

# PART X

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## PROGRAMMES, ACTIVITIES, ORGANISATIONS AND AGENCIES

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CHAPTER 33	Air defence
CHAPTER 34	Airborne early warning
CHAPTER 35	Airspace and air traffic management
CHAPTER 36	Armaments cooperation and planning
CHAPTER 37	Arms control and disarmament
CHAPTER 38	Civil emergency planning
CHAPTER 39	Communication and information systems
CHAPTER 40	Education and training
CHAPTER 41	Electronic warfare
CHAPTER 42	Logistics
CHAPTER 43	Meteorology
CHAPTER 44	Military oceanography
CHAPTER 45	Public Diplomacy communications and information programmes
CHAPTER 46	Public Diplomacy scientific and environmental programmes
CHAPTER 47	Research and technology
CHAPTER 48	Standardization



# CHAPTER 33

## AIR DEFENCE

NATO air defence comprises all means and measures organised to react to potential air threats and to counter hostile air actions. It is a continuous mission in peacetime, crisis and conflict that contributes to the preservation of the integrity of NATO airspace and provides freedom of action for the full spectrum of operations. It encompasses a network of interconnected systems to detect, track and identify airborne objects and intercept them with appropriate means such as maritime or ground-based weapons systems and interceptor aircraft, if necessary.

The command and control structure for air defence comprises the NATO Air Defence Ground Environment (NADGE), which includes sites stretching from northern Norway to eastern Turkey, the Improved United Kingdom Air Defence Ground Environment (IUKADGE), the Portuguese Air Command and Control System (POACCS) and systems in countries which joined NATO more recently. These systems integrate sites equipped with radars, data processing and display systems and linked by modern digital communications, as well as weapons systems and command and control structures in a NATO Integrated Air Defence System.

Much of the existing air defence structure has been commonly financed through the NATO Security Investment Programme (NSIP); a significant part of the Air Command and Control System (ACCS), which is currently being established, is similarly funded. ACCS is designed to combine and automate the tactical planning, tasking and execution of all air operations with a view to providing a unified air command and control system for the whole Alliance. It is being implemented under the supervision of the NATO ACCS Management Organisation (NACMO). The programme entered the software development phase at the end of 2003. Testing of software components began in 2005, with system testing scheduled to take place between 2006 and 2008. The system will be ready for operational use thereafter, although some capabilities could be provided earlier.

The integrated system will provide a capability against the full range of threats, including ballistic and cruise missiles. This includes the development of an Active Layered Theatre Ballistic Missile Defence (ALTBMD) system for protection of deployed forces, as well as the broader issue of missile defence for the protection of NATO territory, population and forces. Relevant studies and consultations in this field have been undertaken and a programme for

implementation is under consideration in line with ministerial guidance from the Istanbul Summit.

NATO's air defence system also comprises a fleet of 17 Airborne Warning and Control System (AWACS) aircraft, which are presented in the next chapter.

Since March 2004, when the Alliance extended membership to seven new countries, policing of the airspace of the countries without their own air defence capabilities has been undertaken by a number of other NATO member countries on a three-month rotational basis.

## **Associated policy committees, organisations and agencies**

### **The NATO Air Defence Committee (NADC)**

The Committee is responsible for advising the North Atlantic Council and Defence Planning Committee on all aspects of air defence, including theatre missile defence, and relevant air power aspects. Furthermore, the NADC is developing an Air Defence Programme that enables member countries to harmonise their national efforts with international planning related to air command and control and air defence weapons. The air defence of Canada and the United States is coordinated within the North American Aerospace Defense Command (NORAD).

In 1994, the NADC began a dialogue with NATO Partner countries in order to foster mutual understanding, transparency and confidence in air defence matters of common interest. Developments under the Partnership for Peace initiative have further enhanced cooperation in this area and now include fact-finding meetings of air defence experts, air defence seminars, visits to air defence facilities and installations, joint analytical studies and a programme for the exchange of air situation data.

### **The Air Defence Study Working Group**

The Air Defence Study Working Group is a multinational body working in support of the Military Committee. It is tasked with reviewing, advising and making recommendations on air defence issues which affect the NATO Integrated Air Defence System.

## **NATO Air Command and Control System (ACCS) Management Organisation (NACMO)**

The NATO Air Command and Control System (ACCS) Management Organisation provides the structure for the planning and implementation of the command and control system supporting NATO air operations. It will, in due course, replace the Air Defence Ground Environment System (NADGE) (see also the Section on Air Defence). Its headquarters is in Brussels, Belgium.

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# CHAPTER 34

## AIRBORNE EARLY WARNING

The fleet of E-3A NATO Airborne Early Warning and Control (NAEW&C) aircraft forms a central element of the Alliance's early warning capability. The aircraft provide airborne surveillance, warning and control capability over large distances and at low altitude. They enable data to be transmitted directly from the aircraft to ground-, sea- and air-based command and control centres. The system also provides an all-altitude warning and detection capability which improves the Alliance's maritime surface picture, essential for surveillance operations.

The aircraft are NATO-owned and operated and, together with E-3D aircraft owned and operated by the United Kingdom, comprise the NATO Airborne Early Warning Force. The French and United States Air Forces also have E-3 aircraft which can interoperate with the NATO air defence structure.

The initial AEW programme involved the acquisition by the then 12 programme countries (Spain joined the NAEW&C programme in 1998) of this NATO-owned, operated and maintained aircraft fleet as well as the modification and upgrading of 40 existing NATO Air Defence Ground Environment (NADGE) sites to enable them to interoperate with the airborne early warning system. The sites are located in nine different countries stretching from northern Norway to eastern Turkey.

The largest element of the programme consists of 17 NATO-owned E-3A aircraft operating from Geilenkirchen, Germany. The British-owned E-3D component is based at RAF Waddington in the United Kingdom. The NATO E-3A aircraft is based on the US Air Force (USAF) Airborne Warning and Control System (AWACS) aircraft in service since 1977. The E-3As are modified Boeing 707-320B airframes distinguished by the 30-foot diameter rotodome mounted on top of the fuselage which houses the surveillance and identification friend or foe radars. Subsequently three 707 Trainer Cargo Aircraft (TCA) were also acquired.

Both near-term and mid-term modernisation programmes have been undertaken, the mid-term programme covering NATO's airborne early warning requirements from 1998 to 2008/9.

From August 1990 to March 1991, in response to Iraq's invasion of Kuwait, aircraft of the NATO E-3A Component were deployed to eastern Turkey to reinforce NATO's southern flank in order to monitor air and sea traffic in the

eastern Mediterranean and to provide continuous airborne surveillance along the Turkey-Iraq border.

Since July 1992, the NAEW Force, comprising both the E-3A Component and the UK E-3D Component, has been extensively deployed in the area of the former Yugoslavia. It has supported NATO's actions relating to the monitoring and implementation of United Nations Security Council resolutions, and has subsequently supported the Implementation Force (IFOR), Stabilisation Force (SFOR) and Kosovo Force (KFOR) operations. Aircraft of the French E-3F force have also taken part in these operations.

From mid-October 2001 to mid-May 2002, NATO AWACS aircraft were sent to help protect the United States following the September 11 attacks on Washington, DC and New York. These surveillance aircraft were again deployed from February to April 2003 to help protect Turkey in the event of a threat to its territory or population arising as a result of the war in Iraq. The fleet has also been deployed from time to time to provide surveillance during high-profile events such as the 2004 Olympic Games in Athens.

## **Associated policy committees, organisations and agencies**

### **NATO Airborne Early Warning and Control Programme Management Organisation (NAPMO)**

NAPMO is responsible for all aspects of the management and implementation of the NAEW&C Programme and reports directly to the North Atlantic Council. The Organisation consists of a Board of Directors, supported by a Programme Management Agency (NAPMA) located in Brunssum, the Netherlands, as well as by a Legal, Contracts and Finance Committee, an Operations, Technical and Support Committee and a Depot Level Maintenance Steering Group.

Each of the 13 participating countries is represented on the Board of Directors and its committees. Representatives of the NATO Secretary General, the NATO Strategic Commanders, the NATO Airborne Early Warning and Control (AEW&C) Force Commander and other NATO bodies also attend committee meetings and meetings of the Board of Directors, which normally take place twice a year.

The day-to-day management of the acquisition programme is the responsibility of the NAPMA General Manager. The NATO AEW&C Force Command Headquarters is co-located with Supreme Headquarters Allied Powers Europe



(SHAPE) in Mons, Belgium. Both NAPMA and the Force Command are manned by personnel from the participating countries.

The Main Operating Base is in Geilenkirchen, Germany, and is also manned by personnel from the participating NAPMO countries. Air bases in Italy, Greece and Turkey and a Forward Operating Location in Norway have been extensively modified to provide support for NATO E-3 aircraft operations.

NAPMO's current member countries are Belgium, Canada, Denmark, Germany, Greece, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Turkey and the United States. The United Kingdom provides seven E-3D aircraft to the NATO AEW Force. France attends NAPMO meetings in an observer role, based on its acquisition of four national E-3F aircraft.

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# CHAPTER 35

## AIRSPACE AND AIR TRAFFIC MANAGEMENT

The continuous growth of civil air traffic and the introduction of new military operational concepts and weapon systems create an increased demand for airspace by both civil and military users. It is therefore essential to ensure effective coordination at the international level between civil and military authorities in order to facilitate the accommodation of the needs of all users on an equitable basis. In particular, NATO's role in civil-military air traffic management coordination is to safeguard, in cooperation with relevant international organisations, the airspace requirements that enable the Alliance to accomplish its security tasks and missions, while minimising disruptions to civil aviation already constrained by the limited capacity of air traffic control systems and airport structures.

The 2001 terrorist attacks in the United States dramatically focused attention on the new threat posed by civil aircraft transformed into deadly weapons. Increased awareness of such new forms of aggression has intensified the international struggle against terrorism and the parallel effort of the Alliance to strengthen air security.

NATO's new global perspective has increasingly highlighted the crucial requirement for efficient airports within its areas of operations. The availability of deployable air traffic management assets and of mechanisms to lead the coordination of international efforts for the rehabilitation of airports is fundamental to ensuring the Alliance's continuing effectiveness.

There is also a need to ensure that NATO air assets are able to maintain the required degree of compatibility with the different elements of the air traffic management infrastructure. Consequently, and in particular in view of current efforts to achieve pan-European and Euro-Atlantic harmonisation of air traffic management systems and procedures, NATO is represented in a number of international forums concerned with airspace and air traffic management.

Normalisation of civil aviation after a crisis requires the full involvement of all the relevant actors. NATO's ability to delineate the pace of transition towards the final handover of airspace control, in coordination with the local authorities concerned and the international civil aviation organisations, is key to the success of NATO operations.

Airspace use and air traffic management coordination were among the first areas in which cooperation was developed with NATO's Partner countries. The Alliance remains actively engaged in providing assistance to Partner,

Mediterranean Dialogue and other countries in the development of civil-military air traffic management systems and air security structures that are interoperable with NATO and compliant with international standards. Cooperative airspace initiatives are also conducted in the framework of the NATO-Russia Council and the NATO-Ukraine Distinctive Partnership.

## **Associated policy committees, organisations and agencies**

### **The NATO Air Traffic Management Committee (NATMC)**

The NATMC is the senior civil-military advisory body of the North Atlantic Council for airspace use and air traffic management. The Committee's mission is to develop, represent and promote NATO's view on matters related to safe and expeditious air operations in the airspace of NATO areas of responsibility and interest. The NATMC is engaged in enhancing aviation security and is responsible for ensuring that NATO airspace requirements are fully coordinated with the aim of safeguarding the Alliance's effectiveness. This includes the conduct of air operations and major exercises and the harmonisation of systems and procedures. The Committee monitors and evaluates developments in communications, navigation and surveillance to assess their impact on NATO's operational capability.

Representatives of the International Civil Aviation Organisation, the International Air Transport Association, the European Commission, the European Organisation for the Safety of Air Navigation (EUROCONTROL) and other civil aviation organisations assist the Committee. NATMC is therefore able to provide a unique interface between the NATO military authorities responsible for the coordination of large-scale military aircraft movements and national and international civil aviation bodies and organisations.

# CHAPTER 36

## ARMAMENTS COOPERATION AND PLANNING

Armaments cooperation within NATO aims at supporting the Alliance's strategic objectives through the cost-effective development and acquisition of military capabilities, by enhancing and encouraging interoperability and promoting technological and industrial cooperation among Allies and, where appropriate, Partner countries. The objective of armaments cooperation is to pool resources and knowledge, share risks and create economies of scale. Attention is paid to addressing the most urgent capability shortfalls of the Alliance, for example meeting the equipment requirements of the NATO Response Force or developing capabilities for defence against terrorism, and to catering for national operational requirements.

NATO's armaments community seeks to create synergy among its procurement, technology and industrial communities. Through a network of committees, information is exchanged on new military requirements and emerging technologies. Possibilities for harmonising national requirements and undertaking collaborative programmes are explored.

Armaments planning, as one of the main components of NATO defence planning, translates military force goals into armaments objectives. Given the long in-service periods of most military equipment, particular attention is paid to the long-term elements of the NATO force planning system. Planning for armaments activities takes place in a variety of ways: yearly management plans are formulated for the Conference of National Armaments Directors (CNAD) and its main subordinate groups to address operational, economic and technological aspects of NATO objectives. Another important planning tool is the set of Long Term Capability Requirements (LTCRs) identified by Allied Command Transformation (ACT). LTCRs describe the most important capability shortfalls for the various military functions of the Alliance. They serve as guidance for focusing the work of the armaments community.

### **Associated policy committees, organisations and agencies**

#### **Conference of National Armaments Directors (CNAD)**

The major work within NATO to identify opportunities for collaborative research, development and production of military equipment takes place under

the auspices of the Conference of National Armaments Directors (CNAD). The CNAD is the senior advisory committee to the North Atlantic Council on armaments issues. It sets priorities and gives guidance to its substructure, which consists of military and civilian experts from member and Partnership for Peace countries. It meets twice a year at the level of National Armaments Directors (NADs), and more frequently at the level of their permanent representatives in Brussels (NADREPs).

Through meetings of expert groups from armed services and defence ministries, information is exchanged about evolving military requirements, possibilities for harmonisation, the establishment of standards and interoperability, and emerging technologies. Cooperation takes place between these CNAD groups and expert groups from the Research and Technology Organisation, the Consultation, Command and Control (C3) Organisation, Allied Command Transformation (ACT), industry and end users represented by the NATO military authorities. The CNAD structure enables member countries to select those research and technology and equipment projects in which they wish to participate. At the same time, it facilitates the exchange of information on national programmes, where cooperation could be beneficial to individual countries and to NATO as a whole. Overall guidance for these activities is provided through the formulation of yearly CNAD management plans identifying key objectives and priority areas of work.

## The CNAD organisation

The CNAD substructure consists of:

- Three **Main Armaments Groups**: NATO Naval Armaments Group (NNAG), NATO Air Force Armaments Group (NAFAG) and NATO Army Armaments Group (NAAG), with various subgroups and working groups.
- The **NATO Industrial Advisory Group** (NIAG), which provides defence industrial expertise to CNAD.
- The **Group of National Directors on Codification**, the **Life Cycle Management Group** and the **Ammunition Safety Group**, also with various subgroups.
- The **Alliance Ground Surveillance Steering Committee** (AGS SC).
- The **Active Layered Theatre Ballistic Missile Defence Steering Committee** (ALTBMD SC).

## **NATO Research and Technology Board (RTB)**

The Research and Technology Board (RTB), an integrated NATO body responsible for defence research and technological development, provides advice and assistance to the CNAD, as well as to the Military Committee. The Board coordinates research and technology policy in different NATO bodies and is supported by a specialised NATO Research and Technology Agency (RTA).

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The management of major collaborative projects as they move from development to the production phase is carried out by specialised NATO agencies acting on behalf of the participating member countries.

## **NATO Medium Extended Air Defence System Design and Development, Production and Logistics Management Agency (NAMEADSMA)**

NAMEADSMA oversees development of the Medium Extended Air Defence System (MEADS).

Further information:

NAMEADSMA

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## **NATO EF 2000 and Tornado Development Production and Logistics Management Agency (NETMA)**

NETMA was created by merging the former NATO Multirole Combat Aircraft Development and Production Management Agency (NAMMA) with the NATO EFA Development, Production and Logistics Management Agency (NEFMA). It is responsible for the joint development and production of the NATO European Fighter Aircraft (Eurofighter), and for providing in-service support for the NATO multirole combat aircraft (Tornado).

Further information:

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## **NATO Helicopter Design and Development, Production and Logistics Management Agency (NAHEMA)**

NAHEMA controls the execution of the NATO NH90 helicopter programme.

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## **NATO Hawk Management Office (NHMO)**

NHMO is responsible for improvement programmes for the Hawk surface-to-air missile system.

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# CHAPTER 37

## ARMS CONTROL AND DISARMAMENT

NATO countries seek to maintain security and stability at the lowest possible level of forces consistent with their ability to undertake the full range of Alliance missions and meet whatever security challenges may arise. The pursuit and implementation of effective and verifiable arms control, disarmament and non-proliferation agreements are therefore an important part of the broad approach to security adopted by the members of the Alliance and form an integral part of NATO strategy.

Three NATO members possess nuclear weapons, namely the United States, the United Kingdom and France. Each of these countries has reduced the size of the nuclear forces it possesses both through internationally negotiated treaties and agreements and through unilateral decisions. NATO as a whole has reduced its reliance on nuclear weapons, attributing to them an essentially political role as part of its overall policy of deterrence against aggression. By contrast, however, the increased terrorist threat and the potential use of weapons of mass destruction have raised the profile of arms control and measures to prevent proliferation and of new initiatives in this sphere.

The Alliance also attaches great importance to reductions in conventional weapons. The most significant achievement in this sphere and a major factor in ensuring the stability of the Euro-Atlantic area has been the 1990 Conventional Forces in Europe (CFE) Treaty and its adaptation to the new situation prevailing in Europe following the end of the Cold War. The treaty has led to the destruction of large quantities of military equipment and involves regular exchanges of information among participating countries on the remaining forces as well as stringent verification measures. NATO also coordinates activities among Allies in the context of a negotiating process concerning confidence and security-building measures enshrined in an agreement known as the Vienna Document, and supports the 1992 Open Skies Treaty, which permits overflights of national territory on a reciprocal basis.

NATO has also launched a number of projects relating both to the destruction of excess stockpiles of weapons and ammunition, including anti-personnel landmines, and to addressing other consequences of defence reform. It has been instrumental in initiating and helping to implement such projects in the context of the Partnership for Peace. The mechanism introduced to channel financial support from donor countries for the safe disposal of these dangerous and unwanted legacies is the Partnership for Peace Trust Fund (see Part VII).

NATO policies with regard to non-proliferation stem from the fact that one of the most significant areas of concern for world peace arises from the proliferation of nuclear, chemical and biological weapons and their means of delivery. NATO countries have agreed that preventing the proliferation of weapons of mass destruction is one of the most important tasks facing today's Alliance. In 1999, new initiatives were taken in this field. A far-reaching Weapons of Mass Destruction (WMD) Initiative was launched and a Weapons of Mass Destruction Centre was established at NATO Headquarters in May 2000. This initiative builds upon earlier work to improve overall Alliance political and military efforts in this area and has been further developed since the terrorist attacks against the United States.

NATO member countries consider confidence-building, arms control, disarmament and non-proliferation to be important components of conflict prevention and recognise that the Alliance can play a vital role in this field by promoting a broader, more comprehensive and more verifiable international arms control and disarmament process. In this way, NATO contributes to the work of other international organisations whose core business is to focus on these issues. The Alliance's overall policy in this field, formulated in the Strategic Concept published in 1999, includes a commitment to contribute actively to this process.

The Alliance provides a consultative forum for its members on all aspects of arms control, disarmament and non-proliferation. Consultation on these issues takes place in a number of NATO bodies established specifically for the purpose of identifying ways of bringing about advances in each of these areas. These topics are also discussed with Partner countries in the framework of the Euro-Atlantic Partnership Council (EAPC), the NATO-Russia Council, the NATO-Ukraine Commission and the Mediterranean Dialogue.

NATO bodies regularly meet with experts on disarmament, notably prior to significant international meetings such as the Nuclear Non-Proliferation Treaty (NPT) Review Conference, the UN First Committee and the Conference on Disarmament. NATO also provides a forum for consultations on the implications for Alliance security and global strategic stability of theatre missile defence options.

A summary of the main developments, negotiating processes and areas of cooperation in this field is given below.

## **Developments relating to nuclear, biological and chemical weapons**

NATO member countries remain subject to a wide variety of military and non-military risks that are both multi-directional and difficult to predict.

The proliferation of nuclear, biological and chemical (NBC) weapons and their means of delivery remains a matter of serious concern. NATO recognises that proliferation can occur despite efforts to prevent it and can pose a direct military threat to Allied populations, territory and forces. NATO's support for non-proliferation regimes, both conventional and nuclear, therefore constitutes an integral part of its security policy. The member countries have adopted a two-pronged political and defence-related approach to fighting the proliferation of weapons of mass destruction and their means of delivery. However, major challenges remain, despite progress in strengthening international non-proliferation regimes. The intensification of the threat from terrorism has served to accentuate the importance of concerted international action in this sphere.

The existence of significant nuclear forces outside the Alliance also has to be taken into account. However, the circumstances in which the use of nuclear weapons by NATO might have to be contemplated are extremely remote and the role of nuclear forces within the Alliance's overall security strategy has been greatly reduced. Major reductions have also been made in the forces themselves by the member countries that maintain nuclear forces, namely the United States, France and the United Kingdom.

- *The Nuclear Non-Proliferation Treaty (NPT)*

The Nuclear Non-Proliferation Treaty (NPT) has been the cornerstone of international agreements on global non-proliferation and of the process of bringing about nuclear disarmament. The treaty was extended indefinitely at the NPT Review and Extension Conference in 1995. It was also decided to strengthen the review process and to adopt a set of "Principles and Objectives for Nuclear Non-Proliferation and Disarmament" in order to promote effective implementation of the treaty.

The conclusions of the 2000 NPT Review Conference held in New York from 24 April to 19 May 2000 reflected continued support for universal NPT adherence, strict compliance with the NPT's provisions, strengthened International Atomic Energy Agency (IAEA) safeguards, and further steps toward the ultimate objective of nuclear disarmament.

The final document contains a plan for systematic and progressive implementation of the NPT Article VI commitment relating to nuclear disarmament. In addition, the five nuclear-weapon states recognised by the NPT issued a joint statement in which they welcomed the indefinite extension of the treaty and reaffirmed their commitment to the 1995 decisions.

- *Biological and chemical weapons*

Biological and chemical weapon capabilities are not part of Alliance strategy and play no part in NATO force structures. Alliance policy relating to these weapons supports universal adherence to the relevant disarmament regimes. However, the proliferation of these weapons is widely recognised as a growing international security problem, particularly in the context of terrorism.

The use of chemical and biological weapons is banned by the 1925 Geneva Protocol. Other relevant agreements in this sphere include the Biological and Toxin Weapons Convention, which entered into force in 1975, under which the signatories agree not to develop, produce, stockpile or acquire biological agents and related equipment used for hostile purposes. In 1994, an *Ad Hoc* Group of States Parties to the Convention was established to examine possible verification measures and proposals to strengthen the convention. Subsequent review conferences have marked further steps in this direction.

A Chemical Weapons Convention banning chemical weapons was negotiated at the Conference on Disarmament between 1980 and 1992 and entered into force in 1997. It included undertakings not to develop, produce, acquire, stockpile or retain chemical weapons, not to use or prepare to use chemical weapons and not to assist others in acting against the provisions of the convention. The convention also required signatories to destroy chemical weapons in their possession and to destroy their chemical weapon production facilities.

- *Missiles and other means of delivery*

The Missile Technology Control Regime (MTCR) established in 1987 brings together 32 states that seek to limit the proliferation of missiles and missile technology. The MTCR partners control exports of a common list of controlled items in accordance with a common export control policy.

## **Developments relating to conventional arms control and disarmament**

- *Adaptation of the CFE Treaty*

The Conventional Forces in Europe (CFE) Treaty of 19 November 1990 imposed legally binding limits on five categories of Treaty-Limited Equipment (TLE) and included provisions for exceptionally comprehensive information exchange and notifications, as well as intrusive on-site inspection and verification arrangements. The treaty brought about unprecedented transparency in relation to arms holdings as well as dramatic reductions in TLE in Europe.

Negotiations on the adaptation of the treaty to the new circumstances prevailing after the end of the Cold War began in 1996, reflecting the fact that fundamental changes had occurred since its signature in 1990 including the reunification of Germany, the dissolution of the Warsaw Pact and the USSR, the emergence of successor states, raising the number of countries subordinated to the treaty from 22 to 30, and the process of democratisation in Central and Eastern Europe. Subsequent developments affecting the application of the treaty have included the accession to NATO of new member countries in 1999 and 2004 and the prospect of further accessions in the future.

An “Agreement on Adaptation” of the CFE Treaty was signed at the Istanbul OSCE Summit in November 1999 which requires ratification by all 30 states parties to the Treaty before it can enter into force. A “Final Act” of the summit was also adopted that stipulates politically binding commitments relating to restraint, withdrawals and progressive additional reductions towards equipment entitlements offered by states parties in the context of the Treaty’s adaptation.

During NATO’s Istanbul Summit in June 2004, Allied leaders reiterated their commitment to the CFE Treaty as a cornerstone of European security and reaffirmed their attachment to the early entry into force of the Adapted Treaty. They also emphasised that fulfilment of the remaining Istanbul Commitments relating to the presence of Russian forces in the Republics of Moldova and Georgia would create the conditions for Allies and other states parties to move forward on ratification of the Adapted CFE Treaty. The entry into force of the Treaty will pave the way for accession to it by non-CFE countries which have stated this as their intention, and will make an additional contribution to European security and stability.

The Alliance’s High Level Task Force (HLTF) is responsible for the development of policy in the area of conventional disarmament, arms control and confidence and security-building measures. The NATO Verification Coordinating Committee (VCC) focuses on the implementation and the coordination of arms control monitoring activities. The VCC hosts an annual seminar for the 30 states parties to the CFE Treaty and for other EAPC countries on implementation aspects of the CFE Treaty.

## **The Vienna Document**

At the Istanbul Summit in November 1999, the member states of the Organization for Security and Co-operation in Europe (OSCE) also adopted the 1999 Vienna Document, which enhances the confidence and security-building measures (CSBMs) introduced by the Vienna Documents of 1990, 1992 and 1994. The 1999 Document introduced improvements in existing CSBMs and placed an emphasis on the importance of regional cooperation in this field.

## **Open Skies**

The March 1992 “Open Skies” Treaty represented another important element in creating greater openness in relation to military activities and structures. The Treaty enhances the confidence-building process by facilitating the monitoring of compliance with existing or future arms control agreements and strengthening capacity for the early recognition and management of crises by permitting reciprocal overflights of national territory on a reciprocal basis. The Treaty was ratified in 2001, allowing a number of trial flights to take place prior to its entry into force on 1 January 2002.

## **Small arms and light weapons**

Growing international awareness of the need to prevent and reduce destabilising accumulations and illicit trafficking of small arms and light weapons in all its aspects has led to a number of initiatives at the global, regional and local levels.

An *Ad Hoc* Working Group created within the framework of the Euro-Atlantic Partnership Council in January 1999 has focused on practical work on this issue. Following the conclusions of the international conference on the illicit arms trade, convened by the UN General Assembly in July 2001, member states endorsed an international Programme of Action to which NATO and its Partner countries are contributing. NATO has also launched a number of Partnership for Peace Trust Funds focused specifically on the disposal of arms and ammunition stocks in countries such as Azerbaijan, Georgia and Ukraine.

## **Anti-personnel mines**

Active efforts are being undertaken to counter the humanitarian problems and suffering caused by anti-personnel mines. NATO member countries have demonstrated their commitment to tackling this issue through Partnership for Peace Trust Fund projects. For instance, large quantities of anti-personnel mines have been destroyed in Albania. A similar initiative was introduced in Moldova involving mines, munitions and corrosive rocket fuel, and an initiative to destroy several million mines stockpiled during the Soviet era has been launched in Ukraine.

The Protocol on Prohibitions or Restrictions on the Use of Mines, Booby Traps and Other Devices adopted by the states parties to the 1980 Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects was signed in 1996. A Convention on the Prohibition of the Use, Stockpiling, Production, and Transfer of Anti-Personnel Mines and on Their

Destruction was signed in Ottawa on 3 December 1997 and came into force on 1 March 1999. The EAPC *Ad Hoc* Working Group, to which reference is made above, has also been tasked to support the full spectrum of mine action and enabling activities.

## **WMD proliferation**

The threat to international security represented by the proliferation of weapons of mass destruction resulted in the decision by NATO leaders in 1994 to intensify and expand the Alliance's efforts in this field. The Alliance Policy Framework on Proliferation of Weapons of Mass Destruction (WMD) published in 1994 states that the principal goal of the Alliance and its member states is to prevent proliferation from occurring or, should it occur, to reverse it through diplomatic means. However, the document recognised that proliferation might nevertheless occur despite international non-proliferation norms and agreements, and that weapons of mass destruction and their delivery means can pose a direct military threat to NATO territory, populations and forces. Accordingly, the Alliance has increasingly focused on the range of defence capabilities needed to devalue WMD proliferation and use and on improvements in NATO's defence posture against WMD risks. These efforts are aimed at reducing the operational vulnerability of NATO military forces as well as maintaining their flexibility and effectiveness in potential situations involving the presence, threat or use of NBC weapons.

A far-reaching WMD Initiative was launched at the April 1999 Washington Summit and a WMD Centre was established at NATO Headquarters in May 2000. The Centre works to strengthen dialogue and common understanding of WMD issues among member countries, to strengthen consultations on non-proliferation, arms control and disarmament issues, to assess risks, and to support defence efforts that serve to improve the Alliance's preparedness to respond to the risks of WMD and their means of delivery. The Centre includes personnel drawn from NATO's International Staff as well as national experts.

This Initiative builds upon earlier work to improve overall Alliance political and military efforts in this area. It has been further developed since the terrorist attacks against the United States in September 2001 in order to focus more systematically on the protection of forces and populations against nuclear, biological and chemical weapons, on the dangers of proliferation and on ballistic missile defence.

## **Associated policy committees, organisations and agencies**

**The Joint Committee on Proliferation (JCP)** is a senior advisory body providing coordinated reports to the North Atlantic Council on politico-military

and defence aspects of the proliferation of weapons of mass destruction. Under the chairmanship of the Deputy Secretary General, it brings together members of the Senior Politico-Military Group on Proliferation (SGP) and the Senior Defence Group on Proliferation (DGP) in joint session to coordinate the political and defence dimensions of NATO's response to the WMD threat.

**The Senior Politico-Military Group on Proliferation (SGP)** is composed of senior national officials responsible for political and security issues related to non-proliferation that meets under the chairmanship of the Assistant Secretary General for Political Affairs and Security Policy. The SGP considers a range of factors in the political, security and economic fields that may cause or influence proliferation and considers political and economic means to prevent or respond to proliferation.

**The Senior Defence Group on Proliferation (DGP)** is the senior advisory body to the North Atlantic Council on proliferation of WMD and their associated delivery systems. It brings together experts and officials with responsibilities in this field under joint North American and European chairmanship. The DGP addresses the military capabilities needed to discourage WMD proliferation, to deter threats and use of such weapons, and to protect NATO populations, territory and forces.

**The High Level Task Force on Conventional Arms Control (HLTF)** is a consultative and advisory body bringing together government experts under the chairmanship of the Deputy Secretary General to channel advice on conventional arms control issues to Ministers of Foreign Affairs and of Defence. It also meets at the level of political advisers to national delegations at NATO.

**The Verification Coordinating Committee (VCC)** is the principal body within NATO for decisions relating to matters of conventional arms control implementation and verification activities. It meets at a number of different levels and in different working group, expert group and workshop formats.

**The Weapons of Mass Destruction Centre** established at NATO Headquarters in May 2000 works to strengthen common understanding of WMD issues, assess risks, and improve the readiness of military forces to operate in a WMD environment and to counter WMD threats.

**The EAPC Ad Hoc Working Group on Small Arms and Light Weapons and the EAPC Ad Hoc Working Group on Global Humanitarian Mine Action** provide fora to facilitate the exchange of information and ideas among NATO and Partner countries on how best to exercise controls and to promote common goals in each of these areas.



# CHAPTER 38

## CIVIL EMERGENCY PLANNING

Civil emergency planning has long been one of the mainstream activities of NATO. Its main roles are to provide civil support for military operations and support for national authorities in civil emergencies, particularly in the protection of civilian populations.

Following the terrorist attacks on the United States, a large part of NATO's civil protection efforts have focused on assisting member and Partner countries in protecting their populations against the potential consequences of attacks with chemical, biological and nuclear agents. In the context of support for military planning and operations, civil emergency planning activities contribute by ensuring that jointly developed plans and procedures are effective and that the necessary assets are available. These may include commercial ships, civil aircraft, trains and rail networks, medical facilities, communications, disaster response capabilities and other civil resources.

However, the characteristics of NATO civil emergency planning activities have fundamentally changed since the end of the Cold War. No longer focused primarily on managing civil resources and protecting the population in the context of large-scale war, they are oriented towards providing support for military crisis response operations and dealing with the consequences of natural disasters or terrorist attacks.

Another feature of today's civil emergency planning activities is the extensive cooperation that takes place with Partner countries in the framework of the Partnership for Peace programme and the Euro-Atlantic Partnership Council, the NATO-Russia Council, the NATO-Ukraine Commission, the Mediterranean Dialogue and, more recently, the Istanbul Cooperation Initiative. The largest non-military component of Partnership for Peace activities, civil emergency planning now embraces regular consultations and discussions among all NATO and Partner countries as well as joint operations and exercises in which an important role is played by the on-call Euro-Atlantic Disaster Response Coordination Centre established at NATO Headquarters in Brussels.

As a consequence of these arrangements, NATO and Partner countries have been able to channel coordinated assistance to Ukraine, the Czech Republic and the United States in the wake of major flooding, to Greece, Turkey and Pakistan following serious earthquakes, to Portugal during major forest fires, and to the Balkans where an urgent need for humanitarian relief was the inevitable result of regional conflicts and wars. NATO civil emergency planning capabilities have also been instrumental in providing consequence

management assistance to member countries in dealing with special contingencies such as the potential risks to Turkey in the context of the Iraq conflict in spring 2003 and the preparation and conduct of the 2004 Summer Olympic Games in Greece.

A large number of other international organisations cooperate with NATO in the field of civil emergency planning. These include the European Union, the International Atomic Energy Agency, the International Committee of the Red Cross, the International Federation of the Red Cross and Red Crescent Societies, the UN Office for the Coordination of Humanitarian Affairs, the Organisation for the Prohibition of Chemical Weapons, and the Organization for Security and Co-operation in Europe.

## **Civil emergency planning activities in the Partnership for Peace context**

Civil emergency planning activities within the framework of the EAPC and the Partnership for Peace programme include seminars, workshops, exercises, training courses and exchanges of information involving civil and military personnel from different levels of local, regional and national governments as well as from non-governmental organisations.

Common to many of the activities is a strong focus on disaster preparedness and protection of the civilian population in emergency situations resulting from disasters or terrorist attack. This area of activity is often referred to as consequence management. Cooperation with the UN Office for the Coordination of Humanitarian Affairs, in the context of its project on the Use of Military and Civil Defence Assets in Disaster Assistance, plays an important part in many of the activities.

Based on a Russian proposal put forward in November 1997 aimed at more concrete forms of cooperation in the field of disaster relief, a Euro-Atlantic Disaster Response Capability comprising a Euro-Atlantic Disaster Response Coordination Centre (EADRCC) and a Euro-Atlantic Disaster Response Unit (EADRU) was established in 1998. The EADRCC has since played an important role in a variety of relief operations and has been instrumental in assisting countries in improving their preparedness for special events and crises. Shortly after its inauguration, it also played a role in the 1999 Kosovo conflict by coordinating EAPC assistance in support of relief operations in Albania by the Office of the UN High Commission for Refugees. Subsequently the EADRCC was involved in monitoring the humanitarian situation in and around Kosovo and, in April 1999, took further action to coordinate humanitarian assistance to alleviate the plight of Kosovar refugees.

The EADRU is a combination of multinational and national civilian or military units volunteered by EAPC countries, the composition of which is determined according to the actual requirements at the time the intervention of the unit is requested. It can consist of search and rescue units, medical units, transport and logistics, communication and other facilities. The EADRCC maintains a confidential inventory of national capabilities to enable NATO and Partner countries, on a voluntary basis, to register assets that they might be willing to make available to a stricken country. This inventory has been used to good effect on a number of occasions, most recently in support of Greece during the 2004 Olympic Games.

Procedures for the deployment of the EADRU have been tested in a number of multinational exercises involving large-scale international participation. These exercises also serve to improve interoperability among national first response units as well as civil-military cooperation. Scenarios have included simulated flooding in western Ukraine, wildfires in Croatia, explosions involving the use of a dirty bomb near a football stadium in Romania, an attack on a chemical production facility in Russia, and fire-fighting and search and rescue work in Uzbekistan.

## **NATO-Russia cooperation**

NATO-Russia cooperation in civil emergency planning has its origins in December 1991, when the North Atlantic Council tasked NATO's Senior Civil Emergency Planning Committee to assist in coordinating the transportation of humanitarian assistance to the then Soviet Union. A Memorandum of Understanding (MOU) on Civil Emergency Planning was signed on 20 March 1996 and, with the signing of the Founding Act on Mutual Relations, Cooperation and Security between NATO and the Russian Federation in 1997, an Expert Group on Civil Emergency Preparedness and Disaster Relief was created to oversee the implementation of the MOU. Since then, cooperation with Russia in the area of civil emergency planning has been progressively enhanced. In the framework of the NATO-Russia Council, NATO member countries and Russia now carry out a wide-ranging programme of cooperative activities, including work on rapid response capabilities and joint exercises.

## **NATO-Ukraine cooperation**

Extensive cooperation in civil emergency planning takes place between NATO and Ukraine. It began in 1995, when NATO's Civil Emergency Planning Directorate coordinated assistance from NATO and Partner countries following the heavy rains and the flooding of the Ouda and Donets Rivers in eastern Ukraine. Cooperation in this area is a key component of the NATO-Ukraine

Charter signed in July 1997. A memorandum of understanding followed on 16 December 1997 between NATO and the Ukrainian Ministry of Emergencies and Protection of the Population from the Consequences of the Chernobyl Catastrophe, focusing on areas where practical cooperation is feasible and possible, as well as on specific expertise and resources. Many practical activities have resulted from this agreement, including a pilot project on flood prevention and response in the Carpathian region and a large-scale EADRCC field exercise in Ukraine. Ukraine continues to participate actively in NATO civil emergency planning activities, and further exercises are planned for the future.

## **The Mediterranean Dialogue**

Participants from Mediterranean Dialogue countries have taken part in a number of civil emergency planning activities, including civil-military cooperation (CIMIC) courses at the NATO School in Oberammergau and activities organised by civil emergency planning boards and committees.

Seminars designed to facilitate the exchange of information and experience in relevant areas and increase contacts among civil emergency planning experts have taken place in Greece and Turkey, focusing on natural disaster reduction and on search and rescue in disaster situations, respectively. Other topics addressed include regional cooperation and the role of non-governmental organisations in disaster situations. In the context of the enhancement of the Mediterranean Dialogue, these contacts are being further strengthened; increased participation by Mediterranean Dialogue countries in civil emergency planning activities is foreseen.

## **Civil-military cooperation**

To ensure the coherence and effectiveness of activities in the field of civil emergency planning and enable NATO military capabilities and assets to be used if required to support national authorities in dealing with civil emergencies, strong links have been established between NATO's military authorities and civilian civil emergency planning structures. Assistance can involve making logistic, transport, security, communications, information and other forms of support services available.

Conversely, one of the roles of civil emergency structures within NATO, to which reference is made above, is to provide support for military operations if required. In these circumstances, relevant expertise in civilian technical fields may be provided by the civil emergency planning boards and committees described below, in fields such as communications, transport, medical

matters, food and agriculture, protection of the civilian population and industrial preparedness.

## **Associated policy committees, organisations and agencies**

### **Senior Civil Emergency Planning Committee (SCEPC)**

Responsibility for bringing together NATO policies in the civil emergency planning sphere and measures to implement them lies with the Senior Civil Emergency Planning Committee (SCEPC), which meets at least twice a year in plenary session and every two weeks in permanent session. The SCEPC reports to the North Atlantic Council. Representatives of interior ministries or emergency management agencies on the staffs of a number of national delegations at NATO Headquarters support the work of the Committee. National representation at meetings held at plenary level consists of the heads of national civil emergency planning organisations in capitals. Meetings of the SCEPC are chaired by the Assistant Secretary General of the Operations Division of the International Staff.

### **Civil emergency planning boards and committees**

Under the direction of the SCEPC, a number of technical planning boards and committees bring together national government and industrial experts and military representatives to coordinate planning in relevant areas of civil activity. These include inland surface transport, ocean shipping, civil aviation, food and agriculture, industrial production and supply, post and telecommunications, medical matters, and civil protection. There are currently eight such planning boards and committees, namely the Planning Board for Ocean Shipping, the Planning Board for Inland Surface Transport, the Civil Aviation Planning Committee, the Food and Agriculture Planning Committee, the Industrial Planning Committee, the Civil Communications Planning Committee, the Joint Medical Committee and the Civil Protection Committee.

These bodies meet regularly and provide the vital link between NATO policy with regard to civil emergency planning and the means to carry it out. They are supported in their work by smaller, flexible working groups and specialised technical committees.

## **Euro-Atlantic Disaster Response Coordination Centre (EADRCC)**

The EADRCC coordinates responses to disasters in the EAPC area and acts as a focal point for information-sharing among EAPC countries. It works closely with the relevant United Nations and other international organisations that play a leading role in responding to disaster situations. A permanent liaison officer from the UN Office for the Coordination of Humanitarian Affairs is assigned to the Centre's staff.

The Centre has developed standing operating procedures to help ensure rapid responses in cases of emergency and encourages participating countries to develop bilateral or multilateral arrangements to address issues such as visa regulations, border crossing requirements, transit agreements and customs clearance procedures that can delay the channelling of emergency aid to a disaster location. The EADRCC organises regular major disaster exercises in different participating countries designed to practise procedures, provide training for local and international participants, build up interoperability skills and capabilities and harness the experience and lessons learned for future operations.

# CHAPTER 39

## COMMUNICATION AND INFORMATION SYSTEMS

Consultation, command and control matters are known within NATO under the collective name of “C3”. The objectives of cooperation in this area are to provide NATO-wide, cost-effective, interoperable and secure capabilities to ensure high-level political consultation and command and control of military forces.

A number of communications and information systems (CIS) interface with national fixed and mobile networks to cover the whole NATO area, linking NATO Headquarters in Brussels, all the headquarters of the Integrated Military Command Structure, national capitals and national military commands. The systems also provide for secure connections to facilitate consultation with NATO's Partner countries.

### Associated policy committees, organisations and agencies

The **NATO C3 Organisation (NC3O)** was created in 1996 to provide the required C3 capabilities for the whole of NATO, drawing on common funded multinational and national assets. The organisation brings together the planning, scientific and development and acquisition functions of NATO's CIS in order to enhance the Alliance's capability to carry out its new crisis management tasks as well as preserving its collective defence capabilities.

The organisation comprises the NATO C3 Board (NC3B), which acts as the board of directors of the NC3O, the Group of National C3 Representatives (NC3REPS), which acts as the NC3B in permanent session, a NATO C3 Agency (NC3A), and a NATO CIS Services Agency (NCSA).

The **NC3B** is the senior multinational body acting on behalf of and responsible for advising the North Atlantic Council and Defence Planning Committee on all C3 policy matters including the interoperability of NATO and national C3 systems, and for advising the Conference of National Armaments Directors on C3 cooperation programmes. The Board oversees the work of the NC3A and NCSA.

The NC3B is composed of senior national representatives from capitals, representatives of the Military Committee and Strategic Commanders and NATO committees with an interest in C3, the General Manager of the NATO C3 Agency (NC3A), and the Director of the NCSA. It is chaired by the Deputy

Secretary General and has a Permanent Chairman (the Assistant Secretary General for Defence Investment) and two Co-Vice Chairmen (Director of the NATO Headquarters C3 Staff and a Co-Vice Chairman elected from national nominees).

The NC3B is supported by a subordinate structure of multinational bodies composed of eight subcommittees (Joint C3 Requirements and Concepts, Interoperability, Frequency Management, Information Systems, Information Security Systems, Communications Network, Identification and Navigation). Each of these has its own substructure. The organisation is supported by the NATO Headquarters C3 Staff (NHQC3S), which combines the former C3 elements of both the International Staff and the International Military Staff in a single integrated staff.

The main task of the NHQC3S is to develop policies and guidance for planning, implementation, operation and maintenance of NATO CIS and to monitor their application. The NHQC3S provides support to the NATO C3 Board and to its substructure. It also provides support to the North Atlantic Council, the Military Committee, the Conference of National Armaments Directors, the Senior Resource Board and other committees with responsibilities relating to C3 matters.

The NHQC3S is organised in five branches: the Architecture and Interoperability Branch, the Information Systems and Exchange Branch, the Information Security Branch, the Spectrum Management Branch, and the Communication, Identification and Navigation Networks Branch, plus a Planning and Resources Office. It operates under the coordinated management of the Assistant Secretary General for Defence Investment and the Director of the International Military Staff. The Director of the NHQC3S is a Co-Vice Chairman of the NATO C3 Board.

Further information:

NATO Headquarters C3 Staff (NHQC3S): [www.nc3a.nato.int/](http://www.nc3a.nato.int/)

The **Group of National C3 Representatives (NC3REPS)**, normally composed of members of national delegations or military representations to NATO, assists the NC3 Board and acts on its behalf as the NC3B in permanent session.

The **NATO C3 Agency (NC3A)** was formed as part of NATO's strategy to restructure its C3 activities. The Agency provides central planning, architecture, systems integration, design, systems engineering, technical support and configuration control for NATO C3 systems and installations. The agency procures and implements projects assigned to it and provides scientific and technical advice and support to the Strategic Commanders and others on matters



pertaining to operational research, intelligence, surveillance, reconnaissance, air command and control (including theatre missile defence, electronic warfare and airborne early warning and control) and CIS. The NC3A is headquartered in Brussels, Belgium, but operates from dual locations in Brussels (Planning and Acquisition) and The Hague, the Netherlands (Scientific Support).

The **NATO CIS Services Agency (NCSA)** is responsible for ensuring the provision of secure information exchange services required for NATO C3, using systems assigned to it by the NATO C3 Board. The NCSA was formed in August 2004 from the former NATO CIS Operating and Support Agency (NACOSA).

The NCSA provides operational support in the form of hardware and software maintenance, technical advice, configuration management, personnel training, installation and associated services. This includes assuring the security of CIS assigned to it and of its users. In cooperation with other NATO bodies, commercial firms and national agencies, NCSA is required to deliver cost effective CIS services, in accordance with agreements with the user community and as laid down in its Catalogue of Services.

NCSA is composed of a Central Staff located at SHAPE in Mons, Belgium, ten NCSA sectors which support their affiliated headquarters, two deployable NATO Signal Battalions and the NATO CIS School in Latina, Italy.

Further information: NATO CIS Services Agency: [www.ncsa.nato.int](http://www.ncsa.nato.int)

Further information can also be obtained from:

NATO HQ C3 Staff	NC3A Brussels	NC3A The Hague
NATO Headquarters	(HQ, Planning &	(Scientific &
1110 Brussels	Acquisition)	Technical matters)
Belgium	Z Building	P.O. Box 174
Tel: +32 2 707 4358	NATO Headquarters	Oude Waalsdorperweg 61
Fax: +32 2 707 5834	1110 Brussels	2501 CD The Hague
	Belgium	The Netherlands
	Tel: +32 2 707 8213	Tel: +31 70 374 3002
	Fax: +32 2 708 8770	Fax: +31 70 374 3239

The **NATO Headquarters Information and Systems Management Service (ISMS)** forms part of the Executive Management Division. Although managerially an International Staff body, the ISMS is staffed by both International Staff and International Military Staff personnel. It provides information systems support to the North Atlantic Council, the Defence Planning Committee and the Military Committee, as well as to subordinate committees and supporting staff. In addition, the ISMS supplies systems design, development and maintenance support to the International Staff and the NATO Standardization Agency.

It provides support for tasks such as crisis management, as well as registry and document control services, financial and personnel management information systems, and force planning. It has responsibility for the operation of centralised computer facilities at NATO Headquarters and for developing and maintaining software for specific user applications, providing training and user assistance, maintaining NATO Headquarters information systems, and advising staff officials on information systems matters.

# CHAPTER 40

## EDUCATION AND TRAINING

Although NATO member countries remain responsible for the education and training of their military forces, programmes and courses offered at the national level are complemented at the international level by the work undertaken by a small number of colleges and schools established by the North Atlantic Council, the Military Committee and the strategic commands.

Education and training also play a key role in the context of the Partnership for Peace (PfP) programme. In addition to the regular participation of Partner and Mediterranean Dialogue countries in the NATO education and training institutions described below, which are an integral part of the NATO structure, the Alliance has established an expanding network of officially recognised PfP Training Centres located in different member and Partner countries. There are currently 11 such centres, located in Austria, Finland, Greece, Romania, Slovakia, Slovenia, Sweden, Switzerland, Turkey, Ukraine and the United States.

Education and training are also integral components of the mandate of Allied Command Transformation (ACT), created in 2003 following the reorganisation of the NATO command structure.

### **Associated policy committees, organisations and agencies**

NATO's principal educational facilities, used to train and educate leaders and specialists from member and Partner countries, are the NATO Defense College, the NATO School in Oberammergau, and the NATO Communications and Information Systems (CIS) School. NATO also has a number of other educational establishments, namely the NATO Training Group, the NATO Maritime Interdiction Operational Training Centre, Centres of Excellence, the Joint Advanced Distributed Learning and Simulation Programme and the NATO/PfP Education Network.

#### **NATO Defense College**

The mission of the NATO Defense College (NDC) is to contribute to the effectiveness and cohesion of the Alliance by developing its role as a major centre of education, study and research on transatlantic security issues. It offers courses and seminars each year on issues relevant to the Euro-Atlantic

security situation, catering to a variety of senior officers from the armed forces, senior government officials, academics and parliamentarians. In addition to participation by NATO countries, virtually all the College's activities are open to participants from Partnership for Peace (PfP) and Mediterranean Dialogue countries, and may also include participation by other countries in the broader Middle East region in the framework of the Istanbul Cooperation Initiative.

The NATO Defense College was established in Paris in 1951 and was transferred to Rome in 1966. It comes under the direction of the Military Committee, which appoints the commandant of the College for a period of three years. The commandant is an officer of at least lieutenant general rank or equivalent, who is assisted by a civilian dean and a military director of management provided by the host country. The Chairman of the Military Committee chairs the College's Academic Advisory Board. The College faculty is composed of military officers and civilian officials, normally from the foreign and defence ministries of member countries.

In response to guidance issued to the College by the North Atlantic Council and the Military Committee in 2002, the College focuses its efforts on the three core areas of education, outreach and research. The education and research activities of the College are being coordinated with Allied Command Transformation (ACT), which will be represented, at the appropriate senior level, in the NDC's Academic Advisory Board in order to better contribute to the overall NATO education and research goals.

In terms of its educational programmes, the College provides strategic-level courses on politico-military issues designed to prepare selected personnel for NATO and NATO-related appointments. The main educational activity of the College is the Senior Course, attended by up to 90 course members selected by their own governments on a national quota basis. Its members are either military officers holding the rank of colonel or lieutenant colonel, or civilian officials of equivalent status from relevant government departments or national institutions. Most course members go on to staff appointments in NATO commands or national NATO-related posts in their own countries. Since 2002, changes have been introduced to the course curriculum, making it a more academically demanding strategic-level forum for critical thinking and risk analysis.

Daily lectures are given by visiting academics, politicians, high-ranking military and civil servants. Great importance is attached to the achievement of consensus among the course members during their preparatory work and discussions, reflecting the importance of the principle of consensus throughout NATO structures.

Parts of the Senior Course are designed to be taken as modular short courses which allow selected officers and officials from NATO Headquarters and from the strategic commands to join the Senior Course for one week to study a particular strategic theme.

In 1991, the College introduced a two-week course for senior officers and civilians from the members of the Conference on Security and Cooperation in Europe, now the Organization for Security and Co-operation in Europe (OSCE). The following year, the course became an Integrated PfP/OSCE Course within the framework of the Senior Course. As an integral part of NATO's PfP programme, this two-week course aims to develop a common perception of the Euro-Atlantic region among the college's regular Senior Course members and representatives from PfP/OSCE and NATO's Mediterranean Dialogue countries.

Two General and Flag Officers' and Ambassadors' Courses are organised each year in the spring and autumn. They are designed to contribute to the strengthening of regional stability by promoting dialogue, understanding and confidence-building.

As part of the College's outreach programme, a Conference of Commandants is held every year, bringing together the commandants of senior national defence colleges of NATO, PfP and Mediterranean Dialogue countries to exchange views on academic philosophies and educational methods. The College also participates fully in the Consortium of Defence Academies and Security Studies Institutes, a non-NATO cooperative educational body. In this capacity, the College serves as the focal point of contact within NATO to this consortium. Every year in February, the college runs an international course at the Ukrainian National Defence Academy in Kiev. Lastly, the College offers online courses as part of its outreach activities.

The College has significantly upgraded its work in the field of research and aims to provide senior NATO officials with fresh perspectives drawing on the ideas of top academics, experts and practitioners, through reports based on conferences and workshops focusing on the major issues challenging the Alliance. In addition, the College organises an International Research Seminar on Euro-Atlantic Security every year, in cooperation with an academic institution from one of the PfP countries. A similar International Research Seminar with Mediterranean Dialogue Countries is also held annually.

Each year the College also offers research fellowships in the field of security studies to two nationals of PfP countries and two from Mediterranean Dialogue countries to promote individual scholarly research on topics relating to Euro-Atlantic, Eurasian and Mediterranean security issues.

Through the activities of national associations of graduates of the College and an annual seminar each September for alumni, the College generates a strong corporate spirit among its graduates, many of whom hold positions of responsibility within the Alliance.

Further information:

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Website: [www.ndc.nato.int](http://www.ndc.nato.int)

## **The NATO School, Oberammergau, Germany**

The NATO School in Oberammergau serves as a centre for individual education and training for military and civilian personnel from Alliance, Partnership for Peace (PfP), Mediterranean Dialogue and contact countries. Its mission is to provide education and training in support of current and developing NATO strategy, policy, doctrine and procedures. Its courses reflect current Alliance operational developments and the priorities of Supreme Allied Commander Europe (SACEUR) and Supreme Allied Commander Transformation (SACT).

Each year a wide range of courses are taught on various topics. While primarily focused on individual education, the school also supports all aspects of collective training, exercises, and operations, when required. Education and training is centred on combined joint operational art, using educational methods such as courses, seminars, advanced distributed learning, modelling and simulation. As part of the School's outreach programme, Mobile Education Training Teams provide tailored courses which assist the processes of transformation, interoperability and cooperation.

The School falls under the operational control of SACT but operates as a NATO educational facility for both NATO Strategic Commands. A Board of Advisers provides assistance and guidance. Germany and the United States contribute facilities and logistic support and provide more than 60 per cent of the manpower, but the School relies on tuition fees from students to offset its operating costs and is essentially self-supporting.

The NATO School has its origins in the early years of Alliance history but received its charter and present name in 1975. For many years, its principal focus was on issues relating to NATO collective defence. More recently, following the revision of the NATO Strategic Concept in 1999, the role of the School

was fundamentally altered to include courses, training and seminars in support of NATO's current and developing strategy and policies for collective security, including cooperation and dialogue with military and civilian personnel from non-NATO countries. In addition, since the beginning of NATO operations in the Balkans, the School has provided indirect support to current NATO military operations.

Courses are organised in four fundamental NATO operational areas: joint operations, policy, operations and plans, and weapons of mass destruction. The School faculty includes staff from NATO countries supplemented by guest speakers from NATO commands and headquarters, NATO and PfP countries and non-governmental organisations. The focus of all the courses is to develop NATO and non-NATO combined joint operational staff officers who can work together more effectively.

Non-military participation in courses has increased significantly during recent years, as have the School's contacts with international organisations. The largest growth area in the School's curricula activity has been in support of PfP, Mediterranean Dialogue and Istanbul Cooperation Initiative programmes.

Further developments of the NATO School curriculum are being introduced to take account of lessons learned from NATO-led operations in the Balkans and Afghanistan and to prepare forces for participation in the NATO Response Force. Most recently, the School has conducted training in support of the NATO Training Implementation Mission in Iraq. The NATO School is also at the forefront in developing programmes of instruction in combating human trafficking and defence against terrorism.

Through its education and training programmes, the School contributes to the development of current and future operational capabilities. In all these contexts, the NATO School remains engaged in meeting Alliance priorities as well as in promoting the transformation of military capabilities for NATO and its Partner countries.

Further information:

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Website: [www.natoschool.nato.int](http://www.natoschool.nato.int)

## **NATO Communications and Information Systems School (NCISS)**

The NATO Communications and Information Systems (CIS) School (NCISS) provides advanced training for civilian and military personnel in the operation and maintenance of NATO CIS. The school also provides orientation courses and management training on NATO CIS and, in addition, offers CIS orientation courses for Partner countries.

Originally established in 1959, the School has undergone a number of transformations since that time and has existed under its present name since 1989. In 1994, new courses were introduced in the context of Partnership for Peace. Since 1995, with the beginning of NATO's deployments in Bosnia and Herzegovina, the School has also provided courses to support NATO forces in operational roles. It currently offers over 50 courses lasting from one to ten weeks and receives approximately 2700 students per year.

The School is divided into two branches, Training and Support. The Training Branch is itself divided into a Network Domain Section responsible for courses concerned with transmission systems, switching systems and network control; a User Domain Section responsible for courses concerned with command and control information systems, software engineering project management and programming; and an Infosec Domain Section responsible for courses on the operation, maintenance and repair of cryptographic equipment. The Training Branch also offers CIS officer and orientation courses, courses on frequency management and a CIS course for Partner countries. The Support Branch is responsible for the logistical and administrative support of the Training Branch.

The commandant of the School is an Italian serving officer with the rank of colonel or equivalent. A principal telecommunications engineer acts as his technical adviser. The School's Training Management Office is responsible for management aspects such as developing the annual course schedule and training documentation and for monitoring statistics.

The School operates as an educational and training establishment for both NATO Strategic Commands. It receives administrative support from Allied Joint Force Command Headquarters Naples and falls under the operational responsibility of the NATO CIS Services Agency, in close coordination with Allied Command Transformation. The NCSA is supported in its supervisory role by the NATO CIS Joint Training Planning Group. Allied Command Transformation is primarily responsible for coordination of the curricula, supported by an NCISS Board of Advisors. The School receives support from the Italian Ministry of Defence through the Italian Air Force Training Brigade at Latina with which it is co-located.



Further information:

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## **NATO Training Group (NTG)**

The overall aim of the NATO Training Group is to enhance interoperability among Alliance forces, and between the forces of Partner countries, through improved coordination and standardisation of individual and collective training. Being subordinate to Supreme Allied Commander Transformation (SACT), the NTG is part of NATO's military structure and maintains close contacts with the NATO Standardization Agency (NSA). *Inter alia*, the NTG facilitates the exchange of information between NATO members, Partnership for Peace and Mediterranean Dialogue countries and NATO's military authorities on national training capabilities and provides a forum for discussion and exchanges of views on individual and collective training matters.

By identifying and encouraging the use of training projects that lend themselves to bilateral or multilateral cooperation, the NTG promotes qualitative improvements in training as well as cost and manpower savings, standardisation and interoperability. It also develops procedures, documents and manuals in support of and as advice for training in NATO and Partner countries and supports NATO's transformation efforts, for example through the development of new training concepts and policy documents for Allied Command Transformation. Participation in shared training projects by individual countries is on a case-by-case basis and does not duplicate or replace national training programmes. The NTG encourages individual countries to assume responsibility for specific training projects on behalf of the Alliance as a whole or for the benefit of a group of NATO member countries with common requirements. The NTG's activities have been extended to include common training projects for Partnership for Peace and Mediterranean Dialogue countries.

Work is conducted by five subgroups (Joint, Navy, Army, Air Force and Financial) and subordinate specialist working groups, in which NATO and Partner countries are represented. The activities of the NTG are coordinated by the NTG Section of the Design and Development Branch, Joint Education and Training Sub-Division, HQ SACT, located in Norfolk, Virginia, United States.

Further information:

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NTG Section

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Email: [NTGsection@act.nato.int](mailto:NTGsection@act.nato.int)

## **NATO Maritime Interdiction Operational Training Centre**

This centre, based in Souda Bay, Greece, is a multinationally manned NATO training centre. Although outside the NATO command structure, it is associated with Allied Command Transformation in a similar way, as are the educational facilities described above. It conducts combined training to enable NATO forces to better execute surface, sub-surface, aerial surveillance and special operations activities in support of maritime interdiction operations.

## **Centres of Excellence**

Centres of Excellence are recognised, nationally or multinationally sponsored and funded entities offering expertise and experience for the benefit of the Alliance, especially in support of its transformation process. These centres provide opportunities for leaders or units from NATO and Partner countries to enhance their education and training, improve interoperability and capabilities, assist in doctrine development and test and validate concepts through experimentation. They are not part of the NATO command structure but form part of the wider educational and training framework supporting NATO. Specific relationships between Centres of Excellence and the Strategic Commands are based on memoranda of understanding drawn up with the country or countries involved and on technical agreements and accreditation criteria.

## **The Joint Advanced Distributed Learning and Simulation Programme**

A joint advanced distributed learning and simulation capability is under development which encompasses improvements in learning technologies in order to exploit emerging computer and communication technologies and to provide “anywhere, anytime” learning. The introduction of the distance learning approach has the potential to harmonise and greatly enhance education and training of both NATO and Partner country military personnel at all levels, making courses available to a much larger training audience with significant savings in resources. It will increase readiness for a wide range of missions, especially for multinational crisis response operations, and will provide Partner countries with access to more in-depth training with NATO, thereby also promoting interoperability.

Management and oversight of the programme is provided by Allied Command Transformation. It will feature accessibility, interoperability, reusability, durability, adaptability, and cost-effectiveness in military education and training. It is expected to evolve rapidly, drawing on commercially available Internet technologies and services, and will make it possible to take advantage of the work of all the relevant NATO and national educational institutions, enabling them to share in the development of distributed learning courseware and learning management systems that are able to track and assess the education and training possibilities that they provide. It is a comprehensive programme that not only includes dynamic interactive courseware products and the use of simulation but will also provide a knowledge management system integrating relevant databases, collaboration tools and search engines. This will provide a capability that meets the needs of commanders and multinational staffs involved in the transformation process by providing timely education and training relevant to their evolving exercise and operational roles.

Further information:

HQ SACT

Joint Education and Training (JET) Sub-Division

7857 Blandy Road, Suite 100

Norfolk, Virginia 23551-2490

USA

Tel: +1 757 747 3386

Fax: +757 747 3863

Email: [adl@act.nato.int](mailto:adl@act.nato.int)

Website: [www.act.nato.int/adl](http://www.act.nato.int/adl)

## **NATO/PfP Education Network**

In addition to the educational facilities, Partnership for Peace (PfP) Training Centres and Centres of Excellence described above, a NATO/PfP Education Network also forms part of the educational dimension of the transformation process. By bringing together the NATO educational facilities, PfP Training Centres and Centres of Excellence described above, as well as relevant national educational facilities and centres, within a coherent network centred on the objectives of Allied Command Transformation, the NATO/PfP Education Network will improve the use made of resources and expertise, harmonise curricula and avoid duplication of effort.

# CHAPTER 41

## ELECTRONIC WARFARE

Electronic warfare capabilities are a key factor in the protection of military forces and in monitoring compliance with international agreements, and are essential for peacekeeping and other tasks undertaken by the Alliance. Structures were introduced in 1966 to support the Military Committee, the NATO Strategic Commanders and the member countries in this sphere and to promote an effective NATO electronic warfare (EW) capability.

### **Associated policy committees, organisations and agencies**

The **NATO Electronic Warfare Advisory Committee (NEWAC)** is a joint, multinational body established for the purpose of fulfilling these objectives and for monitoring progress achieved nationally and within the integrated military command structure in implementing agreed EW measures. It is responsible for the development of NATO's electronic warfare policy, doctrine, operations and educational requirements and contributes to the development of command and control concepts. NEWAC also assists in introducing NATO's EW concepts to Partner countries within the framework of Partnership for Peace.

The Committee is composed of representatives of each NATO country and of the NATO Strategic Commanders. Members are senior military officials in national EW organisations. The chairman and secretary of the Committee are permanently assigned to the Operations Division of the International Military Staff. There are a number of subordinate groups dealing with electronic warfare database support, training and doctrine.

Further information:

NATO Electronic Warfare Advisory Committee (NEWAC)  
Operations Division  
International Military Staff, NATO Headquarters  
1110 Brussels  
Belgium  
Tel: +32 2 707 5627



# CHAPTER 42

## LOGISTICS

The term “logistics” can mean different things in different countries and in different contexts. The NATO definition refers to “the science of planning and carrying out the movement and maintenance of forces”. The term refers to aspects of military operations, which deal with the following:

- design and development, acquisition, storage, transport, distribution, maintenance, evacuation and disposal of materiel;
- transport of personnel;
- acquisition, construction, maintenance, operation and disposition of facilities;
- acquisition or provision of services;
- medical and health service support.

The above categories involve a wide range of services and responsibilities which can be subdivided into the following sectors:

- production or acquisition aspects of logistics (planning, design development and procurement of equipment). These matters are primarily a national responsibility and are handled nationally. However, cooperation and coordination take place within NATO in numerous spheres, largely under the auspices of the Conference of National Armament Directors (CNAD) and its subordinate bodies.
- consumer or operational aspects of logistics concerned with the supply and support functions of forces, falling mainly under the responsibility of the Senior NATO Logisticians’ Conference and the NATO Pipeline Committee. Other bodies, such as the Committee of the Chiefs of Military Medical Services in NATO, advise the Military Committee on logistical matters in their specific areas of responsibility.

Many of the programmes and activities referred to in this section are implemented by organisations and agencies established by the North Atlantic Council or the NATO Military Committee to undertake specific tasks.

### **Logistic support for the Alliance’s Strategic Concept**

The Alliance’s 1999 Strategic Concept emphasises the mobile and multinational character of NATO forces and the need for flexible logistics to

support them. Although fundamentally a national responsibility, the basic principle guiding the provision of logistic support for NATO's military operations is that of collective responsibility shared between the participating countries themselves and the structures developed within NATO to promote cooperation in this sphere. These include the Senior NATO Logisticians' Conference and multinational logistic structures such as the Multinational Joint Logistic Centre and Multinational Integrated Logistic Units.

## Logistics principles and policies

New logistics principles and policies were initially endorsed in 1992 and have since been periodically reviewed in the light of the practical experience gained from NATO-led peacekeeping operations. Principles and policies approved by the Military Committee in 2003 and by the North Atlantic Council in 2004, summarised below, serve as the basis for more specific guidelines relating to functional areas of logistics such as medical support, host nation support, and movement and transportation.

**Collective responsibility.** Alliance member countries and NATO authorities have collective responsibility for the logistic support of NATO's multinational operations. This underlying principle encourages member countries and NATO's international structures to share the burden of providing and exploiting the logistic capabilities and resources needed to support multinational force operations effectively and efficiently. Standardisation, cooperation and multinationality with regard to logistics requirements form the basis for flexible and efficient use of logistic support and contribute to operational effectiveness.

**Authority.** Responsibility and authority are interdependent. The responsibility assigned to a NATO commander by the member countries and by NATO bodies must be complemented by delegation of the authority he needs to adequately discharge his responsibilities. This means that each commander, at the appropriate level, must have sufficient authority over the logistic resources necessary to enable him to receive, employ, sustain and redeploy the forces assigned to him by countries in the most effective manner. The same applies with respect to non-NATO commanders of multinational forces participating in NATO-led operations.

**Primacy of operational requirements.** All logistic support efforts provided by both the military and civil sector should be directed towards meeting the operational requirements needed to guarantee the success of the mission.

**Cooperation.** Cooperation between member countries and NATO bodies is essential across the full spectrum of logistics – including cooperation



between the civilian and military sector within and between member countries – and contributes to the best use of limited resources. For non-Article 5 crisis response operations, this cooperation must be extended to non-NATO countries and other relevant organisations as required.

**Coordination.** Logistics support must be coordinated among member countries and between member countries and NATO bodies at all levels as a matter of course. It must include coordination with non-NATO countries and other relevant organisations as required. The process is facilitated by pre-arranged logistic coordination and cooperation agreements. The appropriate NATO bodies have overall responsibility for such coordination.

All these principles relate to the development of policy and doctrine for all functional areas of logistics, including movement, transportation and medical support (except in the case of Germany, where medical support is not treated as a logistics function). There is an element of essential overlap between these principles, in order to ensure that any Alliance mission can rely on effective and coherent logistic support across the board, and they may be supplemented by other principles relating specifically to particular functional areas.

## **Cooperative logistics**

The aim of cooperation in logistics is to enhance the effectiveness of NATO-led multinational operations by improving efficiency and achieving cost savings, for example through economies of scale and elimination of duplication. Modern methods for the management and procurement of materiel are used, such as the SHARE (Stock Holding and Asset Requirements Exchange) scheme developed by the NATO Maintenance and Supply Agency (NAMSA), which facilitates the sharing or exchange of stock holdings among users by providing an effective link between specific needs and available assets.

## **Multinational logistics**

The tasks facing NATO today and the missions and support operations it has undertaken in the Balkans, in Afghanistan and in Iraq underscore the necessity of increased cooperation and multinationality in logistics support (for instance transportation, engineering and supply, and medical capabilities). The need to carry out operations in locations where the logistics support provided by the normal national infrastructure is not available and to integrate non-NATO military forces and their logistic support makes multinational joint logistics structures essential.

Multinational logistics also optimises individual national logistic support efforts, enhancing both the cost-effectiveness and the efficiency of those individual activities. A number of concepts and initiatives are being used to bring about increased multinationality, including role specialisation and lead nation concept. Such arrangements can contribute significantly to the success of both the planning and the implementation aspects of logistic operations.

## **Movement and transportation**

Efficient and timely movement of forces, including the deployment, staging and onward movement of large amounts of materiel and equipment, is a prerequisite for all military operations. NATO must be able to ensure the strategic mobility of troops and materiel by providing adequate lift, transportation facilities, equipment and infrastructure. This includes the possible use of civilian resources through multinational initiatives leading to commercial charter agreements for strategic airlift and sealift.

Civilian and military staff officers responsible for logistics within the International Staff and the International Military Staff coordinate policy and doctrinal issues within the staffs, the Strategic Commands, and the relevant military and civilian agencies.

## **Associated policy committees, organisations and agencies**

### **Senior NATO Logisticians' Conference (SNLC)**

The principal committee dealing with logistics, the SNLC, meets under the chairmanship of the NATO Secretary General twice a year, in joint civil and military sessions. It has two permanent co-chairmen, namely the Assistant Secretary General of the division responsible for defence policy and planning issues and the Deputy Chairman of the Military Committee. The SNLC reports jointly to both the North Atlantic Council and the Military Committee, reflecting the dependence of logistics on both civil and military factors.

Membership of the SNLC is drawn from senior national civil and military representatives of ministries of defence or equivalent bodies with responsibility for consumer aspects of logistics in member countries. Representatives of the Strategic Commands, the NATO Maintenance and Supply Agency, the NATO Standardization Agency, the Committee of the Chiefs of Military Medical Services in NATO and other sectors of the NATO Headquarters Staff also participate in the work of the SNLC. The overall mandate of the SNLC is to

address logistics matters with a view to enhancing the performance, efficiency, sustainability and combat effectiveness of Alliance forces and to exercise, on behalf of the North Atlantic Council, an overarching coordinating authority across the whole spectrum of logistics functions within NATO.

## **SNLC Movement and Transportation Group (M&TG)**

The focal point for questions relating to strategic mobility in NATO is the Movement and Transportation Group (M&TG), a subgroup of the SNLC created to foster cooperative approaches to the management side of movement, transportation and mobility matters between military and civilian agencies and between NATO and member country forces. The M&TG plans and evaluates transport capacity and capabilities and prepares recommendations on how best to meet political and military requirements. It takes advice from civil planning boards and committees: the Civil Aviation Planning Committee, the Planning Board for Ocean Shipping and the Planning Board for Inland Surface Transport.

## **NATO Maintenance and Supply Organisation (NAMSO)**

The NATO Maintenance and Supply Organisation provides the structure for the logistics support of selected weapons systems in the national inventories of two or more NATO member countries, through the common procurement and supply of spare parts and the provision of maintenance and repair facilities.

## **NATO Maintenance and Supply Agency (NAMSA)**

The NATO Maintenance and Supply Agency is the executive arm of NAMSO. Its task is to provide logistic services in support of weapon and equipment systems held in common by NATO member countries, in order to promote materiel readiness, improve the efficiency of logistic operations and effect savings through consolidated procurement in the areas of supply, maintenance, calibration, procurement, transportation, technical support, engineering services and configuration management. Modern materiel management and procurement techniques developed by NAMSA include the Stock Holding and Assets Requirements Exchange scheme, known as SHARE, and Common Item Materiel Management (COMMIT). NAMSA also provides support for the Group of National Directors on Codification, which manages the NATO Codification System on behalf of the Conference of National Armaments Directors, and logistics support for deployed NATO forces.

NAMSA has played a fundamental role as NATO's executive agency for the implementation of projects for the safe destruction of stocks of anti-personnel mines and other arms and munitions under NATO's Partnership for Peace Trust Fund Policy.

Further information can be obtained from:

NATO Maintenance and Supply Agency (NAMSA)  
8302 Capellen  
Luxembourg  
Tel: +352 30 631  
Fax: +352 30 87 21

## **NATO Pipeline Committee (NPC)**

The NPC, which is chaired by the Head of Logistics of the International Staff, is the senior advisory body in NATO on consumer logistics relating to petroleum. It acts on behalf of the North Atlantic Council, in full consultation with the NATO Military Authorities and other bodies, on all matters of NATO-wide concern in connection with military fuels, lubricants and associated products and equipment, the NATO Pipeline System and other petroleum installations.

## **NATO Pipeline System (NPS)**

Although collectively referred to as one system, the NPS consists of ten separate, distinct military storage and distribution systems: Iceland, Italy, Greece, Turkey (two separate systems – west and east), Norway, Portugal, the United Kingdom, the North European Pipeline System (NEPS) located in both Denmark and Germany, and the largest system, the Central Europe Pipeline System (CEPS) in Belgium, France, Germany, Luxembourg and the Netherlands.

In total the NPS consists of some 11 500 kilometres of pipeline running through 13 NATO countries with the associated depots, connected air bases, civil airports, pump stations, refineries and entry points. Bulk distribution is achieved using facilities provided from the common-funded NATO Security Investment Programme (see Part II, Chapter 4). The networks are controlled by national organisations, with the exception of CEPS, which is a multinational system.

In addition to the above elements of the NPS, there are also fuel systems in the Czech Republic, Hungary, Poland and Spain. While those in the Czech Republic, Hungary and Poland are national systems, NATO military requirements have been incorporated into approved Capability Packages and

the related projects are being implemented. The Spanish system is purely national.

## **Central European Pipeline Management Organisation (CEPMO)**

CEPMO is the management organisation for the Central Europe Pipeline System (CEPS) and is one of the NATO Production and Logistics Organisations (NPLO). CEPS encompasses NATO assets for the movement, storage and delivery of fuel in Belgium, France, Germany, Luxembourg and the Netherlands. These are known as the host nations, with Canada and the United States designated as user nations. Collectively, the host and user nations comprise the member countries participating in CEPMO. The system is designed and managed to meet operational requirements in central Europe in peace, crisis and conflict, but is also used commercially under strict safeguards. The day-to-day operation of CEPS is the task of the Central Europe Pipeline Management Agency (CEPMA) located in Versailles, France.

The CEPMO Board of Directors is the governing body acting with regard to the collective interests of all CEPMO member countries. It is composed of a representative of each member country of CEPMO, who represents their country's political, military, economic, financial and technical interests. Representatives of the National Military Authorities, the General Manager of CEPMA and the designated Secretary General's Liaison Officer also participate in meetings of the CEPMO Board of Directors.

CEPMA is organised in such a way as to cover the core functions of operations, marketing and economic development, technical, financial and administrative support.

Further information:

Central Europe Pipeline Management Agency (CEPMA)

11bis rue du Général Pershing

B.P. 552

78005 Versailles Cedex

France

Tel: +33 1 3924 4900

Fax: +33 1 3955 6539

Email: [registry@cepma.nato.int](mailto:registry@cepma.nato.int)

## **The Committee of the Chiefs of Military Medical Services in NATO (COMEDS)**

The Committee of the Chiefs of Military Medical Services in NATO (COMEDS) is composed of the senior military medical authorities of member

countries. It acts as the central point for the development and coordination of military medical matters and for providing medical advice to the NATO Military Committee.

Historically, medical matters within NATO were regarded strictly as a national responsibility. For the greatest part of the Alliance's existence, there was therefore no requirement for the establishment of a high-level military medical authority within NATO.

New NATO missions and concepts of operations place increased emphasis on joint military operations, enhancing the importance of coordination of medical support in peacekeeping, disaster relief and humanitarian operations. COMEDS was established in 1994 for that purpose. The chairman and the secretary of the Committee are provided by Belgium, and the Secretariat is located within the Belgian Surgeon General's Office in Brussels. A COMEDS liaison staff officer has been appointed within the Logistics, Armaments and Resources Division of the International Military Staff.

Comprised of the surgeons general of the Alliance member countries plus the medical advisers of the NATO Strategic Commands, a representative of the NATO Standardization Agency, the chairman of the Joint Medical Committee, a representative of the Military Committee, and a representative of the International Military Staff, COMEDS meets biannually in plenary session and reports annually to the Military Committee. From 2001, the surgeons general of Partner countries have been invited to participate in the COMEDS Plenary Meeting in Euro-Atlantic Partnership Council format.

COMEDS' objectives include improving and expanding arrangements between member countries for coordination, standardisation and interoperability in the medical field and improving the exchange of information relating to organisational, operational and procedural aspects of military medical services in NATO and Partner countries. Since 1997, Partnership for Peace (PfP) countries have been invited to participate fully in the work of most COMEDS working groups, and since 1996, in the annual COMEDS/PfP medical seminar which has been incorporated into COMEDS plenary meetings. In 2001, COMEDS set up a Standing Group of Partner Medical Experts to address medical assets and capabilities, PfP goals and medical pre-arrangements in cooperation with the Strategic Commanders. The work of COMEDS is coordinated with other NATO bodies with responsibilities in the medical field, including the NATO Standardization Agency, the Joint Medical Committee, the Medical Advisers of the NATO Strategic Commanders, the Human Factors and Medicine Panel of the Research and Technology Organisation and the Weapons of Mass Destruction Centre.

To assist in carrying out its tasks and in addition to the bodies referred to above, COMEDS has a number of subordinate working groups which meet at least annually and address the following topics: military medical structures, operations and procedures; military preventive medicine; emergency medicine; military psychiatry; dental services; medical materiel and military pharmacy; food hygiene, food technology, and veterinary medicine; medical training; and medical information management systems.

An *Ad Hoc* Steering Group on Weapons of Mass Destruction has also been established to review existing medical capabilities and shortfalls in relation to threats from biological weapons.

Further information:

COMEDS Liaison Staff Officer  
NATO Headquarters  
Logistics Resources Division  
International Military Staff  
1110 Brussels  
Belgium  
Tel. +32 2 707 9862  
Fax: +32 2 707 9869

COMEDS Secretariat  
Etat-major du Service Médical  
Quartier Reine Elisabeth  
Rue d'Evere  
1140 Brussels  
Belgium  
Tel: +32 2 701 3067/8/9  
Fax: +32 2 701 3071





# CHAPTER 43

## METEOROLOGY

The objective of NATO cooperation in the meteorological field is to ensure the most efficient and effective use of national and NATO assets in providing accurate and timely meteorological information to NATO forces. The work is the responsibility of the Military Committee Meteorological Group described below.

### **Associated policy committees, organisations and agencies**

#### **Military Committee Meteorological Group (MCMG)**

The Military Committee Meteorology Group (MCMG) is a specialist forum, composed of national representatives and representatives of NATO Strategic Commanders that provides meteorological policy guidance to the Military Committee, the Strategic Commanders and the NATO member countries. The MCMG is supported by two permanent working groups, namely the Working Group on Operations, Plans and Communications and the Working Group on Battle-area Meteorological Systems and Support.

The **Working Group on Operations, Plans and Communication** addresses planning and operational issues relating to meteorological support for NATO exercises and operations. It also develops meteorological communications capabilities and standard procedures for communications and the exchange of meteorological data. With the reorganisation of NATO's integrated command structure, the functions of this group are being transferred to Allied Command Operations.

The **Working Group on Battle-area Meteorological Systems and Support** encourages cooperation in research, development and transition of new meteorological equipment, techniques, and software to operational capability. It provides technical advice on meteorological matters to other NATO groups and undertakes studies of issues such as flood forecasting and artificial fog dissipation. Basic weather forecasts are often inadequate for tactical planning or mission execution. The working group therefore maintains an inventory of meteorological Tactical Decision Aids (TDAs) developed by the member countries. To further standardise the use of TDAs and enhance operability,

the working group has developed a library of approved TDAs that are available to all NATO countries.

The MCMG holds annual meetings with Partner countries in the framework of the Partnership for Peace and Mediterranean Dialogue programmes, and has developed a Meteorological Support Manual for Partner countries. Partner countries also participate in the Working Group on Battle-area Meteorological Systems and Support.

Further information:

MCMG Operations Division (IMS)  
NATO Headquarters  
1110 Brussels  
Belgium  
Tel: +32 2 707 5538  
Fax: +32 2 707 5988  
Email: [imssmo@hq.nato.int](mailto:imssmo@hq.nato.int)

# CHAPTER 44

## MILITARY OCEANOGRAPHY

Military oceanography is the study of oceanographic conditions, ranging from temperature and salinity to tidal movements and coastal features, which can have a bearing on maritime operations. The subject is relevant to many aspects of maritime operations and is particularly relevant to anti-submarine warfare, mine warfare and amphibious warfare operations. Work undertaken in this sphere focuses on obtaining the maximum military advantage for NATO forces from oceanographic effects.

### **Associated policy committees, organisations and agencies**

#### **The Military Oceanography (MILOC) Group**

The MILOC Group is composed of national representatives, representatives of those NATO commanders with a particularly maritime focus and representatives from the Allied Command Transformation Undersea Research Centre. It provides advice to the NATO Strategic Commands and is supported by a permanent MILOC Subgroup.

The MILOC Group ensures that military oceanographic activity is consistent with Alliance strategy. Routine activities of the group include supporting NATO operations and exercises, developing plans and policies applicable to the field of military oceanography, promoting research and development in the oceanographic field and liaising with other NATO and national groups, including those with responsibilities in the meteorological and geographic spheres.

The MILOC Group actively encourages new concepts in the field of environmental support and is responsible for originating NATO's concept of maritime rapid environmental assessment. This methodology uses developing technologies such as computer modelling, state-of-the-art sensors, tactical decision aids and network systems to provide timely forms of support adapted to the needs of the military user.

The work of the group also takes into account requirements stemming from NATO's strategic partnership with the European Union, the enhancement of the Partnership for Peace and NATO's enlargement process, and helps to strengthen transatlantic cooperation as a whole.

The MILOC Subgroup examines issues as tasked by the MILOC Groups and formulates recommendations and reports as appropriate. The MILOC Group meets annually and Partner countries are encouraged to participate in its work within the framework of the Partnership for Peace programme.

Further information:

MILOC Group  
Strategy Division  
HQ SACLANT  
7857 Blandy Road, Suite 1000  
Norfolk, Virginia 23551-2490  
USA  
Tel: +1 757 445 3431  
Fax: +1 757 445 3271  
Website: [www.saclant.nato.int](http://www.saclant.nato.int)

# CHAPTER 45

## PUBLIC DIPLOMACY COMMUNICATIONS AND INFORMATION PROGRAMMES

Responsibility for explaining their national defence and security policies and their role as member countries of the Alliance to their publics rests with individual member governments. The choice of methods to be adopted and resources to be devoted to the task of informing their publics about the policies and objectives of NATO is also a matter for each member country to decide. All NATO governments recognise both their citizens' democratic right to be informed about the international structures which provide the basis for their security, and the importance of maintaining public understanding and support for their countries' security policies.

The role of NATO's activities in the field of public diplomacy is to complement the public information activities undertaken within each country. Their aim is to explain the Organisation's policies and objectives to the public and promote dialogue and understanding, thereby contributing to public knowledge of security issues and promoting public involvement in a well-informed, constructive debate on security. NATO does this by disseminating information and organising programmes directed towards opinion leaders, journalists, academic and parliamentary groups, youth and educational circles and other target groups. It also aims to stimulate a continuous process of debate and policy development on international security issues.

The programmes administered under the NATO Public Diplomacy budget consist of activities which take place within NATO Headquarters itself, external events administered by NATO staff, activities which take place under the auspices of governmental or non-governmental organisations outside the confines of the Headquarters which may be supported by conceptual, practical or financial contributions from NATO, and events which are organised by other external agencies with direct or indirect assistance from NATO.

Communications and information activities on the civilian side can be broken down into three main areas: press and media, external relations and electronic and hard-copy dissemination of information. There is also a military public information adviser who serves as the spokesman for the Chairman of the Military Committee and is the daily point of contact for the press and media on matters relating to the Military Committee and the International Military Staff. The officer appointed to this task maintains liaison with the network of chief public information officers acting as official spokespersons for their respective commands and, through NATO's Committee on Public Diplomacy, with the

national authorities of NATO member countries. The military public information adviser's office is administratively part of the structure of the International Military Staff but is also attached to the International Staff for the purposes of coordination and liaison.

- *Press and media activities*

Press briefings and interviews with senior officials, background briefings, access to photographs, sound and video facilities and electronic transmission services all form part of the arrangements required to meet the needs of the world's media throughout the year. Major events such as summit meetings or developments in the Alliance may attract over a thousand journalists to NATO Headquarters, for whom adequate resources are required. Similar resources are needed at major events taking place away from the Headquarters, for example during ministerial or summit meetings held abroad.

The press spokesman and press officers work in close daily contact with the Private Office of the Secretary General and support the Secretary General in his media and press contacts. They maintain regular contact with journalists in order to answer their questions and explain NATO's policies and operations and organise press tours and visits. Contacts are also arranged between other senior officials and the media and for the official accreditation of journalists attending NATO press events.

Summaries and reviews of the international press and press agency reports are prepared on a daily basis for the benefit of the international staffs, national delegations of member countries and diplomatic missions of Partner countries. Information officers and press officers also assist in the preparation of the Secretary General's official visits to these countries.

- *External relations*

Information officers help to disseminate information in many countries by acting as programme officers both in NATO and Partner countries. Their programmes consist of visits to NATO for briefings and discussions on topical issues, organising conferences and seminars at different locations throughout NATO and Partner countries, support for simulation games and youth activities, and assisting parliamentarians, academics, journalists and other relevant target audiences in their countries of responsibility in obtaining access to the publicly available information on NATO they require. The visits programme can bring up to 20 000 opinion formers annually to the political headquarters of the Alliance in Brussels for briefings and discussions with experts from NATO's

International Staff, International Military Staff and national delegations on all aspects of the Alliance's work and policies.

In addition, special flagship events are developed and organised in member countries, involving the NATO Secretary General and other senior Alliance officials in a variety of conferences, lectures, debates and other speaking engagements.

Many NATO information activities have an interactive, two-way character, enabling the Organisation to learn from the experience of the audiences it addresses, identify their concerns and fields of interest and respond to their questions. High value is attached to the access thus gained to the views and evaluations of the general public and of specialised groups within it. Periodic conferences are held under the auspices of the NATO Secretary General and Public Diplomacy, bringing together experts from international think tanks and comparable national institutions for this purpose.

A number of information activities are specifically tailored for academic audiences and include conferences, seminars and visits for university students, teachers and think-tank experts, as well as the organisation of essay awards for the Manfred Wörner Fellowship, an annual competition set up in 2005. These activities help to seek out new contacts and enhance traditional contacts in academic communities in member and Partner countries at large. The programme also contributes to the coordination and implementation of multinational programmes that help to animate the debate on NATO issues, project Alliance policies and contribute to strengthening knowledge of its goals and objectives in academic circles.

- *Electronic and hard-copy dissemination of information*

Official texts issued by the Alliance, normally in the form of communiqués and press statements, are formally negotiated documents articulating the agreed policy orientation of member countries on specific subjects or on the collectivity of policy issues reviewed periodically throughout the year. They constitute the Alliance's public archive and allow the process of policy-making and the evolution of decisions to be traced to the political events or circumstances to which they relate. All such texts are published in the two official languages of the Alliance, English and French, and often in other languages as well.

In addition to these documents, it is the role of Public Diplomacy to disseminate statements issued by the NATO Secretary General, who is the Organisation's principal spokesman, and texts of speeches by the Secretary General and other senior officials. These documents assist in explaining policy and lending insight into the underlying objectives and rationale.

Under the authority of the Secretary General, a number of printed and electronic publications are produced ranging from compilations of official texts and declarations to periodical and non-periodical publications. They are aimed at different target groups including opinion formers and youth audiences and seek to raise public awareness and contribute to an informed public debate on relevant aspects of security policy. They include a web-based periodical (the NATO Review) and a range of handbooks, brochures, briefing papers, newsletters and other materials such as CD-ROMS and DVDs, all of which contribute to public knowledge and understanding. These items are published on the NATO website and printed in the Organisation's two official languages. In addition, according to resources and requirements, they may also be produced in the languages used in NATO countries and are frequently made available in many Partner-country languages. NATO also provides support for the publishing activities of non-governmental organisations in member and Partner countries.

The NATO website hosts all publicly releasable information on the Alliance. As well as including official documents (treaties, communiqués, agreements and statements), the above-mentioned publications, which can be ordered directly from the website, and speeches and opinions (articles and interviews), the NATO website also offers the latest news for the media and interested audiences, as well as educational material. Multimedia products are also available (video conferences, images and audio files) and Internet users can submit their various queries on NATO and related issues via e-mail. The NATO website also serves as a line of communication with journalists for press briefings and activities of interest to them (press tours, trips and visits).

NATO also has a library serving the staff working at the Headquarters, but which is also open to students and researchers after accreditation. The library specialises in security and defence issues, holding a collection of over 20,000 volumes and 200 journals as well as substantial resources relating to the Atlantic Alliance and the Cold War. Visitors may use the inter-library loans system by accessing the library's online catalogue (<http://207.67.203.60/N10314UK/Index.asp>). The library also supplies publications to, and organises special events in, a network of depository libraries, in the Balkans among other places.

## **Associated policy committees, and other bodies**

The **Committee on Public Diplomacy** is responsible for information policy matters and for advising the North Atlantic Council on relevant issues. The committee is chaired by the Assistant Secretary General for Public Diplomacy and is composed of representatives from national delegations to NATO. It also meets regularly in Euro-Atlantic Partnership Council (EAPC) format with the



participation of representatives from Partner countries and periodically with representatives from contact point embassies in Partner country capitals. Embassies of NATO member countries in these Partner countries serve as contact point embassies, on a rotational basis.

NATO maintains a small **Regional Information Office** in Reykjavik, Iceland. With this exception, there are no regional information offices in NATO member countries.

An information officer was posted to Moscow in 1995. In February 2001 a **NATO Information Office** was opened in Moscow, which is managed, staffed and financed by the Public Diplomacy Division. The office organises programmes throughout the country, providing information, research assistance and project support to Russian citizens and organisations on NATO- and security-related topics, as well as access to NATO documents and publications. Many of these are published in Russian, together with comment and analytical articles on joint projects undertaken by NATO and Russia and on NATO-Russian relations as a whole.

A **NATO Information and Documentation Centre** opened in Kyiv in 1996. Like the information office in Moscow, it comes under Public Diplomacy and also organises information programmes throughout Ukraine, including similar forms of project and research assistance as well as access to documentation and publications. The centre plays a key role in ensuring that documentation is also made available in Ukrainian and that its activities and published materials address cooperative activities as well as the rationale and status of the distinctive partnership between Ukraine and NATO. The centre is housed within the Ukrainian Institute of International Affairs and provides access to documentation and to other information activities such as visits to NATO and seminars.

In addition to NATO itself, a number of other organisations and agencies play an important role in providing access to information about Alliance-related topics, disseminating written materials, exploiting the advantages of electronic communications through the Internet, and responding to public inquiries. These include public information offices in NATO and Partner countries, the NATO Parliamentary Assembly (see Part IX, Chapter 32), non-governmental organisations, and institutes and foundations.



# CHAPTER 46

## PUBLIC DIPLOMACY SCIENTIFIC AND ENVIRONMENTAL PROGRAMMES

Civil science has proved to be a highly effective vehicle for international dialogue due to its universality, its ability to create new international networks, and the means it provides of finding answers to critical questions and of connecting countries. The focus of the NATO Programme for Security through Science has been directed increasingly towards the application of science to security issues and, in particular, the potential offered by scientific cooperation among the member and Partner countries for addressing specific challenges to peace and security arising from new threats.

- *The NATO Programme for Security through Science*

The aim of the NATO Programme for Security through Science is to contribute to security, stability and solidarity by applying science to problem-solving. Collaboration, networking and capacity-building are means used to accomplish this end. A further aim is to catalyse democratic reform and support economic development in NATO's Partner countries in transition. The programme is also structured to reach out to the young generation of scientists and provide opportunities for them to gain experience and take part in training.

The programme offers grants to scientists to collaborate on priority research topics and funds to assist the academic community in Partner countries to set up basic computer infrastructure. Applications for support on topics in priority areas are prepared jointly by working scientists in NATO, Partner or Mediterranean Dialogue countries. Specific application forms for each support mechanism are hosted on the programme website ([www.nato.int/science](http://www.nato.int/science)) and applications may be submitted at any time, but three deadlines are set each year corresponding to the three review sessions of the scientific advisory panels.

The aims of the programme are therefore pursued through collaborative grants and computer networking:

- Collaborative grants in priority research areas:
  - Collaborative Linkage Grants: grants to assist in pooling ideas and resources on research projects and creating specialist networks;
  - Expert Visits: grants to allow the transfer of expertise in an area of research;

- Advanced Study Institutes: grants to organise high-level tutorial courses to convey the latest developments in a subject to an advanced-level audience;

- Advanced Research Workshops: grants to organise expert workshops where an intense but informal exchange of views at the frontiers of a subject aims at identifying directions for future action;

- Science for Peace projects: grants to collaborate on multi-year applied research and development projects in Partner or Mediterranean Dialogue countries;

- Reintegration Grants: to allow young scientists working abroad in NATO countries to return to and reintegrate the research communities of their home countries.

Collaborative grants are offered for topics in priority research areas of Defence Against Terrorism or Countering Other Threats to Security and/or in Partner Country Priorities. Projects may also be specially commissioned. Known as “top-down” projects, these are often Science for Peace projects or activities generated by the work of short-term expert groups.

➤ Computer networking support for Partner countries:

- Networking Infrastructure Grants: to assist Partner country research institutions to improve the level and quality of their telecommunication facilities;

- Advanced Networking Workshops: grants to organise either policy workshops to increase harmonisation of network policy at national and international level, or training workshops to extend the knowledge of qualified network managers.

NATO’s civil science programme has provided a number of research and educational institutions in Partner countries with the necessary networking infrastructure to access the Internet. Metropolitan networks have been set up to improve Internet access for academic communities in eastern regions of Russia and in Ukraine, as well as national networks in Moldova and the former Yugoslav Republic of Macedonia.\* The largest and most ambitious NATO-sponsored project in this area is the Virtual Silk Highway project, which provides satellite-based Internet access for the academic and scientific communities in the Southern Caucasus and Central Asia. The network has recently also been extended to Afghanistan.

Computer networking grants have a different objective from collaborative grants and are therefore not in the priority research areas. They are concerned

with the development of basic networking infrastructure in Partner countries which are particularly lacking in computer networking capabilities.

➤ NATO-Russia scientific cooperation

A special programme of support for cooperation between scientists in Russia and scientists in NATO countries has also been established within the NATO Programme for Security through Science. The NATO-Russia Council (NRC) Science Committee has drawn up an Action Plan which provides for collaboration in the following six security-related priority areas: explosives detection, psychological and sociological consequences of terrorism, forecasting and prevention of catastrophes, CBRN protection, cyber security, and transport security.

Applications for support for activities on these topics by Russian scientists working in collaboration with scientists from NATO countries may be submitted to NATO. The support mechanisms are Science for Peace projects, Collaborative Linkage Grants, Expert Visits, Advanced Study Institutes (ASIs) and Advanced Research Workshops (ARWs). The ASIs and ARWs normally take place in Russia.

Russian scientists may also participate in the core collaboration programme in the framework of the Euro-Atlantic Partnership Council.

➤ Funds, awards and the NATO Science Partnership prize

The co-directors of NATO ASIs and ARWs have NATO funds at their disposal which may be used to support the costs of qualified participants from NATO, Partner or Mediterranean Dialogue countries. An updated calendar of meetings can be accessed through the programme website, and requests for participation must be addressed to the co-directors.

For the most part, the results of awards made under the Security through Science Programme are published and made available to the scientific community, either through scientific journals, or in the volumes of the NATO Science Series which cover the results of ASIs and ARWs. Publication catalogues for the NATO Science Series are available online through the programme website.

An annual prize is awarded in recognition of excellence in scientific collaboration between NATO and Partner country scientists in activities supported by the programme. The NATO Science Partnership Prize was established in 2002, and is presented ceremonially to the winners by the NATO Secretary General.

## ➤ Programme operations

The programme is managed by members of the NATO International Staff at NATO Headquarters in Brussels. Programme responsibility extends over two areas: cooperative programmes, and threats and challenges. The Assistant Secretary General for Public Diplomacy is the chairman of the Science Committee. The science cooperation activities are the responsibility of a Deputy Assistant Secretary General.

The Euro-Atlantic Partnership Council (EAPC) provides the overarching framework for political and security-related consultations in NATO involving EAPC member countries, including collaboration within the NATO Security through Science Programme. The NATO-Russia Council Science Committee, established by the NRC, promotes, encourages and coordinates joint cooperative projects between scientists and experts from NATO countries and Russia.

Scientists from the Mediterranean Dialogue countries may participate in the following collaborative activities in priority research areas: Science for Peace projects, Collaborative Linkage Grants, Expert Visits, Advanced Study Institutes, Advanced Research Workshops, Networking Infrastructure Grants and Networking Workshops. Applications should be drawn up in cooperation with scientists from one or more of the 26 NATO countries.

## ➤ Evolution of the programme

The origins of the programme go back to 1956, with the adoption by the North Atlantic Council of a report on non-military cooperation in NATO by the foreign ministers of Canada, Italy and Norway (known as the Three Wise Men's Report). The report asserted that progress in science and technology can be decisive in determining the security of countries and their positions in world affairs. It stated that science and technology was an area of special importance to the Atlantic community and the NATO Science Programme was therefore established to promote scientific collaboration.

Over the next 40 years, different forms of collaboration were supported between scientists in NATO countries, setting high standards of scientific excellence. From the early 1990s, after the end of the Cold War, the programme was gradually opened up to participation from non-NATO countries. Since 1999, it has been dedicated almost entirely to providing support for collaboration between scientists in NATO countries and those in Partner countries or countries participating in the Mediterranean Dialogue. A further fundamental change, concentrating support on security-related collaborative projects, was introduced in 2004, in response to the threat from international terrorism and other threats to the security of the modern world. The programme, formerly known as the NATO

Science Programme, was also renamed the NATO Programme for Security through Science to reflect this new mission. Since 2004, NATO has also been associated, through that programme and the Committee on the Challenges of Modern Society (see next section), with the Environment and Security Initiative (ENVSEC) involving the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP) and the Organization for Security and Co-operation in Europe (OSCE). NATO is also involved in joint cooperative activities with the European Science Foundation (ESF) and the International Association for the Promotion of Cooperation with Scientists from the New Independent States of the Former Soviet Union (INTAS).

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- *Challenges of Modern Society*

The aim of NATO activities under the programme known as the Challenges of Modern Society is to address issues such as non-traditional threats to security, new and emerging risks that could cause economic, social and political instability, and conflict prevention in relation to resource scarcity, among others. The programme is distinct from the Programme for Security through Science described above and has different objectives, funding principles and working methods.

The programme was initiated by the North Atlantic Council in 1969 with the initial aim of addressing problems affecting the environment of the member countries and the quality of life of their peoples. Activities have been expanded over the years to include NATO's Partner countries and experts from Mediterranean Dialogue countries and, more recently, to take into account emerging issues affecting security. The Committee on the Challenges of Modern Society (CCMS) provides a unique forum for sharing knowledge and experience on technical, scientific and policy aspects of social and environmental matters in both the civilian and military sectors of modern society.

The programme tackles environmental security and societal problems already under study at the national level and, by combining the expertise and

technology available in NATO and Partner countries, aims to arrive fairly rapidly at valid conclusions and make recommendations for action to benefit all. Its key objectives include reducing the environmental impact of military activities, conducting regional studies including on cross-border activities, preventing conflicts in relation to scarcity of resources, addressing emerging risks to the environment and society that could cause economic, cultural and political instability, and addressing non-traditional threats to security.

The principal criterion for initiating activities is evidence of the interest of a sufficient number of countries to work collectively on topics related to challenges of modern society and their willingness to commit resources. Work is carried out on a decentralised basis, mainly through pilot studies lasting three to five years and short-term *ad hoc* projects lasting 12-18 months, both of which are nationally funded. Activities also include the organisation of topical workshops and the co-sponsoring of international conferences and seminars. Technical reports published in the framework of CCMS are destined for wide circulation and are available free of charge.

Examples of projects undertaken in recent years include environmental management systems in the military sector, cleaning and re-use of former military sites, risk assessment of the consequences of the Chernobyl accident, environmental challenges in the Caspian Sea, environmental decision-making for sustainable development in Central Asia, and food chain security. Increasingly, the focus of the committee's work is directed towards security-related aspects of scientific and technological developments in areas identified as relevant to the wider security concerns of the international community.

Since 1995, an Internet-based CCMS Clearing House System has been in operation to facilitate access to environmental databases and to enable participants to acquire, organise, retrieve and disseminate environmental information of common interest. Technical reports on CCMS pilot studies and projects are published and information relating to CCMS activities is disseminated via a dedicated website.

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## Associated policy committees, organisations and agencies

Overall policy guidance for the NATO Programme for Security through Science is provided by the **NATO Science Committee**, which is composed of member country representatives with expertise in science policy matters appointed from government or independent national scientific institutions. The committee is chaired by the Assistant Secretary General for Public Diplomacy, and normally meets three times a year. One of the meetings is in Euro-Atlantic Partnership Council (EAPC) format, when the NATO country representatives are joined by colleagues representing Partner countries. The committee also meets twice a year in the format of the NATO-Russia Council (NRC), when joint concerns in the scientific arena are discussed.

The Science Committee is assisted in its work of assessing and selecting applications for support by advisory panels whose members are selected by the committee from among the international scientific community. Associate members from Partner countries and Mediterranean Dialogue countries also serve on the advisory panels.

The **Committee on the Challenges of Modern Society** meets twice a year in plenary session and annually with Partner countries in Euro-Atlantic Partnership Council (EAPC) format, under the chairmanship of the Assistant Secretary General for Public Diplomacy. In general, it is composed of national representatives with expertise and responsibilities for national environmental programmes. The committee provides a unique forum for the sharing of knowledge and experience on technical, scientific and policy aspects of social and environmental matters in both the civilian and military sectors among NATO and EAPC Partner countries. The terms of reference for the CCMS were updated in 2000 to reflect the programme's adaptation to NATO's new missions.

The CCMS also meets twice a year in the format of the NRC to review policy issues and the implementation of its Action Plan. Within this NRC Action Plan, 12 topics for cooperation have been identified, which include defence-related environmental issues. The Science Committee and the CCMS have also established a special NATO-Ukraine Joint Working Group on scientific and environmental cooperation to review possible means of further enhancing the participation of Ukrainian experts in CCMS activities and the Programme for Security through Science.



# CHAPTER 47

## RESEARCH AND TECHNOLOGY

Promoting and conducting cooperative research and information exchange to support the effective use of national defence research and technology is an essential element in meeting the military needs of the Alliance, maintaining technological development and providing advice to NATO and national decision makers. These tasks call for an extensive network of national experts and for the coordination of activities among the NATO bodies involved in various aspects of research and technology in different fields of expertise.

### **Associated policy committees, organisations and agencies**

The **NATO Research and Technology Organisation (RTO)** is responsible for integrating the direction and coordination of NATO defence research and technology, conducting and promoting cooperative research and technical information exchange among national institutions, developing a long-term NATO research and technology strategy, and providing general advice on research and technology issues.

The RTO builds upon earlier cooperation in defence research and technology under the former Advisory Group for Aerospace Research and Development and the Defence Research Group, both of which have been brought together to form the new organisation. The RTO reports to both the Military Committee and to the Conference of National Armament Directors. It comprises a Research and Technology Board which is responsible for defining NATO policy on research and technology, supported by a Research and Technology Agency, with headquarters in Neuilly, France. The full range of research and technology activities is covered by seven panels, dealing with the following subjects:

- studies, analysis and simulation
- systems concepts and integration
- sensors and electronics technology
- information systems technology
- applied vehicle technology
- human factors and medicine
- NATO Modelling and Simulation Group

Each panel is made up of national representatives, including highly qualified scientific experts. The panels maintain links with military users and other NATO bodies. The scientific and technological work of the RTO is carried out by technical teams created for specific activities and with a specific duration. The technical teams organise workshops, symposia, field trials, laboratory experiments, lecture series and training courses, and ensure the continuity of the expert networks. They also play an important role in formulating longer-term plans.

In order to facilitate contacts with the military users and other NATO activities, part of the RTA staff is located in the Research, Technology and Industrial Outreach Section at NATO Headquarters in Brussels. This staff liaises with the International Military Staff and the Defence Investment Division of the International Staff. The coordination of efforts directed towards Partner countries is also mainly undertaken from Brussels.

The coordination of research and technology activities with other parts of the NATO structure is facilitated by the participation of RTO representatives on relevant boards and in the meetings of directing bodies such as the NATO Consultation, Command and Control (C3) Board and the NATO Science Committee. A Technology Advisory Board has also been established to provide Allied Command Transformation with independent advice on technology matters relating to the transformation of NATO's military capabilities. The General Manager of the NATO C3 Agency and the Director of the NATO Undersea Research Centre are *ex-officio* members of the Research and Technology Board. Coordination of research and technology activities with the member countries is handled through national coordinators, who also assist in the organisation of activities such as symposia, board meetings, lecture series and consultant missions.

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# CHAPTER 48

## STANDARDIZATION

Standardisation makes a vital contribution to the combined operational effectiveness of the military forces of the Alliance and enables opportunities to be exploited for making better use of economic resources. Extensive efforts are made to improve cooperation and to eliminate duplication in the research, development, production, procurement and logistic support of defence systems, primarily through the promulgation of NATO Standardisation Agreements, known as STANAGs. Implementation of STANAGs helps countries to achieve the required levels of interoperability and to better accomplish their common strategic, operational and tactical tasks, to understand and execute command procedures, and to employ techniques, materiel and equipment more efficiently.

### **Associated policy committees, organisations and agencies**

The principal forum for the elaboration of standardisation policy is the **NATO Standardization Organisation (NSO)**, which aims to incorporate standardisation as an integral part of Alliance planning and acts as a coordinator between senior NATO bodies addressing standardisation requirements. The NSO comprises the NATO Committee for Standardization, the NATO Standardization Staff Group and the NATO Standardization Agency.

The emergence of new threats and measures taken by NATO to adapt its capabilities accordingly have led to changes in operational requirements for armed forces. These changes have significantly enhanced the importance of interoperability with respect to materiel, doctrine, tactics, training, communication and many other areas in which the interoperability of military forces and of the systems that support them is a major factor. The objective of standardisation is to achieve the required critical level of interoperability with regard to all these aspects.

The role of the NSO is to enhance interoperability in order to contribute to the ability of Alliance forces to train, exercise and operate effectively both together and with the forces of Partner countries and other non-NATO countries, in the execution of their assigned tasks. It undertakes this by initiating, harmonising and coordinating standardisation efforts throughout the Alliance and by providing support for standardisation activities. It also acts on behalf

of the NATO Military Committee in developing, coordinating and assessing operational standardisation matters.

In accordance with Alliance policy, national and NATO authorities are encouraged to develop, agree and implement concepts, doctrines, procedures and designs which will enable them to achieve and maintain interoperability. This requires the establishment of the necessary levels of compatibility, interchangeability or commonality in operational, procedural, materiel, technical and administrative fields.

The NSO, established by the North Atlantic Council in January 1995, was restructured in 2000 as a result of a Standardization Review carried out to meet the requirements arising from the decisions on NATO's transformation taken at the 1999 Washington Summit.

The **NATO Committee for Standardization (NCS)** is the senior NATO authority on overall standardisation matters and reports to the Council.

It is supported by NCS Representatives (NCSREPs), who provide harmonisation and guidance at delegate level under the overall direction and management of the Committee. The focus of the work undertaken by the NCSREPs is the harmonisation of standardisation between NATO and national bodies and promoting interaction between them in the standardisation field.

The NCS is chaired by the Secretary General, normally represented by two permanent co-chairmen, namely the Assistant Secretary General for Defence Investment and the Director of the International Military Staff. Since September 2000, NATO's Partner countries have been actively involved in NCS activities.

The **NATO Standardization Staff Group (NSSG)** is subordinate to the NATO Committee for Standardization. Its principal task is to harmonise standardisation policies and procedures and to coordinate standardisation activities with NATO bodies. It is responsible for staff liaison and for the preparation of related documentation, contributing, *inter alia*, to the formulation of Military Standardization Requirements by the Strategic Commands and the drafting of Standardization Objectives for the NATO Standardization Programme. It includes representatives from the Strategic Commands and staff representatives from the International Military Staff and the International Staff supporting the Standardization Tasking Authorities. These are senior NATO bodies with the authority to task their subordinate groups to produce Standardization Agreements (STANAGs) and Allied Publications (APs), namely the Military Committee, the Conference of National Armaments Directors, the Senior NATO Logisticians Conference and the NATO Consultation, Command and Control Board. Staff representatives of other bodies and organisations also participate in the work of the NSSG.

The **NATO Standardization Agency (NSA)** is a single, integrated body set up by the North Atlantic Council and composed of military and civilian staff. It is responsible to the NCS for the coordination of issues between all fields of standardisation. It sets out procedures, planning and execution functions related to standardisation for application throughout the Alliance. It is responsible for the preparation of the work for meetings of the NCS, the NCSREPs and the NSSG and for the overall administration of all STANAGs and APs.

The NSA supports Joint, Maritime, Land, Air and Medical Standardization Boards, each of which acts as a tasking authority for operational standardisation, including doctrine, as delegated by the Military Committee. The Standardization Boards are responsible for the development of operational and procedural standardisation among member countries. Like other tasking authorities, they do this by developing applicable STANAGs and APs with the member countries and NATO military commands. The NSA also supports the Office of NATO Terminology Coordination. Established under the authority of the NCS, this office manages the NATO Terminology Programme and oversees a NATO Policy for Standardization of Terminology which outlines overarching principles and main responsibilities, as well as the process of terminology standardisation within NATO as a whole.

The Director of the NSA is responsible for the day-to-day work of five branches of the agency, namely a Policy and Coordination Branch and the Joint, Naval, Army and Air Branches. The service branches provide staff support to their related boards and their associated working groups and panels and are responsible for monitoring and harmonising standardisation activities in their areas of responsibility.

The boards, with one member per country, are in permanent session and meet formally eight to twelve times a year. Decisions are normally reached on the basis of unanimity. However, as standardisation is a voluntary process, agreements may also be based on majority decisions among the countries participating in any particular STANAG. The Strategic Commanders have a staff representative on each board.

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