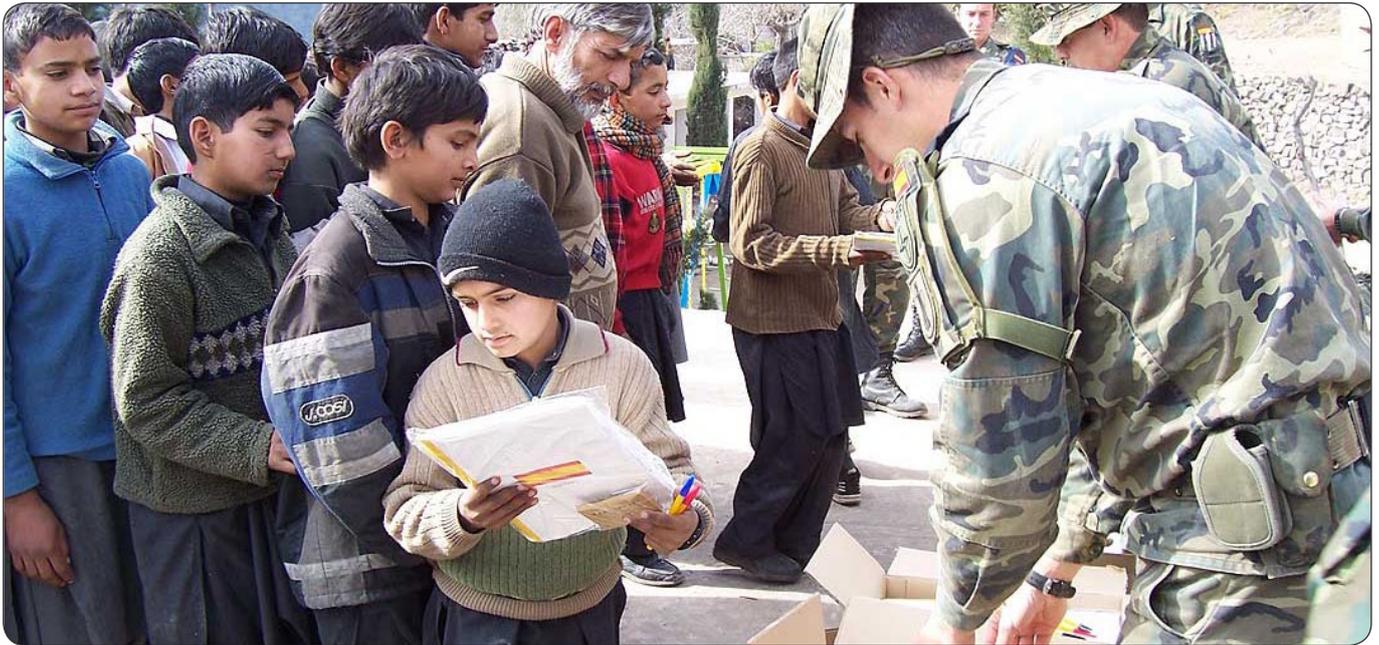


Multi National Civil-Military Interoperability

Today's critical capability to support NATO Comprehensive Approach and to provide Defence Support to Civil Authorities





“The lesson learned from NATO operations, in particular in Afghanistan and Western Balkans, makes clear that a comprehensive political, civilian and military approach is necessary for effective crisis management. The Alliance will engage actively with other international actors before, during and after crises to encourage collaborative analysis, planning and conduct of activities on the ground, in order to maximize coherence and effectiveness of the overall international effort”

(from the Strategic Concept for the Defence and Security of the Members of the NATO adopted by Heads of State and Government in Lisbon – Active Engagement, Modern Defence - 2010)

Why a Multi-National Cooperation on Civil-Military Interoperability (MN CMI)?

The Multinational Cooperation is aimed at enabling capability development in the C4ISR area, in line with the recommendations from the new NATO Strategic Concept and NATO Comprehensive Approach.

The Comprehensive Approach, to which NATO and many other International and National organizations are committed, requires effective interaction and information sharing between Civil and Military Organizations. Such interaction can occur in many functional areas such as:

- Civil-Military Cooperation and Coordination (CIMIC/CMCO) activities performed before, during and after a societal crisis;
- Analysis, monitoring and control functions performed routinely jointly e.g. for criminal/terrorist investigations or border control and response to civil and humanitarian emergencies and the management of their consequences;
- Protection of high visibility events (e.g. G8 meetings, Olympic Games) and security of critical infrastructure (e.g. for energy or food production).

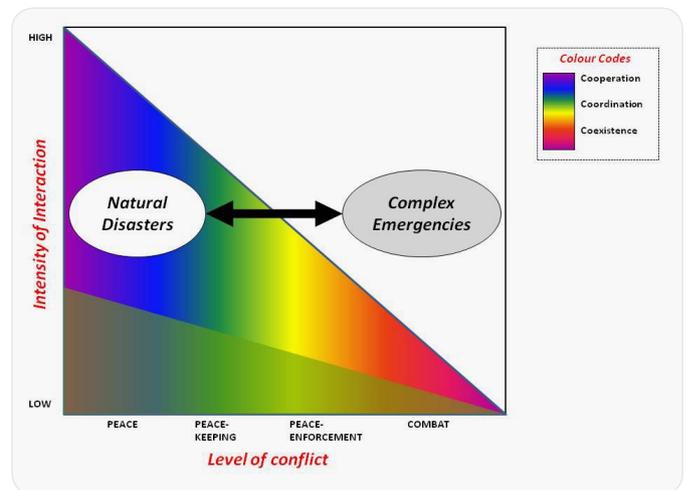


Fig. 1 – Type and intensity of Civil-Military Interaction

Recent history demonstrates - across a range of disaster relief operations, complex emergencies and crises - that NATO and other military actors need to work closer and better with a wide variety of civilian organizations. Civil-Military Interaction varies in intensity and quality, ranging from cooperation to coordination to coexistence (Fig. 1).

However cooperation is not always possible or wanted by all players. Divergences on perspectives, missions and goals as well as cultural, social, and political differences make cooperation between military and some civil organizations very difficult to achieve. Each organization normally develops its own Information and Communication Technology (ICT) solutions to support crisis and emergency response that this normally results in a lack of interoperability and coordination, not only between organizations, but even within the organization itself. Therefore technical-operational information sharing and interoperability solutions are important enablers to improve coordination.

Scope of the Multi-National Civil Military Interoperability Project

The MN CMI Project, supported by NATO C3 Agency (NC3A), is intended to complement the efforts of NATO, National and International Organizations (e.g. Strategic Commands, CIMIC Centre of Excellence and civil-military Coordination Offices for humanitarian assistance) in the DOTMLPF approach (Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities) by providing a full NEC/Web-2 capability architecture (DOTMLPFI + Interoperability) addressing the principles of Federations and Service Oriented Architecture (SOA).

In late July and early August 2010 monsoon floods in Pakistan left nearly 1.800 dead and more than 20 million homeless
 On 7 August, Pakistan requested NATO assistance which resulted in Council decisions to authorise the use of the EADRCC as the coordination point for NATO and partner nations' donations, AWACS Training Cargo Aircraft (TCA), and the establishment of an air and sea bridge for 90 days to facilitate the delivery of aid, release of a NATO water purification system and the donation of a surplus KFOR Logistic Support Bridge. The NATO response included also the deployment of a Civil-Military Assessment and Liaison Team to Islamabad to interface with the Pakistani National Disaster Management Authority. For the first time, NATO Contact Countries were invited to contribute and participate in this humanitarian relief operation and to use the EADRCC as a clearing house for offers of assistance. A total of 24 airlift missions were operated under authority of the NATO air/sea bridge transporting nearly 1.020 tonnes of relief supplies. Despite an initial reluctance on the behalf of UN agencies for their aid supplies to be carried by NATO airlift, UN cargo represents over 55% of the total amount of cargo lifted by the NATO air bridge. On 11 November 2010, Council agreed that the air/sea bridge would be terminated no later than 22 November and that the operation may continue to allow the delivery of the bridging equipment system. For the restoration of basic infrastructure, which bears great significance to normalize life in the flood affected areas, NATO donated a common funded Logistic Support Bridge to Pakistan. Turkey has undertaken the transportation of the bridge material from Istanbul to Karachi. On behalf of NATO, the Deputy Head of Mission and the Armed Force & Naval Attaché of the Embassy of the Republic of Turkey in Islamabad, in January 2011, handed over the bridge to the Government of Pakistan, National Disaster Management Authority (NDMA) at Port Qasim in Karachi. Assistance was offered and provided by seven EAPC nations, several NGOs and UN agencies.

Civil-Military Interoperability should not be confused with Civil-Military Cooperation (CIMIC), the doctrine related to in theatre interactions between deployed military forces, local authorities and aid agencies. However the new emergency security challenges (Counter Terrorism, Energy Security, Civil/Homeland Security, Critical Infrastructure Protection, Natural Disaster Prevention and Risk Reduction, etc.) which are driving today the NATO and EU security policy and operations, require adoption of a comprehensive approach and closer Civil-Military interaction and coordination. Civil-Military Cooperation has today more and more an important role in facing the new crisis scenarios, being an effective tool in crisis management and disaster response operations, in accordance with national and international agreed principles and standards. In complex crisis scenarios, due to natural or manmade events, the cooperation between all military and civilian institutions need to establish the best possible coordination and share

agreed information in a flexible way. Although this concept is based on the NATO NEC concept (Network Enabled Capability) developed and adopted by the military communities, the problems and the respective proposed solutions are universal and in line with the UN and EU ambitions regarding NEC. These ambitions would secure that unnecessary duplicate investments are avoided at the same time as NEC-standards and implementation efforts are harmonized throughout a large community working with crisis management.

The goal of MN CMI Project is to improve Civil-Military Interaction and provide comprehensive solutions to Nations through establishing a collaborative civil-military environment - a forum - where the most critical problems are identified and analyzed, and solutions are explored, specified and validated. NC3A has extensive experience in supporting NATO efforts in Crisis Response Operations and in complex C4ISR interoperability endeavours. Interoperability is addressed at three levels:

- **Technical**, including the specification of interfaces and profiles for services, protocols and data to be used by each of the participating systems, as much as possibly by adopting, tailoring and completing (if required) available international or de-facto standards;
- **Operational**, including the development and demonstration of concepts of employment and the Standard Operating procedures (SOP) required for the operational implementation of the technical solutions;
- **Architectural**, including the design of patterns for the implementation of the technical solutions with the participating systems in various employment scenarios

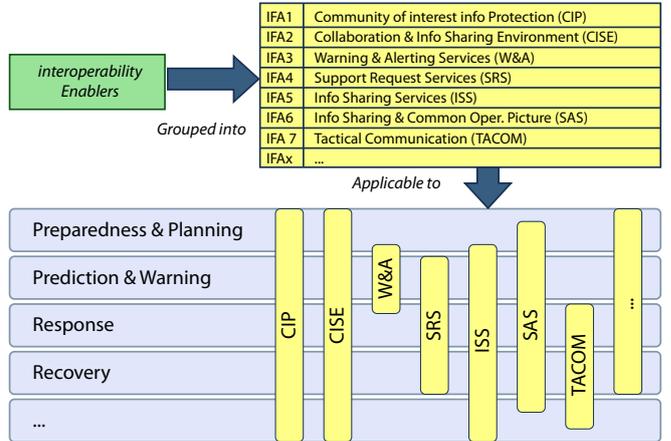


Figure 2 Interoperability Focus Areas (IFAs).





Interoperability Focus Areas (IFA), based on specific Interoperability Enablers, are identified (Fig. 2) and selected to support the core stages (in bold) of the crisis/emergency management phases: Vulnerability Analysis, Mitigation and Prevention, **Preparedness and Planning**, **Prediction and Warning**, **Response**, Recovery and Stabilization (Fig. 3).

Phase	Coordination Activities	Interoperability enablers
Preparedness & Planning	Joint training and Exercises Contingency planning Develop Capabilities	Capability R&D & validation Training & Exer (live & simulated) Remote Collaboration
Prediction and Warning	Warning & Alerts dissem. Pre-adhoc of capabilities Request/Offer of Support Operational planning Tactical planning	Protected federated COI's Collaboration Environment Alert & Warning Service Request Support Service Shared capability info
Response	Logistics Coordination tactical Coordination Joint Execution	Logistics info exchange Sit. Awareness for Resp. Common Operational Picture
Recovery
Stabilization

Fig. 3 – Emergency Management Phases, Coordination Activities and Interoperability Enablers.

The target participants of the Project are National and International entities including civil and military Commands, Units or Agencies responsible for:

- Doctrines, Policies and Plans Definition, Training, and Exercise Management;
- Emergency Monitoring and Response Coordination and Management;
- Civil and Military Information Management;
- Law Enforcement (during crises or in routine operations);
- Support to Emergency Response and Consequence Management operations.



What is NC3A?

NATO Consultation, Command and Control Agency (NC3A) is a NATO Agency that shares the legal personality of NATO. Our Charter was approved by the North Atlantic Council (NAC), and NC3A operates under a 100% customer funding regime. NC3A is part of the NATO C3 Organization, along with the NATO C3 Board and NATO Communication and Information Systems (CIS) Services Agency (NCSA). NC3A's mission is to enable NATO's success through the unbiased provision of comprehensive Consultation, Command, and Control, Communications, Intelligence, Surveillance and Reconnaissance (C4ISR) capabilities.

NC3A role in complex crisis management is presented in figure 4

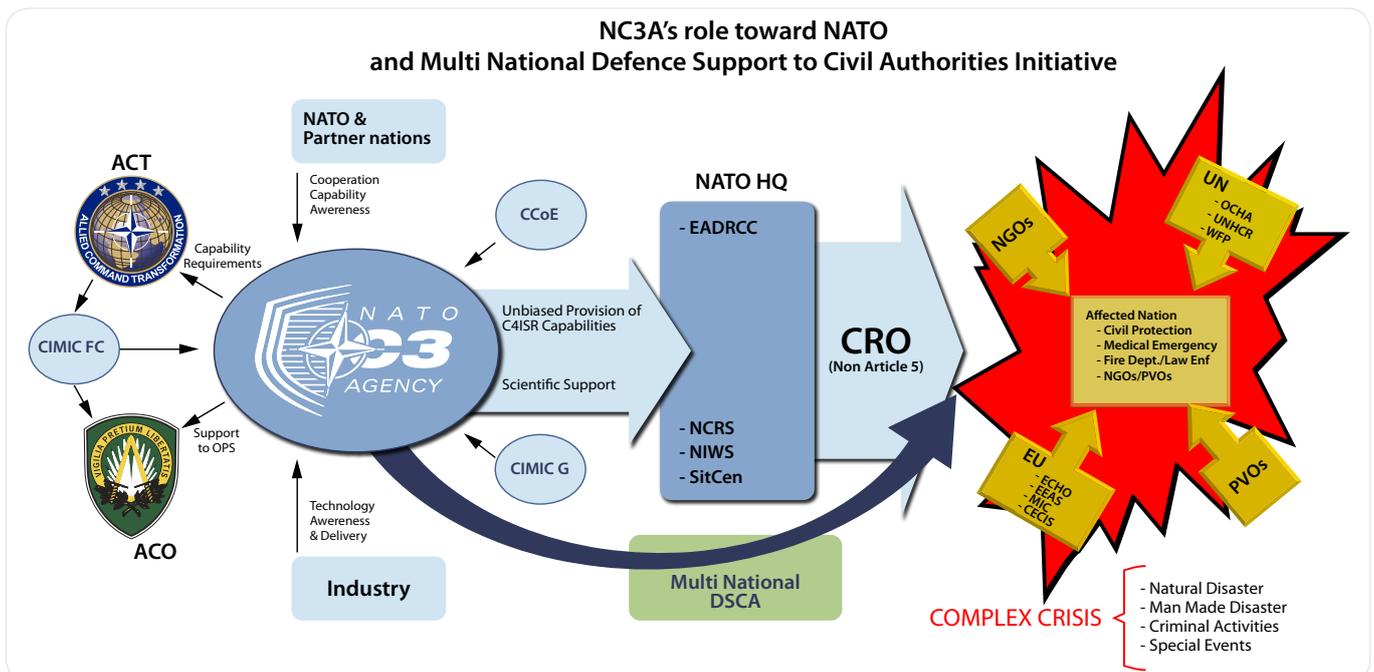


Fig. 4 – NC3A's role in complex crisis management.

- NC3A enables consultation and liaison with Bi-SC (ACO and ACT) in close coordination with CIMIC relevant entities (Fusion Centre – FC, Centre of Excellence – CoE- and Multi National CIMIC Group) and ensures coherence with national programmes on CMI through industry's support. C4ISR capabilities and expertise can be generally provided to NATO relevant bodies and crisis management tools (Euro-Atlantic Disaster Response Coordination Centre – EADRCC, NATO Crisis Response System – NCRS, NATO Intelligence warning System – NIWS - and NATO Situation Centre) during Complex Crisis Scenarios. The Multi National Civil-Military Interoperability initiative enables a direct NC3A support to Nations and Organizations that agree to join the CMI project. NC3A would also liaise, in coordination with NATO HQ, support from non NATO bodies, such as:
- UN Office of Coordination of Humanitarian Affairs – OCHA, High Commissioner for Refugees – UNHCR - and World Food Programme WFP;
- EU Humanitarian Aid and Civil Protection – ECHO -, External Action Service – EEAS -, Monitoring and Information Centre – MIC - and Common Emergency Communication and Information System – CECIS;
- Non Government Organization – NGO;
- Private Volunteer Organization – PVO.

What can NC3A provide to participants?

The role of NC3A is to provide support to the establishment and the execution of the multinational projects between nations, national and international organizations and industries. Establishing Multinational Projects requires significant consultation and liaison with the NATO Strategic Commands, Agencies and other entities to ensure coherence with other NATO programmes and activities in the area of multinational projects. With the authority derived from the NC3O Charter, NC3A is ideally positioned to fulfil the consultation role in the facilitation of the multinational projects.

NC3A would have a triple role in this project:

- As Executive Agent, NC3A will promote and prepare this initiative, proposing a working packages plan (Clearing House mechanism) collecting and catalyzing the consensus around the Program of Work for 3-5 years;
- As C4ISR Expertise Provider, NC3A will offer unbiased technical and scientific advice and liaise with NATO and non-NATO technical/advisory bodies; moreover NC3A will provide support to exercises;
- As C4ISR Enabler, NC3A will provide independent support, NOTS (NATO Off-The-Shelf) hardware and software infrastructure (that could be used or customized to fulfil the Interoperability Focus Areas) and joint development and capability assurance.

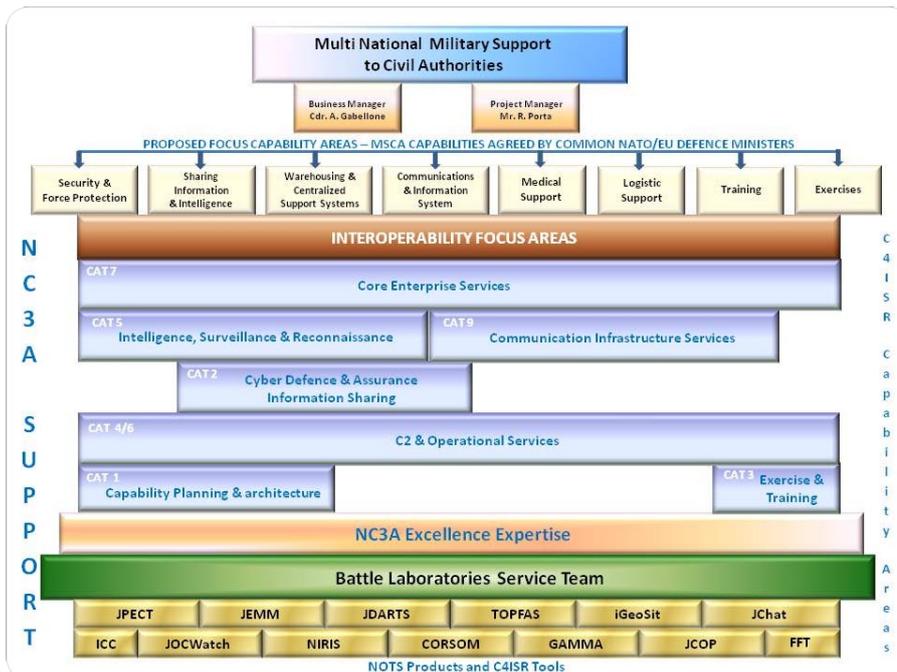


Fig. 5 – NC3A's Expertise and Provisions to Participants.

Significant NC3A work experience related to CMI includes (figure 5): excellent track record activities sponsored by the NATO Strategic (ACO and ACT) and Subordinate Commands, the NATO C3 Board and NATO-HQ International Staff; successful collaboration on initiatives with civil organizations of non NATO Countries (Sweden – NATO-SWE NNEC Live Experiment and Russia – Cooperative Airspace Initiative); productive cooperation with the European Union (e.g. EUFOR, EUPOL) and groups of European Nations (e.g. South-East Europe Chief Info Officers Conference); good working-level cooperation and at the same time independence from the industry of all NATO and many other Nations (being an unbiased NATO C4ISR Procurement Agency).

NC3A Investments in Activities Related to Civil-Military Interoperability (2004 – 2010)

NATO Investment:

NSIP: 1.5M - Annual POW: 2M NSIP:

- Support to NATO Civil Exercise Planning (CEP)
- NATO Defense Against Terrorism (DAT) Program (Ballistic Missile Defence, Counter-IED (analysis, R&D, experimentation, implementation)
- Cooperation with Euro-Control on Air Traffic Control (analysis, R&D, implementation support)
- NATO Russia Council - Cooperative Airspace Initiative (CAI) (analysis and exercises)
- Support to NC3B in NATO-Sweden Exercise on Civil-Military Information Sharing and Counterterrorism Operations with Network Enabled Capability (live exercise)
- ISAF Afghan Country Stability Picture (implementation support for ISAF)
- Support to NATO HQ EADRCC for the Haiti Crisis

Annual POW:

- Support to ACT in Communication Services for Civil Emergency (analysis and experimentation - CWID)
- Support to ACT in Collaboration tools, information sharing & protection (experimentation - CWID)
- Support to ACT for Force Tracking Interoperability in ISAF: Commercial Convoys, NATO and National Tracking System, EUPOL Tracking Systems (specification and implementation)
- Medical Functional Services (R&D and experimentation – CWID)
- Support to ACT for Many CMI-related exercises with own Sit. Awareness tools (exercise & experimentation)
- Phoenix Exercise, Sofia (BUL) (exercise)
- Planning for follow-up NATO-Sweden NEC Exercise



Why should YOU consider joining?

The main benefits that Nations and International Organizations can gain from participating in the MN CMI Project are:

- Obtaining tangible progress in civil-military coordination in order to better fulfil the roles of each organization and successfully accomplish its mission;
- Specifying and validating civil-military interoperability solutions during the preparedness phase to be quickly applied whenever operational requirements arise;
- Saving development costs by optimizing the use of available resources and capabilities and empowering R&D initiatives by harmonizing and coordinating on-going and planned efforts;
- Achieving the above while maintaining full responsibility for own processes, procedures and systems, for which only minor modifications would be required;
- Establishing a collaborative workplace and method that can be valuable beyond the duration and scope of the Project, e.g. to further progress joint training and preparation;
- Making use of the capabilities, expertise, unbiased and trusted reputation of NC3A as enabler, adviser and a coherency agent with related NATO initiatives and bodies.

What is the Legal Construct of Cooperation with NC3A?

NC3A offers flexible legal solutions to respond quickly to the needs of Nations. Participation in the MN CMI initiative is open to both Nations who have signed the NC3A C4ISR Memorandum of Agreement (MoA) and those that have not yet done so.

The MoA is a framework agreement covering full cooperation on C4ISR activities, which defines in advance the terms of the collaboration. Specific projects are defined in Technical/Implementing Arrangement (TA/IA) which also set out the financial terms and which refers, for the rest, to the C4ISR MoA. TAs/IAs can be issued quickly since the general terms of the collaboration have already been defined and agreed in the C4ISR MoA. Multiple TAs/IAs can be added to the MoA, to cover both multinational and bilateral cooperation.

NATO (NATO and non NATO Members) that have not signed a C4ISR MoA with NC3A may also participate in the MN CMI initiative after putting in place a task-specific arrangement such as a Letter of Agreement.

The North Atlantic Council's (NAC) approval is required for the non-NATO Nations.

What is the Cost for the Participants?

As a customer-funded and non-profit NATO Agency, NC3A has to cover the cost of its resources (staff, equipment and facility use) spent in the Project. The funding structure – which is similar to other Multinational Projects of NC3A - comprises the following main cost for the Project Members:

- An initial one-off entry fee (covering the preparation and set-up costs);
- A yearly fee, which is dependent (with an agreed sharing mechanism) on the Program of Work.

This is very similar to the Centre of Excellence’s approach, so the MN CMI initiative would operate as a virtual CoE on CMI C4ISR solutions, embedded in NC3A in order to serve NATO and Nations in very close cooperation with CIMIC CoE.

What is Next?

The MN CMI Roadmap Planning includes:

Feb-Apr 2011	Focused meetings with Nations/Organizations -1st Stage
April 2011	Invitation to the MN CMI Workshop
14 June 2011	1st MN CMI Workshop (NC3A, Brussels (BEL))
July-Sept 2011	Receipt of the Statements of Interests (Sols) Focused meetings with Nations/Organizations – 2nd Stage
Nov 2011	2nd MN CMI Workshop
Nov-Dec 2011	Letters of Agreement (LoA) signed, Programme of Work (POW) defined
Dec 2011	Initial MN CMI Project Office established
After	Annual MN CMI Project Meetings

For further information please contact:

DSA-NN
Cdr. ITANA Amleto GABELLONE
Executive Officer and Business Manager
 Tel.: +32 2 707 8152
 amleto.gabellone@nc3a.nato.int

NC3A Production
Mr. Roberto Porta
Principal Scientist – MN CMI PM
 Tel.: +31 70 374 3576
 roberto.porta@nc3a.nato.int

All the aspects of MN Cooperation Development of C4ISR capabilities are presented in the MN Cooperation Development Brochure at:

www.nc3a.nato.int/About/Pages/Pubblications.aspx



Location Brussels
 Boulevard Léopold III, B-1110 Brussels, Belgium
 Telephone +32 (0)2 707 4111

Location The Hague
 P.O. Box 174, 2501 CD The Hague, The Netherlands
 Telephone +31 (0)70 374 3000
www.nc3a.nato.int



NATO C3 Agency
 Sponsor Account NATO and Nations (DSA N&N)
 Telephone +32 (0)2 707 8547
 Fax +32 (0)2 707 8770
 Email: DSANN@nc3a.nato.int
www.nc3a.nato.int