian support and civil emergencies to combat operations, reconstruction and stabilization, our leaders need the ability to rapidly comprehend requirements, assess situations, align resources and execute missions. We can only achieve that through information superiority.

NATO defines *Information Superiority* as the operational advantage derived from the ability to collect, process, and disseminate an uninterrupted flow of information while exploiting or denying an adversary's ability to do the same.

What initiatives are the NNEC ICT team currently working on?

Our focus at this time is on defining and implementing governance over the realisation of the NNEC vision. To do this we have identified four “coherence areas”, areas which are mutually dependent to create the cognitive framework upon which NNEC capabilities can be evolved. These areas are:

- Operational Concept Requirement Implications (OCRI)
- Architectures and Services Definition and Standardization (ASDS)
- Leadership and Guidance (L&G)
- Implementation (IMP)

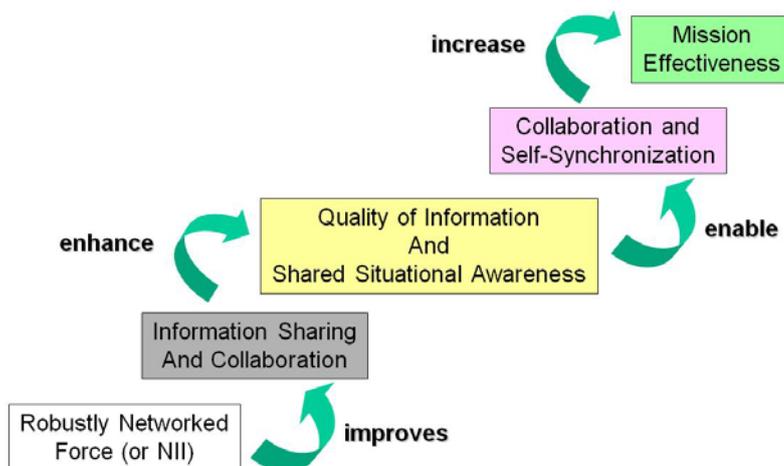
This work is crucial to ensuring the realisation of NNEC in NATO and providing member nations with a clear vision to achieving enhanced effectiveness and efficiency in the future.

Why is a networking and information infrastructure important?

The networking and information infrastructure (NII) is the supporting structure that enables collaboration and information sharing amongst users which reduces the decision-cycle time. As such, the NII is the “physical reality” of NNEC. The NII, the technical standards, associated policies and procedures are the components which are necessary to realising the promises of NNEC and providing NATO’s leaders and commanders with the “information and decision superiority” discussed above.

Although the benefits of NNEC are only achieved when the cognitive capabilities of the leaders are engaged, the need for the environmental conditions and tools necessary to implement them do not “happen by accident”. The NII is the very intentional and deliberate framework necessary for NATO and Nations to begin the transition to a knowledge enterprise necessary to not only increase the effectiveness of the cognitive process but enable the implementation and execution of guidance with synergy of components and responsive alacrity. This is suggested in the diagram provided below.

NII is an infrastructure that enables the connection of existing networks in an agile manner to meet changing environmental conditions allowing the use of many existing tools to interconnect.



Considering that our ultimate goal is to increase mission effectiveness, a robustly networked force (also called an NII) is the mandatory starting point.

What are NATO/ACT's goals for the NNEC programme?

The goals for this program are:

- Enhance NATO's Command and Control capabilities by establishing an NII framework and enterprise architecture supportive of existing operational requirements;
- Define and implement NNEC governance through the four coherence areas identified above: OCRI, ASDS, L&G and Implementation.

Our team's ambition is to provide structure to the future of NNEC while maintaining our role as a driving force in NATO's transformation. Part of that is to establish a solid basis for the future through governance; however, a very real part of that is to increase the relevance of NNEC to NATO by generating substantive improvements to C2 in NATO through the development of initial NII elements. Upon this solid base, we will be able to facilitate the longer term transformation of NATO through the established system of Standardisation Agreements (STANAGs) and Allied Command Publications (ACPs) which have already proven their value.

The NNEC team has started from a situation where the vast majority of the projects were stand-alone and with absolutely no coordination between them (sometime inside the Nations itself!). The situation improved. However, even if we have already achieved a lot, the road is still long and tough.

Achieving full collaboration, and sometimes even a full coherency between the various NATO and NATO Nations projects, is really my long term goal.

How do you see NNEC evolving in the future?

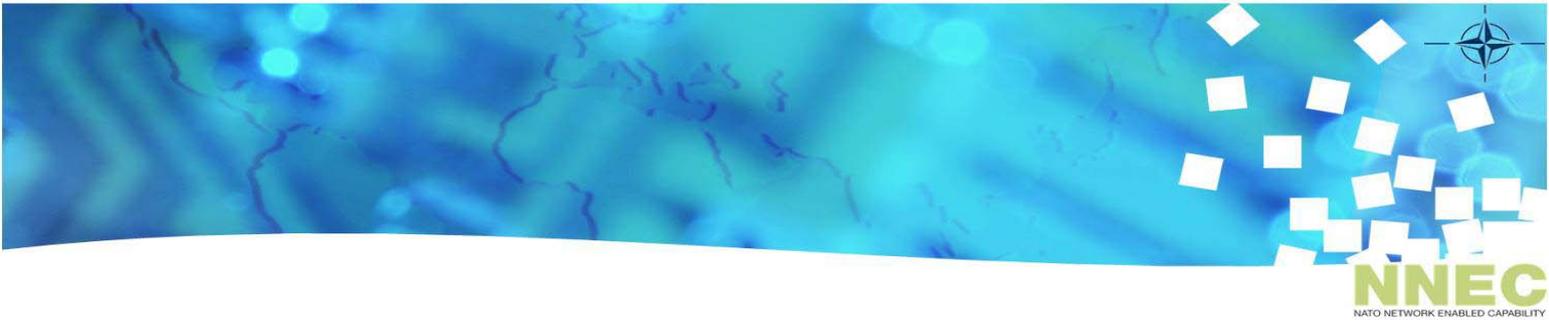
The first step is to have NNEC be adopted by the people of NATO. Once we have an "adopt, believe, live" mindset, NNEC will transform our everyday business from the onset of a new project to its completion. This evolution will meld previous "hard" delineations between strategic, operational and tactical into a more holistic vision of the military environment. This singularly critical evolution will maintain NATO's significant role as a force majeure.

NNEC will evolve slowly as does every change but that change will be informed by the operational requirements we are seeing not only in ISAF but through NATO's aggressing training and exercise programme as well. Initially, people will look for ways of keeping what they are used to today and only "build" some sort of "translation" capability that will allow them to share information with others. However, once they begin to see the power which shared information and situational awareness creates they will quickly look for ways to enhance the capability to the point that procedures or processes become complimentary and there is seamless information flow. Once we cement this in the minds of our senior operational commanders, it will be a short step to enabling all of NATO and the Nations by empowering our commanders with the tools to make rapid, quality decisions.

It is our hope that nations will realize a better sense of military situations and a decreased level of casualties caused by lack of interoperability.

Why is NNEC vital to combat operations?

NATO's future operational environment will demand delivery on the promise of NNEC but these will be focused on providing substantive improvement to the commander at all levels: strategic, operational and tactical. Information sharing, data deconfliction, integrated planning and execution and responsive support are necessary to achieve success in the complex environment set forth by the 2006 Military Committee Guidance (MG 06). NATO no longer has the comparative "luxury" of assuming its dominant role in the international environment. More and more, military assets are finding themselves as partners with Non-



Governmental and International Organizations (NGO/IO) a community inherently proscriptive in their relationships with government organizations, particularly the military. In the future, we must be able to share information openly with these partners and receive information from the as well to accomplish an evolving mission set in an environment increasingly dynamic, increasingly volatile and increasingly lethal.

NNEC will enable NATO's accomplishment of more complex operations with smaller, yet more effective forces. The goal is to get the right people to the right place with right equipment in a timely manner, a manner that will achieve the greatest effect with the greatest efficiency. Once engaged, whether in support of humanitarian missions or combat, commanders will have greater awareness, supported by a responsive network which supports critical decisions at the lowest levels. This will reduce potential for fratricide or "amicide" [NOTE: "amicide" is a term coined which expands the concept of fratricide to include "non-military victims", eg: NGO/IO; host-nation nationals; non-enemy non-combatants.]

Additional NNEC points of interest.

NATO has deemed NNEC as the top transformational priority for the Alliance as indicated by the number of NNEC or NNEC related issues, which totaled 44 in the Top 50 Priority List. Both of NATO's strategic commands, Allied Command Operations and Allied Command Transformation, and NATO's senior leadership recognized the necessity of this transformation initiative. For this reason, NNEC and related initiatives have been established as priorities for development in NATO and Nations over the next five years.

The NNEC conference being held in Chantilly, VA March 17-19 will focus on Mission Command within NNEC. We anticipate a large audience with more than 50 speakers. This annual event brings the latest information concerning NNEC to everyone along with a chance to exchange ideas on the topic.

NNEC is about people first, then processes, and then technology!

SHARE to Win



nnecc@act.nato.int
<http://nnecc.act.nato.int>

