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Directorate-General for Research

Working Paper

**DEFENCE EQUIPMENT
FOR EUROPEAN CRISIS MANAGEMENT**

Political Series
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Author : Dr. Stephen Pullinger, Project Leader, Executive Director of International Security Information Service (ISIS), Brussels

Responsible Officials: Richard HOLDSWORTH
Division of International and Constitutional Affairs
Tel: +352/4300-24226
Fax: +352/4300-27724
E-mail: rholdsworth@europarl.eu.int

Anthony COMFORT
Division of International and Constitutional Affairs
Tel: +352/4300-22167
Fax: +352/4300-27724
E-mail: acomfort@europarl.eu.int

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Executive Summary

The study overviews the pertinent key issues related to understanding the European Union (EU) Crisis Management debate in the context of the European Security and Defence Policy (ESDP), examines relevant military equipment and capabilities, and provides guidance on where capability shortfalls occur and how deficiencies might be rectified.

The study is set out in two sections. The first provides an overview of the key framing issues, and current related expert thinking, which are necessary for understanding the more specific issue of equipment and capabilities. The second section then provides a focus for discussing particular capabilities with reference to the operational framework (which also includes a survey of individual assets matched against those desired capabilities). The study concludes with an examination of specific equipment/capability shortfalls and provides some guidance on possible options for making up those shortfalls. Each of the sections inform the concrete policy recommendations found at the end of this summary and in the study.

Section 1

Section 1 sets out three key framework issues related to military equipment/capability for EU Crisis Management operations that warrant closer study:

1. Europe's Strategic Role

Europe's future strategic role provides a starting point for understanding the future of ESDP. The emergence of the EU as an external actor raises the question as to what kind of military capability it requires under the Common Foreign and Security Policy (CFSP) / ESDP.

The development of a military role in the EU's range of external instruments is contentious, both in the need for such a role and in questioning its impact upon its previous uniquely civilian character. Nevertheless, the EU member states have collectively decided that a limited military capability is required for intervention in crisis management operations on the periphery of Europe and perhaps further a field. The current debate was sparked off by the British and French bilateral initiative in 1998 at St. Malo and developed, in the European Union, under the current Helsinki Headline Goal process and the Petersberg Tasks for a European Rapid Reaction Force (RRF).

There are significant uncertainties, of course, when we enter the realm of prediction concerning the future evolution of the EU and its ESDP requirements. Nevertheless, the study maps out two possible paths. One is based upon projecting current trends under ESDP. The other looks over the horizon and asks what EU requirements might be if we witness changes in risk perception, and/or also witness changes in US national security strategy, both of which will affect European thinking about European capabilities.

2. Defence Spending and Financing Capabilities

2.1. US and European military strength

The prevailing consensus in the debate on European military capacities is that present capabilities are below the mark. Such sentiment is not only expressed by the military themselves but also by the majority of European politicians – whether in government or in opposition – as well as by the present US government.

2.2. A US model cost calculation of the Rapid Reaction Force (RRF)

The EU has made no public cost estimates for equipping the RRF, so the following figures are taken from a RAND study¹ and do not cover organisation and maintenance costs (O&M). The RAND study uses four different models.

2.3. European financial realities

Defence expenditure quickly came into focus during the debates following the Helsinki European Council and the launch of the HHG. Indeed, defence budgets are a key framework issue in understanding the present HHG process under ESDP, which emphasises a need to increase European military capabilities.

The key concerns here can be usefully grouped into:

- European spending trends
- Functional spending within budgets, and
- Comparisons with the US (traditionally discussed as 'military burden sharing' within NATO but recently re-articulated as 'security burden sharing').

2.4. Trends in national defence budgets for EU member states

Understanding the full budgetary impact of the HHG is a complex issue because the main cost implications rest with the 'voluntary' intentions of member states (MS) to achieve that to which they have committed themselves. Analysing MS' defence budgets in any detail is also a difficult task, not least because of differences in national accounting and reporting procedures. It is possible, however, to make some observations about trends in the level of defence budgets and on the main functional budgetary headings relevant to equipment-based capability.

2.5. Within budget spending

Some analysts suggest that by restructuring the armed forces, especially those countries with large standing or conscript armies, more money can be invested into the R&D and procurement areas of the defence budget and thus produce more equipment based capability. This is a simple argument with some merit, but in the short term there are not insignificant costs associated with retiring serving (senior) members of the armed forces, training for specialised professional forces, and indeed in closing barracks and other facilities made redundant by smaller forces.

¹ Charles Wolf Jr. and Benjamin Zycher, *European Military Prospects, Economic Constraints and the Rapid Reaction Force*, RAND Corporation, 2001.

2.6. Comparison with the US

Traditional ‘burden sharing’ debates within NATO have focussed upon the fact that the US was contributing overwhelmingly more in defence terms to the security of western Europe during the Cold War. Today such ‘burden sharing’ debates take place within the context of an evolving CFSP and a broader understanding of security to include EU enlargement, climate change, and Third World aid. In this broader debate the EU MS’ contributions are seen in a more favourable light in comparison to the US, but still fall short of their own development aims.

3. Procurement and Industry

If defence spending is not to increase, one obvious way of bridging capability gaps is through increased armaments co-operation. Joint procurement of the necessary equipment would offer savings through economies of scale and avoidance of duplication. In practice, this might not be so easy to achieve, however.

3.1. OCCAR

In 1998 France, Germany, Italy and UK signed a convention establishing the *Organisme Conjoint de Coopération en Matière d’Armement* (OCCAR)¹, with the aim to employ best practice in defence procurement, and to use competition as an integral part of achieving the delivery of cost-effective defence equipment. OCCAR intends to do this through continuous business improvement and the achievement of best value-for-money, the latter by abandoning prescriptive national workshare entitlements.

3.2. The Framework Agreement

The Framework Agreement came to fruition through what was known as the Letter of Intent (LoI) process, signed up to in July 1998 by the Defence Ministers of France, Germany, Spain, Italy, Sweden and the UK. This process aimed to start discussion on defining a framework of co-operation to facilitate the restructuring and operation of the West European defence industry. Two years later in 2000, these Ministers signed the Framework Agreement which established measures for improving co-operation on harmonisation of military requirements, security of supply, export procedures, research and technology, handling of classified information and the treatment of technical information². Discussions are ongoing on the implementation of these measures.

3.3. From Laeken and ECAP to the Greek Presidency

Greece is responsible for ESDP issues during the Danish Presidency and has made the improvement of military capabilities a priority in order to achieve the HHG targets. It is overseeing the work emanating from the Laeken European Council where the European Capability Action Plan (ECAP) was approved, the purpose of which was to develop options to plug remaining capability gaps.

¹ OCCAR’s website is <http://www.occar-ea.org>

² The Framework Agreement can be found at <http://projects.sipri.se/expcon/loi/indrest02.htm>

4. Applicant States

Most of the above analysis is also pertinent to the 10 new applicant states. A general lack of co-ordination on defence issues (armed forces, decision-making, and defence industrial restructuring) is evident between the EU and the 10 states. More serious efforts to include these states in the considerations about the future of the ESDP should be a priority.

Conclusion to Section 1

This section introduced and assessed the main policy debates surrounding the issue of military capability for EU Crisis Management. It is imperative to be aware of these framing issues if one is to make any proper assessment on the need for specific assets or capabilities for Europe's crisis management needs. Section 2 examines in more detail the operational and individual specificities regarding capabilities and takes the analysis a stage closer to understanding what shortfalls exist and how they might be met.

At present, the military dimension of ESDP under the HHG demands a short-term response to crisis management. But a longer term perspective is being adopted to discuss the capability needs of the EU, the reform of the European Armaments Market and member states' defence capability priorities in a period of economic constraint (despite recent French and British increases).

The present approach developing under ESDP does not favour budgetary/spending convergence or the adoption of standards in spending per function. Nor does it address different accounting and reporting procedures. Instead, it focuses on voluntary participation in equipment-based capability programmes. This is most obvious under the present ECAP process, which constitutes a combination of these two approaches with 'pragmatic' options being designed for member states to 'volunteer' their commitment to either joint procurement, individual procurement, and other options including pooling, leasing and co-ordination of existing capabilities.

It is yet to be seen, however, whether the member states will favour co-ordination, joint and pooled responses or individual options. We wait to see which options are chosen and whether they represent the most cost-effective and/or innovative solutions.

Section 1 discussed in some detail the structural issues and challenges that provide the backdrop to this longer-term perspective on EU military crisis management needs. Nevertheless, the short-term military requirements implied by the Petersberg Tasks are a priority area that even a reformed European Armaments Market and higher defence spending cannot necessarily address. These needs will be the subject of Section 2 where the capabilities will be discussed in some detail and we will begin to outline a strategy for enhancing European military capability in the short-to-mid term.

Section 2

Introduction

The first part of the study examined the major framing issues that must be understood when addressing the issue of capability shortfalls for EU crisis management and before beginning to discuss possible policy options. The strategic questions about the future of the EU as an external actor and in the wider burden sharing debates are relevant to the development of CFSP and ESDP. This, in turn, provides the direct policy framework for understanding the future operational and capability requirements of the EU.

The methodology employed when analysing capabilities develops from these broader questions and seeks to address the operational requirements that are associated with the Petersberg Tasks. Three levels of operational demand are highlighted to illustrate the type of 'effect' the EU might require from a military capability. This 'effects'-based approach enables us to begin to analyse EU requirements for a particular asset or capability - as defined by the study's terms of reference - in the mid- and long-term.

The study offers an overview of the level of operational demand, with reference to the timeframe, that the EU might be expected to face under the Petersberg Tasks in the immediate, mid- and long-term. The study then provides an initial survey describing what the capabilities are according to the five categories presented in Annex III to our proposal. These five categories are similar to those used by NATO under its Defence Capabilities Initiative (DCI). It contributes to developing a policy framework for recommendations.

1. The EU's Military Role

Responding to violent conflict is not just a military issue. It also requires the full array of political and economic tools at member states' disposal. The ability to provide an integrated approach to preventing and managing violent conflict is perhaps the single greatest challenge facing the EU. Nevertheless, military instruments are relevant and careful consideration of the role they should perform is important.

2. European Shortfalls and Planning Requirements

Defence policy planning is normally based upon a time period of 25 years, influenced by the fact that the longest procurement programmes can take up to that long. Strategic policy analysis of long-term threats has also worked within this timeframe but has usually had less influence upon the policy formulation process than procurement decisions. This is because it is so difficult to predict that far ahead and the fact that short-term strategic analysis, especially during crisis periods, naturally attains stronger weight in decision-making considerations.

3. Operational levels

The following categorisation of operational levels provides something that analysts and indeed the EU member states might draw upon to aid the process of cataloguing the forces ready and required for possible Petersberg Task missions.

3.1. Low-level Military Tasks;

3.2. Medium-level Military Tasks

3.3. High-level Military Tasks

4. Capabilities

Whilst the study focuses on equipment capabilities, capability also relies on the quality and number of personnel and training, and this might be an area worthy of further assessment. Training is a crucial area for consideration because present crisis management demands increasingly professional armed forces with niche skills and training, which invariably cannot be generated overnight.

The following capabilities are divided into areas. These correspond to those used by NATO in analysing its existing capabilities and shortfalls for NATO planning purposes and as expressed under its Defence Capability Initiative (DCI). Grouping the shortfalls according to the five capability areas is also useful for analytical purposes because it highlights 'clusters' of weaknesses that the EU may have in adapting to its requirement for Crisis Management operations.

In the final section of the study 'Enhancing European Military Capability' the analysis is taken a step further to provide a concrete strategy for meeting the capability shortfalls.

4.1. Deployability & Mobility (D&M)

Whilst the study's terms of reference refer to 'Strategic Sea and Airlift' and to the A400M in particular, this category more traditionally includes all three modes of transport for deployment (land, air and sea) and the readiness of the armed forces for deployment (which influences training, personnel, equipment and logistics). Strategic Lift, for force projection, is defined as the capability to move armed forces, their equipment and supplies into a theatre of operations. It comprises airlift and sealift, as well as the pre-positioning of equipment and supplies.

4.1.1. A400M

4.2. Sustainability & Logistics (S&L)

Essential to strategic lift is sustainability (unless you just want to go short distances for very short periods of time). This is where strategic lift can be sub-divided to include elements of logistics.

4.2.1. Air-to-air refuelling

4.2.2. Medical

4.3. Effective Engagement (EE)

This group of capabilities (defined for this study as: Precision-guided weapons; Precision strike; Electronic jamming; Anti-air defence penetration; Damage assessment) provides the air force with the ability to achieve 'air superiority'. In contemporary air power doctrine 'air superiority' is regarded as an essential prerequisite for any ground intervention.

4.3.1. Basic conditions for effective engagement

4.3.2. Anti-Air, SEAD and DEAD operations

4.3.3. Precision strikes

4.3.4. Battle Damage Assessment

4.3.5. Special Forces

4.4. Survivability of Force & Infrastructure (SFI)

The full spectrum of 'Forces' protection and Troop protection systems' cover ambitions for theatre missile defence (TMD) to specialised units trained for operating in Nuclear, Biological and Chemical contaminated environments to tactical troop carriers.

4.4.1. BMD/TMD and Troop Protection Systems

4.4.2. Forces protection

4.4.3. Combat Search and Rescue

4.5. Command, Control and Infrastructure (CCI)

CCI is regarded as the most important and perhaps challenging aspect of operating a multinational force - from intervention (with Force Headquarters) to deployment (with Field Headquarters). As well as the infrastructure, it is essential to have secure communications and some surveillance and intelligence assets.

4.5.1. Intelligence Assets: Satellites, Aeroplanes, UAVs

5. Enhancing European Military Capability

Having analysed particular capabilities the study then turns to developing a strategy for enhancing European military capabilities. The strategy is intended to provide a step-by-step approach to understanding how the EU can take a leading role in improving its capabilities. This section, along with the Framing issues of Section 1, directly informs the formulation of recommendations in the study.

5.1. The case for shared capabilities

All proposals for more capable European forces will require serious investment. While European nations are to a greater or lesser extent restructuring their forces, there is little sign that new money will be made available for new capabilities. Defence budgets at best are held level in real terms, and this is insufficient to fund either major new capabilities, or maintain force levels over a period of time. Yet plans for enabling capabilities, identified by the Helsinki Headline Goal (HHG) process, will need early funding if they are to be achieved.

5.2. Classes of pooled forces

Putting political and financial budgeting difficulties to one side, it is relatively simple to identify a range of opportunities for European pooling of capabilities. They divide into two broad categories. First, there are those common equipment capabilities that already exist, but that are operated on a national basis. Second, there are new capabilities, which would need to be procured and operated on a co-operative basis. This latter category of 'new' capabilities could provide the most cost effective path if MS commit to themselves to an early decision and create the necessary supporting infrastructure.

5.3. Early Opportunities for Pooling

For a number of reasons aircraft capabilities offer the possibility of much more quickly achieved improvements. For a start, air procedures are already well harmonised between nations. English has become the universal language of the air, and this considerably eases the problem of mounting international combined air operations. Most importantly, given the high unit cost of air force platforms, it is not surprising that many nations operate common equipment. This also eases the problems of rationalisation. Finally, the high costs of infrastructure to support air operations mean that modest rationalisation can pay high dividends in achieving greater military capability at lower cost.

5.4. Early opportunities for new enabling capabilities

Moves towards the pooling of some existing European military capabilities would free up funds to start providing some key new enabling force elements. Perhaps the most attractive option would be to provide a Joint Surveillance Target Attack Radar System (JSTARS), which would be an EU joint owned joint operated force on a similar basis to the NATO AWACS.

5.5. Moving towards deeper integration

While the support and combat support areas offer opportunities for pooling and rationalisation of forces without too many issues of national sovereignty, combat power capabilities may well prove trickier. Major European defence players will not consider giving up their combat capabilities to a supranational authority unless and until some confidence has been gained through the less contentious pooling of support functions suggested above.

5.6. The need for new defence funding arrangements

These examples suggest some practical areas where the development of EU Force Elements and common support and logistic services could provide building blocks for the strengthening of European defence contributions. They would make more effective use of European national defence budgets through the removal of the cost overhang of separate support systems. Valuable as such individual initiatives would be, they would not by themselves represent a coherent new security contribution by Europe. They would, however, illustrate how significant improvements in effectiveness could be achieved through merging particular national capabilities and sharing common services.

Conclusion - Section 2

The pooling of military capabilities could provide European nations with funds to buy into essential modern enabling capabilities. More of those capabilities could be afforded if they too were operated on a joint owned joint operated basis. The experience of NATO AWACS has shown the practicality of this arrangement. This approach is more efficient for pooling new assets/capabilities. Pooling existing assets will incur short-term costs associated with rationalisation and base closure and operational obstacles to streamlining maintenance and support procedures. Pooling should be an important part of a strategy for enhancing European military capabilities.

The EU should encourage the development of a number of pooled forces. The financial savings to national budgets, over the long term, could be shown with a tactical air transport force based on the C130. Savings in procurement and operating costs could be shown with an EU air-to-air refuelling force. Making transformational new capabilities affordable could be demonstrated by an EU JSTARS force with associated systems.

If such projects proved successful, the EU could encourage deeper integration of a number of combat capabilities. Currently, the political difficulties are likely to be insuperable, but as national defence capabilities continue to decline, the attraction of shared costs will become ever more the determinant of policy. In the absence of will in the combat area joint efficient procurement will be essential which must be based on the following recommendations for defence and industrial aspects of European defence.

Recommendations

1. Europe's Strategic Role

- In order to reassure those within the EU, and outside, on the direction and purpose of its developing military capability under ESDP, the EU should produce a Strategic Plan or Concept. Initially this could be achieved via an EU Strategic Defence Review and thereafter through annual published statements on defence aspects of ESDP from the Council. This process would be led by Defence Ministers, National Policy Directors and Armaments Directors and would be co-ordinated through the GAC and by the SG/HR.
- Two years after the EU Strategic Defence Review, member states should have re-aligned their policy review (Annual White Paper), budgetary and procurement reporting cycles with those of the new EU Annual Reports and member states should have included references to how they are providing for the achievement of their collective ESDP aspirations (including projects signed up to under ECAP);
- Minister of Defence Representation in the GAC should be the focus of all member states' discussions for military aspects of ESDP (including provision for EU applicant candidates/non-EU NATO members/ and NATO). Reviews would be initiated (co-ordinated by the Military Committee and Military Staff and supported by the MS' Headline Gaol Task Force (HTF)) to identify the best practices in budgetary planning and financial management for the purpose of adopting common approaches.
- Likewise, a review of member states' evolving operational activities should be analysed by the Military Committee with the Military Staff in order to identify any developments that

might be relevant to the future evolution of the Petersberg Tasks, especially at the higher end of military demand.

2. Defence Spending and Financing Capabilities

- The EU process of generating more military capabilities must be transparent to enable proper scrutiny of the sensitive issue of how best to provide efficient and effective solutions to Europe's military needs. In this respect ECAP reports must be made public along with notice of those options to which member states sign up.
 - ◊ Enhancing European military capabilities involves spending more efficiently and investing in future capabilities.
 - ◊ The approach to ESDP shortfalls should be based upon a) when the assets are needed (timeframe), and b) innovation and efficiency in the capability generation and/or procurement process.
 - ◊ Furthermore, structural issues such as inefficient procurement and industrial policies should also be addressed, both at the national and EU level.
 - ◊ Adopting the right approach to meeting the shortfalls will be essential for meeting short-term and long-term needs. This will require a flexible strategy for enhancing EU military capabilities rather than a rigid 'one size fits all' approach, requiring a combination of pooling, leasing and procurement. Pooling newly procured or leased equipment might be more cost effective than for existing equipment in member states' inventories due to the need to close down supporting infrastructure and assets for existing equipment and their systems.

3. Procurement and Industrial Policy Procurement and Industrial Policy:

- Where feasible, scrap any existing procurement programmes that do not contribute to the new EU strategic environment and its likely operations.
- Use the experience and knowledge gained through negotiating and working with OCCAR and the Framework Agreement to develop common thinking on questions of armaments policy.
- Agree a timetable for the abolition of Article 296. The impact of Single Market legislation on regions dependent on defence industries should be monitored in close co-ordination with DG-Regio and DG-Emploi.
- Ensure that national defence industry subsidy is not replaced by subsidy at the European level – getting more 'bang for your buck' requires an efficient and competitive defence industrial sector.
- The EU must recognise that its legitimacy as a global security player requires it to maintain scrupulous standards where the use of military force and arms exports are concerned. It should also maintain and further its commitment to the disarmament agenda, including by mapping out its ideas for restraining WMD.

4. Military capabilities

- In accordance with the process of carrying out an EU Strategic Defence Review and thereafter an annual statement on defence, and as a complement to the present capability cataloguing exercise in the EU, the Military Committee and the Military Staff should catalogue all operations conducted by member states (including those outside the range of Petersberg Tasks) and catalogue all stated Missions and Military Tasks presently envisaged

by member states. This will provide a useful contribution to discussions about what exactly is included in the Petersberg Tasks and what types of missions and tasks the member states are prepared to conduct.

- Most analyses conclude that if EU member states want to contribute to multinational intervention operations (on behalf of NATO or the EU) across a range of operational demands then key enabling capabilities will need to be improved. EU member states have a priority to address shortfalls around the key enabling areas of:
 - Deployability and Mobility;
 - Sustainability and Logistics;
 - Command Control and Infrastructure;
 - Effective Engagement; and
 - Survivability of Forces and Infrastructure.

The EU should also adopt a flexible approach to meeting equipment shortfalls – as set out in this report- and provided for under our ‘Strategy for Enhancing European Military Capabilities’.

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Introduction

This study has been produced in fulfilment of the requirements of the contract between the European Parliament - represented by Mr. Enrico Cioffi, Director-General for Research - and the International Security Information Service (ISIS) Europe. It is submitted in accordance with the requirement under paragraph 5 of the 'invitation to tender'.

This study overviews the pertinent key issues related to understanding the European Union (EU) Crisis Management debate in the context of ESDP, examines relevant military equipment and capabilities, and provides guidance on where capability shortfalls occur and how deficiencies might be rectified.

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Section 1

This section sets out three key framework issues related to military equipment/capability for EU Crisis Management operations that warrant closer study:

1. Europe's Strategic Role
2. Defence Spending and Financing Capabilities
3. Procurement and Industrial Policy

1. Europe's Strategic Role

Europe's future strategic role provides a starting point for understanding the future of ESDP. The emergence of the EU as an external actor raises the question as to what kind of military capability it requires under the Common Foreign and Security Policy (CFSP)/European Security and Defence Policy (ESDP).

The development of a military role in the EU's range of external instruments is contentious, both in the need for such a role and in questioning its impact upon its previous uniquely civilian character. Nevertheless, the EU member states have collectively decided that a limited military capability is required for intervention in crisis management operations on the periphery of Europe and perhaps further a field.

The current debate was sparked off by the British and French bilateral initiative in 1998 at St. Malo and developed, in the European Union, under the current Helsinki Headline Goal process and the Petersberg Tasks for a European Rapid Reaction Force (RRF).

There are significant uncertainties, of course, when we enter the realm of prediction concerning the future evolution of the EU and its ESDP requirements. Nevertheless, two possible paths can be outlined. One is based upon projecting current trends under ESDP. The other looks over the horizon and asks what EU requirements might be if we witness changes in risk perception, and/or also witness changes in US national security strategy, both of which will affect European thinking about European capabilities. This exercise conjures two possible future paths of development.

Future I

In the first, the ESDP will continue its present trajectory - for another decade or two - concentrating on creating the capabilities to fulfil the Petersberg Tasks. This will be predominantly different form of crisis management, mainly of a low- to mid-level demand. This path does not envisage Article V tasks (common defence commitment such as in NATO) or unconventional military operations, such as counter-terrorism and counter-proliferation, playing a major role.

In this 'status quo' future, the EU would:

- meet the Helsinki goals and create the capabilities necessary for the 2003 operational target, albeit with some delay;
- collect some successful experiences in handling limited contingencies jointly and with increasing autonomy as its capabilities develop; and
- after having collected such experiences facilitate and intensify discussions on developing further a Common Defence Policy, but continuing to exclude the Article V (as found in NATO) issue.

Most subscribers to this future on CFSP/ESDP development assume that decision-making will remain a national prerogative and defence co-operation will be intergovernmental based on national decisions. They also assume that EU capabilities will consist mainly of those provided by member states, with limited areas in which multinational or common capabilities might be developed. The assumption is that European capabilities will be particularly required in UN-mandated interventions. European contributions to US-led multinational operations will also tend to be co-ordinated through NATO or on a bilateral basis with the US.

Future II

The second future assumes a new ‘bottom up’ agreement (building on i.e. the present Helsinki Headline Goal process) designed to improve capabilities within the context of a clearer and more integrated EU security policy. Such agreement would take into account:

- Whether the EU now needs to consider addressing specific combat-intensive challenges such as counter-terrorism and pre-emptive intervention strategies. This debate will accelerate as and when EU members decide to participate in US-led high intensity operations, either within or outside the NATO context. The internal debate within NATO is also likely to oblige EU member states to deal with such issues.
- The relationship between external and internal security and how it will need to be reshaped as a consequence of asymmetric risks and threats such as state failure, terrorism, weapons of mass destruction (WMD) held by ‘rogue states’, cyber-warfare and other non-state-actor activities.
- Definitions of security provision that will embrace “wider security” - necessitating multi-departmental responsibility, whereby all of the competencies and capabilities of foreign and security policy are integrated.
- The fact that the US might seek greater autarky on defending its “wider security”, which transforms the debate about transatlantic burden-sharing into a debate about “wider burden-sharing”.

In this future, the EU would face the debate about integrating its defences much more quickly than most people currently assume, and in a different manner to that predicted so far. Rather than a debate about whether the Petersberg tasks should be widened towards collective defence, this model would restrict itself to the 'high end' of Petersberg tasks plus some countering of asymmetric threats.

This will also have consequences for European thinking on how much autonomy from NATO the EU needs in order to implement its own wider security concept.

1.1. The EU’s Choice

Looking five years into the future, Future I is most credible, with EU missions remaining much the same as they are today (i.e. modestly defined Petersberg Tasks that emphasise low-to mid-level implementation such as the operations in Macedonia and Bosnia – see section 2 for more on levels of Petersberg Tasks). This will represent a resolution of immediate competing visions on ESDP, but practical operational experience will give greater voice to those interested in extending the geographical area of interest and level of operational demand for the Petersberg Tasks. The pace of development of ESDP would then be dependent on whether the EU proved successful in these initial tasks.

If successful, this could lead to EU low- to mid-level Petersberg Tasks becoming more ambitious geographically. Nevertheless, the emphasis on lower-end Petersberg Tasks is likely to prevail, despite the ambitions of some. This is due to the lack of unanimous support for EU-led operations to be extended to US-led higher intensity operations, which remain politically contentious mainly because of their circumstances and rationale. However, it is also possible that changing risk and threat perceptions - in particular on international terrorism - will have significantly altered EU security planning.

Looking ten to fifteen years into the future, the likelihood that EU security thinking will have changed significantly (towards Future II) is much increased. By then European nations could well be planning a common European defence, requiring capabilities very different from those envisaged today. In 25 years from now there may even be a truly European common defence. If so, what might be the prevailing risks and threats facing us?

These questions highlight the need for a long-term perspective, as does the time-cycle for defence procurement. Historical evidence indicates that major weapons systems are invariably only deployed some 15-25 years after they are conceived on the drawing board.

A longer-term analytical perspective, therefore, is critical. We need to ask the right questions about Europe's future capability needs in order to influence the current procurement process.

If the EU is serious about fulfilling its treaty ambitions to create a common defence and security policy it will need to assume some global responsibility for the future world order, and do so in co-operation and/or in conjunction with the US and other major powers. In other respects - trade, aid, development - the EU is already a global player, but in classic foreign and defence terms it is not. Recognition of this fact led to the development of ESDP in the first place: a policy aimed at securing Europe a strategic input to future international crises by creating credible capabilities for crisis management. However we are trying to do this at present in the absence of a developed discussion about the EU's values and interests that should inform the direction, breadth and aims of the ESDP.

Engaging in a broader debate about the role and future of the EU as a strategic actor and what it needs from an ESDP, will compliment present bottom up approaches, such as MS engage in at the national level. By way of adapting to the demands of being a global strategic actor with a common defence policy, the EU will have to consider the following security dimensions:

- What should be the balance between military and non-military forces?
- At what level of intensity should the EU engage? It could be anywhere between low intensity policing, through peacekeeping to high intensity war fighting.
- What should be the geographical reach? If the EU wants to be a global strategic actor it is difficult to envisage how it could do so if it merely confines its scope to Europe. In which case, should it extend its outreach just to include the European periphery (including the Middle East?) or stretch further for a genuinely global reach?

- What should be the level of autonomy for EU forces? Should they be able to conduct operations completely independently of the US, or instead take the lead with US assistance, or simply contribute to US-led operations? Should they be independent of NATO forces; and if not, what would be the role of the non-NATO EU member countries' military forces?

As a global strategic actor the EU will certainly require significant capabilities that can be deployed beyond Europe itself. Although it may not have the resources to conduct war-fighting on such a scale it may nevertheless pursue a range of options, such as:

- Imitating US military capabilities, albeit on a smaller scale. This would be especially effective, if the EU emphasises its comparative advantage in civilian crises management capabilities.
- Complementing the US in areas where the Americans have deficiencies and where EU contributions might deliver political influence, such as taking on post-intervention peace enforcement and peacekeeping tasks.
- Developing an asymmetric European approach, building on European strengths and interests, for example through dealing with problems in its immediate neighbourhood and in those areas of the world where Europe has a comparatively greater interest and influence.

For many different reasons, for the foreseeable future Europe is most likely to follow some combination of all three options. If so, this needs to be taken into account when thinking about future defence capabilities.

In sum, our approach creates a demand for understanding how the EU can meet its requirements for achieving low-to-mid level Petersberg Tasks, which will be on the short-to-medium term horizon (such as Macedonia and Bosnia). The demand for operations further afield, and moves towards the higher end of Petersberg tasks, may also arise. These might involve operations in, for example, sub-Saharan Africa or even conceivably in Central Asia or the Pacific.

These short- to medium-term operational demands (missions and tasks) require capabilities with an emphasis upon projection and sustainability with the necessary combat and communication support (examined below). Any growing need to extend the field of operations further from Europe will put emphasis upon capabilities for extended force projection (which will require being able to maintain a secure airspace, developing the means of evacuation and may require some forcible entry capability). This is because it is impossible to be sure that mid-level Tasks will not require some high-level capability support.

Some member states will continue to engage in more combat intensive operations in other multinational arrangements and will thus want to develop more capabilities relevant to upper level Petersberg Tasks, and to 'search and destroy' counter-terrorism operations. They will develop capabilities, missions and doctrines accordingly, ones that could have relevance to the EU as well.

These counter-terrorism operations may remain too politically contentious to prove suitable for effective EU decision-making and too sensitive for 'enhanced co-operation', with some states 'acting' militarily on behalf of the others. Nevertheless, the success of the EU in building upon its early Petersberg Tasks may see it conducting more ambitious Peace Support Operations (PSO), which will require more combat ready capabilities, perhaps up to the Corp level (60,000 personnel) suggested by the HHG.

In sum, the provision of capabilities in the short-to medium term (up to 15 years) for ESDP would do well to concentrate on those that enable the effective implementation of low-to-mid level Petersberg Tasks that over time, based upon initial success, become relevant to larger Peace Support Operations. This short-to-medium term approach requires capabilities that should, if possible, be provided from existing members state inventories. Where gaps exist procurement should be focussed on these operational needs and co-ordinated appropriately amongst the member states.

Longer-term operational requirements will be influenced by the short-to-medium term successes of ESDP. Political integration of the EU will be a slower process than the immediate development of ESDP and therefore it would be highly premature to make any judgements on the nature and form that such closer integration might have and its impact in the area of common defence policy. Nevertheless, political priorities might change. Terrorist attacks in Europe or widespread regional instability in the Middle East, for example, could require member states to revise their priorities for ESDP and a corresponding move towards high-end Petersberg Tasks to meet these new mission requirements.

In recognition of these short- to medium-term and long-term requirements provided by our judgements of political developments in the EU in ESDP, Section 2 of this study will survey capabilities and analyse any shortfalls across the range of Petersberg Tasks, including high level operations but not including counter-terrorism operations (as excluded from this study's terms of reference).

This approach will enable the reader to understand the relevance of these capabilities, what level of shortfall exists and, according to the short- or long-term priorities of the member states, which capabilities are more relevant. In the final analysis our conclusions will provide a strategy for enhancing European military capabilities with key recommendations on how to proceed. These recommendations will fall into four categories, providing suggestions as to how to support the development of ESDP to meet member states' crisis management priorities today and in the future:

- Europe's Strategic Role
- Defence Spending and Financing Capabilities
- Procurement and Industrial Policy
- Military capabilities

In sum, Section 1 of this study provides an analysis of the structural conditions in which policies to provide ESDP capabilities will develop in the future. The conclusions from this section then inform key recommendations in Section 2, for addressing structural obstacles to

implementing effective policies to meet crisis management capability needs. Section 2 of this study addresses capability shortfalls by providing a strategy for enhancing European military capabilities and offering key recommendations.

2. Defence Spending and Financing Capabilities

2.1. US and European military strength

The prevailing consensus in the debate on European military capacities is that present capabilities are below the mark. Such sentiment is not only expressed by the military themselves but also by the majority of European politicians – whether in government or in opposition – as well as by the present US government.

A strong push to strengthen Europe's military capability emerged from the experience of the war in Kosovo. European NATO allies struggled to contribute significantly to NATO's air war. European military planners were particularly concerned that information gathering through satellites – the basis for targeting in the air war – was exclusively in US hands.

The project to develop ESDP, including a crisis reaction force, culminated in the Helsinki EU summit in December 1999 where the Helsinki Headline Goals (HHG) were formulated. Some, such as the British, view the Headline Goals as a complement to NATO, whilst others, notably France, view them as an alternative to NATO. Both agree in the short term that such capabilities are designed to allow the EU to fulfil crisis management roles, as defined in the 'Petersberg Tasks'.

During the Helsinki summit the heads of government agreed that they would make arrangements to establish - by 2003 - a capability for up to 60,000 troops with naval and air support to be deployed within 60 days of a deployment decision. At a Commitments Conference in 2000, the actual numbers offered were over 100,000 troops, 400 combat aircraft and 100 ships. To what extent these forces will actually be made available to the EU in a crisis situation remains to be tested. Previous promises of closer co-operation in security matters have not always been met and the perception that these are merely 'paper capabilities' is not totally unfounded.

Another event that prompted European leaders to reconsider their military capabilities was the terrorist attacks against New York and Washington in September 2001. In the wake of '9/11' the US government formed a political coalition against terrorism, but made it clear that it did not want to have to rely on European military capabilities in waging its war on terrorism. Although NATO, for the first time in its history invoked Article 5 of the NATO Charter, stipulating "that an armed attack against one or more of them... shall be considered an attack against them all...", immediate subsequent US action did not really upon European military capabilities in any substantive form. Later European forces contributed in small numbers alongside the US Operation Enduring Freedom and much more substantially to the ISAF operation.

A comparison of US and EU military capabilities illustrates that total military expenditure is higher in the US as is expenditure as a percentage of GDP. The US is by far the largest spender on military Research and Development (R&D), accounting for almost two-thirds of the world total and disbursing more than ten times as much as the next largest spender, the UK. The figures for employment in arms production also indicate that many more are involved in the US than in Europe. (Nevertheless, the EU's combined spending still makes it the second biggest in the world.)

There are, however, two indicators in which the EU surpasses the US: in the total number of armed forces personnel and the total number of major conventional weapons.

Table 1: Indicators of military resources and capabilities

	EU	US	World
Military expenditures 2001, in US \$Bn, 1998 prices	175	282	725
Military expenditure, as % of GDP	1.7	3.0	2.2
Military R&D expenditure, in US \$Bn, 2000 prices	9.5	37.7	60
Employment in arms production in 2000 (000s)	760	2,300	8,080
Armed forces personnel (000s)	2,010	1,484	21,590
Weapon holdings, aggregate number of major conventional weapons	44,000	37,080	406,600

Sources: SIPRI Yearbooks and BICC Conversion Survey

Why then are EU capabilities lagging so far behind US capabilities? Annual expenditure of US \$175Bn, or nearly a quarter of world expenditure, is a significant amount. There are three principal explanations for the EU/US disparity:

1. Although the figure of 44,000 for holdings of major conventional weapons looks impressive, a number of key equipment items (such as long-range transport aircraft) are lacking, while certain other weapon systems (like major battle tanks) are not really appropriate for the new types of military engagement. A lot of equipment in Europe is a remnant of the Cold War.
2. The most embarrassing inadequacy relates to the figure for the number of armed forces personnel. Although the cumulative strength of the EU's armed forces manpower is approximately two million, their deployability is woeful. Germany, for example, despite a Bundeswehr of close to 300,000 is not in a position to deploy more than 10,000 troops over an extended period of time internationally.
3. Perhaps the most important structurally, military and security decisions in Europe are essentially national decisions. Despite numerous political statements and a plethora of reports

to the contrary on the need for enhanced and intensified European cooperation, parochial decision-making still dominates today's agenda. This is true for military deployment decisions and particularly for procurement policy. Despite some progress in recent years, joint projects are still only undertaken when they cannot be financed nationally.

The explanation for both the inappropriate equipment and the inadequate number of deployable troops is the insufficient restructuring of the armed forces following the Cold War. A host of reasons are responsible for this slow and inefficient reform process: national prestige, poor co-ordination, military-organizational self-interest etc. As a consequence, extensive resources are being inefficiently spent on the military in EU countries, and some of that is also spent for the wrong purposes.

2.2. A US model cost calculation of the Rapid Reaction Force (RRF)

The EU has made no public cost estimates for equipping the RRF, so the following figures are taken from a RAND study¹ and do not cover organisation and maintenance costs (O&M). The RAND study uses four different models.

The first cost estimate of between \$37 and \$47 billion (at 2000 values) is based on acquiring the major systems identified as being required by the RRF (but not the RDT & E associated with adapting these items to the EU force and organisational circumstances). It also implicitly assumes that the RRF will be equipped to deal with the high end of the Petersberg Tasks.

The second model calculates the RRF on the basis of US expenditure for new military investment and RDT&E per soldier per year. This suggests the cost would be between \$23.5 billion and \$31.4 billion. This assumes that RRF costs will be entirely new outlays.

The third approach assumes that the RRF will be analogous to a US Marine expeditionary force. This suggests the capital costs of the RRF would be \$52.4 billion.

If however the figures for a US Mobile Advanced Army Division plus the capital costs for air and sea transport were used, a fourth cost estimate of between \$35 billion and \$56 billion would be produced. The RAND study goes on to suggest four ways of meeting this bill. Firstly, by using the consequences of economic growth to generate additional resources to military spending and investment (assuming that other policy areas would have less priority and that economic growth will be steady).

Secondly, by reallocating part of existing government budgets from non-defence to defence spending (the authors acknowledge that this is extremely unlikely so do not investigate it further).

¹ Charles Wolf Jr. and Benjamin Zycher, *European Military Prospects, Economic Constraints and the Rapid Reaction Force*, RAND Corporation, 2001.

Thirdly, by reallocating existing procurement spending from ‘old-fashioned’ equipment like heavy tanks, artillery and surface ships to the equipment needed by the RRF. This would mean overcoming considerable service and industrial vested interests, however, and it seems unlikely that the larger countries would be prepared to stop spending on territorial defence or protecting individual national interests.

Finally, liberalising and consolidating European defence procurement and industry could make savings. Keith Hartley estimates the savings from a Single Defence Market could be between 10 and 17 per cent, or up to \$15 billion per year¹. The highest figure assumes that all future defence procurement would be done through a EU Procurement Agency. This, in turn however, would also mean overcoming considerable national vested interests.

Sources of Funding in \$ billion (2000 values)

	Incremental Resources for Military Investment	Reallocation (by one third) from Annual Military Investment	Savings from the Consolidation of Defence Industry and the European Defence Market
2001-3	5	20-30	6
2004-7	18	30-40	10
2008-10	22	20-30	

Source: Wolf and Zycher (2001)

RAND concludes that meeting the capital costs of the RRF by the target of 2003 is very unlikely. If reallocation of existing investment does not take place, even if economic growth can be assumed, the costs will not be met until the end of the decade. With reallocation and a combination of the other two sources, the costs could be met by 2007.

2.3. European financial realities

Defence expenditure quickly came into focus during the debates following the Helsinki European Council and the launch of the HHG. Indeed, defence budgets are a key framework issue in understanding the present HHG process under ESDP, which emphasises a need to increase European military capabilities.

The key concerns here can be usefully grouped into

- European spending trends
- Functional spending within budgets, and
- Comparisons with the US (traditionally discussed as ‘military burden sharing’ within NATO but recently re-articulated as ‘security burden sharing’).

¹ Keith Hartley, *The Common European Security and Defence Policy: An Economic Perspective*, 2001, www.york.ac.uk/depts/econ/rc/cde.htm#current

According to current plans, defence spending within the EU overall will not increase substantially in real terms (although there are national variations). Nor would an increase in spending necessarily provide more military capability, unless accompanied by reform of inefficient procurement processes and industries. This means that most attention now is focusing upon how more European military capability can be attained within present spending levels. ESDP and the HHG process provide the focus for such debates in the EU context.

2.4. Trends in national defence budgets for EU member states

Understanding the full budgetary impact of the HHG is a complex issue because the main cost implications rest with the 'voluntary' intentions of member states (MS) to achieve that to which they have committed themselves. Analysing MS' defence budgets in any detail is also a difficult task, not least because of differences in national accounting and reporting procedures.

It is possible, however, to make some observations about trends in the level of defence budgets and on the main functional budgetary headings relevant to equipment-based capability. Figures for these areas provide information on how MS prioritise defence spending and reveal inter-state differences.

European defence spending (see table 1 above and Annex I: diagram 1 and table 1) began to stabilise around the mid-1990s after a period of decline in the immediate aftermath of the Cold War. Most commentators believe that this level of defence spending is likely to remain broadly stable for the foreseeable future. Due to the EU's financial discipline accepted under the Stability and Growth Pact, as well as relatively low rates of economic growth, the members of this pact are under strong pressure not to expand public spending. This will have an impact upon defence budgets as well as in other areas of public spending.

2.5. Within budget spending

Some analysts suggest that by restructuring the armed forces, especially those countries with large standing or conscript armies, more money can be invested into the R&D and procurement areas of the defence budget and thus produce more equipment based capability. This is a simple argument with some merit, but in the short term there are not insignificant costs associated with retiring serving (senior) members of the armed forces, training for specialised professional forces, and indeed in closing barracks and other facilities made redundant by smaller forces.

Indeed, critics of this approach highlight the negative social impact that restructuring of defence spending will have on countries with larger standing and conscript armies. Whilst this impact is real it is not relevant to procuring more military capability, because most analysts agree large irregular and conscript armies are increasingly irrelevant to the demands of modern conflict.

Defence R & D is often regarded as another capability gap when comparing the EU to the US.

Indeed, the US spends more than four times as much as all EU countries combined, with the greatest gap in regard to the technology connected with the Revolution in Military Affairs (RMA). However, there is a danger in comparing these too closely, as US defence research priorities might not be identical to European ones. Hence, European R & D should be judged specifically against the needs of ESDP.

One major criticism of current European practice is that there have been no systematic exchanges of information on defence related R&D or any real policy co-ordination. The activities under the Western European Armaments Organisation's (WEAO) research cell such as the European Co-operation Long Term In Defence (EUCLID) programme have had little success, mainly because the incentives for co-operation have proved insufficiently attractive¹. This tends to result in unnecessary duplication of effort and to parallel development of more than one weapons system of the same type.

As much defence research is government funded, the establishment of transnational companies does not wholly address the problem. Nor is it clear whether a technological gap exists (i.e. a lack of research capacity) or whether a development gap is the problem (i.e. the basic science is there but it is undeveloped in the area of defence production).

Although the EU's Fifth Framework Programme for Research and Technological Development (1998–2002) officially concerned itself only with civil research some of the research funded has had dual application. This is likely to increase under the Sixth Framework Programme. In the past, military research was credited with many spin-offs into civilian innovations. Now the reverse is often true too. There is a clear rise in dual-use technology, and the boundaries between civil and military technology are increasingly difficult to define.

The potential for dual-use technology is particularly high in areas essential to the information society, the aerospace sector and bio-technology. Thus if a technological gap exists, then it has the potential to damage the EU's competitiveness in civil industry too. In recognition of this and policy developments in the area of security and defence, the question of whether defence research should be openly funded under the future Seventh Framework programme is being discussed. This is a sensitive question politically.

However, many would argue that the 'gap' is not so much in scientific research and infrastructure but rather in the translation of this knowledge into weapons systems. Realistically, defence procurement budgets are unlikely to rise substantially so a development gap would be difficult to close. However, it is important to note that the 'gap' only exists between Europe and the US. In global terms the EU member states spend a considerable amount on defence R&D. Equally, a policy on defence R&D inevitably involves political and strategic choices, and Europe does not have to make the same choices as the US. While interoperability within NATO clearly is a factor to consider, what matters is meeting Europe's defence and security requirements, which may not be identical to those of the US.

¹ See WEU Assembly Document A/1718 (2000), *'The gap in defence research and technology between Europe and the United States'* for more details on EUCLID, THALES, SOCRATE and other programmes.

If MS agree that certain European shortfalls do exist and that they should be made up by procuring new equipment then resources could be found nationally by:

- a) increasing defence expenditure to cover new procurement programmes;
- b) adjusting spending priorities within defence budgets, for example by moving funds from personnel and infrastructure to procurement, or by cancelling existing or planned procurement programmes that are now judged to be a lower priority;
- c) procuring over longer timeframes in order to spread the cost of the procurement programme.

Choosing option (a) seems highly unlikely, especially given the strains that the Stability Pact is already posing on wider national spending priorities. Option (b) has already been widely accepted as a necessary part of defence restructuring post-Cold War and in meeting the operational challenges for smaller, professional, deployable and flexible forces (although this transformation has not been without pain). Cancelling existing procurement projects will meet resistance but is a necessary part of modernising Europe's armed forces.

Finally, option (c) proved popular in some defence ministries in the late 1980s where inefficient procurement programmes and the pressure to reduce defence expenditure provided the rationale for trying to spread the cost of equipment over the longer term. This approach did not prove successful, however, and led to many procurement programmes 'running out of control' and to costs rising. It also avoided addressing the critical question as to why procurement was inefficient, and neglected the consequences for the armed forces of receiving equipment later and later due to longer time-cycles. To pursue this option once again would, therefore, work against the more fundamental reforms necessary to rectify recurrent procurement problems.

2.6. Comparison with the US

Traditional 'burden sharing' debates within NATO have focussed upon the fact that the US was contributing overwhelmingly more in defence terms to the security of western Europe during the Cold War. Today such 'burden sharing' debates take place within the context of an evolving CFSP and a broader understanding of security to include EU enlargement, climate change, and Third World aid.

In this broader context EU contributions to international security are no longer pale reflections of US contributions, in fact quite the reverse. For instance European countries contribute three times as much as the US to Third World aid, and will soon pay almost twice as much into the UN budget. Although, it is still recognised that the EU MS should contribute more to these international commitments. In principle, therefore, the new burden sharing debate could make way for a new division of labour within the EU and between the US and Europe, whereby states contribute to international security according to their own particular strengths and priorities.

For instance, this may highlight the need to focus upon Defence Diplomacy activities, police, support to civil authorities that would support conflict prevention and post-conflict reconstruction activities alongside the present crisis management focus under the Petersberg Tasks. Not only are the former EU strengths but they are regarded by many as weaknesses in US military capabilities and as such would provide added value to transatlantic capabilities. However, in practice, this is not yet being discussed in CFSP and especially ESDP debates.

In some respects the EU's efforts to develop ESDP represent a by-passing of this new burden sharing debate because the EU is attempting to enter a security sector traditionally dominated by NATO and the European member states. Nevertheless, the current 'bottom up' approach under HHG and European Capabilities Action Plan (ECAP) reflects a *de facto* 'division of labour' between those states willing to take up a greater share of the military burden and those less inclined or unable to do so.

Table 2: Defence spending as % of GDP, major NATO member States (from: NATO)

Country	1985-9	2000
US	6.0	3.0
France	3.8	2.7
UK	4.5	2.4
Italy	2.3	1.9
Germany	3.0	1.5
Spain	2.1	1.3
European Average (five largest states)	3.1	2.0

Sources: NATO and SIPRI

Today most analysts argue that the gap between the combined spending and technological capability of the EU vis-à-vis the US explains the EU's weakness in being able to provide military contributions to international crisis management. Whereas the trend in the 1990's saw a narrowing of this spending gap (see table 2 above and diagram 2 in Annex I) over recent years the current Bush Administration is set to reverse that process with dramatic increases in US defence spending. It remains to be seen if such spending can be sustained and whether this will translate into another generational-leap forward in military capability that might leave Europe even further behind.

Whilst the EU still falls far short in terms of the military capability it can provide for high level operations, its forces are well represented in post-crisis military presence as witnessed in the Balkans (majority of forces) and in the Afghanistan UN ISAF mission. Nevertheless, if the EU wants to improve its military capability for crisis management operations - to achieve more 'bang for the buck' - then most analysts agree this will have to be done through a better co-ordinated and integrated approach to defence spending, procurement and provision of capability in Europe.

The present debate surrounding how the EU should finance military crisis management operations centres around which costs should be met from a common pool and which from individual member states. Common costs fall within an agreed list and are limited by the requirement that 'common expenditure on goods and services shall be spent for requirements over and above those that could reasonably be expected to be covered from national resources'.

The majority of costs for an EU crisis management operation are the responsibility of individual MS and are based upon the principle of 'costs lie where they fall' (such as in NATO operations). At the launch of an operation the Council will decide, on a case-by-case basis, whether costs for the transportation of forces, the barracks and the lodging of forces will be designated common or individual MS costs. The modalities for financing crisis management operations have already been adopted and will be reviewed again once the first operation has been conducted or, at the latest, by 2004¹.

It is possible that over time agreement on common costs for crisis management operations might grow, thereby providing some extra resources (i.e. from budgets other than national defence budgets) for member states conducting crisis management operations and perhaps also pay for some autonomous EU assets.

However, concerns exist over all such approaches that might be misinterpreted as subsidising MS' contributions to collective action, especially when these would benefit some states more than others. There might also be concerns that such financing arrangements would increase the veto powers of MS over operations, thereby increasing the political tension in the crucial moments before an operation.

3. Procurement and Industry

If defence spending is not to increase, one obvious way of bridging capability gaps is through increased armaments co-operation. Joint procurement of the necessary equipment would offer savings through economies of scale and avoidance of duplication. In practice, this might not be so easy to achieve, however.

Despite much rhetoric about the need for greater armaments co-operation within the EU, actual results have been disappointing. It is generally agreed that the armaments market in the EU is not particularly efficient. Currently, there are various initiatives aimed at fostering defence industrial consolidation, from both the EU and inter-governmentally through the Framework Agreement. Nevertheless, European defence industrial consolidation is still patchy and defence procurement remains oriented towards national needs.

Two dominant features are evident in the present defence industrial scene. Firstly, an oligopoly in the aerospace and defence electronics sectors, as demonstrated by the creation of EADS and BAe Systems (two giant prime contractors in defence aerospace) and the

¹ COSDP 188. DG E VIII. Council of the European Union. 10160/2/02 REV2. Brussels, 22 June 2002. p. 21.

emergence of Thales as a major defence electronics player. Secondly, the lack of consolidation of often-subsidised (protected) national capacities in other sectors, such as in the land-systems industry (particularly where tanks are concerned), ship-building, artillery and munitions. While over-capacity and national protectionism still exists, and therefore further consolidation should be encouraged, the danger of the EU member states becoming reliant on two or three monopolist suppliers needs to be monitored carefully. Protectionist practices at the national level should not be duplicated at the EU level. Future EU military capabilities must be procured on a competitive basis, if the savings expected by greater collaboration are to be realised.

Whilst much analysis continues to concentrate on prime contractors, the difficulties faced by their suppliers - the Small and Medium Enterprises (SMEs) - in the changing industrial environment tend to be overlooked. Equally, while the European Commission and member states continue to talk about European consolidation, industrial figures on both sides of the Atlantic are very interested in greater transatlantic activity.

US investors are also entering the European market in ever-greater numbers (General Dynamics, for example, became a major shareholder in Daimler Puch of Austria and acquired Santa Barbara of Spain while Northrop Grumman controversially took over German submarine manufacturer HDW). While Thales-Raytheon co-operation on air defence and battlefield radar activities is considered successful, and BAe Systems has successfully penetrated the US market through an acquisition policy, relatively few European firms are succeeding across the Atlantic, because of protectionist market regulation. Nevertheless, the transatlantic pull remains strong for many companies.

There is an assumption that defence industrial consolidation within Europe will allow more efficient procurement. While it is undeniable that a competitive and efficient European defence industrial base will be of benefit to those procuring equipment, it is important to understand the industrial imperatives currently affecting defence procurement.

There are though various initiatives aimed at achieving a more efficient defence market in Europe on both the supply and demand side, from the EU and also inter-governmentally through the Framework Agreement and OCCAR. The existence of Article 296 prevents the European Commission from intervening on defence industrial matters but there is no consensus for its removal.

3.1. OCCAR

In 1998 France, Germany, Italy and UK signed a convention establishing the *Organisme Conjoint de Coopération en Matière d'Armement* (OCCAR)¹, with the aim to employ best practice in defence procurement, and to use competition as an integral part of achieving the delivery of cost-effective defence equipment. OCCAR intends to do this through continuous business improvement and the achievement of best value-for-money, the latter by abandoning prescriptive national workshare entitlements.

¹ OCCAR's website is <http://www.occar-ea.org>

OCCAR manages a number of collaborative programmes, including the Counter Battery Radar (COBRA), which will provide the armed forces with an enhanced capability for the location of enemy artillery. The Future Surface to Air Missiles Family (FSAF), the Multi-Role Armoured Vehicle (GTK/MRAV/PWV), the HOT/MILAN Anti-Tank Weapon Systems, the ROLAND Ground to Air Weapons System, and the TIGER Helicopter programmes are also managed by OCCAR. The A400M contract was signed in December 2001 and will proceed under OCCAR management this year once all reservations have been lifted. The Principal Anti Air Missile Systems (PAAMS) programme will be managed by OCCAR in due course.

Membership of OCCAR is open to other European nations subject to their commitment to a major project involving at least one of the OCCAR partner nations, acceptance of OCCAR's principles and policies, and accession to the OCCAR Convention. To date, the Netherlands, Spain and Belgium have applied for OCCAR membership. Sweden and Finland have also shown an interest in joining.

3.2. The Framework Agreement

The Framework Agreement came to fruition through what was known as the Letter of Intent (LoI) process, signed up to in July 1998 by the Defence Ministers of France, Germany, Spain, Italy, Sweden and the UK. This process aimed to start discussion on defining a framework of co-operation to facilitate the restructuring and operation of the West European defence industry. Two years later in 2000, these Ministers signed the Framework Agreement which established measures for improving co-operation on harmonisation of military requirements, security of supply, export procedures, research and technology, handling of classified information and the treatment of technical information¹. Discussions are ongoing on the implementation of these measures.

The realisation of both these initiatives has involved a large amount of negotiation on difficult areas to establish common ground (such as common procurement procedures in OCCAR). The EU can and should ensure that it benefits from the progress made between these groups of member states.

Nation states acquire other benefits besides defence equipment from national procurement. National defence procurement mainly benefits indigenous firms, not only for reasons of security of supply, but also to maintain jobs and high technological capacities in what is seen as an economically important sector. As military technology increasingly 'spins off' from civilian technology rather than the other way round, this rationale may lessen over time, however.

Equally, defence procurement is used to benefit the state politically or economically, be it through influence gained from the linked arms exports of a weapons system or technological transfer or other offset benefits gained through acquiring foreign systems. The advantages that can be gained through defence procurement mean that states will be loath to move to a purely competitive joint tendering model. What impact does this have on ESDP? The long

¹ The Framework Agreement can be found at <http://projects.sipri.se/expcon/loi/indrest02.htm>

procurement phases of major weapons systems (15-25 years in some cases) mean that decisions taken now will continue to impact on the shape of armed forces for decades to come.

Collaborative projects, which are often considered to represent the way forward with regard to European procurement, are difficult to agree because of these industrial imperatives. The need to gain a good deal for indigenous industry, combined with the built-in disadvantages of collaborative projects such as compromise on requirements, different national procurement timetables, rules and practices and reliance on other countries' budgetary decisions, tend to ensure that such projects are overdue and over-budget.

Defence procurement in Western Europe, therefore, still consists mainly of two types of project; the purely national programme for the bigger spenders and the use of offset arrangements to protect indigenous industry from smaller spenders buying foreign equipment. Unfortunately, the existing market place - both on the supply and demand side - does not favour cost-efficient or joint procurement; the best ways to address the capability gap without spending more.

Several other factors also need to be considered where procurement is concerned. Capability is about more than the simple possession of equipment. When examining the efficient use of equipment, for instance, one needs to factor into the procurement costs its entire life-cycle costs. Unless investment is made in maintenance, upgrading and personnel training the full potential of a weapons system will not be realised.

The increasing complexity of weapons systems also calls for greater personnel specialisation, either through national role specialisation or the establishment of multinational specialist units. This clearly does not fit with mass armies based on conscription. Nevertheless, although the trend in Europe is towards professional armed forces, the difficulties in abolishing conscription should not be underestimated. Conscription is often seen as an important link between civilian and military populations and those opting for voluntary as opposed to military service also fulfil valuable social service roles in some countries.

The type of equipment procured also needs to be looked at carefully. There is a tendency to procure ever more advanced versions of weapons platforms - known as 'successor based procurement' - to replace older models, rather than examine alternative ways of securing that capability. Such alternatives could involve, for example, the use of civilian technologies or the leasing of equipment from others. While the use of private financing through public-private partnerships may also offer potential savings, the European Union should first consider carefully the results from those countries, which have tried this approach.

A number of approaches might be adopted to meet Europe's capability shortfalls. One would be to seek solutions intended to facilitate co-ordinated procurement programmes amongst EU member states to provide common national or pooled capabilities. This is a longer-term approach to seeking solutions to procurement problems and is underpinned by the need to reform procurement and the European defence industry in terms of a common market or a transatlantic armaments market.

The more ambitious solutions proposed include convergence criteria for spending; common accountancy and reporting principles; protocols of access; interoperability; multi-nationality; savings from common training, logistics, maintenance etc. These approaches could be short-term solutions but may also become *de facto* long-term solutions. They include buying proven off-the-shelf capabilities (mainly from the US); pooling existing assets to cover capability shortfalls; co-ordinating existing capabilities and training and support; leasing; thinking through new approaches to capability shortfalls with existing capabilities used in combined new ways.

3.3. From Laeken and ECAP to the Greek Presidency

Greece is responsible for ESDP issues during the Danish Presidency and has made the improvement of military capabilities a priority in order to achieve the HHG targets. At Laeken a European Capability Action Plan (ECAP) was approved, the purpose of which was to develop options to plug remaining capability gaps.

Under this initiative specific working ECAP panels look at ways to make up the capability shortfalls identified previously in the HHG Force Catalogue. The ECAP panels are intended to 'seek solutions, including multinational ones, and new forms of co-operation between member states' to make up the capability shortfalls by 'making optimum use of resources'. The emphasis upon 'making optimum use of resources' has led to a focus upon procurement programmes to make up shortfalls. This process of analysis and evaluation is to be carried out by the MS' Headline Goal Task Force (HTF) under the supervision of the EU Military Committee. Nineteen (originally Seventeen) ECAP panels, each addressing between one and three shortfall areas, started their work at the end of the Spanish Presidency. This process is therefore still very much in its infancy (interim reports have been produced by some Working Groups) and the reports of the Working Groups are expected to be ready by March 2003.

As a means of taking stock of the progress of the Capabilities Development process, and to determine the best way ahead, the Greek Presidency is developing a proposal, presently being discussed in POLARM, where a committee would be responsible for co-ordinating those commitments that member states sign up to arising from the ECAP panel's final proposals. The launch of such a committee (based within COREPER) and the ECAP Panel's final reports are both due in April/May 2003, when the Greeks would like to launch their new initiative at a Capabilities Conference in Athens.

It is not entirely clear, however, whether the ECAP panels will produce proposals based upon procuring new capabilities or whether it will suggest alternative arrangements for enhancing military capabilities in the short-term such as a combination of leasing, co-ordinating and pooling. Criticisms have also been levelled at the membership of the ECAP Panels because it is not clear how close they are to the realities of national Ministry's of Defence and their procurement priorities and spending limits in this area. Some question the utility of an exercise, involving ECAP Panel Reports, that is not firmly rooted in what is financially feasible and reflective of national procurement cycles.

The present ECAP approach is voluntary and avoids sensitive questions about an EU Army. It also avoids focusing directly on member states' approach to national armaments policy. Advocates say that this approach is working and that its voluntary, pragmatic nature is providing movement in the right direction, unlike in NATO with its top down approach through the Defence Capabilities Initiative (DCI). At present, member states volunteer to join programmes on an individual, joint or multinational basis.

Critics of the present approach, however, argue that a more open debate is needed within the EU on the importance of spending more/better on capability rather than hoping that the present process will bring greater efficiency. This necessarily needs to address both how money is spent within budgets but also the relationship between member states, national defence industries and the opening up of European and transatlantic markets.

These critics maintain that the present ECAP and bottom-up approach avoids these important underlying issues that must be addressed if the process of acquiring more military capability for EU crisis management is to be sustainable beyond the present HHG operational target of 2003. Looking beyond 2003, sustaining the HHG process will se-rve to support the longer-term development of ESDP beyond looking at 'shortfalls' to 'long term thinking and planning' for EU capability needs for CM.

The top down approach of setting common or convergent standards in spending (relative to GDP and within budget) and procedures for quantifiable comparisons, such as common reporting and accounting with agreed targets and parameters (as in the EMU and the Stability and Growth Pact) has been advocated by some analysts. They argue that this is necessary in the long term if the EU is to move from ESDP to CESDP and point to the success of the EMU convergence criteria as a precedent.

Critics state that such approaches are not yet possible due to the state of the armaments market (which is outside of European Commission influence) and a lack of political will. Hence, they maintain that it would be counter-productive to try to improve military capability for EU crisis management as some states just will not spend more.

Any such debate would need to address both how money is spent within budgets but also the relationships between member states and between national defence industries, and the opening up of European and transatlantic markets. Critics of the present approach argue that the present ECAP and bottom up approach avoids these important underlying issues that must be addressed if the capability acquisition process for EU crisis management is to be sustainable beyond the present HHG operational target of 2003. Such an approach would complement the next stage of ESDP as we move from how to meet 'shortfalls' to 'long term thinking and planning'.

We must also be aware that although a procurement based solution (or 'successor based procurement') to meeting capability requirements may provide an answer in the long term it cannot do so in the short term. Consequently, member states need to think of alternative means of making up these shortfalls in the immediate future.

If short-term arrangements such as pooling existing assets/capabilities, leasing from non-EU states, or by buying off the shelf, can be agreed then the question arises: do we need to commit to procurement programmes for the medium to long term if we can find alternative routes in the short term? The challenge will be to reconcile the competing pressures of tight budgetary constraints nationally and the need to achieve an EU response to crisis management operations.

4. Applicant States

Most of the above analysis is also pertinent to the 10 new applicant states. A general lack of co-ordination on defence issues (armed forces, decision-making, and defence industrial restructuring) is evident between the EU and the 10 states. More serious efforts to include these states in the considerations about the future of the ESDP is a priority and is shown by the following analysis of the considerations of one such state, Poland.

Poland joined NATO in the first wave of new members. Poland is firmly committed to the future European security architecture through its membership in NATO and its desired membership of the EU.

As a member of NATO it has an obvious interest in EU CESDP developments. As a strong supporter of NATO and military security (role in Bosnia (SFOR II), plus elsewhere in peacekeeping and observer roles), CESDP developments offer Poland the opportunity to contribute in an area it regards as positive and that it has something to contribute to. However, the movement toward EU-membership and the resulting economic criteria may raise tensions between economic performance and defence expenditure.

The defence budget has remained stable in \$US since 1998 (approx. \$US3.3 Bn), but in Polish zloty this represents an increase of 26.5 per cent between 1998 and 2000. The political significance of the defence budget may not be affected by such increases because of the perceived value of NATO membership, however with economic criteria set out for membership of the EU public expenditure as a whole may face further scrutiny. Likewise, any future strains on the economy may direct attention to the defence budget.

Poland's recent membership of NATO raised several interesting questions including the cost of enlargement, its relationship with Russia, and the shape of its future armed forces. Whilst restructuring continues in a programme that looks to 2015, issues that are pertinent to EU members with regard to the Helsinki Headline Goal remain, such as: the need for certain new (and improved) defence capabilities that meet NATO requirements (DCI), interoperability, and the consequences for existing relationships, namely with Russia and Poland's neighbours.

In support of the Helsinki Headline Goal, the Feira Summit set out further mechanisms and procedures to help facilitate the CESDP process. Poland responded positively to the Feira Summit and approved of its general commitment to co-operation and dialogue with the 6 non-EU European Allies, that would lead to greater political consultation and military co-operation.

On this basis Poland would like to see future discussions between EU Member states and the 6 non-EU European Allies concentrating on a) Political consultations and co-operation, and b) Military and Operational aspects.

a) Political consultation and co-operation includes the EU's readiness: to incorporate non-EU allies ideas and concerns; to discuss, with a view at arriving at, common political and operational conclusions, and; to exchange all necessary information and documents on CESDP. Specific measures aimed at improving such a consultation include the use of the EU's Political and Security Committee (PSC) using a formula of 15 + 6 (EU plus 6 non-EU NATO European Allies) that would be supported by permanent representation to the PSC.

b) Military and Operational dimension is based on EU members offering the fullest possible access to the work carried out on CESDP matters. This will, according to the Polish, be important for effective contributions to any EU-led Petersburg Tasks and for the EU to assess what capabilities Poland can offer and how to incorporate them for any such operations. Specific arrangements, suggested by Poland, to facilitate such military and operational co-operation include: meetings between Chiefs of Defence; participation in EU Military Committee work, and; day-to-day participation of liaison officers in the work of the Military Staff.

Poland argues, as a NATO member and as a natural partner for Europe being one of the 6 non-EU European NATO members, that it should be part of the decision-shaping process of any EU decision on the use of NATO assets. Poland also envisages that it will have full political control and strategic direction over any operation using NATO assets, and its armed forces will work toward any common operational conclusions.

As well as these issues and measures to secure greater political and military effectiveness through co-operation Poland, also, envisages that it will have a contribution to make to the Capabilities Commitment Conference process that will also look at the role of NATO's non-EU European members.

Conclusion: Poland represents the role of a non-EU NATO member with a strong interest in EU developments and in the emerging CESDP. It clearly is interested in shaping that process both as a NATO member that might provide assets for a future EU-led operation and as a potential near-term member of the EU. Poland's own defence restructuring, capability and interoperability assessments and aims for its role in NATO will be important for any potential role it may have once it is an EU member. Poland's recent military restructuring and planning for NATO also provide an interesting indicator to present EU members that might, as a result of the CESDP developments, have to undergo a similar process and be faced with some difficult choices.

Many of the new applicant states will want to contribute to EU Petersberg Task operations as full members of the EU. In the interim, before full membership is granted and whilst the ESDP is still developing it would be beneficial if the EU began to consider how these states might contribute to crisis management operations in order to benefit from their strengths when they join. In which case, some key considerations are necessary:

1. Interim consultation mechanisms for crisis management operations should be as inclusive as possible and not just post-decision;
2. A mechanism should be created that involves applicant countries in capability development discussions (such as ECAP) and which co-ordinates their capability generation programmes and initiatives (such as the joint Polish-Czech brigade for NATO) with those of present EU members;
3. The Council should produce an up-to-date catalogue of the applicant states' capabilities and forces based on the Helsinki Headline Catalogue and Helsinki Force Catalogue, which can then form the basis of discussions on their future capability priorities and force developments.

Conclusion to Section 1

This section has introduced and assessed the main policy debates surrounding the issue of military capability for EU Crisis Management. It is imperative to be aware of these framing issues if one is to make any proper assessment on the need for specific assets or capabilities for Europe's crisis management needs. Section 2 will examine in more detail the operational and individual specificities regarding capabilities and take the analysis a stage closer to understanding what shortfalls exist and how they might be met.

At present, the military dimension of ESDP under the HHG demands a short-term response to crisis management. But a longer term perspective is being adopted to discuss the capability needs of the EU, the reform of the European Armaments Market and member states' defence capability priorities in a period of economic constraint (despite recent French and British increases).

The present approach developing under ESDP does not favour budgetary/spending convergence or the adoption of standards in spending per function. Nor does it address different accounting and reporting procedures. Instead, it focuses on voluntary participation in equipment-based capability programmes. This is most obvious under the present ECAP process, which constitutes a combination of these two approaches with 'pragmatic' options being designed for member states to 'volunteer' their commitment to either joint procurement, individual procurement, and other options including pooling, leasing and co-ordination of existing capabilities.

It is yet to be seen, however, whether the member states will favour co-ordination, joint and pooled responses or individual options. We wait to see which options are chosen and whether they represent the most cost-effective and/or innovative solutions.

Section 1 has discussed in some detail the structural issues and challenges that provide the back-drop to this longer-term perspective on EU military crisis management needs. Nevertheless, the short-term military requirements implied by the Petersberg Tasks are a priority area that even a reformed European Armaments Market and higher defence spending cannot necessarily address. These needs will be the subject of Section 2 where the capabilities

will be discussed in some detail and we will begin to outline a strategy for enhancing European military capability in the short-to-mid term.

Section 2

The first part of this study has examined the major framing issues that must be understood when addressing the issue of capability shortfalls for EU crisis management and before beginning to discuss possible policy options.

The strategic questions about the future of the EU as an external actor and in the wider burden sharing debates are relevant to the development of CFSP and ESDP. This, in turn, provides the direct policy framework for understanding the future operational and capability requirements of the EU.

The methodology employed when analysing capabilities develops from these broader questions and seeks to address the operational requirements that are associated with the Petersberg Tasks. Three levels of operational demand are highlighted to illustrate the type of 'effect' the EU might require from a military capability. This 'effects'-based approach enables us to begin to analyse EU requirements for a particular asset or capability - as defined by this study's terms of reference - in the mid- and long-term.

This study offers an overview of the level of operational demand, with reference to the timeframe, that the EU might be expected to face under the Petersberg Tasks in the immediate, mid- and long-term. The study then provides an initial survey describing what the capabilities are according to five categories. These five categories are similar to those used by NATO under its Defence Capabilities Initiative (DCI).

The following provides a policy framework for recommendations.

1. The EU's Military Role

Responding to violent conflict is not just a military issue. It also requires the full array of political and economic tools at member states' disposal. The ability to provide an integrated approach to preventing and managing violent conflict is perhaps the single greatest challenge facing the EU. Nevertheless, military instruments are relevant and careful consideration of the role they should perform is important.

The complexity of contemporary intervention operations has raised a number of issues relevant to their conduct, which the EU will have to face in the near future. For instance, in recent years the trends in armed humanitarian interventions have raised political and legal challenges to how such operations are carried out. And when the military is called upon to perform such operations, ideally with a UN mandate, it will be expected to use weapons designed and developed according to international legal obligations¹.

¹ Such as the Geneva Conventions and Additional Protocol I of 1977 Articles 36, and 50-54.

Recent practice suggests, however, that controversy will continue to surround certain weapons systems - for example, cluster bombs and depleted uranium. It will be important to consider carefully the doctrines governing the operational deployment and use of certain weapons in relation to their effect upon civilians and the environment. It is not so much that the EU should consider banning weapons that are not at present 'illegal'. Rather that the mechanisms should be in place to ensure that the use of such weapons does not contravene the principles of proportionality and discrimination: to ensure that unnecessary human suffering and environmental damage is avoided. All decisions on any future European armaments policy must take into account and reflect member states' commitments to disarmament treaties, arms control arrangements and working groups.

Maintaining high standards in this area will be an essential component of attaining credibility in the type of high-stress, complex, civil-military interactions that are bound to characterise many of the future Petersberg Tasks from the mid- to high-level. Normally, the use of the military in a crisis intervention will be under the auspices of a UNSC resolution. Depending on the distance, terrain and territorial access this intervention will either be by land, sea or air.

2. European Shortfalls and Planning Requirements

Defence policy planning is normally based upon a time period of 25 years, influenced by the fact that the longest procurement programmes can take up to that long. Strategic policy analysis of long-term threats has also worked within this timeframe but has usually had less influence upon the policy formulation process than procurement decisions. This is because it is so difficult to predict that far ahead and the fact that short-term strategic analysis, especially during crisis periods, naturally attains stronger weight in decision-making considerations.

Furthermore, once a major procurement project with a long lead-time has been embarked upon the decision-making process becomes rigidly locked during the long implementation phase even in the presence of changed strategic priorities (e.g. the continued full-blown pursuit of the Eurofighter in the post-Cold War world).

Whilst strategic analysis of the security environment can alter relatively quickly, with corresponding implications for change at the operational and procurement level, the resistance from political establishments, ministries of defence and defence industries is usually sufficient to delay a change in actual defence policy. Procurement projects (defence capabilities) are thus usually rendered 'safe' even when they no longer appear to fit the evolving security environment.

Hence, during much of the 1990s European defence policies, especially force structuring and procurement patterns were slow to respond to the changed strategic environment. Only belatedly did they begin to shift away from the large heavy-platform armies characteristic of the Cold War towards the smaller, lighter, more rapidly deployable forces necessary for intervening in the crises characteristic of the 1990s (Rwanda, Bosnia, Kosovo, and so on).

It is important to be aware, therefore, that in national policy planning processes operational and procurement considerations are given greater weight in the policy formulation process than strategic considerations based upon trends and projections in the security environment. Whilst some change can be observed in the planning processes in some member states - for instance in the efforts to incorporate early warning in conflict prevention programmes - in the short-term at least the balance will remain in favour of procurement considerations. As this pattern is likely to be repeated at the European level, so it will be important to ensure the adoption of mechanisms and procedures for incorporating balanced strategic policy planning into ESDP.

Hence, Member States will need to base ESDP upon satisfactory strategic and political analysis of the security environment. Whilst ESDP is *de facto* evolving under the auspices of the EU Member States it is not too late to demand an open debate about the security principles underpinning the ESDP in crisis management. Aspects of which are a regular feature in most Member States' Ministries of Defence annual policy reports and is also an aspect of defence review mechanisms such as the UK's *ad hoc* Strategic Defence Review and the US's Quadrennial Defence Review.

This is not a call for a 'blank sheet' security and defence review, but is a necessary adjunct to the 'bottom up focus' on capability gaps. Concentrating upon 'capabilities' alone will not enable the EU to respond to crises more effectively. A balanced approach is required, looking at the EU's security priorities and then considering the merits of different approaches to those security concerns using the full array of conflict prevention and crisis management techniques. These are both civilian (diplomatic and economic) and military (outreach and operational).

In recognition that ESDP has a strong political dynamic, reflected by competing visions of its final outcome, this study concentrates on capabilities within the political horizon (likely demands and developments) rather than merely guessing what changes in the security and operational environment might also influence ESDP operations. This is a necessary condition to enable us to provide a first survey of the 'capabilities' debate in a political setting, both national and institutional. A survey of the trends in the international security environment and a projection of future developments would require a separate study or different terms of reference¹.

Current trends basically foresee today's pattern of political integration and greater co-ordination in CFSP and ESDP as leading down the road towards some kind of single CFSP and CESDP.

For the purpose of our analysis two alternative trends are possible to envisage:

1. Further political integration enables a continuation of today's trends towards greater co-ordination of defence policies, force structures and procurement. Every effort is made to procure equipment jointly and to create capability pools, although the issue of joint assets remains controversial especially in the area of intelligence. Operations are EU-lead with

¹ Understanding international political developments up to 25 years ahead (standard for defence planning) demands more complex analysis, and interpreting that analysis is controversial.

member states contributing on a case-by-case basis and NATO Command and Control assets are used. Or

2. The tension between further political integration in CFSP and a CESDP leads to member states agreeing to the development of independent EU capabilities in the critical enabling areas that would allow an independent EU operation without recourse to NATO assets of any kind. Member states retain the right to intervene in multinational operations either with NATO or the EU or any other multinational arrangement under the auspices of a UNSC mandate. Whilst the pattern of co-ordination of defence policies and force structures remains, with pooling and joint procurement high on the agenda, the key difference is that the EU now has the strategic assets for member states to draw upon to conduct independent EU operations globally. There is still no agreement on an EU Army.

For the narrow purposes of this study it is sufficient to produce an understanding of the levels of operational demand (low, mid and high) and a timeframe based upon the short and long term. This framework provides the analytical departure point for our analysis on the capability shortfalls.

Defence planning is a very complex process. Although there is a lot of information in the public domain on the types and approximate numbers of equipment held by each member state, there is less information on the readiness and preparedness of troops and equipment, and of stockpiles of such armaments as precision weapons. Furthermore the means of transforming such information into operational planning and defence policy requires insights into 15 very different policymaking 'black boxes' which are not always accommodating to external inquires.

For this reason it is difficult to make accurate judgements about the specific level of operational demands needed to carry out the Petersberg Tasks in the short to long term, and about precise capability requirements and whether there are any shortfalls. The complex and changing international security environment, the difficulty in understanding qualitative differences between member states' armouries and armed forces must all be understood as a natural limit to this study and any other of its kind.

The Petersberg Tasks - as included in the 1997 Treaty on the European Union (TEU) - provide both an immediate point of departure and an obstacle to understanding military roles in EU crisis management. This is due to the broad understanding of what tasks the EU should consider under the rubric of crisis management. Article 17 (2) of the TEU simply states that: 'questions referred to in this article shall include humanitarian and rescue tasks, peacekeeping tasks and tasks of combat forces in crisis management, including peacemaking'.

This broad characterisation of the Petersberg Tasks is problematic for any future operational and policy planning, not least because differences exist between some members states as to what types of operations might be involved¹. This is less problematic at the lower level of operation. It is, however, more controversial at the upper level.

¹ For instance one of the project team members recently took part in a study (with the Centre for Defence Studies, *Achieving the Helsinki Headline Goals*, CDS, London, November 2001) that highlighted these nuances of

For instance, whereas Italy and France understand the upper level to include 'restoring order' such as in the Gulf in 1991, for the UK and the Netherlands the upper level was described as 'crisis management' such as Operation Allied Force in Kosovo in 1999. In the short term the relevance for capabilities of such a difference in interpretation might not be so great, because both operations required a dominant US role. However, if the Petersberg Tasks are deemed to include an operation such as Desert Storm and that this should be conducted by member states without the US, the level of ambition and thus demand upon capabilities increases substantially. And this is true even if EU member states have recourse to NATO assets.

This is less problematic at the lower level, although an increased emphasis upon policing roles within ESDP may stretch some states' understanding of what constitutes a lower level operation. These ambiguities need to be addressed if realistic policy and planning is to be developed by the EU. With these limits in mind, and in the absence of any state clearly setting out a narrower official interpretation, this study will refer to the broad range of tasks that might fall within the possible spectrum of operations implied.

This section does not include missions that might involve the territorial defence of the member states (this is regarded as being outside the scope of crisis management), nor does it include counter-insurgency (which this study's terms of reference explicitly exclude). Instead, it focuses upon the types of operations the member states might be called upon to perform when intervening in a third country with a legitimate legal mandate (such missions might include: peace-keeping, peace support and humanitarian operations).

Nevertheless, the HHG does explicitly provide for the projection of an intervention force. This immediately raises a number of military capability needs relevant for 60,000 troops with appropriate naval and air support to be deployed within 60 days and sustained in theatre for up to 12 months. The EU Military Staff (EUMS) carried out an initial survey of all EU military capabilities in the member states relevant to the HHG. This was followed by the Capabilities Commitments Conference whereby member states volunteered contributions to meet the HHG. The EUMS then began to put these complicated contributions together under the Helsinki Force Catalogue process.

These initiatives drew attention to European capability shortfalls in particular areas. In turn the EU member states decided, at the Capability Improvement Conference at Laeken on 19th November 2001, to launch the European Capabilities Action Plan (ECAP), which set up 19 panels (working groups) to examine 24 significant shortfalls out of an original 42 shortfalls identified.

position between some member states, whereby Italy and France included an understanding of the upper level to include 'restoring order' - such as in the Gulf in 1991, whereas the upper limit for the UK and the Netherlands was described as 'crisis management' - such as Operation Allied Force in Kazoo in 1999. In the short term the relevance for capabilities might not be so obvious of such a difference in interpretation because both operations required a dominant US role. However, if the Petersberg Tasks are deemed to include an operation such as Desert Storm to be conducted by the member states without the US, the level of ambition and thus demand upon capabilities increases substantially even if the EU member states have recourse to NATO assets. This ambiguity needs addressing and discussing if realistic policy and planning is to be developed by the EU.

The voluntary nature of the process continues, with member states contributing to the Working Groups and providing national offers to meet capability shortfalls. As of the beginning of December 2002, the Working Groups had not finalised their work of reviewing the shortfalls and providing options for meeting them. It is expected that this process will be finalised with a meeting at the beginning of March 2003 under the Greek Presidency. To-date criticism has been levied at the Panels for not rigorously pursuing a range of realistic options (short, medium and long term) and for the lack of progress in some areas.

Most panels have already recognised that shortfalls are unlikely to be met in 2003 and that where national governments are making some progress these will not be fully apparent until much later in the decade (such as significant improvement in airlift, air-to-air refuelling, PGMs, UAVs and command, control communications assets).

NATO's original Defence Capability Initiative process included 59 detailed decisions which correspond to capability shortfalls, of which 70 per cent have been recognised as relevant to the HHG even at the lower end of demand for Petersberg Tasks.

Both the EU and NATO capability assessments highlight that European armed forces have capability shortfalls in key enabling areas of Deployability and Mobility, Sustainability and Logistics, Command Control and Infrastructure, which will all be important to some extent, even for lower end Petersberg Tasks. Further shortfalls have been identified with regard to Effective Engagement and Survivability of Forces and Infrastructure, which are more relevant (but not exclusively) for mid-to-high level Petersberg Tasks. Most analyses conclude that if EU member states want to contribute to multinational intervention operations (on behalf of NATO or the EU) across a range of operational demands then key enabling capabilities will need to be improved.

This study's terms of reference include a list of most of these key enabling capabilities, which shall be examined below in more detail.

In this respect the EU's short-term and long-term needs are tied to these generic shortfalls irrespective of whether the operations are global or more local. This is because projecting forces of the scale suggested by the HHG requires generic 'enabling' capabilities. For instance, command and control headquarters, 'lift' to project the force, logistics to organise the movement of forces, and communications between forces and the relevant headquarters and armaments for defensive and offensive needs.

Below, the study describes in more detail a fuller range of capabilities, but the point here is that projection forces require certain common organisational and communications capabilities and the platforms to move and sustain the troops. As the EU projects forces further afield the demands upon these generic capabilities will grow and result in a greater reliance on certain assets (such as air-to-air refuelling) or more integrated capabilities (such as secure medical facilities, command and communications and battle management).

These considerations have been incorporated into the following analysis. This approach avoids the need to mimic traditional defence policy analysis, which is built upon strategic and

operational analysis, and tends to include a complicated mixture of technical (e.g. summation) and scenario-based modelling. Nevertheless, some understanding of the level of operational demand is necessary if only to enable us to question the legitimacy of claims for more capabilities.

3. Operational levels

The following categorisation of operational levels provides something that analysts and indeed the EU member states might draw upon to aid the process of cataloguing the forces ready and required for possible Petersberg Task missions.

3.1. Low-Level Military Tasks

- Police tasks;
- Military Aid to the Civilian Powers – e.g. concept of ‘EU Civilian Peacecorps’ or other reserve/volunteer-type force (when civilian powers request support from the military e.g. to cope with flooding etc. exceptional law and order disturbance, counter drugs/crime, major disease outbreak);
- Military search and rescue;
- Evacuation of citizens overseas;
- Defence diplomacy/outreach: assistance to overseas forces to help dispel hostility, confidence building, and the promotion of democratically accountable armed forces.

3.2. Medium-Level Military Tasks

- Peacekeeping: conducted with the consent of the parties to the conflict and in order to support the achievement of a peace settlement;
- Humanitarian Operations and Disaster Relief: rapid response at the behest of a state with a natural disaster unfolding or from the UN or one of its agencies.

3.3. High-Level Military Tasks

This could include broad interpretations such as ‘participation’ in an operation up to the level of, for example, ‘Desert Storm’.

- Peace enforcement: in the absence of a peace process or settlement and without agreement of the parties to the conflict this type of operation is coercive in nature and will require war-fighting capabilities sufficient to ensure compliance;
- Regional Conflict: inter-state at the request of a UNSC resolution.

Whilst the division between levels is not always clear cut the following table provides a categorisation of recent operations carried out by MS and highlights that MS do, indeed, have

experience across the range of possible Petersberg Tasks.

MISSION	EU MEMBER STATES INVOLVED	LEVEL
AMBER FOX,	DK, FR, GR, NL	A
AFGHANISTAN	DK, SP, UK	C
AFGHANISTAN -ISAF	A, DK, F, FR, GR, GE, IT, NL, P, S, UK	B
KFOR	A, B, DK, F, FR, GR, GE, IR, L, NL, P, SP, S, UK	C
MFO,	FR, IT	A
MINURSO,	A, B, FR, GE, IR, IT, P	A
MONUC,	B, DK, FR, IT, SP, S, UK	A/B
NORTHERN WATCH,	UK	C
SFOR II,	A, B, DK, F, FR, GR, GE, IR, IT, L, NL, P, SP,S, UK	C
SOUTHERN WATCH,	UK	C
UNAMSIL,	FR, S	C
UNDOF,	A, S	A/B
UNFICYP,	A, IR, UK	A/B
UNIFIL,	FR, IR, IT,	B/C
UNIKOM,	A, DK, F, FR, GR, IR, IT, S, UK	C
UNMEE,	A, DK, F, FR, GE, IR, IT, NL, SP, S	B
UNMISSET,	DK, IR, P, S	B/C
UNMOGIP,	A, B, DK, F, IT, S,	A
UNMOP,	B, DK, F, IR, P, S	A
UNOMIG,	A, DK, FR, GR, GE, UK, S	A
UNTSO,	A, B, DK, F, FR, IR, IT, NL, S	A

A = low level; B=mid level and C=high level.

4. Capabilities

Whilst this study focuses on equipment capabilities, capability also relies on the quality and number of personnel and training, and this might be an area worthy of further assessment. Training is a crucial area for consideration because present crisis management demands increasingly professional armed forces with niche skills and training, which invariably cannot be generated overnight.

Future, more demanding, EU crisis management operations will increase this trend towards use of specialised forces, as will consideration of terrorism and ESDP. In the absence of any guidance to do otherwise this study concentrates on the equipment capability shortfalls (as requested initially).

It is also important to note that the list of assets and capabilities provided by the ‘terms of reference’ of this study do not include decision-making capabilities or other existing NATO assets (such as command and field HQs and AWACs). We base this study, therefore, on the assumption that these assets have been deliberately excluded.

The following capabilities are divided into areas. These correspond to those used by NATO in analysing its existing capabilities and shortfalls for NATO planning purposes and as expressed

under its Defence Capability Initiative (DCI). Grouping the shortfalls according to the five capability areas is also useful for analytical purposes because it highlights ‘clusters’ of weaknesses that the EU may have in adapting to its requirement for Crisis Management operations.

In the final section ‘Enhancing European Military Capability’ our analysis is taken a step further to provide a concrete strategy for meeting the capability shortfalls.

European Military Capabilities

Deployability	Sustainability and Logistics	Effective Engagement	Survivability of Force and Infrastructure	C ⁴ ISR
A400M	Air-to-air refuelling	Precision guided munitions	Forces Protection (NBC)	Intelligence assets: satellites, aeroplanes, UAVs
Strategic sea and airlift	Medical	SEAD & DEAD	Combat search and rescue	Real-time data transmission
Tactical sea and air lift		Special forces	Ballistic/Tactical Missile defence	Secure transmission of data
		Damage assessment	Troop protection systems	Air space management

4.1. Deployability & Mobility (D&M)

Whilst this study's terms of reference refer to ‘Strategic Sea and Airlift’ and to the A400M in particular, this category more traditionally includes all three modes of transport for deployment (land, air and sea) and the readiness of the armed forces for deployment (which influences training, personnel, equipment and logistics). Strategic Lift, for force projection, is defined as the capability to move armed forces, their equipment and supplies into a theatre of operations. It comprises airlift and sealift, as well as the pre-positioning of equipment and supplies.

Indeed, pre-positioning was one of the means by which the US intended to reinforce Western Europe with support troops in the advent of a war against the Warsaw Pact. In recent years the US has increased its use of pre-positioned equipment supplies on board ships for potential operations in the Middle East and the Persian Gulf region.

The advantage of airlift over sealift is essentially one of speed. Personnel and material can be transported at high speed (between 200 km/h (helicopter) and 1,000 km/h (jet aircraft) over

global and regional distances. But airlift is only one element of theatre and/or strategic lift capabilities. It needs to be balanced against other lift capabilities when considering the most economic means of getting troops into place.

For many scenarios, especially the more demanding ones and those within Europe and the adjacent regions, rail-transport and/or sealift may prove the more economic means of transportation. What sealift lacks in speed it makes up for in capacity. Using special cargo boats a strengthened armoured division can be transported within 20 days anywhere in the world's littorals.

On the one hand, EU member states' current mobility capacities are still shaped by Cold War national conceptions of territorial defence, and on the other hand by the common conceptions for the defence of Europe developed in NATO against a possible attack by the former Warsaw Pact. Transport requirements for the European NATO states, therefore, were dominated by land movement within Europe with less emphasis on strategic transport requirements, unlike the US.

At present, EU member states have four C-17 military transport aircraft and 15 Boeing 707s for air-to-air refuelling. They also maintain 54 commercial aircraft (B707, A310, DC8, VC10 etc.) for the strategic transportation of passengers, some of which are suitable for medical evacuation (MEDEVAC). A further 530 combat zone transporters (C-130, C-160, Cn-235, G-222 etc.) are available for personnel and material deployment purposes.

For Strategic sea lift the number of potential RoRo vessels in European fleets (government and private) that could be drawn upon for strategic sealift purposes is significant, although in many areas ageing. Landing Platform Docks (LPDs), represent a more military technical form of sealift for strategic and tactical capability (along with LPD-OHs) purposes that are features of fewer (amounting to 20) European fleets. Recent improvements in the UK, Germany, Belgium, Holland and Luxembourg represent significant improvements. Better co-ordination would be an important next step as well as further investigation of commercial options such as leasing.

For tactical-operational air transport, the EU member states maintain 608 medium-sized transport helicopters (MTH) and 770 light transport helicopters (LTH). More than 900 civilian aircraft, with the appropriate global logistics, are at the disposal of the EU for possible military use. Apart from the A400Ms (see below), 45 new C-130 combat zone transporters are being procured. Tactical-operational mobility will be modernised by 280 MTH and approximately 280 LTH.

4.1.1. A400M

European nations intend to buy a total of 196 A400M aircraft during the next two decades. These aircraft are intended to close the air-transport capability gap, identified within both NATO and the EU. Current estimates and recent experience in European collaborative procurement projects indicate that this aircraft will come into service at a later date and at a higher price than those envisaged today.

The present focus upon the A400M capability represents a degree of over-capacity in one lift area to meet a very specific type of transport requirement, while other types of transport requirement are neglected or will continue to be insufficient. The EU member states will continue to lack the capability for strategic long-range transport as well as the capability for transporting outsized cargo (the four leased British C-17s are an interim solution only; and at present many states use the Russian AN-124s on an *ad hoc* lease or rental basis).

The need for a mixed fleet of air transport has, therefore, been neglected whilst the A400M fleet is going to be larger than is economically sound or militarily necessary.

Consequently, the current planning for European airlift requirements should be revisited. For operational as well as cost reasons the following options should be considered:

- First, Europe should address its need for some strategic airlift capability. One option to meet such a need is to revisit Russia's offer from the mid-nineties to provide Germany and possibly other European nations with AN-124 aircraft under 'debt for equipment' deals. The AN-124 seems to be a very capable and reliable, as well as cheaply available, aircraft. Preferably, any such initiative would come from more than one EU member state.
- Second, those nations procuring the A400M should consider either reducing the size of the programme or seek additional roles for this aircraft (NATO has already indicated that it might be suitable for an air-to-air refuelling role). Using the A400M for additional roles would reduce the number of aircraft types operated within national air forces and the EU. Analysis should also be conducted on using the A400M with a variety of containerised modular mission equipments. If technologically and operationally feasible such an approach could provide for substantial savings. Role-sharing, training, maintenance and logistics support should also be considered on an EU-wide basis in order to achieve savings in support and infrastructure.
- Smaller EU nations, not facing significant demands for large transport aircraft do, nevertheless, have a requirement for some airlift capability. Arrangements should be made on a leasing or buying per flight-hour basis with those EU (or other) countries possessing the required lift capabilities.
- Some EU members are considering the development of both a European Air Transport Command as well as a co-operative approach to pooling airlift capabilities. This is welcome, but the biggest hurdle seems to be that most nations still require such capabilities for national operations. This could be overcome by adopting 'protocols of access' whereby each member state can 'draw down' a number of aircraft for national contingencies.
- Alternatively, states could earmark a proportion of their assets for a joint pool, on which all nations could draw, thereby creating an EU capability.

To co-ordinate and plan the use of these pooled aircraft could be an initial task for the European Airlift Transport Coordination Cell, later to become a European Air Transport Command. Further exploration of co-operative approaches on airlift issues, such as those that already exist between Germany and the Netherlands, is worthwhile in order to devise best practice and to see what economic and interoperability benefits might accrue.

4.2. Sustainability & Logistics (S&L)

Essential to strategic lift is sustainability (unless you just want to go short distances for very short periods of time). This is where strategic lift can be sub-divided to include elements of logistics. These have been defined as: 'the careful integration of transportation, supply warehousing, maintenance, procurement, contracting, and automation into a coherent functional area; in a way that prevents sub-optimization in any of these activities; and in a way that permits and enhances the accomplishments of a given goal, objective, or mission'¹. This includes the capabilities mentioned in the study's terms of reference: air-to-air re-fuelling and logistic support capabilities (such as landing support ships over the horizon as well as over the shore, heavy equipment transport (HET) in theatre, as well as light transport equipment, and so on).

4.2.1. Air-to-air refuelling

The ability to refuel an aircraft during flight is a classical force-multiplier, because it allows an increase in several operational parameters. This Air-to-Air Refuelling (AAR) can be performed during a deployment, thereby allowing the refuelled aircraft to reach longer distance without the need of intermediate bases. Usually the flying refuelling tankers are also capable of transporting their own logistic materials, thereby enabling them to enjoy a relative logistic autonomy in any new airbase.

By increasing the combat radius of warplanes AAR not only allows targets to be reached far beyond the normal range, but also enables an increase in weapon load. Often, aircraft cannot take-off from overseas airbases fully loaded, due to environmental and climatic reasons. In air-defence operations AAR is also used to prolong the combat endurance of fighter planes. As aircraft involved in operations usually operate from different bases, AAR is an essential factor to assure the practical integration of different platforms in a single package. In Europe, only British and French air forces have a long experience of AAR-assisted combat operations.

Some other countries, like Italy, Spain and the Netherlands have recently acquired some limited AAR assets, and have used them during operations over Yugoslavia. Other countries are only now beginning to introduce air tankers. The ability to plan and execute very complex AAR operations, however, like those required for the support of air combat packages, will be possible only after long practical experience.

If Europeans want to improve interoperability it will be important to think about common acquisition because having a number of different types of air tanker will deeply hamper European capability in this sector. A more efficient pan-European integration of AAR assets needs to be adopted.

In the short term, a possible solution to address European shortfalls could come from cross-training, with tankers from one country deployed to allied bases for training with different

¹ Pagonis, Lt. General William G., *Moving Mountains: Lessons in Leadership and Logistics from the Gulf War*, Harvard Business School Press, Boston Massachusetts, 1992, p. 2

combat units. Due to the limited number of AAR assets available, however, and the multiple commitments, cross-training could only be practised during major exercises.

A more sound solution would be a European procurement programme, with the acquisition of a common AAR platform, which would also ease interoperability problems. The pooling of these new assets could significantly reduce operational costs. To pool the present array of national platforms and AAR devices, however, would not be as effective because of substantially different logistical needs and procedures.

4.2.2. Medical

Medical support is an important component of any contemporary operation in both support to armed forces and to civilians (such as refugees or in evacuation operations). In many peace support missions medical personnel comprise a higher proportion of the deployed force than they would in war-fighting operations. This is particularly relevant to the range of operations under the Petersberg Tasks. Medical support is not only about people (doctors and nurses), but also about equipment. Equipment is needed to move the wounded to treatment facilities in a timely fashion.

Due to practical multinational efforts to seek solutions in the field to make up medical capability shortfalls, the EU member states would do well to think more systematically about co-ordinating in this area. It would also seem to be a capability area where a European joint or pooled initiative such as a Medical Support Command Centre might be adopted. Such a Command Centre could also form the basis of joint training and support. As well as being a useful contribution to civilian aspects of EU crisis management. It might also serve to support member states (perhaps through the EU Civil Protection Mechanism) in times of civil emergency, such as a terrorist attack.

4.3. Effective Engagement (EE)

This group of capabilities (defined for this study as: Precision-guided weapons; Precision strike; Electronic jamming; Anti-air defence penetration; Damage assessment) provides the air force with the ability to achieve 'air superiority'. In contemporary air power doctrine 'air superiority' is regarded as an essential prerequisite for any ground intervention.

At present (and in debates during the Kosovo and Afghanistan crises) we see differences of emphasis between the EU member states and the US with regard to the extent to which air superiority then gives way to air power as the predominant means of achieving an intervention's objective. Reconnaissance and battle damage assessment is also important for this category of capabilities in order to identify targets (perhaps with close civil-military proximity) and to assess results.

The very concept of "effectiveness" has evolved from a traditional approach based purely on the calculation of rate of success in the execution of an offensive action, to a more complex evaluation that includes the long-term effects of the attack, in the politico-military context. For

example, the carpet-bombing of enemy infrastructures or artillery shelling of troops hiding in urban areas are very effective in traditional military terms, but could lead to unacceptably high civilian casualties, thus hampering the achievement of the final aims. Domestic audiences, informed by media networks, have also influenced the way such 'effectiveness' has been interpreted because heavy civilian casualties can result in a withdrawal of support for government policy.

During the last fifteen years, the recurrent crises in which western countries have been involved have demonstrated the increasing need for "crisis-management assets", and for evaluation criteria to assess the effectiveness of military action. New parameters have emerged as key factors in the achievement of strong military effectiveness. So, "lethality" has lost ground in favour of "proportionality" and the reduction of collateral damage. The quantitative approach of measuring damage inflicted on enemy forces was substituted by the qualitative evaluation of disruption caused to an adversary's capability and willingness to persist in resisting. This evolution in military thinking has been widely accepted by western politicians and their electorates.

4.3.1. Basic conditions for effective engagement

In a strategic environment where there is not a clear threat coming from a definite state or group of states, the ability to collect every possible detail of a potential adversary's organisation and "*modus operandi*" remains paramount. Acquiring the military capacity to hamper enemy plans requires a deep knowledge of both technical data and local culture.

For example, the disruption of the enemy's command and control structure, aimed at paralysing its military capability without confronting the bulk of its forces, demands huge amounts of information regarding the dislocation of command structures etc. (information-gathering activities are discussed elsewhere in this study). Moreover, a constant "refresh" of the intelligence picture and a quick exploitation of collected data, through efficient means like real-time data links and data-fusion centres, is required. A further step is the ability to penetrate the adversary defences, without suffering heavy losses, to engage selected targets.

In general terms, the achievement of the superiority in the specific battle-space (air, sea, land or a combination of these) is a precondition for offensive actions. Sometimes the superiority against the enemy defences can be achieved through technological advantages. For example, stealth technology allows attack aircraft to operate in enemy airspace even if definite air superiority has not been achieved.

4.3.2. Anti-Air, SEAD and DEAD operations

When technological superiority alone cannot assure immunity from enemy defences, the first phase of a compelling military action sees the execution of so-called "forcible entry". In the case of air attacks, this means confrontation with enemy air defences, such as interceptors, surface-to-air missiles (SAMs), anti-aircraft artillery (AAA) plus the whole Command,

Control and Communication (C3) structure. Recent experience has reinforced such assessments¹.

Suppression of enemy air defences (SEAD) typically refers to any mission designed to neutralise, destroy or temporarily degrade enemy ground-based air defences. The two basic forms of SEAD are electronic “jamming” of radar and communication systems and attack with anti-radiation missiles (ARMs).

Electronic jamming is usually performed by dedicated platforms, specifically equipped with very sophisticated systems, capable of intercepting enemy emissions and degrading their functionality, through the emission of deceptive signals. When the jamming is performed from a certain distance (stand-off jamming), it requires high-power jammers (transmitters). These are only available on dedicated aircraft. Such planes can operate in a pre-emptive mode, degrading enemy air defences without physical destruction, allowing allied attack systems to perform their mission with a higher level of immunity.

Strike aircraft can also jam or deceive enemy radar, with their on-board electronic-warfare (EW) systems. In this case, the action provides a last-ditch defence, preventing enemy SAMs from completing a successful engagement. While SEAD by jamming is usually referred to as “soft-kill” suppression, the utilisation of ARMs is designed to physically destroy enemy radar, or at least its emitting aerial. Modern ARMs can direct themselves against such emitting radar, while also being able to discriminate between different enemy (or friendly) systems, and attacking the most dangerous ones.

Due to the limited coverage of built-in sensors, ARMs are much better used when coupled with electronic-intelligence systems, usually installed on the same ARM-equipped aircraft. More recently, experience gained during operations over Iraq and Yugoslavia has shown the need for a new type of operation, labelled DEAD (Destruction of Enemy Air Defences). While the primary goal of SEAD is the survival of friendly forces, that of DEAD is to locate and destroy air defence systems.

Knowing the precise whereabouts of the (possibly mobile) target is crucial. Although of paramount importance, SEAD and DEAD missions are historically under-funded. In European air forces presently there are no aircraft capable of performing stand-off jamming. Consequently, it is impossible to increase friendly forces’ survivability through pre-emptive or soft-kill measures.

All the main air forces can launch ARMs, but only German and Italian air forces have dedicated aircraft, with specific SEAD equipment and training. There are very few options for quickly increasing European capabilities in this sector, because only a limited number of highly qualified officers with dedicated assets are currently involved in Electronic-Warfare (EW) and SEAD/DEAD.

¹ In the last fifteen years, Western air forces have been at risk in about a dozen air-to-air engagements, while in the same period there were thousands of surface-to-air engagements, with more than 4,000 weapons fired for the suppression of ground-based air defences.

The first option is stronger co-operation among European armed forces in the sharing of all technical data collected on the enemy's Electronic Orders of Battle. A single EW support unit could produce the software updates for all European EW systems, although the utilisation of several US-supplied "black-boxes" could hamper this form of rationalisation.

The present SEAD assets available in Germany and Italy could be enhanced via an increase in aircraft and related weapons. Of course, this solution would require additional funds, unless reductions were made in other capabilities.

The Europeans should also increase their joint training in this sector, by trying to integrate combat units from different countries, usually not involved in SEAD/DEAD activities, into combined combat-packages. The execution of this kind of training, routinely practised by the US, requires wide airspaces and training ranges, and the possibility to fly very-low level, supersonic sorties.

In the longer term, Europeans can develop EW and SEAD/DEAD variants of common aircraft, like the Eurofighter. For example, the third batch of this plane, to be delivered in the 2011-2015, is currently under evaluation for the possible introduction of several technical modifications on the present design. The development of a new specialised variant would, of course, require additional funds.

4.3.3. Precision strikes

Once a reasonable level of survivability is achieved, the attack forces can engage adversary assets, according to strategic priorities and operational doctrines. A reduced number of attack platforms, an equal reduction in the number of targets and a requirement to limit collateral damages has led to an increasing use of guided weapons, or Precision-Guided Munitions (PGMs) instead of the so-called "dumb" ones.

In general terms, a guided weapon is a system capable of being directed from an external input or by internal device, against a predicted aim-point. The guidance systems can vary between the cheaper wire-guidance variety to laser, radio, acoustic, radar or thermal direction. The weapons can also be pre-programmed, following inertial or GPS-aided navigation. They can be launched in the approximate direction of the target, and then guided by the weapon-operator (man-in-the-loop concept), or follow the instruction of built-in sensor (fire-and-forget concept).

Depending on the guidance system, the sophistication of sensors and designators, and a number of external factors like training, weather and so on, PGMs can achieve very high accuracy (Circular Error Probability (CEP) of less than three metres for air-launched weapons and less than one metre for ground-launched missiles)¹.

Nonetheless, the use of PGMs does not eliminate the risk of collateral damage. PGMs can hit the wrong targets, due to technical malfunctioning, bad aiming or wrong identification. For

¹ The Circular Error Probability (CEP) is a statistical parameter, measuring the radius of a circle within which 50 per cent of rounds fall.

example, laser-guided bombs can malfunction in bad weather: if the laser beam is interrupted by fog, dust or a cloud, the bomb can fall up to several hundred metres from the aim point.

Among European armed forces, the use of guided weapons started in the 1950s, with the first generation of air-to-air missiles. Today this kind of weaponry is widely adopted. For example, air-launched PGMs were introduced in the British and French air forces more than two decades ago, although most of the other forces started the acquisition only after the Gulf War or the operation over Yugoslavia. As a consequence, while an increasing number of EU air forces can today field PGMs, the effectiveness of these combat units in a real, full-scale operation have yet to be tested.

A rapid increase of European capabilities in this area cannot be achieved through the integration and rationalisation of EU assets, simply because there are not enough of them. Europeans could, nonetheless, integrate their procurement process, agreeing on common weaponry and sharing the cost of integrating these systems into similar platforms. But a substantial improvement in European effectiveness could be obtained after comprehensive and realistic training, to be performed several times a year, involving a large proportion of EU assets.

Like the “Flag” exercises practised in the US, the Europeans should organise realistic training activities, with complex scenarios involving the actual release of weapons. The results of the exercises should be analysed by selected teams of instructors, for immediate feedback to EU air forces.

In the longer term, Europe could develop its own set of precision strike assets, financing the R&D for a new generation of weapons and platforms. The integration of national requirements could lead to a substantial saving of money and increase of combined EU capabilities. At the same time, the adoption of a “European Standard” could reduce interoperability with the US.

4.3.4. Battle Damage Assessment

Following any strike it is necessary to assess the condition of the targets attacked. The nature of the typical targets engaged in precision strikes (like buried bunkers or specific parts of a C3 network) often requires a complex Battle Damage Assessment (BDA). This action can be performed through traditional reconnaissance, either by aircraft, satellites, Unmanned Aerial Vehicles (UAVs), or by other intelligence resources, including human intelligence (HUMINT).

The BDA results should themselves then become part of the broader intelligence picture, at the base of the whole planning process. If necessary, the targets could be engaged again. In other words, the process of effective engagement follows a circular loop: intelligence, planning, forcible entry, precision strike, battle damage assessment, intelligence, and so on.

Europeans could improve their BDA capabilities through a more effective sharing of national resources, but the shortfalls in several key assets within the system could not simply be made up through rationalisation. Therefore, only a wide, EU-led programme for the acquisition of a

comprehensive set of BDA assets could effectively modify the present situation.

4.3.5. Special Forces

Special Forces are used for a range of operations where technological solutions alone need to be combined with human resources. These forces can be used, for instance, to support effective engagement representing HUMINT on the ground to gather/verify information on targets (as used in the Gulf to provide information on mobile SCUD launchers and similarly in Kosovo) and even act as 'man-in-the-loop' role in targeting. This is particular pertinent to Europeans lacking more technological assets/capabilities for effective engagement and intelligence gathering (such as SIGINT).

Special Forces represent a highly skilled capability in many European Armed Forces (albeit with varying degrees of practical experience). This capability area, however, is not one that can easily be pooled from member states as a common European resource. Special Forces rely on sensitive national intelligence, which member states are unwilling to pool or share because of jealously guarded sources and the risk of compromising such sources. In the UK's case, an added reluctance derives from that country's exclusive intelligence sharing relationships with the US.

In this respect any efforts to increase the capability of Special Forces in Europe would better be based upon creating a new European pool of Special Forces. This pool could be drawn upon by member states but would be trained at an EU level with independent support and intelligence resources. This might also complement any efforts to provide the EU with technical means for gathering intelligence. Member states might be able to draw from this pool, but it would not normally be integrated into member states' own intelligence gathering and support systems.

This is a mid-to-long term solution, of developing a new generation of EU Special Forces, would require intensive training and would be highly sensitive politically. Nevertheless, it may be the only way to overcome national barriers to this niche capability.

Special Forces also require a special category of air and naval transport capacities. Because they need to be assured of penetrating hostile territory they require a tactical lift capability, support with a range of communications assets, and the ability to withdraw. They may also need to be able to draw upon a range of the assets included under effective engagement. The EU states should devote particular attention in future to the mobility of Special Forces.

4.4. Survivability of Force & Infrastructure (SFI)

The full spectrum of 'Forces' protection and Troop protection systems' cover ambitions for theatre missile defence (TMD) to specialised units trained for operating in Nuclear, Biological and Chemical contaminated environments to tactical troop carriers.

4.4.1. BMD/TMD and Troop Protection Systems

Renewed US enthusiasm for ballistic missile defence (BMD) against long-range ballistic missiles has, to a large extent, not been matched in Europe. The Bush Administration's decision to withdraw from the Anti-Ballistic Missile Treaty has lifted any restrictions on its entitlement to develop, test and deploy strategic missile defences (there have never been any similar restraints upon theatre missile defences (TMD)). Hence, the US is now free to proceed across the spectrum of BMD possibilities.

One fundamental transatlantic difference stems from a divergent threat perception. The US perceives a growing menace from so-called rogue states, armed with ballistic missile of increasing range and sophistication and carrying chemical, biological or nuclear warheads. Moreover, according to US thinking, these states, compared to the Soviet Union during the Cold War, will be far more difficult to deter from using such weaponry. European governments, on the other hand, tend to regard these fears as exaggerated and also place greater faith in deterrence continuing to work. For them, threat assessment is a calculation based upon intention as well as capability; something the US government now relegates in importance.

States' attitude to missile defence is also partly dependent on the extent to which they expect to involve themselves in force projection. Consequently, France and the UK, for example, are more likely to confront states armed with ballistic missiles than many other European powers. A further divide in threat perception may also occur between those states who are already, or may soon become, within range of ballistic missiles launched from the Middle East and North Africa, and those who may not do so for another decade or more.

The US, which has already actually deployed some TMD, now intends to proceed with a wider range of BMD programmes and will explore a range of systems and basing modes, each of which will require some type of supporting infrastructure, some of which will require forward-based radars located in European countries. Current distinctions between strategic BMD - against long-range ballistic missiles - and TMD - against short-range ballistic missiles - will become blurred. A number of European countries - Germany, France, the Netherlands, Italy and Greece - already have TMD programmes; Spain and Turkey are considering the matter and NATO as a whole is conducting a feasibility study. Will these states and others now participate in this much more extensive US BMD effort?

One factor to consider, despite US eagerness to draw these European states into their programmes, is the way in which participant countries are treated when they do collaborate. For instance, when the US cancelled the Navy Area element of terminal defence in December 2001 it failed to notify its German and Dutch partners; they learnt about it in the newspapers. Though Germany and Italy have been paying 45 per cent of the cost of MEADS, the US has for years refused to share the underlying technology, insisting that they buy 'black boxes' from US suppliers.

At some stage European countries will have to decide to what extent they wish to 'buy in' to missile defence. Do they want to restrict themselves to TMD in defence of deployed forces or

local populations in theatres of operations overseas? Or do they want the territory of the EU itself to come under the cover of missile defences?

To an extent the answers to these questions depends on how the US proceeds. For example, if the US concentrates on boost-phase defences i.e. those that need to be sited adjacent to the adversary, everyone, including the EU will benefit from protection. On the other hand, mid-course and terminal phase defences will require the citing of BMD missiles and platforms on or adjacent to EU territory. This could prove politically controversial as well as require the diversion of military assets – for example, missile-armed warships - from other duties.

A number of other questions arise from the choice of system pursued by the US. For instance, whether the degree of protection offered by missile defence is offset by the vulnerabilities of newly deployed forward-based radars in Europe? How potentially destabilising would it be to have automated boost-phase defences at time of regional crises?

It is too early to predict what type of BMD system the US will plump for - we are too early in the testing and evaluation cycle. Nor is it possible to say with any certainty what level of effectiveness such defences may achieve, save to say that no defence can be expected to be perfect. In which case it really comes down to how much EU governments are prepared to invest in BMD, given that it is likely only to mitigate the threat from one particular means of possible attack. Instead of spending significant scarce resources in search of a technological 'fix' for dealing with states of concern armed with ballistic missiles, EU governments may prefer to strengthen deterrence, arms control and diplomacy as better policy instruments.

Nevertheless, a degree of European interest is already evident with several European nations working to increase their missile defence capabilities. Most programmes now underway are in cooperation with the US and will concentrate on defending naval forces and deployed forces during out-of area operations (Patriot PAC-3, Aster, MEADS). All of these systems concentrate on defending against incoming missiles with a range no longer than 1,000 km.

Several European nations are currently engaged in a - soon to be ready - NATO-study to define the needs and options to defend against longer range missiles of up to 3,000 km within the NATO Integrated Extended Air Defence (NATINEADS) programme. This work indicates that they might go beyond the protection of deployed troops and start working on a European version or, perhaps more likely, one that links/plugs into a US system.

4.4.2. Forces protection

Physical protection against nuclear, biological and chemical agents must be provided for the respiratory system, eyes and skin. Protection is achieved by wearing a respirator and a protective suit, gloves and boots. A mask provides a safeguard against the majority of biological agents that cause infection through the respiratory or digestive tracts. Collective protection (COLPRO) is the term given to a facility that provides personnel with a toxic free area within a contained environment where individual protective equipment need not be worn. These facilities can be buildings, tents, vehicles and areas in ships. COLPRO provides valuable respite from the physiological and psychological burden that can result from

prolonged wearing of the full array of protective clothing and equipment.

Immunising personnel against biological agents is an important form of protection. During the Gulf conflict in 1991, troops were offered immunisation against anthrax and plague. However, this process takes time. Vaccines against biological agents must go through rigorous clinical trials and licensing procedures to ensure that they are safe.

Other medical countermeasures available against both biological agents and nerve agents include Biological Agent Treatment Sets (BATS) which can be taken by personnel in a theatre of operations in advance of a bacterial attack to help provide protection. These, together with specialist antibiotics and other therapies can also be used as life-saving measures after an attack. Nerve Agent Pre-Treatment Sets (NAPS), which can also be taken in advance of an attack, can help protect against the effects of exposure to nerve agents. After a nerve agent attack injectors can still be used to help victims and save lives.

NBC protection systems are not a priority in the near term for ESDP capabilities. The risk of attack from NBC weapons is unlikely to be faced when engaged in low-to-mid level Petersberg tasks. For high-level Petersberg tasks the risks will have to be assessed on a case-by-case basis. In the event of Petersberg Tasks being extended to include counter-terrorism operations sufficient assessment will have to be made of the availability of CBW protection and the potential for the terrorist organisation to use any CBW capabilities.

4.4.3. Combat Search and Rescue

Many European Countries possess Search and Rescue (SAR) capabilities (namely helicopters) which could be useful for low level Petersberg Tasks. However, because these assets are distinct from Combat Search and Rescue they are vulnerable except in any military level engagement where they may be vulnerable to hostile activity. CSAR assets amongst the MS are in much shorter supply. This was apparent by so few CSAR being made available in MS commitments to the HHG, with Italy being the only country to specifically refer to such a capability (with 6 CSAR Helicopters from its own 15 assets).

CSAR are essential for a broad range of low to high level (civil and military) operations, including medical evacuation (MEDEVAC).

Most capabilities are provided for by Helicopters supported by GPS navigation suites, armour plating, machine guns, radar warning and can include infra-red jammers and decoys.

Combined assets in this category would be sufficient for low- to mid-level Petersberg Tasks, but interoperability questions might become problematic for operations that require large numbers of these helicopters. This is due to the variety of such assets presently in European armed forces such as the AS 532 U2/A2, EH101, HH 3F Cod. B.

Availability, co-ordination and interoperability will all be challenges for ensuring this type of asset is available for Petersberg Tasks. As this capability is needed for a broad range of tasks it would be strong candidate for inclusion in any European co-ordinated formation, and in any future pooling initiatives.

4.5. Command, Control and Infrastructure (CCI)

CCI is regarded as the most important and perhaps challenging aspect of operating a multinational force - from intervention (with Force Headquarters) to deployment (with Field Headquarters). As well as the infrastructure, it is essential to have secure communications and some surveillance and intelligence assets. CCI, which is particularly important in relation to the conduct of multinational operations, includes a broad range of capabilities some of which the EU has to a limited extent and others where the picture is more promising. Here one also has to consider the role of NATO and its integrated command structure.

4.5.1. Intelligence Assets: Satellites, Aeroplanes, UAVs

The area of C2 and C4ISR capabilities (including the capabilities of real-time data transmission; secure transmission of data; and air space management) is an excellent example of the inherent limitations of the questions to be answered in this study. In this key capability area a number of operations from the mid- to high-level will require some C2 and C4ISR. But the foundations upon which the Petersberg Tasks have been discussed shy away from discussing this area because an underlying assumption is that there will be recourse to NATO's assets.

The problems with this approach are as follows:

- First, that NATO capabilities might not be available under all circumstances. Nor might they be available automatically, but have to be negotiated through long political processes, thus slowing any EU crisis management response.
- Second, it is also entirely possible that EU interests and EU military requirements will be defined differently in 15-20 years from now, i.e. they might have developed from those of the current limited ESDP, into those of a future CESDP. In the case of the latter the EU may require its own panoply of Headquarters and integrated planning systems, unlike that envisaged today under the HHG process.
- Third, while operational and tactical C4ISR stress the need for deployability, strategic C4ISR requires a more permanent capability and support infrastructure. It would be advisable for the EU to consider its long-term future needs when developing C4ISR for short-term operational needs and how these systems might connect/develop within a more autonomous strategic C4ISR system in the future.
- Fourth, recent developments in military operations that adopt 'network centric warfare' for combat and counter-terrorism operations, should be monitored for the relevant implications this might have for more intensive Petersberg Tasks (for instance, the relationship in C4ISR between platforms and future infantry/special forces).

If the availability of NATO assets is taken for granted most of those C4ISR capabilities required for the Petersberg Tasks are currently under development in the context of NATO's DCI process. Deployable command and control will be greatly enhanced once NATO's initiative to develop more rapidly deployable headquarters bear fruit. Several of the headquarters planned can manage command and control for deployed forces up to corps-size. However, joint operations, i.e. operations including air-forces and naval forces, will continue to require the availability of higher/strategic non-deployable NATO-headquarters.

However the nascent EU Military Staff (EUMS) has not begun to develop any concrete plans for higher/strategic headquarters' capabilities other than utilizing NATO's separable but not separate CJTFHQs.

EU options for strengthening its own - and also NATO's - capabilities by working under the constructive duplication model include, inter alia:

- making additional satellite secure communications capabilities available
- providing additional supporting strategic and operational intelligence (technical and human)
- securing better interoperability for existing capabilities, such as low level flight reconnaissance aircraft
- investigating whether a deployable airspace management capability, which can handle all types of manned and unmanned missions would strengthen both the capabilities.

Beyond these approaches the EU member states must still define their needs for future capabilities. Among the questions that should be raised are the following:

- For operations limited to Europe and adjacent geographical areas, without recourse to NATO assets, UAVs and air-based intelligence assets are likely to provide a better and more cost-effective solution. Both can be deployed to cover the crisis area for 24 hours a day, seven days a week, an option that satellites could only provide at exorbitant cost.
- Is the EU to develop its own capability for "higher headquarters"? Ideally, it should have a minimum of two or three headquarters prepared to fulfil such a function. Indeed, some EU members, e.g. Germany, France and the UK, already have plans to provide such headquarters.
- Global Positioning Systems are part of modern C4ISR systems. The EU plans its own (primarily civilian) Galileo system to have similar capabilities as the US GPS system. However, the US perceives Galileo as duplication and even expressed the wish to retain options to render Galileo inoperable while GPS would still be functioning. The EU needs to resist fears of competition masquerading as concerns about duplication.

5. Enhancing European Military Capability

Having analysed particular capabilities we shall now turn to developing a strategy for enhancing European military capabilities. This strategy is intended to provide a step-by-step approach to understanding how the EU can take a leading role in improving its capabilities. This section, along with the Framing issues of Section 1, directly informs the formulation of recommendations in this study.

This study recognises that if we are to understand the complex policy developments in ESDP a framework is needed within which to analyse the policy denouement. As highlighted in Section 1, procurement solutions to present European defence equipment capability shortfalls represent a long-term approach that cannot meet the short- to medium-term needs for

Petersberg Tasks. Furthermore, any prospect of efficient and effective procurement in Europe will be determined by efforts to develop common military requirements, co-ordinate procurement cycles and programme needs, and remove national barriers to competition through offset and other subsidies.

The recommendations developed below are intended to produce efficient procurement that will offer the best return for European taxpayers and to maximise the benefits for European military needs for crisis management. It will be important to remove barriers to competition in the defence sector and to develop a competitive efficient defence industry. The further co-ordination of European procurement and the development of a European Armaments Policy will also influence the success of longer-term co-ordination, co-operation and even integration between the member states in ESDP. This will also determine the ease of future co-ordination and pooling of European military capabilities.

In turn, the short-term solutions we outline for enhancing European military effectiveness are intended to reinforce the process of closer military co-operation that will facilitate closer procurement cycles between the member states and lead to common procurement. The strategy developed below encourages greater EU-wide thinking about common requirements, and short-term pooling and procurement practice will reinforce the dynamic of better co-ordination and even integration of procurement programmes.

If the EU MS can achieve early simple successes they will reinforce the process of MS coming together to provide capabilities for crisis management operations on an increasingly multinational basis, whilst still providing independent movement for member states using pooled assets. Similarly, this approach can wait for slower defence industry reconfiguration as well as reinforce it with concrete political efforts to move closer and define common military equipment needs and standards, which will support industry efforts to consolidate and provide for a European market.

The transformation of European procurement policy and its defence industry must be approached carefully. Concern must be expressed at efforts that suggest a practice of double-subsidy (i.e. at the national level and increasingly at the EU level) We need to avoid the adoption of a defence industrial policy at the EU level that becomes a defence version of the Common Agriculture Policy (CAP), which basically subsidizes inefficient and over-capacity at the national level.

Efficient procurement practice means seeking best value for money. But this is likely to result in a negative economic impact in some areas because some SMEs will not be able to compete. Consequently, appropriate consideration must be given to commitments to regional development programmes.

Present discussions on Framework 7 (see section 1) must be careful not to become a backdoor means of subsidizing defence industries in a way that does not promote market reform and competition. Whether a framework within the EU needs to institutionalise multinational European practices such as OCCAR and the Framework Agreement to create a new structure, remains to be seen.

If such an approach is adopted (as suggested by the Greek Presidency using a committee within POLARM), then the question will arise about the Commission's future role vis-à-vis defence industries and in particular whether Framework 7 should be extended to include defence projects. Any extension of the Commission's role will involve changes to the EU Treaty (Article 296).

An intermediate solution, extending Framework 7 to include defence R&D, might be appropriate if it was based upon an approach to defence industrial reform that encouraged the universalisation of co-ordinated and common procurement (a European Procurement Agency) and which opened Framework 7 only to those projects that were part of the new approach to procurement.

In this respect procurement would remain an inter-governmental process within the EU framework but would be governed by competition rules and eligible for the appropriate EU Framework 7 funding. Similarly, the member states must commit themselves to transforming national procurement practices (including offset), perhaps within five years, to the new EU framework for all new procurement initiatives and accept the application of EU competition policy. If member states are not prepared to engage in more purposeful market reform with the EU then Framework 7 funding should not be made available. It is recognised that this would have a damaging industrial impact on certain regions, and careful co-ordination with those allocating the European Regional Development Fund and the European Social Fund would be required.

This approach would create an EU procurement framework that could link with the EU Code of Conduct on arms exports.

We shall now develop a more coherent policy approach to equipment shortfalls by drawing upon approaches such as pooling, shared assets, procurement, and leasing arrangements.

5.1. The case for shared capabilities

All proposals for more capable European forces will require serious investment. While European nations are to a greater or lesser extent restructuring their forces, there is little sign that new money will be made available for new capabilities. Defence budgets at best are held level in real terms, and this is insufficient to fund either major new capabilities, or maintain force levels over a period of time. Yet plans for enabling capabilities, identified by the Helsinki Headline Goal (HHG) process, will need early funding if they are to be achieved.

Pooling, of course, should not be seen as a panacea for meeting European military shortfalls. It is part of a strategy for making up shortfalls in the short to long term. However, it is most cost efficient in the context of pooling new capabilities, because pooling existing capabilities will also include significant costs associated with base closure, redundancies and building new bases and supporting infrastructure for the pooled capability. Changing the maintenance and support patterns of an existing fleet can have negative operational impact, for instance when the Italian Air Force leased from 24 RAF Tornado ADV, the efficiency of this fleet

plummeted, because it was virtually impossible to sustain ten-year old planes that came from a different state with completely different logistic procedures. Nevertheless, once the financial and technical pain of pooling existing assets has been borne to acquire meet short-term capability shortfalls, the economies of scale associated with pooling new assets should be more apparent. In order to maximise the advantages of pooling, it is important for the countries involved to decide from an early stage to arrange a common logistical support, tailored for the “pooled needs” of the national forces.

There are three complementary pressures on European nations to start taking forward the pooling of some force elements. First, pooling offers the opportunity for lower overhead costs, and the resources released might then be used to fund new enabling capabilities. Second, pooling would make the new enabling capabilities more affordable on a shared basis. Thirdly, pooled forces would drive moves towards greater interoperability and common doctrine and equipment

5.2. Classes of pooled forces

Putting political and financial budgeting difficulties to one side, it is relatively simple to identify a range of opportunities for European pooling of capabilities. They divide into two broad categories. First, there are those common equipment capabilities that already exist, but that are operated on a national basis. Second, there are new capabilities, which would need to be procured and operated on a co-operative basis.

The pooling approach to greater efficiency in defence spending on an EU-wide basis should be done on a progressive basis. An abrupt move towards complete integration of military capabilities is not remotely feasible given current national sensitivities and policy divergences. A related concern to countries with serious defence aspirations is their scepticism about the commitment of some other European governments for any difficult military undertaking, particularly outside the region.

Pooling is not a new or untried idea. As mentioned above, NATO fields a supranational capability: the joint owned and operated AWACS force. At the same time, some nations have already come to bilateral arrangements for sharing specific resources in order to cut costs.

The agreement by the Netherlands and Belgian navies to develop common headquarters and support services for their fleets is one hopeful sign that European states are recognising the need to make a start on the elimination of expensive duplication. Today this approach is allowing greater military capability to be deployed. While the Dutch and the Belgian planners would individually be reluctant to offer an unlimited deployment of a frigate for operations, they can now arrange to share a task with a roulement of forces between themselves. The management of the force from a shared headquarters results in a greater military capability at no extra cost.

Another example is the Nordic logistics battalion, which provides a pooled capability for peacekeeping operations in the Balkans. Building on these successful schemes would lead to

planning for future programmes on a more rational basis.

If we look at the European forces as a whole, we see duplication of headquarters, planning, training, logistics support, procurement, research, bases and other facilities. Opportunities for more effective operation of European military forces are apparent across the range of military capabilities. However, some force elements lend themselves to pooling more readily than others, and there are also different pay-offs depending on the costs of duplicated infrastructure.

5.3. Early Opportunities for Pooling

For a number of reasons aircraft capabilities offer the possibility of much more quickly achieved improvements. For a start, air procedures are already well harmonised between nations. English has become the universal language of the air, and this considerably eases the problem of mounting international combined air operations. Most importantly, given the high unit cost of air force platforms, it is not surprising that many nations operate common equipment. This also eases the problems of rationalisation. Finally, the high costs of infrastructure to support air operations mean that modest rationalisation can pay high dividends in achieving greater military capability at lower cost.

Airlift is an obvious example of a capability that Europe needs and that could operate on a similar basis to NATO AWACS. If forces are to be deployed rapidly, they need to be able to call on a significant airlift capability. In looking for an opportunity for early rationalisation, we need to identify an aircraft type that is common to many EU members. The air tactical transport role is a capability that most nations require. Many provide for it at least partly using the C130 Hercules aircraft. Pooling of some of these widely used C130s could provide an immediate European tactical fixed wing transport capability.

Provided that nations structured their contributions sensibly, they could make operating cost savings at the national level through closure of bases, training units, and headquarters. The level of saving would depend on the degree to which each nation felt able to rely on the supporting infrastructure being provided by a European facility.

Ten EU nations operate some 136 C130s (Belgium 11, Denmark 3, France 14, Greece 15, Italy 14, Netherlands 2, Portugal 6, Spain 12, UK 51, Sweden 8). For those nations that were prepared to put their entire C130 fleets into a common pool, there would be significant savings in operating costs. They would also have a much better assurance of availability on a day-to-day basis, given the ability to plan routine servicing across a larger fleet. For Europe there would be a usable airlift capability for humanitarian operations, on Petersberg Tasks, as well as for use with NATO or UN operations. Nor would nations lose the option to withdraw their airframes and aircrews if they felt the need for some national purpose. The force would not be rendered useless if one or more nations declined to take part in a particular operation for national reasons.

For significantly lower costs to be achieved, however, the force would have to be organised on a basis very different from current on-call multinational arrangements. There would be a

single headquarters, manned by personnel from the contributing EU nations. Aircrew would be multinational and not tied only to the particular airframes provided by their countries of origin. There would be a single planning, servicing and logistics organisation to support the force. Most importantly, the manpower, headquarters, infrastructure and other savings would be realised in the military structures of the contributing nations, thereby releasing resources that could then be invested in updating and enhancing other capabilities.

Over time, the management and operation of this common fleet would lead to a common perception among participating nations of the characteristics of the next generation of transport aircraft. This would have great benefits in terms of reducing duplication of defence research and procurement costs in this particular area. The extra costs of operating on a national basis rather than a pooled basis would also become clear, and it is likely that nations would begin to see the advantages of contributing to such a force element. This would also increase the pressure for common equipment procurement programmes for successor aircraft. The costs would be much lower than if each nation tried to operate a very small fleet of large and expensive aircraft.

Air-to-air refuelling capability is also needed by all European air forces, and would be a natural candidate for a European fleet operation. The current capabilities are diverse and very limited. Consideration is already being given, in the UK, to procuring the UK air-to-air refuelling capability through a public/private partnership arrangement. This would be particularly easy to enlarge to encompass those nations in Europe that sought such a facility.

The economics of the operation would improve with a larger fleet and there would be no sovereignty issues to worry about given that the service was being provided by the private sector. The idea would work by a consortium of EU nations negotiating a contract to fund the required level of availability and peak capacity. The unit cost would fall as a result of the larger contractual requirement. The normal procurement difficulties associated with large European defence projects would be avoided by contracting for a capability, and leaving it to the contractor to optimise the aircraft mix.

In the maritime environment, the pooling of transport ships for strategic deployment is an obvious place to focus since many vessels are leased in any case. Likewise, the supply support of navies would lend itself to pooling. The great majority of naval vessels use similar fuel. There is widespread commonality of rigs and couplings. Solids (victuals, stores ammunition) might present greater short-term difficulties but none that look insuperable given the will to tackle them. Progress towards common supply services would open up the possibility of rationalising the number of European naval bases, which is where the significant cost savings would be made.

Full integration of operational combat capabilities on land would raise particular political sensitivities and would initially produce limited savings. Some of the support activities for land forces lend themselves to early opportunities for improving effectiveness at lower cost. Engineers, communications, transport and medical services could provide the first common programmes.

The wider field of logistic support could follow and an early candidate would be the development of common IT systems for logistics. The question of outsourcing logistic and support services is now under active consideration in a number of European countries. They have also experienced the disproportionate costs of supporting small national contingents in the Balkans. There would be economies through the working out of common specifications and the use of a limited number of common suppliers. Some force elements are provided jointly to all armed services. Some of these, like protection against nuclear, biological and chemical warfare, are obvious candidates for common provision.

5.4. Early opportunities for new enabling capabilities

Moves towards the pooling of some existing European military capabilities would free up funds to start providing some key new enabling force elements. Perhaps the most attractive option would be to provide a Joint Surveillance Target Attack Radar System (JSTARS), which would be an EU joint owned joint operated force on a similar basis to the NATO AWACS.

The case for such a force is easy to make. These modern sensor systems, operated from converted civil transport aircraft, allow battle management information of ground vehicles in the same way that AWACS allows the airspace battle management. There is an agreed need both in NATO and in the EU for such a capability. National solutions, which are being pursued by some member states are likely to be expensive, few in number and have interoperability problems. The cost of an EU JSTARS fleet would be shared and the running costs would be lower. There would be implicit interoperability with US capabilities, and the technology would drive modernisation of national military capabilities, which in turn would ease interoperability problems across other important capabilities.

This force would provide the basis for extending further in the Unmanned Aerial Vehicle (UAV) and other modern reconnaissance systems that are in short supply. These capabilities will be expensive, but will be essential if Europe is serious in its intention to provide real military capability. The necessary information exploitation organisation will again be much more cost-effective if operated at the supranational level.

It is also possible to see how this concept could be extended to a Suppression of Enemy Air Defences (SEAD) capability or to Combat Search and Rescue (CSAR). These are both capabilities in short supply, which would be more effective as a pooled force. However, different equipment and divergent doctrines between nations makes this an area less hopeful for generating early successes.

None of the air transport, air tanker, naval auxiliary, land support and reconnaissance pooling proposals would undermine national capabilities. Indeed, for the smaller nations it would both increase available capability and reduce costs. It is possible, therefore, to see opportunities for enhancing the support element of military power in Europe in a relatively short timescale through aggressive rationalisation of forces in being, and exploiting the moves towards public-private partnerships. Significant defence funds would be released provided that nations accepted the consequent manpower and infrastructure savings that would follow.

5.5. Moving towards deeper integration

While the support and combat support areas offer opportunities for pooling and rationalisation of forces without too many issues of national sovereignty, combat power capabilities may well prove trickier. Major European defence players will not consider giving up their combat capabilities to a supranational authority unless and until some confidence has been gained through the less contentious pooling of support functions suggested above.

Offensive and defensive air power capability is politically difficult to pool and operate at the European level, but is relatively easy to integrate at the operational level. Nations are prepared to make arrangements for multinational forces, but insist on retaining the ability to operate their forces nationally. The effect of this approach was seen in the divergence of the national Tornado enhancements over the past 20 years. The tri-national training unit was closed down in 1999 because the aircraft it operated were no longer representative of each nation's own Tornados.

As soon as it became politically acceptable, some of the existing common combat air equipment capabilities could be pooled in a similar manner to that described for the C130 force. An obvious example would be an EU F16 force. Belgium (110), Denmark (68), Greece (75), Netherlands (157), and Portugal (20) operate 430 F16s between them. Despite the divergence in Tornado IDS updates, Germany, Italy and the UK could look at how pooled arrangements might allow them to make a contribution of some of their 570 aircraft to a joint offensive capability.

The introduction into service of Eurofighter from 2003 in the UK, Germany, Italy, Spain and perhaps others offers a good opportunity to enhance capabilities and reduce costs through pooling of assets. Sharing training, engineering, logistic, and operational planning facilities would throw up significant operating cost savings. These would be greatly increased if the number of bases required could be reduced as a result. Most importantly common fleet management would play a vital role in retaining system configuration control so that all Eurofighters remain fully interoperable.

If Europe moved towards the American large airbase concept, we might perhaps imagine an operationally ready force of some 400 Eurofighters made up of 20 multinational squadrons distributed over as few as five airbases (with an additional sixth airbase to act as an operational training base). The training base could also provide a home for the Eurofighter HQ. The operating costs would be much less than the planned national arrangements, even if the traditionally smaller European airbases were retained.

The key to success would be the application of common training, procedures and aircraft modification programmes. By making each unit truly multinational and by developing the overall common operational policy through the force HQ, the problems of national divergence could be eliminated. A pooled fleet would also ensure that a common approach to weapons procurement was adopted. Indeed, it would become an attractive club to join: other European nations could calculate the additional cost savings to be achieved by procuring Eurofighter as their successor combat aircraft.

The development of a European precision attack capability would be a key part of this medium-term plan. The provision of adequate stocks of appropriate munitions would allow nations to contribute in other ways than just aircraft and aircrew. Starting the process early would allow a common view to emerge about the platform/weapons combination that should be developed.

Leaving France, Germany, Italy and the UK to develop their own future offensive capability will inevitably result in a less than ideal solution, with some relying on US solutions and others on national upgrades. A European view on both the importance and the nature of the next generation offensive air power requirement would be a very powerful driver towards procuring an effective capability, which could be truly interoperable with the new generation of US offensive air power. There is time for this process to begin, provided that nations start to operate in this role together. Under the current arrangements, Europe is likely to perpetuate the mix of systems of limited effectiveness in the offensive role.

One of the more expensive power projection capabilities is provided by the aircraft carrier. Few European nations can afford to field such a force; for those that stay in the role, the opportunity costs are very high. The UK currently plans to provide two carriers, in 2012 and 2015. France has also announced that it wishes to build a second major carrier. Spain and Italy will probably wish to retain elements of the carrier role as well.

Operated on a national level, one or two aircraft carriers do not constitute a viable and reliable force, and the opportunity costs are severe for other defence capabilities. The timescale is sufficiently long for interested nations to look at how they might jointly contribute to a force of four or five aircraft carriers with their supporting ships and aircraft. The obstacles are great and the precedents less than encouraging. France's carriers will, for instance, carry a conventional aircraft, the Rafale, while the UK carriers seem likely to be equipped with the STOVL Joint Strike Fighter (JSF). Nevertheless, the UK has announced that its carriers will be built with a conventional aircraft take-off and landing option.

5.6. The need for new defence funding arrangements

These examples suggest some practical areas where the development of EU Force Elements and common support and logistic services could provide building blocks for the strengthening of European defence contributions. They would make more effective use of European national defence budgets through the removal of the cost overhang of separate support systems. Valuable as such individual initiatives would be, they would not by themselves represent a coherent new security contribution by Europe. They would, however, illustrate how significant improvements in effectiveness could be achieved through merging particular national capabilities and sharing common services.

For this approach to become coherent, it would be necessary to develop a planning and budgetary system at the European level. Eventually there would be a requirement for a European Defence Budget. If such an accounting system were to be managed by the EU, member states would contribute either defence capability or money. The potential problems of

any such arrangement include the high degree of centralised control that would be necessary, and the demands of those paying with regard to when and how particular assets were used.

This would have a number of beneficial effects: not only would the 'free ride' be stopped, but nations would probably prefer to improve their military capabilities rather than contribute money to other countries' employment and industries. A virtuous circle of improved military capability and effective European defence could be established. There would be many problems in assessing the true worth of each contribution, but the process would also make the planning and audit at the European level more effective.

Conclusion - Section 2

The pooling of military capabilities could provide European nations with funds to buy into essential modern enabling capabilities. More of those capabilities could be afforded if they too were operated on a joint owned joint operated basis. The experience of NATO AWACS has shown the practicality of this arrangement. This approach is more efficient for pooling new assets/capabilities. Pooling existing assets will incur short-term costs associated with rationalisation and base closure and operational obstacles to streamlining maintenance and support procedures. Pooling should be an important part of a strategy for enhancing European military capabilities.

The EU should encourage the development of a number of pooled forces. The financial savings to national budgets, over the long term, could be shown with a tactical air transport force based on the C130. Savings in procurement and operating costs could be shown with an EU air-to-air refuelling force. Making transformational new capabilities affordable could be demonstrated by an EU JSTARS force with associated systems.

If such projects proved successful, the EU could encourage deeper integration of a number of combat capabilities. Currently, the political difficulties are likely to be insuperable, but as national defence capabilities continue to decline, the attraction of shared costs will become ever more the determinant of policy. In the absence of will in the combat area joint efficient procurement will be essential which must be based on the following recommendations for defence and industrial aspects of European defence.

Recommendations

1. Europe's Strategic Role

- In order to reassure those within the EU, and outside, on the direction and purpose of its developing military capability under ESDP, the EU should produce a Strategic Plan or Concept. Initially this could be achieved via an EU Strategic Defence Review and thereafter through annual published statements on defence aspects of ESDP from the Council. This process would be led by Defence Ministers, National Policy Directors and Armaments Directors and would be co-ordinated through the GAC and by the SG/HR.
- Two years after the EU Strategic Defence Review, member states should have re-aligned their policy review (Annual White Paper), budgetary and procurement reporting cycles with those of the new EU Annual Reports and member states should have included references to how they are providing for the achievement of their collective ESDP aspirations (including projects signed up to under ECAP);
- Minister of Defence Representation in the GAC should be the focus of all member states' discussions for military aspects of ESDP (including provision for EU applicant candidates/non-EU NATO members/ and NATO). Reviews would be initiated (co-ordinated by the Military Committee and Military Staff and supported by the MS' Headline Goal Task Force (HTF)) to identify the best practices in budgetary planning and financial management for the purpose of adopting common approaches.
- Likewise, a review of member states' evolving operational activities should be analysed by the Military Committee with the Military Staff in order to identify any developments that might be relevant to the future evolution of the Petersberg Tasks, especially at the higher end of military demand.

2. Defence Spending and Financing Capabilities

- The EU process of generating more military capabilities must be transparent to enable proper scrutiny of the sensitive issue of how best to provide efficient and effective solutions to Europe's military needs. In this respect ECAP reports must be made public along with notice of those options to which member states sign up.
- Enhancing European military capabilities involves spending more efficiently and investing in future capabilities.
- The approach to ESDP shortfalls should be based upon a) when the assets are needed (timeframe), and b) innovation and efficiency in the capability generation and/or procurement process.
- Furthermore, structural issues such as inefficient procurement and industrial policies should also be addressed, both at the national and EU level.
- Adopting the right approach to meeting the shortfalls will be essential for meeting short-term and long-term needs. This will require a flexible strategy for enhancing EU military capabilities rather than a rigid 'one size fits all' approach, requiring a combination of pooling, leasing and procurement. Pooling newly procured or leased equipment might be more cost effective than for existing equipment in member states' inventories due to the need to close down supporting infrastructure and assets for existing equipment and their systems.

3. Procurement and Industrial Policy Procurement and Industrial Policy:

- Where feasible, scrap any existing procurement programmes that do not contribute to the new EU strategic environment and its likely operations.
- Use the experience and knowledge gained through negotiating and working with OCCAR and the Framework Agreement to develop common thinking on questions of armaments policy.
- Agree a timetable for the abolition of Article 296. The impact of Single Market legislation on regions dependent on defence industries should be monitored in close co-ordination with DG-Regio and DG-Emploi.
- Ensure that national defence industry subsidy is not replaced by subsidy at the European level – getting more ‘bang for your buck’ requires an efficient and competitive defence industrial sector.
- The EU must recognise that its legitimacy as a global security player requires it to maintain scrupulous standards where the use of military force and arms exports are concerned. It should also maintain and further its commitment to the disarmament agenda, including by mapping out its ideas for restraining WMD.

4. Military capabilities

- In accordance with the process of carrying out an EU Strategic Defence Review and thereafter an annual statement on defence, and as a complement to the present capability cataloguing exercise in the EU, the Military Committee and the Military Staff should catalogue all operations conducted by member states (including those outside the range of Petersberg Tasks) and catalogue all stated Missions and Military Tasks presently envisaged by member states. This will provide a useful contribution to discussions about what exactly is included in the Petersberg Tasks and what types of missions and tasks the member states are prepared to conduct.
- Most analyses conclude that if EU member states want to contribute to multinational intervention operations (on behalf of NATO or the EU) across a range of operational demands then key enabling capabilities will need to be improved. EU member states have a priority to address shortfalls around the key enabling areas of:
 - Deployability and Mobility;
 - Sustainability and Logistics;
 - Command Control and Infrastructure;
 - Effective Engagement; and
 - Survivability of Forces and Infrastructure.
- The EU should also adopt a flexible approach to meeting equipment shortfalls – as set out in this study- and provided for under our ‘Strategy for Enhancing European Military Capabilities’.

Annex

Table A1 - European defence spending in recent years
(in US \$ millions)

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Austria	1852	1798	1815	1823	1808	1792	1794	1799	1794	1783	1759
Belgium	4979	4088	3883	3861	3783	3709	3665	3664	3710	3711	3592
Denmark	2918	2865	2872	2800	2771	2780	2815	2846	2829	2736	2826
Finland	1839	1871	1819	1789	1660	1877	1754	1908	1643	1751	1631
France	45902	44457	43964	44191	42003	40993	41143	40042	40379	39914	40013
Germany	44584	42407	38121	35546	34962	34289	33037	33146	33816	33117	32371
Greece	4499	4675	4564	4642	4742	5025	5355	5836	6110	6449	6577
Netherlands	8051	8005	7356	7094	6892	6932	6861	6836	7168	6871	7172
Ireland	599	603	609	636	642	677	717	723	748	805	913
Italy	22608	21958	22075	21529	19663	21675	22727	23478	24397	26025	24731
Luxembourg	117	122	111	123	120	123	133	143	145	148	171
Portugal	2336	2398	2315	2259	2426	2339	2390	2336	2457	2530	2553
Spain	8278	7655	8323	7494	7765	7586	7655	7524	7720	7997	7954
Sweden	5059	4978	4921	4840	4213	3643	4879	5036	5260	5416	5358
UK	49263	44532	43528	42108	38815	39442	37019	37232	36778	37307	36975
Total EU	202884	192412	186276	180735	172265	172882	171944	172549	174954	176560	174596

Source: SIPRI 2002, all figures given in constant US Dollar millions

Diagram A1 - EU defence spending trends

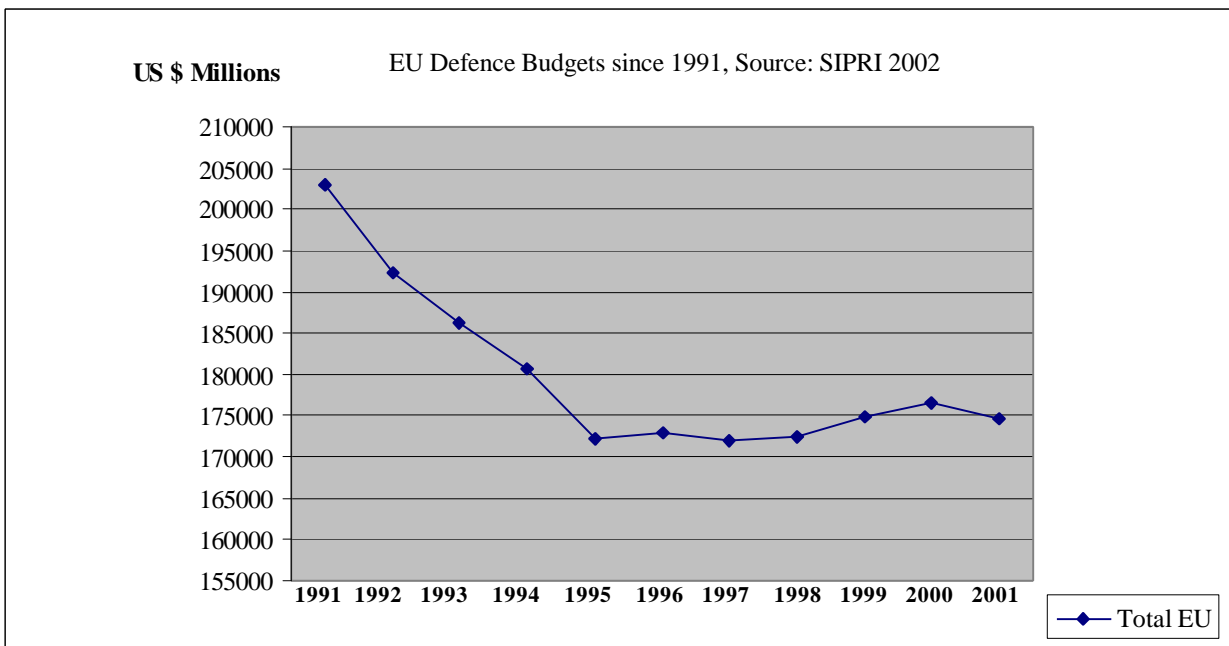


Table A2 - Defence Spending on R&D and Equipment
(in € millions)

Country	Total Expenditure	Research & Development	Equipment Procurement
Austria	1625	11	339
Belgium	2607	1	254
Denmark	2478	1	361
Finland	1648	Nf	536
France	28813	3313	5770
Germany	24826	1410	3704
Greece	3469	26	1466
Netherlands	6564	72	1486
Ireland	772	0	51
Italy	17046	35	2470
Luxembourg	107	0	7
Portugal	1654	4	403
Spain	7445	190	1156
Sweden	4781	113	2365
UK	36793	4371	9266
Total	140628	9547	29634
Average	9375.2	681.9	1975.6

Source: International Institute for Strategic Studies 2000-2001, all figures given in Euro millions

Table A3 – Total EU and US Defence Spending
(in US \$ millions)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2001	2002
Total EU	202884	192412	186276	180735	172265	172882	171944	172549	174954	176560	174596
USA	335473	354507	335940	316776	298376	282231	280785	274278	275057	285679	281426

Source: SIPRI 2002, all figures given in constant US Dollar millions

Diagram A2 - EU and US Defence Spending 1991-2001

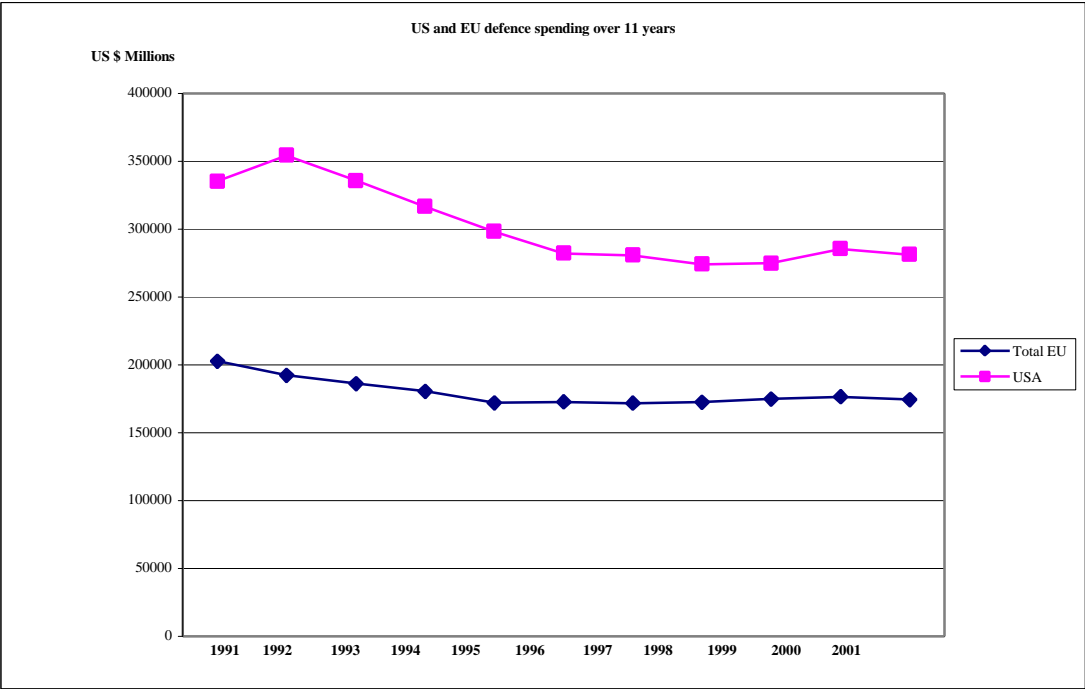
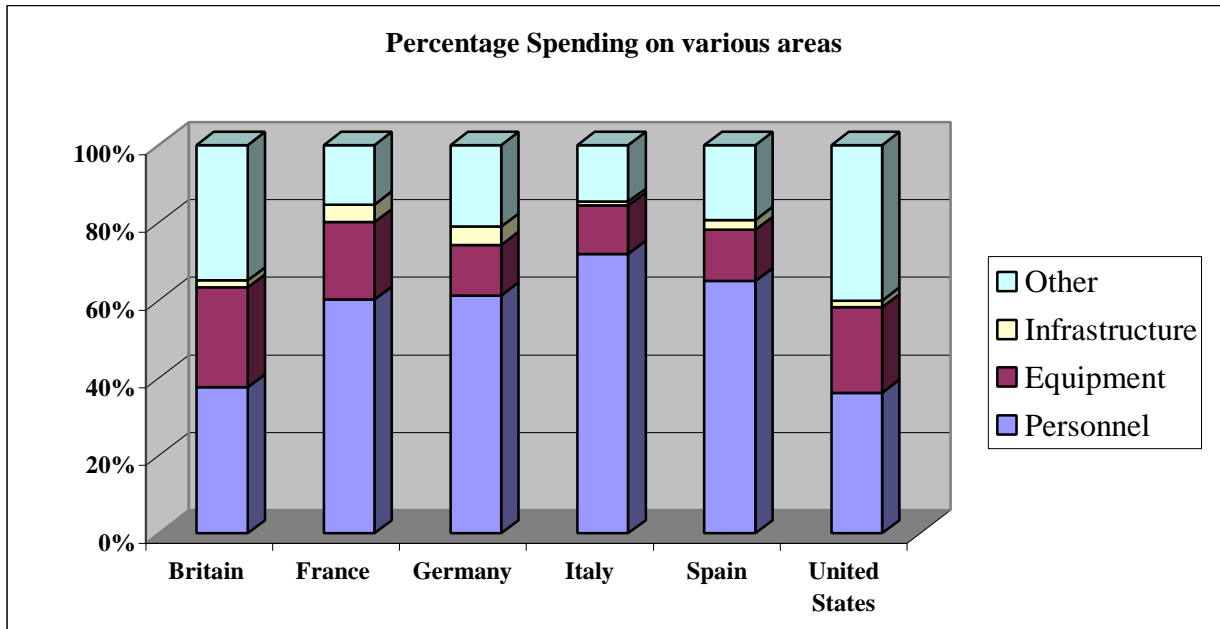


Diagram A3 - Defence spending per defence budget function
(Source: NATO)



List of Acronyms

European Union

EU	(European Union)
CFSP	(Common Foreign and Security Policy)
ESDP	(European Security and Defence Policy)
CESDP	(Common European Security and Defence Policy)
CM	(Crisis Management)
HHG	(Helsinki Headline Goal)
PT	(Petersberg Tasks)
RRF	(Rapid Reaction Force)
SGP	(Stability and Growth Pact)
ECAP	(European Capabilities Action Plan)
HHGFC	(HHG Force Catalogue)
HTF	(Headline Goal Task Force)
EUMC	(EU Military Committee)
EUMS	(EU Military Staff)
CREPER	(Committee of Permanent Representatives)
POLARM	(Armaments Committee)
CDM	(Capability Development Mechanism)
EMU	(European Monetary Union)
PSC	(Political and Security Committee)
CCC	(Capabilities Commitment Conference)
CIC	(Capability Improvement Conference)
TEU	(Treaty on the European Union)
CAP	(Common Agriculture Policy)
JSTARS	(Joint Surveillance Target Attack Radar System)

NATO

NATO	(North Atlantic Treaty Organisation)
DCI	(Defence Capabilities Initiative)
SFOR	Stabilisation Force

Operations

PSO	(Peace Support Operations)
RMA	(Revolution in Military Affairs)
DD	(Defence Diplomacy)
ISAF	(international Security Assistance Force)
D&M	(Deployability & Mobility)
S&L	(Sustainability and Logistics)
EE	(Effective Engagement)
SFI	(Survivability of Force & Infrastructure)

Capabilities

WMD	(weapons of mass destruction)
COBRA	(Counter Battery Radar)
FSAMF	(The Future Surface to Air Missile Family)
(GTK/MRAV/PWV)	(Multi-Role Armoured Vehicle)
HOT/MILAN	(Anti-Tank Weapon Systems)
ROLAND	(Ground to Air Weapons System)
PAAMS	(The Principal Anti Air Missile Systems)
AWACs	(Airborne Warning and Control System)
MEDEVAC	(Medical Evacuation)
SSAL	(Strategic sea and airlift)
TSAL	(Tactical sea and air lift)
AAR	(Air-to-air refuelling)
PGMs	(Precision guided munitions)
SEAD	(Suppression of Enemy Air Defence)
DEAD	(Destruction of Enemy Air Defence)
BDA	(Battle damage assessment)
FP NBC	(Forces Protection Nuclear Biological Chemical)
CSAR	(Combat search and rescue)
C2	(Command and Control)
C3	(Command, Control and Communications)
C ⁴ ISR	(Command, Control, Communications and Computers, Intelligence, Surveillance and Reconnaissance)
C-130, C-160, cn-235, G-222	(Combat zone transporters)
RoRo	(Roll on Roll off Vessels)
LPDs	(Landing Platform Docks)
MTH	(medium-sized transport helicopters)
LTH	(light transport helicopters)
HL	(heavy airlift: C17s, An 124s, A400M)
HET	(heavy equipment transport)
SAMs	(surface-to-air missiles)
AAA	(anti-aircraft artillery)
ARMs	(anti-radiation missiles)
EW	(electronic-warfare)
CEP	(Circular Error Probability)
UAVs	(Unmanned Aerial Vehicles)
HUMINT	(human intelligence)
SIGINT	(signals intelligence)
TMD	(theatre missile defence)
BMD	(ballistic missile defence)
NATINEADS	(NATO Integrated Extended Air Defence System)
COLPRO	(Collective protection)
BATS	(Biological Agent Treatment Sets)
NAPS	(Nerve Agent Pre-Treatment Sets)
GPS	(Global Positioning Satellite)
CCI	(Command, Control and Infrastructure)

UAVs (Unmanned Aerial Vehicles)

Procurement

R&D (Research and Development)
O&M (Organisation and Maintenance)
WEAO (Western European Armaments Organisation's)
EUCLID (European Co-operation Long Term In Defence)
EADS (European Aeronautic Defence and Space Company)
BAe Systems (British Aerospace Systems)
OCCAR (Organisme Conjoint de Coopération en Matière d'Armement)
Letter of Intent (Letter of Intent Process)

Financial

GDP (Gross Domestic Product)
GNP (Gross National Product)
SMEs (Small and Medium Enterprises)

Other

UN (United Nations)
UNSC (United Nations Security Council)
MS (Member States)
US (United States)
SIPRI (Stockholm International Peace Research Institute)
BICC (Bonn International Centre for Convesion)
ISIS (International Security Information Service)
BITS (Berlin Institute for Transatlantic Security)