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**NEW TECHNOLOGIES IN  
DEFENCE POLICY AND  
CONFLICT MANAGEMENT:  
A CHALLENGE FOR THE EU**

**Final Study**

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## **Final Report**

# **NEW TECHNOLOGIES IN DEFENCE POLICY AND CONFLICT MANAGEMENT: A CHALLENGE FOR THE EU**

Version 1.3, 8 June 2001

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## **Executive Summary**

### **Introduction**

This report to the Committee on Foreign Affairs, Human Rights, Common Security and Defence Policy of the European Parliament seeks to lay out options the Committee might decide to consider in regard of the future development of the European Security and Defence Policy (ESDP). It is the final report of the study by TNO Physics and Electronics Laboratory (The Hague, The Netherlands) and IABG (Ottobrunn, Germany) on 'new technologies in defence policy and conflict management'. This study has been ordered by the European Parliament, in the context of the STOA Workplan 2000 (STOA: Scientific and Technological Options Assessment, workplan ref. EP/IV/A/STOA2000/01/01).

The general aim of this study is to address a wide range of options for the EU's Common Security and Defence Policy (ESDP), taking into account the respective roles of the European Council and the High Representative (HR), the EU Commission and the European Parliament. The focus is on military capabilities and technology areas needed to implement the Petersberg tasks as embodied in the Treaty on the European Union (Art. 17 (2) / TEU).

### **Research methods: systematic list of interviews, literature.**

The 'guiding question' of our assessment was whether and how much the suggested policy measures will contribute towards the evolution of the ESDP. This assessment has resulted in a series of policy options for the European Parliament, the European Commission and the nations of the European Union. The options are summarised in the Options Brief (following this executive summary) and treated in more detail in Part A.

A broad range of relevant officials has been interviewed or consulted (see Annex B), in order to find the important topics in this very diverse field of policy, the relations between these topics, and the main solution directions that are being considered. The team has used relevant publications including the documentation mentioned in the invitation to bid as a basis to further define options and relevant issues. Other relevant documents that have been used are referenced for further consultation, see annex C. The team has further used available (military and technical) expertise within the two institutes.

### **Research results**

The result of our studies consists of data on general issues concerning ESDP, a review of the 'state of the art', and of the perspectives for the further development of ESDP. In the absence of a 'European Defence Strategy' we have taken the three Petersberg Tasks as the starting point for our analysis into military-operational capabilities necessary for implementing these tasks. The relationship between these capabilities and those that NATO needs is explored. The actual technologies involved are discussed, followed by a three-tiered assessment of policy options for the European Council, European Commission and the European Parliament. A short discussion of related policy issues ends the paper.

In accordance with this set-up, part B of this report is divided into 8 chapters:

1. Antecedents to this report,
2. General introduction of the European Security and Defence Policy,
3. Current status of and issues in ESDP,
4. Perspectives for the development of ESDP,
5. Operational and technical capabilities necessary for implementation of the Petersberg Tasks,
6. Policy options for the European Commission,
7. Options for the European Parliament, and
8. Related policy issues.

A summary of the report is given below.

## General introduction to ESDP

With the Cologne Declaration and at subsequent Council Meetings the European Union (EU) committed itself to define and implement a Common European Security and Defence Policy. The ESDP is an intricate and very complex subject matter that is, moreover, in a state of very fast changes and developments. This complexity is due to the fact that it concerns a policy with many leading actors that have different but overlapping responsibilities, and with different relations to the 'outside world'. The Helsinki Summit has set in motion a process of institution building and of national defence convergence that is gathering momentum (Feira, Nice), but the definite contours of the ESDP are yet to be found.

## Perspectives for the development of ESDP

The ESDP is unfolding essentially as an intergovernmental process. The Commission has now responsibilities in the areas of crisis prevention, crisis management and arms industrial policy. If the EU is to develop its full potential for crisis management, the role of the Commission will grow with the build-up of the Council/HR structure. This in turn will enhance the chances for the European Parliament to exercise influence on the evolution of the ESDP.

In the short run the ESDP will develop on the basis of existing forces. Pressures for national force modernisation, economising and interoperability will produce mid-term opportunities:

- Development of an increasingly shared strategic framework will be a prerequisite for significant progress of ESDP.
- Development of capabilities needed for the Crisis Response Force can lead to broader types of co-operation between ESDP partners, in particular through pooling resources, division of labour (including role specialisation) and shared resources.
- Co-development of EU's civilian and military crisis prevention and management strategy.
- The integration of functions is possible in regard to back-, middle and front-end functions:
  - the back-end involves technology acquisition and procurement
  - the middle pertains to force management, in particular equipment, training, maintenance, readiness, doctrine
  - the front-end embraces the operational functions, i.e. the functions that relate to deployment, use and sustainment of forces.
- In mid-term the integration of functions can occur on five levels:
  - ad hoc by a select group of nations
  - package approach (e.g. combining acquisition with combined training, logistics etc.)
  - pooling to operate a common capability (like AWACS in NATO)
  - harmonisation of national defence planning (reduction of waste and duplication, harmonising outsourcing etc.)
  - transfer of planning functions to the EU authorities.

Depending on the integration model, the role of EU authorities will vary from supporting intergovernmental co-operation to facilitating outcomes to assuming key roles in the process.

The ESDP long-term direction will be determined by the degree to which member states agree on long-term objectives for political integration. The eventual scope of ESDP will be one station (not **the** end station) on a broad range of possibilities, depending on the future prevalence of some "finalité" or a dominant version of intergovernmentalism or a sui generis type of mix. However, even some way short of a full-integration model, the requirements for a strong EU role in crisis management will need increasing integration of national defence functions.

## Capabilities

The actual extent of the Petersberg tasks is a major political issue, the resolution of which will have serious consequences for the necessary military and civilian crisis management equipment. The content of each of the three Petersberg tasks, (1) humanitarian and evacuation missions, (2) peace-keeping missions, and (3) combat missions for crisis management (including missions to restore peace), is open to discussion and interpretation. This is particularly so for the combat mission: At the Helsinki Summit this category was so

defined as to include the most demanding missions. At the high end of the Petersberg Missions, preparing for Art. V contingencies in NATO and for EU combat missions have become more difficult to distinguish. The Petersberg missions could in the short run be seen as a subset of the missions NATO is preparing for. In that perspective implementation of the Headline Goals and of NATO's Defence Capability Initiative (DCI) are mutually reinforcing. In the longer term, different political responsibilities and ideas will increasingly lead to diverging definitions of tasks, missions and requirements. The EU military forces are an instrument of ESDP and, more generally, the EU's potential for crisis management, whereas for NATO they are seen for Art. V cases or lesser cases. Nevertheless, the improvement of European military capabilities is generally considered necessary, whether it be in a NATO or an EU context.

The technologies involved may be subdivided into the following functional categories:

- Command & control and communications. This function is the basis of the Western way of waging war, and therefore indispensable for any operation. The currently existing capability is still geared towards a stationary, Cold-War type of operations and is in urgent need of renovation.
- Strategic mobility. The ability to rapidly move armed forces to a crisis spot is a sorely lacking capability that has been generally identified. Work is already underway but not sufficient for filling foreseen mobility needs.
- Intelligence, reconnaissance and surveillance. Another agreed-upon item, which is necessary for an unimpeded flow of information to decision makers.
- Survivability, protection. The protection of life and health of troops in action as of the civilian population both at home and in crisis areas has become a touchstone for crisis operations. In view of the expected problems in this area, additional capabilities are needed like protection against weapons of mass destruction (WMD), Theatre Ballistic Missile (TBM) and terrorist attacks.
- Precision engagement. This capability is an operations enabler and a means of avoiding collateral damage. It is in short supply. Serial production would bring down unit cost which is still very high.
- Suppression of enemy air defence (SEAD), electronic warfare (EW) and combat search and rescue (CSAR). This is one of the critical military capabilities that during the Kosovo campaign were lacking from the European inventories, making them depend almost completely on American capabilities. This is one area where European co-operation could make a difference.
- Non-lethal weapons. In view of the nature of peace operations, a robust, reliable and unarmful capacity is needed, e.g. for crowd control, for controlling no-flight zones etc. Here too, European co-operation in R&D and production/procurement would be beneficial. This pertains particularly to crowd control since European forces co-operate on the ground.
- Information operations. Information is becoming the 'high ground' without which crisis management operations can go awry. Both defensive and offensive operations must be contemplated.
- Technologies for crisis prevention and crisis containment. In several areas, the required capabilities for military and civilian crisis management tend to overlap. Command, control, and intelligence are obvious cases in point, but also the areas of social security, law enforcement and traffic/people movement monitoring are of interest. Since the EC has made a commitment to civilian crisis management, it might want to look further into this specific issue.

Most official documents and studies mention only the first three items but it is worthwhile to take also the other elements into account. Item 4, protection and survivability has been mentioned in several interviews as a crucial factor to get and maintain political and public support for crisis operations. While not of a technological nature, a tenth topic worth mentioning in relation to options for further co-operation in Europe is the area of logistics.

## Options

In part A, options are enlisted in terms of

- EU actors: the Council/HR, the Commission and the European Parliament
- the time horizon: short-, mid- and long-term options.

These options are summarised in the Options Brief of this report.

The various instruments at the disposal of the Commission should be seen in conjunction with the EU's new military means. Some Commission instruments and ESDP means are alternatives, whereas others are mutually reinforcing. The responsibilities of the Commission in the ESDP are fairly clearly delineated: The instrument of Common Strategies is the prerogative of the Council and will probably remain so. The instrument of reinforced co-operation (i.e. co-operation between some members aimed at supranational results) is not applicable to the ESDP and it will not be in the foreseeable future.

Important points to note about the EC's role are:

- It has issued the 'European Commission's Communication on Conflict Prevention' (11-04-01) that brings together policies and instruments already in use and focuses their action on conflict prevention. It has established a crisis management department in the DG External Relations. The Commission is in a position to recommend strategies for crisis management and for civilian-military co-operation. Decisions as to sending this force pertain to the High Commissioner, but the Commission has a role, under the first Pillar, in training of police in a crisis area, for instance in Albania. The Commission moreover has a growing role in the areas of demining, non-proliferation of weapons, and disarmament.
- The DG External Relations is a full member of the PSC (the standing Political and Security Committee) and participates regularly in the sessions held once every two weeks. The role of the Commissioner is further reinforced through the troika between the Foreign Minister representing the Presidency, the High Representative (HR) and the Commissioner as evidenced by the recent visit to Moscow. The Council has agreed on a Rapid Response Facility within the Crisis Management Department of the DG External Relations. The Conflict Prevention Network (CPN) could become more capable of rapid action. The EC has the diplomatic potential of some 160 accredited countries allowing for coherent external representation.

The European Parliament at this stage has almost no direct role in the intergovernmentally driven Headline Goal-phases of ESDP, but its role will certainly grow along with the increasing leverage of the Commission. This is particularly so wherever Commission funds are involved and the EP has voting rights. Involvement of the EP would reinforce the ESDP development directly if European defence visions come to be associated with the EP. The EP can be both an agent and a beneficiary of political progress on ESDP. It also means that EP options for significant increases in leverage and influence need to be seen in a long-term perspective.

In the short term, the EP could function as a platform for Europe-wide policy discussions on the general shape and extent of ESDP. It could do so by focussing debates on particular aspects of ESDP and ESDP-related issues (e.g. arms industry), with which the ESDP gets identified. It could also identify new problems and challenges which do not so far get adequate political or institutional attention within the EU framework or even in NATO and/or nationally. Information war, organised crime, mass terrorism etc. could thus still become the focus of EP activities in ways that pay off politically.

## Related policy issues

The future of the European arms industry has already had the attention of the European body politic for years. Since a major part of the European defence industry has now been transnationally consolidated, single, European industry and armaments policies have become both possible and necessary. There are, however, serious problems on

technological, financial and institutional issues. It is imperative that the European defence industry is treated as a strategic asset and that its viability is scrupulously guarded. The "Europa Memorandum of Understanding (MOU)" that has recently been signed seems to augur well for the possibilities of practical armaments co-operation programmes that are not unnecessarily hampered by bureaucracy. Finally, the 'grey area' between police activities and military ones is discussed.

The Hague, Ottobrunn, 8 June 2001

## **Options Brief**

The Options derived from the analysis in Part B and the interviews are listed in terms of:

- EU actors: the Council, the High Representative and the Commission on one hand (bearing in mind their different responsibilities) and the European Parliament on the other hand;
- the time horizon: short-, mid- and long-term options.

### **1 Policy Options for the European Commission**

The Commission has two essential assets to offer: the know-how of an experienced bureaucracy and a variety of financial resources that can gradually be brought to bear in ESDP-related areas. Part of this bureaucracy consists of the delegations of the Commission abroad, that according to a recent count amount to 127. This formidable body acts as 'eyes and ears' of both the Commission and the Council. The most natural roles for the Commission are at this stage in crisis prevention and rehabilitation, i.e. when military means are of secondary or no use.

The evolving ESDP will broaden the role of the Commission even in the short-term:

- It brings the Commission's instruments for crisis prevention and crisis management more visibly into play.
- The civilian Headline Goals agreed upon at the Feira Summit resulted primarily from initiatives of the DG for External Relations (5.000 policemen).
- It has established a Rapid Reaction Mechanism which is essentially a funding possibility for emergency measures to send trained people at short notice (for up to 6 months after which other measures will be considered).
- It is setting up a Crisis Situation Centre which will focus on regional situation and needs (as distinct from the Council's situation center which has a more global outlook). The Commission is able to send officials also to the Council's situation center.
- It has taken a seat in the boards of the Satellite Centre and the Institute for Strategic Studies, that the EU has taken over from the WEU.
- It increases the need for support from the Commission (in particular the DG for Enterprises), for joint R&D, procurement and for an effective arms industrial policy.

Additional mid-term options are:

- A significant role for the Commission will be in the co-ordination of Commission instruments and programmes and the use of military and police forces in non-combat situations. This applies also to combinations of military coercive measures and the range of sanctions and restrictive measures, some of which are within the responsibility of the Commission.
- Enlarging capacities like ECHO (for co-ordinating efforts like emergency assistance, disaster relief, emergency management support etc.), the emergency and rescue services and mine clearing (including supporting research e.g. in sensor and detection technologies, as carried out at the Commission's Joint Research Centre (JRC)).
- Given the increasingly blurred distinctions between military and civilian technologies, products and services, the role of the Commission could also extend towards expertise and recommendations on the arms industry.

In this vein the Commission could over time be in a position to support the ESDP and its most crucial part – the generation of strategic capabilities – through its influence in agencies such as ESA, through institutes (e.g. JRC) and through programmes (in particular the 6<sup>th</sup> Framework Programme) for dual purpose R&D. In all areas of concern the Commission's role will remain limited in the short run, but potentially important. As the ESDP matures, the role of the Commission will grow as well, as an initiator, a source of support and as a mediator between national and Union orientations and objectives – provided it resists the temptation to press for an untimely Community approach to ESDP. This could only be envisaged as potential long-term options.

## 2 Options for the European Parliament

Short-term options for the European Parliament are limited, but it would be misleading to view the role of the EP in ESDP only in the terms of short-term options i.e. in the context of the current Headline Goal effort.

Mid-term options could thus develop in areas where the Commission may become more influential:

- Civilian crisis management
- R&D focusing
- European defence market.

The EP could become a genuine policy discussion forum for policy formation, defining rules of engagement, areas of convergence, the development of the ESDP and possibly even defence requirements. It could seek to build political consensus and raise attention levels through well publicised reports (from committees or commissioned externally).

The EP could support new institutional projects like a European Defence Science Board (EDSB), a European Defence Advanced Project Agency (EDARPA) or even programmes like a European joint and combined experimentation programme in support of long-term ESDP solutions. Similar arrangements for training and exercises, logistics et al. could also become the focus of EP attention.

The most ambitious challenge for the EP would be to develop a European vision for the Union's role, responsibility, means and partnerships in the longer run. Given that defence planning is predominantly national, offering a long-term vision could be extremely important for harmonising national defence planning and for integrating defence planning functions increasingly into a functioning EU defence and crisis management posture.

## 3 Military and technological capability options

The following options can contribute to the effectiveness and efficiency of the ESDP and the European forces:

- Nominate a number of existing multi-national European headquarters for a role in future EU operations.
- Start planning and negotiations to take over the responsibility for either SFOR or KFOR.
- Use the experience and the current agreements/documents of the WEU to establish the necessary links with NATO.
- Extend the role of the European Space Agency (ESA) to co-operation on military space programmes.
- Start a study on promising non-lethal weapons especially for Crowd and Riot Control, to be followed by a development programme.
- Start a programme to remedy the shortfall on Suppression of Enemy Air Defence (SEAD), Electronic Warfare (EW) and Combat Search and Rescue (CSAR) (see para. B.5).
- Start the European development of a light precision guided weapon, suited for interdiction with minimum collateral damage.
- Start a study on technological options for use in crisis prevention and crisis containment, such as unattended ground sensors, identification technologies etc, making use of developments for social security and law enforcement.
- Explore further the military capability of Galileo.

## **PART A: Options**

The Options derived from the analysis in Part B and the interviews will be listed in terms of:

- EU actors: the Council, the High Representative and the Commission on one hand (bearing in mind their different responsibilities) and the European Parliament on the other hand;
- the time horizon: short-, mid- and long-term options.

As general background for these options we first describe some perspectives for the development of the ESDP.

In the short run the ESDP will develop on the basis of existing forces. Pressures for national force modernisation, economising and interoperability will produce mid-term opportunities:

- Development of an increasingly common strategic framework will be a prerequisite for significant progress of ESDP
- Development of capabilities needed for the Crisis Response Force can lead to broader types of co-operation between ESDP partners, in particular through pooling resources, division of labour (including role specialisation) and shared resources.
- Co-development of EU's civilian and military crisis prevention and management strategy.
- The integration of functions is possible in regard to back-end, middle and front-end functions:
  - the back-end involves technology acquisition and procurement
  - the middle pertains to force management, in particular equipment, training, maintenance, readiness, doctrine
  - the front-end embraces the operational functions, i.e. the functions that relate to deployment, use and sustainment of forces.
- In mid-term the integration of functions can occur on five levels:
  - ad hoc by a select group of nations
  - package approach (e.g. combining acquisition with combined training, logistics etc.)
  - pooling to operate a common capability (like AWACS in NATO)
  - harmonisation of national defence planning (reduction of waste and duplication, harmonising outsourcing etc.)
  - transfer of planning functions to the EU authorities.

Depending on the integration model, the role of EU authorities will vary from supporting intergovernmental co-operation to facilitating outcomes to assuming key roles in the process

The ESDP long-term direction will be determined by the degree to which member states agree on long-term objectives for political integration. The eventual scope of ESDP will be one station (not **the** end station) on a broad range of possibilities, depending on the future prevalence of some "finalité" or a dominant version of intergovernmentalism or a sui generis type of mix. However, even some way short of a full-integration model, the requirements for a strong EU role in crisis management will need increasing integration of national defence functions of some way.

### **A.1 Policy Options for the European Commission**

The evolving ESDP will broaden the role of the Commission even in the short-term:

- It brings the Commission's instruments for crisis prevention and crisis management more visibly into play.
- The civilian Headline Goals agreed upon at the Feira Summit resulted primarily from initiatives of the DG for External Relations (5.000 policemen)
- It has established a Rapid Reaction Mechanism which is essentially a funding possibility for emergency measures to send trained people at short notice (for up to 6 months after which other measures will be considered).

- It is setting up a Crisis Situation Centre which will focus on regional situation and needs (as distinct from the Council's situation centre which has a more global outlook). The Commission is able to send officials also to the Council's situation centre.
- It increases the need for support from the Commission (in particular the DG for Enterprise), for joint R&D, procurement and for an effective arms industrial policy for armaments.

The various instruments at the disposal of the Commission should thus be seen in conjunction with the EU's new military means. Some Commission instruments and ESDP means are alternatives, whereas others are mutually reinforcing.

The responsibilities of the Commission in the ESDP are fairly clearly delineated: The instrument of Common Strategies is the prerogative of the Council and will probably remain so. The instrument of reinforced co-operation (i.e. co-operation between some members aimed at supranational results) is not applicable to the ESDP and it will not be in the foreseeable future.

The Commission has two essential assets to offer: the know-how of an experienced bureaucracy and a variety of financial resources that can gradually be brought to bear in ESDP-related areas. The most natural roles for the Commission are at this stage in crisis prevention and rehabilitation, i.e. when military means are of secondary or no use.

Important points to note are:

- It has issued the 'European Commission's communication on Conflict Prevention' (11-04-01) that brings together policies and instruments already in use and focuses their action on conflict prevention.
- It has established a crisis management department in the DG External Relations.
- The DG External Relations has an observer status in the PSC (the standing Political and Security Committee) and participates regularly in the two weekly sessions.
- The Council is considering and likely to agree on a Rapid Response Facility within the Crisis Management Department of the DG External Relations.
- Linked to that DG, the Conflict Prevention Network (CPN) could become more effective.
- The Commission, with the Council, has the diplomatic potential of some 160 accredited countries allowing for coherent external representation.
- The Commission is in a position to recommend strategies for crisis management and for civilian-military co-operation (e.g. the proposal for a civilian Headline Goal came from Commissioner Patten; the civilian pledging conference resulted so far in 1000 of the requested 5000 policemen).
- The role of the Commissioner is reinforced through the troika between the Foreign Minister representing the Presidency, the HR and the Commissioner as evidenced by the recent visit to Moscow.

Additional mid-term options are:

- A significant role for the Commission will be in the co-ordination of Commission instruments and programmes and the use of military and police forces in non-combat situations. This applies also to combinations of military coercive measures and the range of sanctions and restrictive measures, some of which are within the responsibility of the Commission.
- Capacities like ECHO (for co-ordinating efforts like emergency assistance, disaster relief, emergency management support etc.) are cases in point. So are the emergency and rescue services and mine clearing, including supporting research e.g. in sensor and detection technologies as carried out at the Commission's Joint Research Centre (JRC).
- Given the increasingly blurred distinctions between military and civilian technologies, products and services, the role of the Commission could also extend beyond expertise and recommendations on the arms industry. It can, of course, increase its role in defence industrial policy.

In this vein the Commission could over time be in a position to support the ESDP and its most crucial part – the generation of strategic capabilities – through its influence in agencies

such as ESA, through institutes (e.g. JRC) and through programmes (in particular the 6<sup>th</sup> Framework Programme) for dual purpose R&D.

In all areas of concern the Commission's role will remain limited in the short run, but potentially important. As the ESDP matures, the role of the Commission will grow as well, as an initiator, a source of support and as a mediator between national and Union orientations and objectives – provided it resists the temptation to press for an untimely community approach to ESDP.

These could only be envisaged as potential long-term options.

## A.2 Options for the European Parliament

Short-term options for the European Parliament are limited, but it would be misleading to view the role of the EP in ESDP only in the terms of short-term options i.e. in the context of the current Headline Goal effort.

The European Parliament at this stage has almost no direct role in the intergovernmentally driven Headline Goal-phases of ESDP, but its role will certainly grow along with the increasing leverage of the Commission. This is particularly so wherever Commission funds are involved and the EP has voting rights.

Mid-term options could thus develop in areas where the Commission may become more influential:

- Civilian crisis management
- R&D focusing
- European defence market.

Like the NATO and WEU Assemblies the EP could seek to build political consensus and raise attention levels through well publicised reports (from committees or commissioned externally). It could do so by focussing debates on particular aspects of ESDP and ESDP-related issues (e.g. the arms industry), with which the ESDP gets identified. It could also identify new problems and challenges which do not so far get adequate political or institutional attention within the EU framework or even in NATO and/or nationally. Information war, organised crime, mass terrorism etc. could thus still become the focus of EP activities in ways that pay off politically.

The EP could support new institutional projects like a European Defence Science Board (EDSB), a European Defence Advanced Project Agency (EDARPA) or even programmes like a European joint and combined experimentation programme in support of long-term ESDP solutions. Similar arrangements for training and exercises, logistics et al. could also become the focus of EP attention.

The most ambitious challenge for the EP would be to develop a European vision for the Union's role, responsibility, means and partnerships in the longer run. So far not even NATO (the 1999 Summit notwithstanding) has developed a long-term vision. Given that defence planning is predominantly national, offering a long-term vision could be extremely important for harmonising national defence planning and for integrating defence planning functions increasingly into a functioning EU defence and crisis management posture. While this is a long-term goal, the EP should seek to increase its influence without delay. In this vein the EP could become a genuine policy discussion forum for policy formation, defining rules of engagement, areas of convergence, the development of the ESDP and possibly even defence requirements.

Involvement of the EP would reinforce the ESDP development directly if European defence visions come to be associated with the EP. The EP can be both an agent and a beneficiary of political progress on ESDP. It also means that EP options for significant increases in leverage and influence need to be seen in a long- term perspective.

### A.3 Military and technological capability options

In this paragraph we list a number of options that can contribute to the effectiveness and efficiency of the ESDP and the European forces:

- Nominate a number of existing multi-national European headquarters for a role in future EU operations. NATO is currently making a selection for three high-readiness rapid reaction corps headquarters (HQs). Six other HQs will obtain a lower-level readiness status. The EU could do the same. It has to be investigated whether HQs can be available for both NATO and EU or whether they need separate HQs.
- Start planning and negotiations to take over the responsibility for either SFOR or KFOR. This would be an opportunity to put EU's plans to the test and to obtain practical experience. It could meet both the ambition of the EU and the US desire to diminish their involvement in the Balkans.
- Use the experience and the current agreements/documents of the WEU to establish the necessary links with NATO. WEU had a considerable experience and working relations with NATO. Valuable time can be gained by using these results as a starting point, adapt where necessary. Also the experience with exercises could be used.
- Extend the role of the European Space Agency (ESA) to co-operation on military space programmes.
- Start a study on promising non-lethal weapons especially for Crowd and Riot Control, to be followed by a development programme.
- Start a programme to remedy the shortfall on SEAD, EW and CSAR (see para. B.5).
- Start the European development of a light precision guided weapon, suited for interdiction with minimum collateral damage.
- Start a study on technological options for use in crisis prevention and crisis containment, such as unattended ground sensors, identification technologies etc, making use of developments for social security and law enforcement.
- Explore further the military capability of Galileo.

## **PART B: ARGUMENTS AND EVIDENCE**

### **B.1 Antecedents of this report**

This is the main body of the final report of the study by TNO and IABG on 'new technologies in defence policy and conflict management'. This study has been ordered by the European Parliament, in the context of the STOA (Scientific and Technological Options Assessment) (Workplan 2000, reference EP/IV/A/STOA/2000/01/01). The general aim of this study is to address a wide range of options for the EU's Common European Security and Defence Policy (ESDP), taking into account the respective roles of the European Council and the High Representative, the EU Commission and the European Parliament.

At the scoping meeting on 23 January 2001, it was decided that the study would focus on technology issues in the context of applicability for the Petersberg Tasks, with the Headline Goal as a general background.

The policy options part of the report thus primarily specifies options for technology policy relevant for the ESDP. Options for the EU's Defence Policy, the EU's Industrial Policy and institutional choices are relegated to a secondary plane, as consequences of the technology issues. Institutional matters that have been at the centre of attention of so many other studies will be treated mainly as given, while issues of Grand Politics will be kept outside the purview of this study as much as possible. The respective roles of the EU authorities will be weighed.

The options developed in Part A are based on interviews with a variety of practitioners and experts on ESDP matters, on (military-technical) expertise available in TNO and IABG, on essential literature on the subject and on documents generated since the Helsinki summit. Part B provides the background, the arguments and data in support of the options. A summary of the part A is provided in the form of an Options Brief.

An interim version of this report was delivered to STOA in March 2001. It was presented and discussed at a meeting in the EU Parliament Building in Brussels on 10 April 2001. Several comments and suggestions for modifications and elaboration were given at this meeting. These suggestions have been taken into account in preparing this final report.

## B.2 General Introduction: European Security and Defence Policy

With the Cologne Declaration and at subsequent Council Meetings the European Union (EU) committed itself to define and implement a Common European Security and Defence Policy. The ESDP is an intricate and very complex subject matter that is, moreover, currently in a state of very fast changes and developments. This complexity is due to the fact that it concerns a policy with many leading actors that have different but overlapping responsibilities, and with different relations to the 'outside world'. The Helsinki Summit has set in motion a process of institution building, defining institutional competencies, and of national defence convergence that is gathering momentum (Feira, Nice), but the definite contours of the ESDP are yet to be found.

The ESDP is unfolding essentially as an intergovernmental process. It could not have been initiated otherwise. At this early stage the Commission has modest responsibilities in the areas of crisis prevention, crisis management and arms industrial policy. If the EU is to develop its full potential for crisis management, the role of the Commission will grow following the build-up of the Council/HR structure. This in turn will enhance the chances for the European Parliament to exercise influence on the evolution of the ESDP.

There will be five primary areas where the EP can work towards increasing its influence:

- in providing political visions and perspectives for the CFSP (Common Foreign and Security Policy) and the ESDP
- in improving and developing political decision-making structures
- in defining broad guidelines for crisis management/crisis prevention
- in defining necessary civilian capabilities for crisis management including CIMIC (see page 23)
- side issues (enabling role): industry, R&D, defence market, mid/long term military-strategic concept.

The actual content of the roles defined above will largely depend on progress of the ESDP within the Council and subsequently the Commission. While the EP thus will act mostly reactively, it can take initiatives by generating visions for how the next stages of the ESDP should unfold and what the role of the EU could be in a changing environment.

To understand the scope for future EP influence it is important to recognise that influence will remain marginal in the short-term. However, the EP should seek to carve out its role in mid-term and especially in long-term perspectives. Using e.g. the five 2010 scenarios the Forward Study Unit developed for the EU in 1999 could serve to clarify the options: these scenarios pertained to both environments and internal developments of the EU. In this vein the Committee on Foreign Affairs, Human Rights, Common Security and Defence Policy naturally has a key role to play.

## B.3 ESDP: Current status and issues

### **The Headline Goal and Petersberg tasks in general**

Though implementation of the Headline Goal until 2003 is underway, the Petersberg Declaration hardly suffices to describe the future tasks of the ESDP, nor do the three generic scenarios chosen for the specification of forces and capabilities. An important omission in the ESDP framework now is the lack of an overall politico-military strategy, in whose absence we are left with statements on the tools and the ways to use them: military forces and operational concepts. One way forward might be the adoption of an EU Military Strategic Concept, like the one suggested by the Clingendael Institute<sup>1</sup>. Once such a Strategic Concept were in place, the relation of ESDP to Europe's Common Foreign and Security Policy and to the civilian crisis prevention and crisis management branches of the EU could be made more clear, and parliamentary oversight of the endeavour would be made more focused.

Another issue is the distinction between NATO's Art V and the EU's most demanding contingencies and attendant consequences for military capabilities to be developed and acquired, which will require further elaboration. In addition, the interplay of crisis prevention and civilian and military crisis management needs to be worked out, especially now that the European Commission has forged ahead with its 'Communication from the Commission on Conflict Prevention' published on 11.04.2001.

EU forces will typically operate in coalitions. In the current context one can distinguish five coalition/mission configurations, from all-NATO to all-EU:

1. Art. V NATO (Collective Defense with 19)
2. Non-Art. V (Crisis Response Operations (CRO) with 19) as in "Allied Force"
3. Non-Art. V (CRO) with NATO plus partner as in KFOR/SFOR
4. Petersberg mission with EU and access to NATO assets with or without partners
5. Petersberg mission with autonomous EU without access to NATO assets and with or without partners (including possibly non-EU NATO countries).

Given that most national forces within the EU still have a long way to go in preparing for coalition operations, the EU, in particular its Military Staff, should develop operational guidance to facilitate effective coalition operations in crisis management. Another linkage that must be made is contained in the concept of CIMIC. How should the military and the civilian parts of the ESDP work together on the ground? This is all the more important as military crisis management has been given a place in the above-mentioned Commission Communication: it is now up to the military side to provide a vision as well. Also, the Headline Goals are heavily army-oriented; exploiting the potential for joint action is imperative.

A further point for subsequent decisions pertains to national force planning of EU members. The Helsinki Goal provides for a crisis response force of up to 60.000 soldiers out of more than 2 million men under arms. The Military Capabilities Commitment Declaration gives some insight into how this is to be achieved and how progress is to be monitored. The actual harmonisation of national, NATO, PfP (Partnership for Peace) and ESDP planning processes will most likely be an ongoing process that needs to be controlled by parliaments – both national and European.

These issues are mainly to be handled by/through the European Council and the emerging military machinery. However, the Commission has a major role in civilian crisis prevention and management that can be brought to bear, and the European Parliament will not only acquire a critical control function, but it can also provide political guidance ("visions") to the intergovernmental process to provide for stable long-term orientations.

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<sup>1</sup> A. van Staden a.o., Towards a European Strategic Concept, Netherlands Institute of International Relations Clingendael, Nov. 2000.

During the Portuguese Presidency an effort was made to harmonise military and civilian crisis management and the effort continues. In Göteborg (June 2001) the Union will seek to harmonise crisis prevention and crisis management beyond what was agreed upon in Nice. The European Council is then expected to adopt a "European Programme for Conflict Prevention" to which the Commission has contributed an Initiative to improve the EU's civilian intervention capacities" (Brussels, April 11.01). The EU has employed financial and policy instruments long before it initiated ESDP. In fact, ESDP is seen as a necessary complement to civilian crisis prevention and management. However, crisis prevention and crisis management follow different objectives, time pressures, risks etc., and before ESDP was introduced crisis management in potentially hot contingencies was left to NATO and WEU.

As Commissioner Chris Patten has stated, "there has been a lot of attention on the progress made in developing the military headline goal and on creating the new military structures. But of course, in an ideal world these new military capabilities will remain unused. Experience, and even common sense, tell us that it is much better to prevent conflict than to manage it and deal with the consequences. It causes less disruption. It provokes less human suffering. And it is cheaper". (Press Conference on April 11.01).

In that vein the Council and the Commission have sought to provide a more coherent overall approach to get maximum leverage through the full range of EU instruments. In fact, an efficient and demonstrable capacity for crisis management including the military dimension can be an important element of crisis prevention. In more extreme cases this works as deterrence. However, the EU still has a long way to go to develop its ESDP up to a point where crisis prevention and crisis management are elements of a comprehensive EU strategy – something NATO has never been able to achieve. It is, however, important to take into account that the range of crises considered by the EU as candidates for crisis prevention is much broader than the range of crises needing crisis management measures. Among those, the range of crises potentially requiring military responses is even smaller (see figure 1). Unfortunately, experience also tells that crisis prevention often fails, and that nations need to prepare for less comfortable situations including Peace Support Operation (PSO) and war.



figure 1

### **Interpretation of Petersberg tasks**

The actual extent of the Petersberg tasks is a major political issue, the resolution of which will have serious consequences for the necessary military and civilian crisis management equipment. The content of each of the three Petersberg tasks, (1) humanitarian and evacuation missions, (2) peace-keeping missions, and (3) combat missions for crisis management (including missions to restore peace), is open to discussion and interpretation. This is particularly so for the combat mission: At the Helsinki Summit this category was so defined as to include the most demanding missions. Since in the absence of a major invasion threat the NATO commitment embodied in Art. V has lost some of its urgency, the most demanding EU missions have gained in prominence in the setting of planning requirements. Moreover, at the high end of the Petersberg Missions, preparing for Art. V contingencies in NATO and for EU combat missions have become more difficult to distinguish.

EU nations involved in the ESDP differ considerably in their interpretation and emphasis of the Petersberg tasks with some focussing them on the lower, others on the higher end of the list of Petersberg tasks. Obviously the contents of these tasks, especially those at the higher end, are susceptible to changing threats as well as future force modernisations. In fact, the "Military Capabilities Commitment Declaration" (November 20, 2000) expressly states that the member states committed themselves beyond 2003 "to medium and long-term efforts..., particularly in the framework of the reforms being implemented in their armed forces." (ibid, B. 5).

In that perspective implementing the Headline Goals is not a one-shot task to be fulfilled by 2003, but "the Union will gradually be able to undertake Petersberg tasks in line with its increasing military capabilities." (ibid, A.4). The pace of force modernisation to which the EU capacity to act militarily needs to adapt will thus largely be determined by national force planning which in turn responds to resources, changing threat environments, increasing demands on interoperability etc. The more the EU's capacity to act militarily will grow, the more the current range of Petersberg missions will be refined and widened. Within the EU ESDP partners may split over whether they should confine themselves to less than full High-Tech forces co-operable with the future US intervention force or aim at both capabilities: for Revolution in Military Affairs (RMA) (see para. B.5) dominated conflict and for peace-support operations. The major force providers within the EU, which also happen to represent around 90% of the industrial base, may tend to choose both ways. Not least importantly, major defence companies on both sides of the Atlantic have engaged in increasing co-operation through joint ventures and strategic alliances. This entails the problem of reconciling the EU decision-making procedures with the capacity of the major troop providers, i.e. of mitigating the tensions between consensus requirements and capacity.

A two-tier ESDP is inherent in the EU setting, illustrated e.g. by the select LOI-group (see para. B.6 and B.7) and OCCAR (Joint Organisation for Arms Co-operation) arrangements. This in turn exacerbates a problem that is already built into the ESDP framework: While force commitments concern all EU members, collective capabilities are a different matter. The EUMS (Military Staff) has established a catalogue listing the capabilities needed to employ the HG forces by 2003 and henceforth. But providing for strategic capabilities, in particular command and control, intelligence and strategic transport, is up to a few individual countries willing and capable to launch "complementary initiatives which they may implement, either on a national basis or in co-operation with partners... carrying out existing or planned projects implementing multinational solutions, including in the field of pooling resources." (ibid, § 4,5). Since the Nice Summit failed to extend the flexibility formula allowing for reinforced co-operation to the ESDP, such activities would not formally be part of the ESDP. But they constitute, of course, the most crucial element of ESDP-related activities on which the overall success of the ESDP will be fully dependent. Over time such insular solutions would almost certainly become part and parcel of the ESDP. At the same time, flexibility as regards national participation in ESDP activities might encourage 'free rider' behaviour at odds with the common and unitary character of security.

### **ESDP: Relation with NATO and the US**

The Petersberg missions could be seen as a subset of the missions NATO is preparing for. In the short run this is in fact so. In that perspective implementation of the Headline Goals and of NATO's Defence Capability Initiative (DCI) are mutually reinforcing. In fact the joint NATO/EU Working Group on Capabilities is supposed to "ensure the coherent development of EU and NATO capabilities where they overlap." (ibid, B.6.). For the members concerned the EU Review mechanism agreed upon in Nice will rely on technical data resulting from existing NATO mechanisms like the DPC (Defence Planning Committee) and PARP (Planning and Review Process). However, both organisations have a dynamics of their own. In the short term at least, partial reliance on NATO support will be a given once the Turkish blockade of an agreement on assured access has been removed. But EU requirements will increasingly grow out of the fact that the EU is developing a reasonably complete and coherent set of means and capabilities for crisis management. On the other hand, force development in NATO will be driven by US force modernisation and the need for ensuring a sufficient degree of co-operability and interoperability. This will increasingly lead to diverging definitions of tasks, missions and requirements.

The dual political objective of providing forces to be employed under autonomous EU decisions on one hand, and strengthening NATO capabilities and enhancing co-operability with US forces at the the other, is likely to remain valid. However, for the EU these forces are an instrument of ESDP and, more generally, the EU's potential for crisis management, whereas for NATO they are seen for Art.V cases or lesser cases. In the longer run, force planning will increasingly be shaped by these different perspectives thus rendering the dual objective more difficult to sustain.

This problem will be much exacerbated by the impending shake-up of US defence planning which the Bush Administration is about to initiate (based on a report from Andrew Marshall, a long-time proponent of radical change in US strategy and defence planning, up to 20 teams have conducted a Defense Review that is expected to result in one of the most thorough reforms of the US military in recent history). US force modernisation will accelerate and leap-frog hitherto relevant developments. It will result in a strategic reorientation based on the assessment that while Europe remains vitally important for the US, it is very stable, whereas most conflicts that potentially violate US interests are to be expected in Asia. At the same time US forces will get a two-tier structure: high-tech intervention forces for major contingencies and modernised, but less capable forces for peace-support operations. A split within the EU resulting from the implications of the Bush reform of US forces would tend to reduce the momentum of the ESDP.

In this perspective NATO's role will change: Art. V cases will not remain the base cases for NATO planning because of lacking threats as well as US high-tech forces for defence that are unlikely to be integrated in the NATO force structure or even deployed in Europe (although rapidly deployable). If this is going to be the dominant course of action it will have profound implications for both NATO and the ESDP: The ESDP would grow in importance and its contribution to NATO would gain much greater weight. Together with the increasing US/EU partnership in crisis management (something NATO was never in a position to enable) these force developments will lead to an agonising reappraisal of the EU force, its relationship with NATO and with the US, and of the US role in Europe and in the NATO structure.

## B.4 Perspectives for the development of the ESDP

With the procedural issues for the time being mostly settled, the ESDP will be driven by:

- national defence policies
- intergovernmental co-operation
- the EU Military Staff
- co-operation with NATO (in particular through the joint NATO/EU Working Group on Capabilities), and
- co-development of EU's civilian and military crisis prevention and management strategy.

The pace and direction will also be shaped by

- US force transformation and
- Trans-national co-operation between EU's nations on specific military and equipment issues.

In the short run the ESDP will develop on the basis of existing forces. The Crisis Response Force will result from national contributions of existing forces. 2003 is thus a sensible target date. On that basis national authorities along with the EU Military Staff identify shortfalls and future capabilities that can result from intergovernmental/military-to-military co-operation (the British term MDC = Multilateral Defence Co-operation means precisely this). In the meantime growing civilian crisis prevention and management capabilities and strategies require that CIMIC be accorded priority in short term force modernisation.

Bottom-up pressures for national force modernisation, economising and interoperability will produce mid-term options, which will be further shaped by the growing interaction between EU's military and civilian crisis prevention and management strategies and capabilities. Development of an increasingly common military strategic framework will be a prerequisite for significant progress of the ESDP. This cannot happen out of step with the evolution of the CFSP even though the former could drive the latter. Development of capabilities needed for the setting-up and employment of the Crisis Response Force can lead to broader types of co-operation between ESDP partners, in particular through pooling resources, division of labour (including role specialisation) and shared resources.

While the future common strategic framework and the range of operational missions envisaged for the EU will determine the distribution of strategic military functions among the EU's nations and the necessary modes of integration of these functions, a variety of options for the integration of intermediate functions is available. These can be divided into back-end, middle and front-end functions (following ongoing work by RAND and others):

- the back-end involves technology, acquisition and procurement;
- the middle pertains to force management, in particular equipment, training, maintenance, readiness, doctrine;
- the front-end embraces the operational functions, i.e. the functions that relate to deployment, use and sustainment of forces.

In mid-term the integration of intermediate functions into EU military capabilities will be based on an amalgamation of national responsibilities redefined through multinational EU commitments. This can occur on five levels:

1. Ad hoc by a select group of nations
2. package approach (e.g. combining acquisition with combined training, logistics etc.)
3. pooling to operate a common capability (like AWACS in NATO)
4. harmonisation of national defence planning (reduction of waste and duplication, harmonising outsourcing etc.)
5. transfer of planning functions to the EU authorities.

The EU Military Staff will play a critical role in drawing up of a common strategic framework and common operational planning procedures if this integration of functions is to result in the effective generation of a common military force. Depending on the integration model, the role of EU authorities will be one from a range of options, from supporting intergovernmental co-operation through facilitating outcomes right to assuming key roles in the process. For the NATO countries, defence planning will continue to be a national responsibility embedded in the NATO framework. The EU will not need to have elaborate procedures like NATO does, but it will rely on NATO data at least for a part of its planning purposes, and it will deliver inputs into the NATO framework so as to assure that NATO planning outcomes are compatible with EU needs.

The EU's long-term options will be determined by the degree to which member states agree on long-term objectives for political integration: Depending on the future prevalence of some "finalité" or a dominant version of intergovernmentalism or a *sui generis* type of mix, the scope of the ESDP will differ widely. However, even way short of a full-integration model the requirements for a strong EU role in crisis management will need increasing integration of national defence functions plus possibly national specialisation. Otherwise the effectiveness and efficiency of the forces, given the available budgets in the nations would be far less than desired (as indicated in many studies that compare the US and European defence budgets and resulting capabilities). Of course, such an approach needs to be backed up by political and legal agreements to guarantee the availability of the required capabilities. This will be easier if it concerns only equipment, more difficult if it includes personnel as will most likely be the case. In our view it will be best to start with "supporting capabilities", e.g. transport (strategic or tactical), maritime mine clearance, engineering etc. For such a long-term approach it seems advisable to aim for a situation in between the two extremes of, on the one hand, all nations trying to have limited assets for most of the required capabilities (close to the current situation for at least the larger nations) and, on the other hand, certain assets being available within only one nation. The choice for specialisation, and thus a form of dependency, will be easier to accept for smaller nations. We recommend use of the analysis of shortcomings, either under NATO Defence Capability Initiative (DCI) or EU Headline Goal capabilities, as a starting point. Groups of nations could then discuss specific specialisations and make agreements for investments and the availability of such capabilities to others.

## **B.5 Operational and technical capabilities necessary for implementation of Petersberg Tasks**

The ESDP will need a strategic concept for co-ordinating efforts to generate strategic capabilities and for using forces autonomously and in coalitions. The EU will increasingly have a full panoply of means for crisis management. However, it will need policies for linking its means in effective ways. In short, it will need to develop and agree on a crisis management model in which civilian and military instruments are given a proper role, especially now that the Commission has issued its Communication on Crisis Prevention. Starting from this crisis management model, more timely and focused preparations for dealing with crises could be made. Both the proposed preparations and the execution of policy measures aimed at specific crises could then be more meaningfully discussed in the EP.

However, in the absence of an integrated strategy, the scope of anticipated crisis management measures implied in the Petersberg Tasks must be taken as a baseline for assessing the necessary operational and technical capabilities. In recent Council meetings, it has repeatedly been stressed that the EU military capability should be sufficient for taking on the Petersberg Tasks including the most demanding. The assumed availability of NATO (US) assets to EU operations remains a problem. As long as this availability is not assured, the EU should, it seems, have its own stock of critical capabilities on which it could draw in the event of a non-NATO action. However, at least in the mid-term it would be difficult to envisage an EU-action without at least tacit approval of the US, although the possibility must be faced.

In the longer term, certain efficiency gains can be achieved but country-specific specialisation only seems possible if and when there is confidence that European interdependency going beyond NATO interdependency is possible. Flexibility should not mean that if a country that has a certain critical asset chooses not to participate in a certain EU military activity, that critical asset would not be available. Constructive abstention would here be the norm, the precise meaning of which would give countries the confidence to go for interdependency (and 'non-complete' or 'non-balanced' national armed forces), see also the previous chapter.

Most of the Council meetings on ESDP have focused on the pieces of equipment that are necessary to fill capability gaps. Part of the problem is that this seems to have taken place without a proper Strategic Concept, making it difficult to recognise military capability requirements let alone shortcomings. Since it seems unlikely that such a Strategic Concept will be drafted in the near future, another base line will have to be used.

### **Planning for Petersberg Tasks**

Using the Petersberg missions as a planning base is far from easy. With regard to concurrent interpretations, changing boundary conditions (some evolutionary, some abrupt), and structural implications for both NATO and the EU, a rather complex conceptual framework needs to be developed for defining the Petersberg missions so as to render them useful for ESDP planning purposes<sup>2</sup>. Since for most nations NATO remains the central forum to which they look for common self-defence, it would make sense to see to it that EU-capabilities are a functional subset of NATO capabilities. The Petersberg Tasks involve humanitarian actions incl. evacuation, peace keeping, and peace enforcing. The EU has chosen three generic contingencies representing the three Petersberg missions:

- humanitarian and evacuation missions in support of civilians at a distance of up to 10.000 km

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<sup>2</sup> It remains a controversial issue whether the capabilities needed for the most demanding contingencies will suffice for all lesser cases or whether the EU will need discrete capabilities for each mission, albeit with considerable overlap.

- peace-keeping missions at a distance of up to 4.000 km
- peace-enforcement missions to separate hostile forces within a range of up to 4.000 km.

The EU Council has developed a capability catalogue listing the capabilities needed for employing the Headline Goal forces by 2003 and beyond. It was initiated during the French presidency and is currently awaiting formal approval. In other words, the Capability Catalogue relates force packages and capabilities to the three generic scenarios in state-of-the-art terms. It also tries to define priorities among the required capabilities, with the command and control item clearly on top. For medium- and long-term efforts a more complex catalogue is needed that sets out cascading relationships between future scenarios, force packages, capabilities and technology fields within a conceptual framework as implied in the previous section.

For the time being, it is the intention that the EU's military capability will be sufficient for the three Petersberg tasks in 2003, when the Helsinki Headline Goal will have been reached and when the capability catalogue will be an inventory of actually available military forces. By then the EU will be able to execute autonomous actions consisting mainly of land operations for one corps with air and sea power backing. It must be kept in mind that the Headline Goal is only valid for operations on a relatively small scale, in a medium-threat environment. It is not the intention that it be used for collective self defence. The demand for sustained actions for one year and the diversity of the military capacities necessary make it mandatory that the mentioned number of 60.000 personnel be increased, possibly up to 200.000. This is primarily an organisational problem, taking into consideration that European EU countries have some 1.9 million personnel under arms, and substantially more when countries like Turkey and Poland are included in the count. The make-up of the necessary military capabilities of these troops is another matter.

Nevertheless, getting the numbers right and getting the balance between the diverse types of capabilities in order remain daunting tasks, not made easier by the partly separated, partly overlapping characters of civilian and military crisis management capabilities. What should be the content of these, how should the use of both instruments be co-ordinated to best effect, what is the right delineation between the working fields of both instruments (and, accordingly, of the institutional arrangements regarding military and civilian crisis management)?

### **Types of conflicts**

As said, defining necessary capabilities for the Petersberg Tasks is difficult. One way to approach this task might be to distinguish between a number of conflict types and to discuss the roles that civilian and military crisis management instruments might have in dealing with them.

The first, most ubiquitous type of conflict would be general unrest caused by economic underdevelopment and/or political/social/cultural/religious oppression. During the Cold War this type of unrest would have been suppressed by authoritarian regimes using their own police, military and/or secret services. In a conflict-ridden world where disparities are enlarged by unequal economic development and shown to all by global communication, countries formerly 'only' poor may easily become unstable. This instability may take on a number of guises: fast-rising criminality rates made worse by governments unable to act, 'no-go' areas in cities where the police dare not patrol, clashes between ethnic and/or religious and/or social groups, leading to a further slowing down of the economy because of investor retreat.

Here, if and when the EU (either Commission or Council) decides that European interests are being threatened, action may be taken. Civilian crisis management instruments would be most prominent: trade and development aid, direct aid to governments in dealing with criminality. In specific cases the first Petersberg task might be invoked: evacuating European

citizens trapped in some violent uprising, humanitarian aid to victims of large-scale civilian unrest, possibly the armed distribution of food.

The second type of conflict would be, an armed conflict between two countries that has just ended. When an armistice has been reached and a peace agreement signed, the EU might on request from the Security Council send troops for peace-keeping between the warring parties. Internal security in the area may be entrusted to the European police force that has its own Headline Goal. At the same time, the existing civilian crisis management instruments of the EU can be brought to bear: the delivery of emergency assistance (food), the delivery of proper governance, the building of civilian institutions and the repair of damaged or destroyed infrastructure.

It is in this type of conflict that great efficiency gains may be scored in the co-ordination between the military and civilian crisis management instruments, and, in the field, in the co-operation between armed forces and the range of aid agencies, both governmental and non-governmental.

The third type of conflict would be an armed conflict raging between two parties. If the Security Council decides that one party in particular is committing breaches of international security and justice, it may call upon the EU to separate the warring parties or to come to the aid of one of them. The EU might then execute the most demanding Petersberg task: peace enforcement. Dependent on the scope and scale of the conflict, this task may be virtually synonymous with all-out war. It is here that the largest political interests are at stake, and that the most significant military risks are run. Since the EU has not given a geographical limit to its security and defence policy, in theory the EU countries may be called upon to execute the third Petersberg task in any place on the globe. In practice however, there are limits: it seems unlikely that the EU countries would go into this kind of operation alone, especially if it were to take place somewhat further away from Europe.

Even here, civilian crisis management instruments would play a major role. The EU may be called upon to control the external effects of the war (disaster control, aid to refugees, guarding borders), to assist in the setting up, guarding and defending of refugee camps. After an intervention of the third Petersberg task kind, it seems likely that the EU will have to adopt a follow-on course of action in which peace-keeping and rehabilitation have a place.

### **Definition of operational capability/technology**

Europe is missing several military capabilities that it would need for a successful implementation of the more demanding Petersberg tasks. Filling this gap will involve technology options. Among the missing parts are the capability to organise the day-to-day running of a major operation in the field, the capability to quickly intervene in a conflict with proper forces at the right time, the capability to weld national capabilities together into a single fighting machine, and several of the generic modern warfare capabilities that have to do with the ability to gather large amounts of information on the environment, quick interpretation of this information, and the ability to act on them in a short time.

It all starts with a political-strategic assessment capability incorporated in a common European situation centre. This centre would need access to strategic intelligence (be it gathered by satellite, by EU-representatives in other programmes organised by a European central intelligence agency, or other means). An operations planning and directing capacity would be necessary. Also some means of setting standards for the various European (national or otherwise) military capacities (force build-up and equipment) would be needed. There are some 'special capabilities' that may be too delicate for any one nation to depend on another: Suppression of Enemy Air Defence (SEAD), Combat Search and Rescue, intelligence gathering and interpretation, tactical intelligence, command and control assets. How are these operational capabilities to be provided for? Again, what would happen is the nation that holds one of these capabilities decides to withhold it from an operation in the course of its 'constructive abstention'?

Capability gaps and efforts to fill them have been mentioned in a number of documents, among which NATO's DCI figures first. Several ad-hoc decisions on collective capabilities have already been made between individual EU members that support the Helsinki decision on collective capabilities. At the Nice European Council meeting and at the preceding Capabilities Commitment Conference, it was agreed that identified shortcomings to the Headline Goal would be remedied with extra measures, on a national basis or with partners. An evaluation mechanism will be used to monitor progress achieved, which may be an extra push towards multinational R&D and materiel procurement.

A clear distinction should be maintained between military capabilities on the one hand, and the equipment and technologies necessary for realising these capabilities on the other. The assessment of which military (operational) capabilities should be reinforced depends, ultimately, on a political decision on what goals Europe should try to achieve, how to do this, and to what extent dependence on US capabilities is acceptable. Once this decision is taken, technological options come into view.

At the Military Capabilities Commitment Conference of 20 Nov. 2000, a number of short-term and longer-term needs were identified. The short-term needs, which are being met in several existing national and other programmes, concern strategic capabilities in the field of:

- command and control,
- (strategic) intelligence,
- intelligence analysis and situation monitoring, and
- strategic air and naval transport capabilities.

For the mid- and long term, it was noted that improvements were needed in the performance of European forces with respect to:

- availability, deployability, sustainability, and interoperability of these forces,
- the (further) development of strategic capabilities in the areas of transport, headquarters, information and communications systems, and means of providing them with information, and
- several operational capabilities in the framework of a crisis-management operation (among which, search and rescue, Theatre Ballistic Missile Defence (TBMD), precision weapons, logistic support, simulation tools).

It is the necessary mid- and long-term improvements in *capabilities* that give scope to the formulation of *technological options*, concerning which (directly or indirectly) the EP and/or EC may have something to say. The setting of priorities requires an assessment of the current situation and of important trends in areas like military-operational shortcomings, the European R&T infrastructure, multilateral and national technology and materiel programmes and developments in civilian and military crisis management. This assessment must be based on a centrally-agreed bottom line, the concept of Petersberg Tasks.

There are a few important issues to note when considering military and technological capabilities:

- Advances in military technologies, notably in computers, telecommunications, sensors, and precision-guided munitions are being driven by the information technology push in the civilian sector.
- The need to emphasise qualitative improvements to compensate for reduced numbers of forces.
- A strategic environment that, in contrast to that of the Cold War, is characterised by unpredictable threats and risks that are likely to allow little time for mobilisation. The resulting need for forces that can respond rapidly over large distances in a wide spectrum of regional conflicts.

- Asymmetric threats and actions by opponents aimed at the perceived weaknesses of Western nations (such as lower tolerance among Western nations for casualties, media sensitivity, dependence on technological infrastructure) in order to undermine the political and public support for the operation.
- Increased need for capabilities for Military Operations Other Than War (MOOTW), non-lethal weapon technologies.
- Changing concepts of military operations like network centric warfare (NCW), sensor-to-shooter, system of systems, information operations, military operations in urban terrain.
- Growing interdependency of nations due to co-operation and concentration in R&D institutes and industry.

A variety of proven taxonomies exist for listing military functions, capabilities and technology areas. For illustrative purposes the taxonomy used in the SCITEC Study (by WEAG, military functions based on NATO MC 299/3) can be employed (see annex A).

Based on the above and other studies, our initial list of needed **technological capabilities**<sup>3</sup> would look like this:

- command & control and communications
- strategic mobility
- intelligence, reconnaissance and surveillance
- survivability, protection
- precision engagement
- suppression of enemy air defence (SEAD), electronic warfare (EW) and combat search and rescue (CSAR)
- non-lethal weapons
- information operations
- technologies for crisis prevention and crisis containment.

Most official documents and studies mention only the first three items but it is worthwhile to take also the other elements into account. Item 4, protection and survivability has been mentioned in several interviews as a crucial factor to get and maintain political and public support for crisis operations. While not of a technological nature, a tenth topic that is worth mentioning in relation to options for further co-operation in Europe is the area of logistics.

## **T1 Command and Control and Communications**

Command, control and communications (C3) has been identified in most publications as one of the most important shortcomings of European forces. It is a function that is important in all type of conflicts and all phases (preparation, planning, execution). It is also the most critical one with respect to interoperability in coalition operations. The function is decisive for the modern western way of military operations and, together with intelligence, is basic to the so-called Revolution in Military Affairs (RMA). Because of the rapid development of the underlying technologies (information technology, communications) there will be continuing need for improved and new applications. Since traditional military procurement schemes are not well-suited for these systems, 'evolutionary' procurement is required. The development of the (civil) information society provides the driving force for these systems, making 'commercial off the shelf' (COTS) sometimes possible. However, one must also take into account specific military requirements. One of these is security of communications.

As said, the use of C3 systems in coalitions might bring difficulties since interoperability in coalitions, depending on the composition of a particular coalition, is not always guaranteed. In general one should continue the ongoing (e.g. in NATO) efforts to enhance interoperability through application of standards and protocols. In some ad hoc coalitions, with non-EU or non-NATO partners, the concept of a lead nation for an operation might be helpful. Such a

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<sup>3</sup> The use of terms such as capabilities, functions, products and technologies for items such as 'communications' etc. might work in a confusing way. Annex A on SCITEC terminology gives some insight into this. While possibly 'strange', to the outsider, this list is well known in the European arena, e.g. in WEAO, WEAG.

nation could place C3-cells with communication equipment and personnel at the disposal of coalition partners.

Effective decision superiority requires that every commander at every level knows what the next higher commander wants him to accomplish – the purpose, the commander's intent, and what is going on in and around an individual unit, regardless of unit size. While there are technical aspects to this objective, the challenges in providing operational decision superiority have more to do with human capability and human understanding. The task is to provide information in such a way that commanders can absorb it, understand it, and use it quickly and effectively to shape their battlespace decisions.

Quality personnel – with training and experience – is an essential basis for decision superiority and the goal is to provide technical tools to enhance the commander's ability to make timely and informed decisions. Enhanced communications, better information presentation, expanded bandwidth, decision support tools, and intelligent agents are all keys to enhancing the commander's ability to gather, assess, analyze, and act on data. These tools also enhance the commander's ability to transform decisions to actions, assess the response of the actions, and iterate through the decision loop. These requirements frame the grand challenge for the decision system: to create data and translate it into information at a rate adequate for a commander to access the information and convert it into decisions.

## **T2 Strategic mobility**

Strategic mobility, both by air and sea, is also identified as one of the shortcomings in many studies. Already some nations have made plans to remedy this, both in terms of military ships and transport aircraft and helicopters. The best example is the multi-national project A400M. Other examples are plans and programmes in FR, SP, IT, UK and NL for military transport ships and ships with amphibious capabilities (the European Amphibious Initiative).

It will however be unavoidable for any medium or large scale operation to add civil means (lease of sea and air transport) to transport the needed troops and their equipment. It would be too costly to be completely self-sufficient with military means alone. A certain amount of military means is needed for quick reaction and for the more dangerous missions.

One must realise that the number of available ships and aircraft may not be the limiting factor for many operations. Other factors are capacity of harbours and airports, or roads for further transport to the operating area. This will particularly be the case in many less-developed countries, in which future Petersberg operations might be rejected. Use of the NATO planning tool ADAMS<sup>4</sup>, or the development of an own version for EU operations, is considered worthwhile.

Nevertheless, reaction time is a critical success factor. The 3 months reaction time that is currently mentioned for the Headline Force seems somewhat long, especially when a reaction to a fast developing crisis situation is on hand. The basic requirement for strategic mobility: that it does not function as the 'bottle neck' for crisis reaction time.

## **T3 Intelligence, reconnaissance and surveillance**

This is well known as a specific shortcoming of European defence forces. It is a key factor both in preparation for an operation as well as in the execution phase of an operation. Moreover it is also a critical factor in the stage of conflict prevention. Especially human intelligence (HUMINT) is important in this early stage but also in actual peace-keeping or enforcing stages because of the often irregular character of the conflicts, in many cases intra-state rather than inter-state. As some nations may be better positioned in certain areas than others, co-operation is of extreme importance. If the European intelligence services work well together, the EU could be very strong in intelligence in general but especially

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<sup>4</sup> ADAMS is a tool developed by NC3A for use by NATO nations to plan the logistics for multi-national operations.

HUMINT. Together the nations have access to many more sources of information than a single nation can have.

As for the technical means of surveillance, it is useful to distinguish between the preparation/planning phase and the actual support of an ongoing operation. For planning and preparation one can, given sufficient time, use commercially-available images to start with (the former WEU agency in Torrejon is an important asset in this). For most areas of interest, images with sufficient accuracy are available at reasonable costs. It would be useful to have our own satellites, but this is very expensive. EU countries certainly lag the US in this respect. The recent franco-italian co-operation agreement on military and civil use of multi-sensor earth observation satellites shows, however, that there are certain capabilities available or being planned<sup>5</sup>. For support of actual operations and to obtain more detailed images with (near) real-time characteristics, UAVs (unmanned aerial vehicles) can also be a good source of information. It has been shown in recent conflicts that some of the UAV systems that are currently in use provided an important contribution in these conflicts, but these systems still have many limitations in terms of range, all-weather performance and reliability. It is expected that future systems will be improved with respect to these limitations and will also provide increased capabilities. This expectation is based on the fact that many programmes on UAVs are going on, world-wide but also within the European Union.

#### **T4 Survivability, protection**

The tolerance for loss of own troops while carrying out Petersberg tasks can be expected to be very low. This is due to the type of operation, i.e. not for the defence of one's own nation and people. Nations, governments and people are in general not willing to make great sacrifices for the types of operations that are primarily intended to improve the situation in other nations. It must also be noted that small incidents might have large political consequences, especially because extensive media coverage can be expected. It is therefore necessary to give our own troops good protection and also to take this aspect into account while planning the operations in order to maintain public support.

Protection requires information concerning the threat, environment and possibilities for action. Protection tasks entail among other things provision of personnel and information security, defence of key points and lines of communication as well as protection against Nuclear, Biological and Chemical (NBC) weapons, theatre-ballistic missiles and cruise missiles.

Individual units at every level will usually be equipped to provide a certain degree of individual protection. In a coalition additional capabilities may come from the forces of other nations. Therefore there may be a dependency of the forces of one nation on those of others for survival. Such dependency requires a high level of interoperability and co-operability and implies a considerable degree of trust. A coalition's task is also to use the different protection measures (InfoOps, deception, mobility, stealth, weapon effectiveness) as efficiently as possible. Force protection should become an integral part of the design and creation of European rapid response forces. An end-to-end focus should expand force protection to include capabilities for deterrence, detection, and prevention in addition to mitigation and response.

It is of great importance to prepare for situations where nuclear or biological or chemical (NBC) threats might materialise (terrorists). NBC protection capabilities include provision of detection, identification and monitoring, as well as warning and reporting. Notable shortfalls exist in capabilities for chemical and biological attack detection, characterisation, warning, and mitigation. Intelligence and open source information will help, by enhancing capabilities to find and deal with enemy stocks and production facilities. Development of affordable nuclear, biological, and chemical sensors and warning systems should be pursued.

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<sup>5</sup> Jane's Defence Weekly, 21 February 2001, page 5

Tactical ballistic missiles (in theatre) are also a concern. Protection capabilities against TBM and cruise missiles attack include early warning. Several studies and project on TBM defence are carried out or are being planned. It is expected that some, still limited, capability in this area will only be available in the mid- to long-term.

The conduct of realistic war-gaming could help to identify critical targets and to analyse the efficient use of different protection measures.

#### **T5 Precision engagement**

It is well-known from recent conflicts (Gulf, Kosovo) that the stocks of precision-guided munitions (PGM) are limited. In general NATO had to rely on US stocks and EU countries are not well equipped. When force must be used in Petersberg types of operations, brute force is insufficient. Precision is needed to obtain the effect needed and to avoid collateral damage. Otherwise the political and public support for the intervention would rapidly disappear. Modern weapons of this type can also be used in a way that brings less risk to own units. Particularly worthwhile for low-level conflicts might be the development of a small PGM, very precise and with a payload of only 100 kgs to minimise collateral damage.

Related to this is the issue of targeting information, i.e. reconnaissance and battle damage assessment. One particular development is guiding missiles optically until impact. This can be achieved by equipping a missile with an infrared seeker that transmits its acquired picture through optical fibre to the missile operator. Targets can be picked more carefully, there is operator control till impact and collateral damage is minimised. Damage assessment is eased by the recorded series of images. Polyphem is an example of this new family of weapons. A range of 50 kms with this type of fiber-controlled flight seems possible.

#### **T6 Suppression of enemy air defence (SEAD), electronic warfare (EW) and combat search and rescue (CSAR)**

Analysis of recent conflicts has shown that there is a shortage (in NATO in general but especially in EU countries) on means for SEAD, EW and CSAR. These items are not needed for low-level operations but they are essential for high level operations (like the Kosovo air campaign) in order to limit losses of own troops. Both the Gulf war and the Kosovo campaign were planned on the basis of achieving air superiority in the first stage of the conflict. Esp. SEAD and EW means are very complicated assets that need long development times.

They are also critical assets without which operations cannot go ahead, in other words: an EU intervention force must under all circumstances be able to count on availability and functional sufficiency as to these means. It would hardly be acceptable that one nation would use its ownership of SEAD, EW and CSAR assets as means for enforcement of its particular political wishes in EU policy.

#### **T7 Non-lethal weapons**

Military forces are generally organised, trained and equipped for high-intensity conflicts. This does not automatically imply that they are properly trained and equipped for conflicts with lower levels of violence, such as many of the Petersberg tasks. Opponents might use various means to undermine public support for an operation: mobilising civil populations, challenge the peace-keeping troops, killing soldiers etc. Traditional military action is not always the right answer (Mogadishu was an operation successful in military terms but politically a disaster). It is not only important to avoid own losses but also to avoid losses to the civil population, unnecessary losses to opponents and collateral damage. Precision weapons are one possibility, non-lethal means are another.

There is now too large a gap between 'shooting' and 'doing nothing'. Some types of non-lethal weapons could indeed be useful to fill this gap. They are not intended to replace traditional weaponry (which is needed to ensure escalation dominance) but their availability provides the commander with additional options for carrying out his tasks. There is especially a need for better methods of crowd and riot control. Troops in Kosovo have recently used tear gas and plastic bullets. Pepper spray is being tested by the police in several nations.

The broad concept of non-lethal weapons encompasses many variants. One can distinguish many ideas in concepts to be used against human beings and concepts to be used against equipment or infrastructure. Another typology is based on the physical effect that is being used: mechanical, chemical, or electromagnetic.

Studies are needed to select those technologies that are best suited for the kind of tasks for which the use of traditional weapons is not appropriate<sup>6</sup>. In this one must take into account political, legal and ethical factors. Psychological factors, media impact, escalating or de-escalating effect, countermeasures, possible use by opponents are all factors to take into account in these studies. Some technologies (i.e. chemical) might be very useful but are often not allowed for military use due to international treaties or environmental issues<sup>7, 8</sup>. The legality of the use of various chemical non-lethal options by the military must be investigated, a common EU position on this is desirable.

The development and procurement of these weapons might not get a high priority in the Ministries of Defence in the EU nations (competing with more traditional weapons and platforms for scarce funds). The EU could play a role to stimulate studies, developments and possibly common procurement.

## **T8 Information operations**

The accelerating advances in information and communication technologies, their availability on civilian markets, their spreading application in societies and in the armed forces and in many cases the expected strategic asymmetry between hostile actors and members of NATO and the EU render Europe increasingly vulnerable to information operations. Information operations have a defensive and an offensive component, the NATO definition<sup>9</sup> is:

*Actions taken to influence decision makers in support of political and military objectives by affecting other's information and/or information systems while exploiting and protecting one's own information and/or information systems. There are two main categories of Info Ops: defensive Info Ops and Offensive Info Ops, depending upon the nature of the actions involved.*

There are many more definitions available but they all recognise the dual aspects of defensive and offensive elements.

So far the United States have paid much more attention to these new kinds of threat, and in addition to large numbers of smaller external attacks the U.S. has undertaken self-attacks, e.g. against the Pacific Command (Project "Eligible Receiver") to understand better the vulnerabilities and the requirements for protection. On the other hand, offensive operations play a rapidly increasing role in the ongoing force modernization, in particular in the United

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<sup>6</sup> Such studies are carried out in several NATO nations, nationally and in co-operation. NATO has defined a policy for the use of non-lethal weapons.

<sup>7</sup> Some types of NLW, according to some observers, may fall under the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (1994). This pertains to the so-called riot control agents. The article I (obligations) of this Convention states under par. 5: Each State Party undertakes not to use riot control agents as a method of warfare. In Article II (Definitions and Criteria) par. 7, Riot Control Agent are defined as: any chemical not listed in the schedule, which can produce rapidly in humans sensory irritation and disabling physical effects which disappear within a short time following termination of exposure. It is not clear whether use by military forces in peace operations is allowed since "warfare" in I.5 is not further defined. Use by police is allowed, but beyond that the Convention allows for different interpretations that have a direct impact on the usability of NLW in crisis operations.

<sup>8</sup> A thesis by Jerry J. Kung (Naval Post Graduate School, Monterey, US, "Non-lethal weapons in noncombattant evacuation operations", December 1999) deals with the suitability of non-lethal weapons for crowd control in noncombat situations (evacuations). The conclusions are influenced in a significant way by a US government interpretation of the Chemical Weapons Convention (CWC): i.e. chemical riot control agents are permissible in operations other than war.

<sup>9</sup> NATO MCM-069-98: NATO Information Operations concept, May 1998.

States: They are among the means to decide conflict without major casualties and in a rapid manner before an opponent can fully respond.

Limited lessons can be drawn from U.S.-Chinese experiences, from Operation "Allied Force" in Kosovo or from the Israeli-Palestinian conflict. In EU countries preparations for defensive operations are making progress, whereas the development of offensive options is still at an early stage. Examples of offensive techniques range from physical destruction, electronic warfare, computer network attacks by virus, insemination of false information and (according to some definitions) even psychological operations.

Like the US, European states and societies will increasingly face a race between protective measures and offensive options to overcome them. Information dominance is essential to the Western way of executing modern operations. Offensive options by adversaries are increasingly likely as co-ordinated attacks. Attacks can be physical such as the destruction of critical facilities or nodes (switching station, cables) or in the form of computer virus or other means to destroy or alter the information. They could be launched against military targets, against non-military targets on which the armed forces are depending and on non-military targets the destruction or paralysis of which would affect the society and state with strategic consequences. NATO pays modest attention to these three types of challenges. So do most European nations. The EU could take on a major task of wide-ranging importance. This would tend to make the EU a major partner of the US in yet another dimension of crisis management.

While the protection of critical infrastructures and processes is a task to be shared in a systematic Public-Private Partnership framework, the armed forces and appropriate authorities should also prepare for our own offensive options to disrupt hostile military as well as information operations of sorts.

## **T9 Technologies for crisis prevention and crisis containment**

Many of the military capabilities and technologies can also be used in the stage where one aims for crisis prevention or crisis containment. The most important are the two topics "command & control and communications" and "intelligence, reconnaissance and surveillance", both described above. In addition there are other technologies, especially those that are developed for applications in social security and law enforcement, which can be used in these stages.

Sensor systems are being developed that can be used to monitor traffic and intrusion in certain areas. One of the critical aspects of peace operations is the lack of sufficient personnel to carry out all tasks in large areas during a long time period. Of special interest for crisis operations are therefore the so-called "unattended" ground sensor systems. These systems can help to obtain a more cost-efficient use of the available troops.

An overview of the type of sensors and their suitability for peace operations is given in an UNIDIR publication [Jurgen Altmann, Horst Fischer and Henny van der Graaf, Sensors for peace, UNIDIR/98/27]. The most promising types of sensors for peace operations that are mentioned in this book, are: seismic sensors (geophones), microphones, piezo-electric pressure sensors, magneto meters, induction loops, TV and infrared cameras, break-beam devices and radar. Aerial delivery of some types of sensors is possible.

The use of these sensors in various tactical circumstances is also described, i.e. in cease-fire lines, buffer zones, demilitarised control zones, enclosed areas and safe havens. The sensors can be used to detect intrusion by vehicles or persons, to detect transports, to detect snipers etc. Depending on the type of conflict, the systems might be used in an overt way showing the participants the possibilities of the intervening force and possibly having a deterrent effect. In other scenarios covert use might be more appropriate. To be an effective addition to a peace operation, there is of course the need for rapid reaction by personnel following an alarm or a detection.

The legal aspects of the use of these systems are also discussed in the above-mentioned publication, concluding that 'this use is neither explicitly permitted nor prohibited in rules and principles governing peace operations', and it is recommended 'to include a reference to the use of ground sensors in the status-of-forces agreement in order to ensure and maintain consent as the legal basis of peace-keeping'.

A particular aspect is the availability of these systems for use in operations. Many are available off the shelf, others need some development to be really effective. Development or procurement of these devices might not have a high priority in the military community in many nations. The Unidir study mentioned procurement by the UN as a way to guarantee availability during operations. The EU might also consider this possibility; it could be a contribution at the level of the EU to add to the various national means (see also the similar suggestion for non-lethal weapons).

Significant technical progress has been made since the publication of the Unidir book (1998). Small cameras with built-in 'intelligence' to detect certain features or to follow specific persons in a crowd are another example of devices that will become available. As said above, these technologies are being developed and further improved for many non-military applications (social security, law enforcement). Identification technologies are just another example where we can expect the use of systems, originally developed for these non-military applications, for conflict management.

#### **T10 Logistics and sustainability**

While not a strictly technological capability, the topic of logistics and military sustainment is worth mentioning in this sequence of areas where the EU might take action to be better prepared for future operations. It is strongly related to strategic mobility (see above), a topic mentioned in many studies on European and NATO capabilities. There are however many more factors to consider, i.e.: tactical mobility, interoperability of systems, standardisation, common maintenance and stockpiling.

Co-operation in procurement and logistical systems, a valuable target in itself, could very well contribute to the success of future operations. Examples can be found in areas as stockpiling and maintenance (ref. AWACS or NATO Agencies, also multi-national activities as the German-Dutch sharing of missile maintenance facilities). The EU might stimulate this type of co-operation in view of the benefits for future Petersberg missions.

#### **Other Technologies**

Besides the topics mentioned above, there are many more technologies that can and probably will have an impact on future military operations. Two examples mentioned in the contract for this study are stealth technology and hypersonic flight. These technologies will certainly be used in future platforms and weapon systems and will have important benefits for the military user. However, our estimate is that the application of these technologies will be limited and take place in the more expensive aircraft, missiles etc. The need for these systems will be more in the "traditional symmetric warfighting scenario's" and less in the execution of Petersberg tasks. For that reason they are not dealt with in detail in this report.

## B.6 Policy Options for the European Commission

While the European Commission has no direct role in the preparation and use of military forces, it can add in important ways to the coherence, continuity and effectiveness of the evolving ESDP. In fact, the evolving ESDP, albeit developed through intergovernmentalism and the Council structure, will broaden the role of the Commission even in the short-term:

- It brings the Commission's instruments for crisis prevention and crisis management more visibly into play.
- The civilian Headline Goals agreed upon at the Feira Summit resulted primarily from initiatives of the DG for External Relations (5.000 policemen)
- It has established a Rapid Reaction Mechanism which is essentially a funding possibility for emergency measures to send trained people at short notice (for up to 6 months, after which other measures will be considered).
- It is setting up a Crisis Situation Center which will focus on regional situation and needs (as distinct from the Council's situation center which has a more global outlook). The Commission is able to send officials also to the Council's situation centre.
- It has taken a seat in the boards of the Satellite Centre and the Institute for Strategic Studies, that the EU has taken over from the WEU
- It increases the need for support from the Commission (in particular the DG for Enterprise), for joint R&D, procurement and for an effective arms industrial policy.

Viewing the ESDP within the wider context of the CFSP, it is obvious that the Commission does not so far play a role in CFSP that is remotely comparable to its role in the first pillar. But ESDP is understood as "an integral part of strengthening the Common Foreign and Security Policy" (Commitment Declaration, p.1).

The various instruments at the disposal of the Commission should thus be seen in conjunction with the EU's new military means.

Taking the five major crisis management tasks,

- crisis prevention
- controlling external effects of a conflict
- peace-keeping
- peace-enforcement
- rehabilitation,

some Commission instruments and ESDP means are alternatives (depending on the stage of the conflict), whereas others are mutually reinforcing. As Commissioner Patten has put it, "the promotion of a role in conflict prevention for the Union...means helping people and their societies to move towards good government and economic prosperity through reform. This is where we can make a difference. This is where we can draw on our instruments, and on our own experience. If we fail in our task at this level, then it may fall on us, as a Union, to take appropriate, but more onerous, action under the military provisions of the ESDP<sup>10</sup>."

The responsibilities of the Commission in the ESDP are fairly clearly delineated: The instrument of Common Strategies is the prerogative of the Council and will remain so. The instrument of reinforced co-operation (i.e. co-operation between some members aimed at supranational results) is not applicable to the ESDP and it will not in the foreseeable future.

On the other hand, the Commission has two essential assets to offer: the know-how of an experienced bureaucracy and a variety of financial resources that can gradually be brought to bear in ESDP-related areas. Part of this bureaucracy consists of the delegations of the Commission abroad, that according to a recent count amount to 127. This formidable body acts as 'eyes and ears' of both the Commission and the Council. As Commissioner Patten has put it, "the Commission has excellent staff, though it suffers from a culture of lousy

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<sup>10</sup> Speech at the Conference on the Development of a Common Security and Defence Policy, Berlin, 16 December 1999, p.16.

procedures. I am committed to improve procedures and our performance." (loc.cit. p.15). On both accounts the Commission will over time increase its leverage.

The most natural roles for the Commission are at this stage:

- in crisis prevention and rehabilitation, i.e. when military means are of secondary or no importance,
- in supporting the co-ordination of EU tools for crisis management,
- in R&D policy (particularly in dual-use technology areas),
- in industrial policy,
- in ensuring support from existing agencies.

In recent years the Commission has, however, also enhanced its role and means in actual crisis management:

- The Commission has established a crisis management department in the DG External Relations.
- The DG External Relations is full member to the PSC and participates regularly in the two weekly sessions.
- The Council has agreed on a Rapid Response Facility within the Crisis Management Department of the DG External Relations.
- Linked to that DG, the Conflict Prevention Network (CPN) could become more efficient.
- The Commission, with the Council, has the diplomatic potential of some 160 accredited countries allowing for coherent external representation.
- The Commission is in a position to recommend strategies for crisis management and for civilian-military co-operation (e.g. the proposal for a civilian Headline Goal came from Commissioner Patten. The civilian pledging conference resulted so far in 1000 of the requested 5000 policemen). Decisions as to sending this force pertain to the High Commissioner, but the Commission has a role, under the first Pillar, in training of police in a crisis area, for instance in Albania.
- An increase in the leverage of the Commission in crisis management will, of course, depend critically on personalities, above all the relationship between the High Representative (HR) and the Commissioner for External Relations. (The suggestion by President Prodi to establish a second HR within the Commission seems impractical).
- The role of the Commissioner is reinforced through the troika between the Foreign Minister representing the Presidency, the HR and the Commissioner as evidenced by the recent visit to Moscow.
- The Commission has a growing role in the areas of demining, non-proliferation of weapons, and disarmament.

The actual execution of EU CSDP actions would, most probably, start with the EU taking over the responsibility for an existing operation like KFOR or SFOR. The Commission's role in this might be to ensure that its external aid programme is in line with EU Force activities. Actual co-operation in the field between civilian and military aid agencies might need to be guided by a common doctrine/strategy for civil and military co-operation (CIMIC), be helped along with common training exercises and be commanded from a single, integrated Central Crisis Management Centre.

Using WEU experience would be helpful here. The WEU will complete its remaining task in summer 2001. The WEU input into the evolving ESDP is considerable (but could be larger as argued by some of the experts interviewed):

- The EU is beginning to consider a strategic concept and will find it useful to draw on the WEU's Common Concept of European Security issued in 1995.
- The Headline Goals have been defined in terms of the WEU's Petersberg missions.
- Force planning for the European Rapid Reaction Force (ERRF) is essentially based on three generic scenarios derived from the 23 scenarios the WEU's Military Planning Cell has developed in recent years.

- The WEU's crisis management functions have been transferred to the evolving crisis management structure of the EU, i.e. the Political and Security Committee (PSO) and the Military Staff.
- On November 10, 2000, the EU Council decided to set up a Satellite Centre within the Foreign and Security Policy structure of the EU. The WEU's "Centre Satellitaire Torrejón" will develop increasing potential within this new structure (see the statement from Fernando Davara, director of the Centre Satellitaire, at the Interim European Security and Defence Assembly in Berlin, May 2 and 3, 2001, on the future concept for the Centre).

As the outgoing Deputy Secretary General of WEU, Roland Wegener, has observed at the same Berlin Assembly meeting, the transfer of these functions to the EU puts the EU in a position to develop a comprehensive approach which until now neither the EU (without military instruments) nor the WEU (without non-military instruments) have been able to undertake.

Last but not least the WEU's "Institute for Security Studies" in Paris has been turned into an agency in support of the CFSP and ESDP.

### **Short-term Options**

Short-term options for the EC fall under the heading of co-ordination of existing tools, sustaining the arms industry, guiding military R&D, and putting agencies to work.

A significant role for the Commission will be in the co-ordination of Commission instruments and programmes and the use of military and police forces in non-combat situations.

- This applies also to combinations of military coercive measures and the range of sanctions and restrictive measures, some of which are within the responsibility of the Commission.
- Programmes like ECHO (for co-ordinating efforts like emergency assistance, disaster relief, emergency management support etc.) are cases in point. So are the emergency and rescue services and mine clearing (including supporting research e.g. in sensor and detection technologies as carried out at the Commission's Joint Research Centre (JRC, Ispra)).
- Given the increasingly blurred distinction between military and civilian technologies, products and services, the role of the Commission could also extend beyond expertise and recommendations on the arms industry. It can, of course increase its role in defence industrial policy to "ensure the industrial base of a credible security and defence policy" (Patten, loc.cit.).
- Commissioner Patten has, in particular, hit a key point that is central to the activities of the Letter-of-Intent (LOI) group, but relevant also for the Union at large: "The Community contribution is crucial to shaping the security and defence policy environment – the Commission's role as policy initiator in research, the internal market and procurement, and thus its role as catalyst of convergence in the defence industry – an essential base of ESDP; armament markets, where improvement of the competitiveness of European defence industries is at stake; trade in defence-related products. The EU member states import from the US seven times more armaments than they export. Each Member State has its own duties on defence imports. Community action seems inevitable and essential if we are serious about our ambitions." (Patten, loc.cit.).

### **Mid-term options**

- Play an honest broker role in trying to mitigate tensions between national approaches and community goals;
- Facilitate the harmonisation of national defence policies;
- Devise ways to extend the common market to the defence industry;
- The Commission could over time be in a position to support the ESDP and its most crucial part – the generation of strategic capabilities – through its influence in agencies such as ESA, through institutes (e.g. JRC) and through programmes (in particular the 6<sup>th</sup> Framework Programme - for dual purpose R&D);

- The DG External Relations already has responsibilities in the fields of civilian crisis management and DG Enterprise (former DG 3) has responsibilities concerning industrial policy. The writing of a generic Civilian Crisis Management Strategy would be an initial step towards giving greater coherence to the general work of integrated crisis management. Civil-Military Co-operation (CIMIC) would also need to be given a closer look;
- The Commission has in the past already involved itself in the viability of the European defence industry. Now that defence matters have come to be an integral part of the European structure, industry should be regarded as a strategic asset to be nurtured. Relevant policy instruments are: market structure reforms, R&D focusing and funding, the definition of a list of critical technologies, the creation of a European Defence Science Board (EDSB) and a European Defence Advanced Project Agency (EDARPA).

### **Long-term options**

As long-term options the Commission can use instruments like the Forward Study Unit to develop:

- A coherent crisis management concept
- A mechanism for integrating isolated ESDP solutions (e.g. pooling, reduction of duplication) into more coherent units so as to form a basis for further ESDP development.

In all areas of concern the Commission's role will remain limited, but potentially important. As the ESDP matures – driven above all by intergovernmentalism – the role of the Commission will grow as well, as an initiator, a source of support and as a mediator between national and Union orientations and objectives – provided it resists the temptation to press for an untimely community approach to the ESDP.

## B.7 Options for the European Parliament

It would be misleading to view the role of the European Parliament in the ESDP only in terms of short-term options i.e. in the context of the current Headline Goal effort, where it is bound to be limited. The ESDP will either move steadily beyond that state of affairs or else wither away. Given the various factors driving it forward (see also previous sections), the ESDP is likely to move to more substantive stages in regard of both force development and crisis management.

Assuming a development of the ESDP that provides the EU with effective military means for crisis management, the Council has the constituent role from the outset. The Commission's role will grow along with such a development and increasingly support it. Its role, while not irrelevant from the outset, should be seen in a mid-term perspective. While a community approach to defence would be counterproductive, the Commission can become an agent of change toward a coherent and effective ESDP mitigating divergent national ambitions. The European Parliament at this stage has almost no direct role in the intergovernmentally-driven Headline Goal-phases of ESDP but its role will certainly grow along with the increasing leverage of the Commission. This is particularly so wherever Commission funds are involved and the EP has voting rights.

In fact, even some national parliaments tend to have rather limited control over defence, and they often narrow it further by attempts to protect special interests. An additional problem became apparent during the recent seminar on the parliamentary dimension of ESDP at The Hague (14 May 2001). Due to the distinction between an intergovernmental and a common approach to ESDP, the legitimacy of the EP in this field (which represents a common European Parliament, after all) was severely questioned by national parliamentary delegates. Moreover, the Assembly of the WEU has declared itself an interim European Security and Defence Assembly (iESDA), which may be partly ascribed to an institutional self-preservation instinct, but which also relates to this distinction of responsibilities. A further problem exists with the recent history of the WEU Assembly, in which a particular 'soft' and 'inclusive' approach to security issues has prevailed, leading to a wide constituency with 4 kinds of membership. The members at the outer rims of WEU have some reason now for complaining, since in the new situation it seems they will be dealt with as outside targets of EU's ESDP activities. Because members of national parliaments make up the ranks of the WEU-A, it seems unlikely that simply disqualifying WEU as an institution that has ceased to exist, will solve the question. A second seminar, following the one in The Hague, is planned in Brussels later this year.

Given that the direct control by the EP is at this stage rather limited, not too many special interest problems are expected. Political campaigning at home and through EP coalitions is thus one of the genuine options for the EP, in particular if it occurs in the name of European solutions and is not diffused by controversies between national factions.

This EP involvement would reinforce the ESDP development directly if European defence visions come to be associated with the EP. It could even more so if the EP became a major player in political campaigns for European integration which, if successful, would favor both ESDP and the role and leverage of the EP. The High Representative Mr. Solana has envisaged the ESDP to be the major European integration project of this decade. So far there are competing national positions on ESDP. But if and when momentum gathers in favour of the ESDP it will become more self-propelling and indeed a central integration project. In that circumstance the EP can be both an agent and a beneficiary of political progress on the ESDP. It also means that EP options for significant increases in leverage and influence need to be seen in a long- term perspective, yet they should not be delayed.

There will be built-in tensions between the Council/HR and the Commission. While it would be imprudent for the EP to side in principle with the Commission, the EP has more to gain

from supporting the Commission (its control function notwithstanding) than from endorsing the Council on institutional grounds.

**Short-term options:**

- The EP can serve as a platform for Europe-wide political discussion on the ESDP
- Like the NATO and WEU Assemblies the EP could seek to build political consensus and raise attention levels through well-publicised reports (from committees or commissioned externally).
- It could do so by focussing debates on particular aspects of the ESDP and ESDP-related issues (e.g. the arms industry), with which the ESDP gets identified.
- It could also identify new problems and challenges which do not so far get adequate political or institutional attention within the EU framework or even in NATO and/or nationally. Information war, organised crime, mass terrorism etc. could thus still become the focus of EP activities in ways that pay off politically.
- EP contributions to the formation of a common strategic framework for the ESDP could gain wide support, if not acceptance.

The co-operation between states and the Council in implementing decisions taken by the Council on the Headline Goal and further Goals might be the object of attention of a combination of the Committee on Foreign Affairs, Human Rights, Common Security and Defence Policy and national parliamentary representatives. This combination might have a consultative role, or function as a platform for introduction and discussion of new ideas on Europe-wide security and defence issues, and on the security side of Europe's role in the world.

As far as the Commission is involved in policymaking regarding the European defence industry, the EP would also have a say. EP might wish to take the viability of industry to heart, and continue to press for applying the 'normal' EU industrial policy instruments. For this, a truly European arms market would have to come into existence. As a matter of fact, the aerospace industry, which has both a civilian and a military side, already receives EU R&D funds.

Further efforts in this direction might include EP consultation on 'strategic European defence R&D goals' for which EU funding would have to be made available, possibly through the 6<sup>th</sup> Framework Programme<sup>11</sup>. The development of technology related to Civilian Crisis Management might already be made eligible for such funding, considering that this already comes under the EC's attention. The progress of the implementation of these R&D goals would have to be monitored. Long term military R&D goals might be deduced from military capability goals beyond the current Headline Goal.

The creation of a central European Armaments Agency (EAA) seems to be incongruous with the pragmatic, incremental bottom-up approach that is presently being favoured with regard to the definition and management of common equipment programmes. Instead of pursuing a single and common solution, institutional flexibility should be the norm. The proper working of existing arrangements, and the repair of institutional defects, are a matter of institutional learning that would not be helped much with grand political declarations. The definition of a common European defence strategy might call for common equipment or, at least, for high levels of assured interoperability between equipment. These seem to be natural candidates for equipment projects to be managed by the "Organisme Conjoint de Coopération en Matière d'Armement" (OCCAR).

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<sup>11</sup> Commissioner Busquin has made a plea for more and better co-ordinated research in the aeronautical business sector. This can take place under the 6th Framework Programme. The same could be done for defence R&D.

The EP might wish to incorporate OCCAR and the "Letter-of-Intent Group" into the EU institutional framework, but it must see to it that existing flexibility is not thrown away: experience with a more common (and therefore less flexible) institution such as WEAG are not exclusively positive (this body is currently deadlocked and unable to make progress).

Were the EU to declare its array of judicial rules regarding intra-community trade applicable to defence matters, it would have to take into account the strategic nature of certain defence industrial products. Defence industry is not like any other industry, a free international market does not exist and the EU should not try to put it in place (European industry might find it hard to compete with US industry, and/or with Third World industry, making survival of crucial industries doubtful and thus making for undue dependence on third parties).

Further possible action items would be :

- creation of an intra-Europe defence market,
- creation of European defence firms that can act as a whole under one company law,
- protection against hostile take-over,
- security arrangements,
- single export arrangements,
- subsidies for restructuring.

#### **Mid-term: active involvement in policies related to enabling factors**

The EP could support institutional projects like a European Defence Science Board (EDSB), a European Defence Advanced Project Agency (EDARPA) or even programmes like a European joint and combined experimentation programme in support of long-term ESDP solutions. Similar arrangements for training and exercises, logistics et al. could also become the focus of EP attention.

The EP might wish to make a contribution towards a 'generic' Crisis Management Strategy. The Civilian Crisis Management Strategy part of this effort would fall under the direction of DG External Relations, and so be subject to EP contributions.

A further offshoot of this Civilian Crisis Management Strategy might be a Strategy on Civilian-Military Co-operation. The Civilian Headline Goal presents a natural point of focus for CIMIC and Civilian Crisis Management Strategies.

#### **Long-term: vision**

The most ambitious challenge for the EP would be to develop a European vision for the Union's role, responsibility, means and partnerships in the longer run. So far not even NATO (the 1999 Summit notwithstanding) has developed a long-term vision. Given that defence planning is predominantly national in spite of existing imperatives for European co-operation, offering a long-term vision could be extremely important to harmonise national defence planning and to integrate defence planning functions increasingly into a functioning EU defence and crisis management posture.

The role of the EP could very well become more important after 2003 when measures concerning defence industry policy and IT-initiatives might take effect. Might ESDP in the longer term grow into a truly common CSDP, the role of the EP would grow accordingly, up to the level that is now reserved for national parliaments with regard to national defence policy. The work of the bodies now falling under the remit of the Council would then be in the field of regard of the EP.

In this spirit the Dutch Defence Minister, De Grave, has stated at the Assembly Berlin conference: "We will have to address the parliamentary dimension of the ESDP. Taking the primary responsibility of national parliaments into account, we cannot do without parliamentary involvement at the European level, both inside and outside the Union. Parliamentary support is crucial to the success of the ESDP. The Netherlands is doing the

best it can to bring this matter forward. In that respect we have taken initiatives, in coordination with the incoming Belgian EU presidency".

## **B.8 Related Policy Issues**

### **Armaments Policy**

The enduring habit of European governments of providing for the necessary military equipment on a national basis is arguably the most important reason why Europe as a whole is getting so little 'value for money' in this area. Some say that Europe, while it spends about 60% of the US defence budget, gets only 10% of the military capabilities. Clearly, this is a touchy area, but one in which great improvements in terms of 'economy of scale' can be made. 'Europe' seems to be the most promising way of achieving these. Many experts believe that the actual efficiency in projects itself is not worse than in the US.

European action would require at least that forces employed are able to work together effectively and efficiently. Some level of interoperability, also with US forces (and possibly others) is mandatory, but there are several ways to achieve this. Equipment specifications could be drawn up nationally, much like they are today, but conforming to some prescribed level of interoperability. Multinational projects might be the way forward, for instance in providing multinational units (ARRC, Eurocorps, GE/NL-corps, etc.) with common equipment. Certain strategic categories of equipment especially relevant to interoperability might be 'farmed out' to a multinational agency, which might eventually take over responsibility in other areas of common equipment acquisition as well.

A positive sign with respect to future co-operation is the recent publication of a UK MoD Policy Paper<sup>12</sup>. This paper deals with both operational and materiel co-operation. It lists the benefits and risks of co-operation. It concludes that multinational defence co-operation is already an important feature of the UK's defence activities. Further co-operation will be pursued. This intention is clearly linked to the European defence initiative and the EU's Headline Goal.

### **Arms Industrial Policy**

The European Commission and the European Parliament have at several instances discussed the position of Europe's struggling defence industry, which is regarded as an asset of strategic importance. They have promoted the application of EC rules to a European defence trade zone. The feeling is that the EU ability to take action according to the Cologne and Helsinki decisions should not be imperilled by an undue dependence on US defence equipment and technology. An indigenous European capability must remain intact if only for this reason, but there is room for discussion on the scope of this capability, and on the proper way to enhance industrial viability.

Areas of interest in industrial policy may include (see also B.7):

- a defence industrial policy including the relation with the US military industry (competition, co-operation, ownership, 2-way-street);
- an R&D-policy linked to the needs identified in a coupling of the Petersberg tasks, the WEU-audit of assets of the WEU Council of Ministers, Luxembourg 23 Nov. 1999, DCI and medium and long-term commitments;
- co-operative equipment acquisition linked to the same needs;
- the buying and managing of a common pool of infrastructure (like NATO's AWACS).

This guidance will above all need to develop through the intergovernmental process, but again the European Commission has a major role to play (e.g. the DGs for Enterprises and, increasingly, for Information Society). The role of the European Parliament could become important if it chooses to become a pace-setter for the ESDP.

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<sup>12</sup> Ministry of Defence Policy Paper No. 2 "Multinational Defence Co-operation", UK MoD, February 2001.

### **Institutional Issues**

The future evolution of the institutional framework will matter for both the contents of the ESDP and the technology to be pursued. This pertains to:

- the defence-related structure of the Council and the staff of the High Representative;
- the working relations with NATO and the US;
- the future role of the Commission (especially in crisis management and industrial policy);
- the European orientation of national defence planning processes within the EU.

EU institutional structures are not *a priori* suitable for reaching the kind of high political commitment necessary for military action, nor for leading the actual day-by-day execution of these actions. The standing permanent bodies (Political and Security Committee (PSC), the Military Committee (MC) and the Military Staff (MS)) have the potential to give proper steering to ESDP, but their fields of regard, relationships to one another and the relevant national and NATO bodies, and to the HR and/or the Troika have not yet been sufficiently made clear. Moreover, these institutions are hardly or not at all answerable to any parliamentary control. Apart from this framework of standing bodies, a broad array of different institutions exists, often with overlapping fields of regard or memberships, time tables, and not always with the necessary mutual relationships.

Some of the relevant issues in this regard are:

- Integrationist vs. inter-governmental co-operation. Will the role of the High Representative be strengthened vis-a-vis regularly changing presidencies to provide continuity? Will EU policy on flexibility (reinforced co-operation) be extended to crisis management and defence?
- Institutions and forms of co-operation in the field of R&D and equipment acquisition. Should countries aim at 'Towers of Excellence' and rely on others to supply the rest of the necessary high-tech? How will ad hoc projects (like the Airbus A-400M) get integrated into the ESDP in the absence of an extended flexibility policy? How can existing frameworks and institutions be invigorated and utilised, if not integrated by the EU, e.g. the LOI-group, WEAG, OCCAR? What would be the place for an EU Defence Science Board (modelled after the successful US DSB)? How can co-operation be developed to make use of the EU S&T infrastructure (e.g. 6<sup>th</sup> Framework Programme)?
- How will the new standing bodies co-operate with each other, NATO, and national governments? What are problems and options in regard of security and confidentiality standards, intelligence sharing and common situation assessment, defence equipment export policy, harmonisation of national defence planning, R&D budgets, investments and modernisation strategies).

### **Applicability of EU crisis prevention to organized crime, terrorism and gray area threats**

There is a growing overlap between crises considered suitable for EU crisis prevention and massive violence from non-state actors, like organized crime, terrorism, information attacks, urban guerillas etc. The causes are often similar or the same "such as poverty, social inequality, ethnic and regional tensions, weakness of socio-political structures, exploitation and illicit trades and the competition for national resources" (Commission Initiative to improve EU's civilian intervention capacities, p.2).

In many instances they may even require similar or the same responses (in particular long-term measures). In some cases neither member states nor the EU at large are sufficiently prepared to cope with threats of either kind. This is true e.g. for information attacks of some scale. National governments are, however, typically organized in such a way that detection, investigation, crisis responses and legal pursuits of these two kinds of challenges are the responsibility of separate ministries and with a fairly low degree of co-ordination. An exception is the White House of the Clinton years where a Chief Co-ordinator was

overseeing terrorism, information attacks and most of the above threats and the respective responses.

The Council is unlikely to differ from national governments, but the Commission could develop ways to improve coordination and synergy, and it could indeed become a pace-setter for European national governments and a role model outside the EU. Given, however, the prerogatives of member-states and in some cases even federal states in policy matters, it will take considerable time before action on the EU level will become fully efficient.

## **PART C: TECHNICAL FILE**

### **Research methods: systematic list of interviews, literature.**

The 'guiding question' of our assessment was whether and how much the suggested policy measures will contribute towards the evolution of the ESDP. This assessment has resulted in a series of policy options for the European Parliament, the European Commission and the nations of the European Union.

The team has used relevant publications including the documentation mentioned in the invitation to bid as a basis to further define options and relevant issues.

Other relevant documents that have been used are referenced for further consultation, see annex C.

A broad range of relevant functionaries has been interviewed or consulted (see Annex B), in order to find the important topics in this very diverse field of policy, the relations between these topics, and the main solution directions that are being considered. Interviewees were selected to achieve an overview of the policy field that takes as many of the relevant points of view into account as possible. These interviews were of the 'half-structured' kind, which means that the areas of interest were delineated without forcing the interviewees into straitjackets.

List of Abbreviations

ACE	Allied Command Europe (NATO)
ADAMS	Allied Deployment and Movement System
ARRC	ACE Rapid Reaction Corps
AWACS	Airborne Warning And Control System
C2I	Command & Control and Intelligence
CSDP	Common Security and Defence Policy
CFSP	Common Foreign and Security Policy
CHOD	Chief of Defence (Staff)
CIMIC	Civil-Military Co-operation
CPN	Conflict Prevention Network
CRO	Crisis Response Operations
CSAR	Combat Search and Rescue
CWC	Chemical Weapons Convention
DAS	Délégation aux Affaires Stratégiques (France)
DCI	Defence Capability Initiative (NATO)
DEW	Directed Energy Weapons
DG	Directorate General
DGA	Délégation Général de l'Armement (France)
DGM	Directoraat Generaal Materieel (Netherlands)
DPC	Defence Planning Committee (NATO)
DSB	Defense Science Board (US)
EAA	European Armaments Agency
EADS	European Aeronautic Defence and Space Company
EC	European Commission
ECHO	European Commission Humanitarian Office
EDSB	European Defence Science Board
EDARPA	European Defence Advanced Project Agency
EP	European Parliament
ERRC	European Rapid Reaction Force
ESA	European Space Agency
ESDP	European Security and Defence Policy
EU	European Union
EUMS	EU Military Staff
EW	Electronic Warfare
FMOD	Federal Ministry of Defence (Germany)
HG	Headline Goal
HQ	Headquarter
HR	High Representative
HUMINT	Human Intelligence
IABG	Industrieanlagen-Betriebsgesellschaft mbH
iESDA	interim European Security and Defence Assembly
JRC	Joint Research Centre (Ispra, Italy)
KFOR	Kosovo Implementation Force
LOI	Letter of Intent (group)
MC	Military Committee
MoD	Ministry of Defence
MOOTW	Military Operations Other Than War
MS	Military Staff
NATO	North Atlantic Treaty Organisation
NBC	Nuclear, Biological and Chemical
NCW	Network Centric Warfare
OCCAR	Organisme Conjoint de Coopération en Matière d'Armement
PARP	Planning and Review Process (NATO)

PfP	Partnership for Peace
PGM	Precision Guided Munitions
PSC	Political and Security Committee
PSO	Peace Support Operation
R&D	Research & Development
R&T	Research & Technology
RMA	Revolution in Military Affairs
SCITEC	Science & Technology Steering Group (WEAG)
SEAD	Suppression of Enemy Air Defence
SFOR	Stabilisation Force Bosnia
STOA	Science and Technology Options Assessment
TBMD	Theatre Ballistic Missile Defence
TEU	Treaty on the European Union
TNO	Netherlands Organisation for Applied Scientific Research
UAV	Unmanned (or Uninhabited) Aerial Vehicle
US	United States
WEAG	Western European Armament Group
WEAO	Western European Armament Organisation
WEU	Western European Union
WEU-A	Western European Union Assembly
WMD	Weapons of Mass Destruction

## Annex A SCITEC: Study for WEAG

SCITEC list of A) Military Functions, B) Defence Products, and C) Technology Areas

### A) Military Functions

- 01 Command and control
- 02 Surveillance
- 03 Reconnaissance
- 04 Intelligence support
- 05 Training and exercise
- 06 Logistics
- 07 NBC defence
- 08 Electronic warfare
- 09 Interdiction
- 10 Land combat operations
- 11 Land combat support
- 12 Air defence operations
- 13 Offensive air operations
- 14 Supporting air operations
- 15 Maritime support operations
- 16 Maritime mine warfare
- 17 Anti-submarine warfare
- 18 Amphibious operations
- 19 Special operations
- 20 Peace support operations

### B) Defence Products

1. Combat and support armoured vehicles
2. Engineers equipment<sup>13</sup> and ground robots
3. Weapons and ammunitions
4. Combat aircraft
5. Transport aircraft & patrol
6. Helicopters
7. Unmanned aerial vehicles
8. Tactical missiles
9. Surface ship
10. Non-nuclear submarine
11. Torpedo systems and submarine unmanned vehicles
12. Mine hunting and sweeping
13. Electronics, communication, data processing
14. Military satellite systems
15. Forces systems

### C) Technology Areas

*A = Generic (or basic multisectorial) technologies*

- A01 Structural materials
- A02 Signature related materials & materials for smart structures
- A03 Electronic materials
- A04 Photonic/optical materials & devices
- A05 Electronic & electric devices
- A06 Energetic materials
- A07 Chemical, biological & medical materials & medical processes

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<sup>13</sup> Building and construction equipment, bridgelaying equipment etc.

- A08 Computing, information processing & communication technologies
- A09 Human sciences
- A10 Manufacturing processes/ design tools/ techniques
- A11 Operating environmental issues

*B = Systems-related technologies*

- B01 Lethality & platform protection
- B02 Propulsion & power plants
- B03 Design aspects (platforms & weapons)
- B04 Electronic warfare and DEW systems
- B05 Signature control & signature reduction
- B06 Sensor systems
- B07 Guidance & control systems (weapons & platforms)
- B08 Simulators, trainers & human-computer interfaces
- B09 Integration & other system issues
- B10 C2I systems
- B11 Communication systems
- B12 Personnel protection measures

## Annex B List of persons consulted or interviewed

- Members of the European Military Staff (Gen. Schuwirth, Col. Squarr)
- Members of the European Planning Staff (Col. Spindler)
- Members of national Armed Forces Staff (Brigadier Lange FMOD/Armed Forces Staff VI, Col. Bertholee NL Staff)
- Members of the National Delegations (e.g. General Ohlshausen (GE), General Hasenpusch (GE), Dr. Zandee (NL))
- Members of the Staff of the High Representative (e.g. Mr. Heusgen, Director of the Political Staff)
- Mr. Lundin (DG External Relations, Directorate A: CFSP, A3: Security Policy)
- Representatives from national parliaments (Mr. Blaauw, NL Parliament, also member WEU Assembly)
- Authorities at national Ministries of Defence (FR: Mr. Guillaume Schlumberger (DAS) and Ge. Bernard Besson (DGA), NL: Dr. Ernst van Hoek and Ir. John Janssen (DGM))
- Members of the EU Institute for Security Studies (the former WEU Institute) (the Director Nicole Gnesotto, Dr. Burkhard Schmitt, Dr. Julian Lindley-French)
- Senior advisors to TNO and IABG (e.g. Dr. Van Eekelen, Prof. De Wijk, Gen. Naumann, former CHOD, former Chairman NATO MC, Gen. Wiesmann)
- WEU Planning Cell (Cdre Schrijver, acting director)
- Members of the SFT 21 Team at the Agency for Studies and Exercises of the Bundeswehr
- Dr. Enders (Board Member EADS)
- Mr. Pfoh (Office of Dr. Enders)
- Dr. Theile (DeTech Rheinmetall)
- Mr. Francois Heisbourg, President du Conseil de Fondation, Centre de politique de sécurité – Geneve
- Lord John Roper
- Dr. David Gompert (RAND Europe)
- Dr. Stephan Spiegelaire (RAND Europe)
- Dr. Kaempf (Head Armaments Department, FMOD)
- Dr. Weise (Deputy Head, Armament Department, FMOD)
- Mr. Robert Bell (Assistant Secretary, General for Defense Support, NATO)
- Mr. Diego Ruiz Palmer (Northrop Grumman, formerly with NATO)
- Various participants of conferences, such as the Munich Conference on International Security ("Wehrkunde")
- And, of course, members of the EP's Committee on Foreign Affairs, Human Rights, Common Security and Defence Policy (Mr. Brok, Gen. Morillon)

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