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paper 33

Equipping the Rapid Reaction Force

Options for and Constraints on a European Defence Equipment Strategy

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by Jocelyn Mawdsley and Gerrard Quille

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Section 1: Policy Background

Introduction

The agreement to set up a rapid reaction force (RRF) as part of a European Security and Defense Policy has been variously described as 'Europe's military revolution' (Andreani et al, 2001) and as breaking the 'glass ceiling of Europe's self-denying ordinance on EU access to military competencies' (Deighton, 2002). The subsequent process of equipping and preparing the RRF for action has been a slow and difficult one. The RRF launched its first limited military mission on 31 March 2003 in Macedonia but although it was officially declared ready for action in May 2003 it is well recognized that many questions have been left unanswered (Castle, 2003).

The French and British breathed life into the pale figure of defense at the level of the EU at St. Malo in response to European hopelessness to respond to the Balkans-tragedy in the 1990s as well as in response to their frustration at the single-mindedness of the US intervention. In response to the first driver it is testimony to that Anglo-French initiative that that the first EU military operation took place in Macedonia in the Balkans. A clear response to the second driver has yet to fully emerge, but the tension is being played out in both US ambivalence to the EU's ESDP, and indeed to NATO, and in the explicit competition between the EU and NATO to 'win' European support and drive Europeans to reform their defense policies and produce a military capacity capable of assuming a global security role. With the achievement of 'Berlin Plus', EU-NATO competition is being described as co-operative. Nevertheless, the Iraq War betrayed insecurity in both organizations where NATO cannot assume full Transatlantic harmony and the EU's defense aspirations are tossed about by intra-European divisions and a weak CFSP.

Anglo-French pragmatism on generating European defense capabilities under ESDP may well prove to be the savior of CFSP where the two nuclear weapons states will have to show their commitment to, and solidarity with, the other member states in supporting the EU's emerging policy on nuclear non-proliferation and disarmament. Meanwhile, Germany is no longer a silent partner in European defense where great effort is being concentrated on removing strong political checks on the armed forces and to turning around the defense establishment. Indeed

Germany is proving to be a quick late starter with significant contributions to the war on terrorism, not least in Afghanistan.

The pattern emerging is one where defense policy is receiving significant attention in many European states but is only attracting increased resources in a few of these states. Even the most powerful European military state, the UK, cannot provide the resources nor the armed forces to contribute on its own in a meaningful way to international peace and security. Yet the member states of the EU cannot abandon national defense policies when the future of the EU and NATO remain in question, nor would it be sagacious to bandwagon with the present US preference for ad hoc coalitions. It is therefore too early to conclude that Europeans should pursue either the EU or NATO path to generating European defense capabilities and contributing to international crisis management tasks. Nevertheless, one can observe present trends and conclude that if Europeans are to effectively contrite to international crisis management operations then significant defense policy issues must be addressed within Europe at the national and EU level. The issues addressed are relevant to understanding how Europeans can effectively and efficiently contribute to crisis management operations and as such are relevant to member state national defense policies, the EU's ESDP and to NATO.

In 2002 we were asked to, and duly submitted, a report to the European Parliament's Committee on Foreign Affairs, Human Rights, Common Security and Defense Policy entitled 'Equipment for EU Crisis Management' (Pullinger, Quille, Mawdsley et al, 2003). That report overviewed the pertinent key issues related to understanding the European Union (EU) Crisis Management debate in the context of ESDP, examined relevant military equipment and capabilities, and provided guidance on where capability shortfalls occur and how deficiencies might be rectified. This paper is a revised, extended and more analytical version of that report. It discusses the capabilities the RRF requires but sites these in the contemporary policy debate as the likely roles and needs of the RRF have changed since it was originally planned.

Until recently the debate around the European RRF has concentrated primarily on the capabilities question: 'the nuts and bolts'. Policy questions have been left to one side (Lindley-French, 2002). The Iraq crisis though highlighted for many the lack of an underlying policy consensus and subsequently EU military planners have been asked to develop a threat perception analysis. Before this paper examines what these equipment gaps are and suggests ways to close them, it will analyze the three

policy areas that we maintain tacitly frame the specific RRF debate.

1. Europe's Strategic Role

Since the Treaty of Maastricht gave defense an institutional basis within CFSP, where it included in principle "the eventual framing of a common defense policy", which could "in time lead to a common defense" – debate on the need for an EU security concept has abounded. Initially this was to remain with the Western European Union (WEU) (1995). In fact, in June 1992 at a WEU Ministerial at the Petersberg Hotel, in Bonn, the foreign and defense ministers made a declaration formalizing the new defense roles of the organization, known as the Petersberg Tasks, including: "humanitarian and rescue tasks, peacekeeping tasks, and tasks of combat forces in crisis management, including peacemaking". The 'Petersberg Tasks' reflected the official orthodoxy of the time that, with the Cold War over and no immediate sign of a large standing military threat to the territory of western Europe, Europeans needed to reform their armed forces for frequent, but intensive, small and medium scale military operations (Rifkind, cited in London Defense Studies, 1995). Others, had observed that European (and US) armed forces were not embracing this challenge of reform and modernization but instead were simply cutting their defense budgets and capabilities in the so-called 'peace dividend' (Bolton, 1991).

These fears were apparently made real when European economic and diplomatic pressure proved spectacularly weak in the face of conflict in the neighboring Balkans. The perceived weakness of European military capability was starkly displayed during the Kosovo Crisis in 1998-1999, when the US conducted 90% of the air strikes in the war against Serbia.

The reality of European weakness in defense was evident in the Treaty of Amsterdam where the Petersberg Tasks were introduced but defense proper was kept apart. Nevertheless, the political and military weakness of Europeans shown by the Balkans conflicts stirred the UK and France to respond with a declaration in December 1998 at St. Malo, France. They stated that the EU should develop "…the capacity for autonomous action, backed up by credible military forces, the means to decide to use them, and a readiness to do so, in order to respond to international crises"[1].

1 The French version of the Saint Malo Declaration can be found at http://www.defense.gouv.fr/dga/fr/pdef/saintmalo.pdf

These developments breathed life into the Treaties' references to defense. The Member States and the European institutions adopted the 'spirit' of St Malo at the Cologne European Council and began the necessary processes to create autonomous decision-making structures (Nice Council), develop capabilities (European Councils of Helsinki Headline Goals and Laeken – European Capabilities Action Plan) and culminating in actual military operations (Concordia[2] and Artemis[3] in 2003).

The focus upon creating the means and institutions for the RRF to become operational was an important first step by the Member States and consistent with those under the WEU. However, the Helsinki Headline Goal numbers and the Petersberg Tasks themselves have been, respectively, described as arbitrary and ill-defined and proven to mean different things to different member states (Clarke, Garden and Quille, 2002). Some observers have argued that the approach appeared to be disjointed from a real European review of security priorities and how they relate to the objectives and values of the EU. They were disappointed that the recent momentum on ESDP did not bring about a similar reinvigoration of CFSP and offer an official review of security policy and how defense related to it (Biscop, 2002).

The absence of a clear statement on the purpose of the EU's ESDP was also causing tensions with the United States. Supportive of EU integration the US was nevertheless sensitive to any suggestions on defense integration that might undermine NATO. The latter was going through its own identity crisis following the end of the Cold War, but it had adopted its own Strategic Concept, twice (November, Rome 1991 & April, Washington 1999) [*sic*]. The argument reasoned that if the EU could create its own Strategic Concept it would provide a

2 The European Union launched a military operation (Concordia) in the former Yugoslav Republic of Macedonia (fYROM) on 31 March 2003. The core aim of the operation is, at the explicit request of the fYROM government, to contribute further to a stable secure environment to allow the implementation of the August 2001 Ohrid Framework Agreement.

3 The European Union (EU) launched a Military Operation in the Democratic Republic of Congo (DRC) in June 2003. The operation was code-named *ARTEMIS.* The European military force worked in close co-ordination with the United Nations Mission in DRC (MONUC). It was aimed, inter alia, at contributing to the stabilization of the security conditions and the improvement of the humanitarian situation in Bunia.

framework within which the ambiguous ESDP and its Petersberg Tasks could be understood and evolve. This would also reassure the US and NATO about the purpose and direction of the EU's defense efforts. This argument stemmed from those who saw the ESDP as a reaction to conflicts on the EU's 'periphery'. In this respect the Petersberg Tasks were clearly defined for intervention in order to ensure and/or create the conditions for stability and the strengthening of economic and political relations between the EU and its neighbors. (Staden et al, 2000) This argument was built upon a rational extension of the origins of the ESDP (in response to the Balkans conflicts), but it did not incorporate adequately the longer term strategic interests of a Union made up of over 25 states nor the interests of the two strongest military powers in Europe, France and the UK, and the protagonists at St Malo.

Whilst the EU is more deeply involved in the political and economic fabric of its neighborhood, in particularly the Balkans, it is also a *de facto* global political actor in other spheres such as through its special representatives, its role in the Middle East through the Quartet, and in Africa under the Cotonou Agreement (and recently militarily in operation Artemis). Whist France has traditionally envisaged an EU military function as an alternative to NATO, the UK has traditionally opposed such a vision. However, this is complicated recently by US ambivalence towards NATO as a military actor (ignoring its adoption of Article V on 12 September 2001) and a UK and French realization that competition over visions for European defense must be overcome if Europe is not to become irrelevant and perhaps even 'out of business' altogether in defense terms. This has meant that the EU Security Concept has not emerged simply to state that the ESDP is a 'neighborhood' policy, an 'alternative' to NATO, or a 'global' security instrument – quite simply it is being shaped to provide a framework for all three functions. These multiple drivers have in turn created tensions with the US, manifest in its hot and cold attitude to ESDP and with NATO expressed as a competition between both organizations.

1.1 EU Security Strategy

The EU remained without a Strategic Concept and it appeared that the regular calls for one would remain unanswered – that is until 11 Sept 2001 and then the Iraq War in 2003. September 11 stirred the US into a purposeful reappraisal on how it views, and is willing to shape, the international security environment following the devastating terrorist attacks. The EU, and especially

its Member States, have not been immune from the effects of this new stance. Therefore, after CFSP failed once more during the Iraq crisis to produce a common EU stance on a major crisis, the Member States gave the High Representative for CFSP the mandate to lead efforts to finally address the issue of where the Union stands as a global actor and how it sees its evolving security instruments meeting that vision. The process to create a Security Concept is being used to heal wounds over Iraq and to provide direction for a multiple of security instruments that make up the EU's security 'toolbox.'

1.2 A Security Strategy (but still not a Security Concept)

The EU Security Strategy, produced in a document entitled 'A Secure Europe in a Better World', was adopted at the Thessaloniki European Council, June 19-21, as the basis for further work towards producing an EU Strategic Concept in December 2003.

The Security Strategy clearly states that the EU and its member states will tackle their security priorities in a framework that emphasizes multilateral institutions (specifically the UN and regional organizations) and the rule of law (upholding the principle of the use of force as a last resort). It has no illusions regarding the weakness of the EU as a military power. Indeed, the Union's lack of military capability is highlighted as a major weakness in the EU Crisis Management/Conflict Prevention toolbox. The Strategy stresses that priority security objectives (WMD proliferation and international terrorism) should be addressed through 'effective multilateralism'. In other words, by supporting the UN system, strengthening national responses through EU synergies and by addressing root causes such as poverty and weak governance though community instruments and regional dialogue. The characteristics of the emerging EU Security Strategy stand apart from the US National Security Strategy and furthermore by the EU reference to civilian conflict prevention.

The 'effective multilateralism' outlined in the ESS does not preclude the use of force as a last resort and may even be interpreted as permitting 'pre-emptive' action under certain circumstances. For this reason, some have criticized the concept as ill defined, even contradictory. The Security Strategy should be read in context. Whilst identifying security priorities, which meet current US concerns, it does not amount to a European endorsement of US methods. Rather, it is a broad document that highlights European strengths and values. The Strategy provides a

framework within which traditional EU priorities (conflict prevention, poverty reduction and good governance within regional dialogue) are balanced with the new member state priorities of responding to WMD proliferation and international terrorism. By concentrating on underlying causes the ESS aptly emphasizes the commonality of approach that should be applied to both new and old priorities.

The SG/HR stressed that Europe can no longer remain hesitant and divided if it is to meet the promise of its origins, as a community of democracies interested in building a stable regional security community, in its external relations.[4] He argued that active engagement is also in Europe's security interests since these are affected by poor governance, insecurity, poverty and conflict far beyond its borders. Europe must therefore meet these challenges, which it is well placed to do with a range of diplomatic, development, economic, humanitarian and military instruments.

According to the SG/HR, the EU has three key strategic objectives in tuning its external instruments to meet contemporary security challenges:

- extending the zone of security on Europe's periphery
- supporting the emergence of a stable and equitable international order, particularly an effective multilateral system
- seeking effective countermeasures to new and old threats

Whether applied to new or old threats, these countermeasures have certain common elements; recognizing that the first line of defense lies beyond EU frontiers; acknowledging that inaction is not an option; understanding that a military response is not always appropriate but might form one element of a combined response. In this way, the EU can engage in the systematic political engagement of 'prevention'.

The SG/HR articulates a European approach to external relations based upon 'the existence of a link between the defense of democracy within states and a respect for international rules in relations between states'. For Solana, the essence of effective multilateralism rests on three principles: democracy, international law and rules based multilateralism.

It was a brave move for Solana to put such emphasis upon multilateralism. This is a term that is widely used to describe

4 Discours du Haut Représentative de l'UE pour la PESC, Conférence annuelle de l'IES de l'UE, Paris, 30 June 2003, http://ue.eu.int/pressdata/EN/discours/76423.pdf

something that Europeans 'believe in' in opposition to US 'unilateralism'. However, an EU commitment to multilateralism has not always been conducive to common, effective action as demonstrated by the failure of the Union to meaningfully mobilize in support of the Biological and Toxin Weapons Convention or to arrive at a common position in the UN Security Council over the Iraq crisis. Solana's use of the term multilateralism is not simply a knee-jerk response to the US but a clear challenge to member states to turn their rhetoric on multilateralism into a 'results oriented' strategy with which the US can engage. With the concept of 'effective multilateralism' Solana thereby directly challenges member states to adopt a realistic, if not realist, approach to multilateralism, by making Europe 'more active, more capable and more coherent.'

According to Solana, the development of a strategic culture will improve decision-making, facilitating rapid and, if necessary, robust intervention in crisis situations. However, this also depends on member states providing the appropriate decision-making structures, which although 'functioning' in Operations Concordia and Artemis, do not meet ideal standards for crisis management, military hierarchies, civilian interaction and not least, democratic accountability.

In the ESS, the SG/HR once again stressed that Europeans generate inadequate capability from their considerable defense spending. Member states must make better use of the €160 billion devoted annually to defense[5]. This requires transformation and modernization. In his speech, Solana called for more systematic thinking on how to reduce duplication, share tasks and create more multinational capacity, arguing that this would reinforce efforts to establish a European Armaments Agency.

In this way, the SG/HR hopes the ESS will reinvigorate member state commitment to ESDP, in particular as a vehicle for producing more European capability. Whilst the EU is congratulating itself on the launch of Operations Concordia and Artemis, the political will to rationalize and integrate further the European capability generation process (i.e. ECAP) seems to be waning, as member states address their own counter-terrorism and non-proliferation needs.

5 The Solana Paper uses the figure €160 billion, the figure used above refers to the one in the table below drawn from SIPRI, BICC and IISS. The difference may be due to exchange rate differences (usually occurring when drawing upon NATO figures which are in dollars).

1.3 The emerging Strategic Concept and Defense

The Security Strategy sets out the problems and challenges for European Member States in developing the necessary defense capabilities to meet their shared security objectives. The structural problems to overcome are common to all European states and are discussed in detail below. Whilst the generation of an effective crisis management military capability must overcome obstacles inherent in national planning, procurement and defense industrial policies, it must also be understood in the context of competing political demands of the EU's Security Strategy and its Member States' national policies. This is manifest in the EU Security Strategy emphasis upon European cohesion and 'effective multilateralism' whereas in reality Member States are also being pulled by US bilateral and *ad hoc* multilateral demands for its 'War on Terrorism.' The implications for defense policy from the Security Strategy imply an emphasis upon capabilities to meet a more precisely defined range of 'Petersberg Tasks' (with provision for concurrent operations) to meet small and medium scale interventions (such as Congo, Macedonia and Bosnia) to provide stability and post-conflict peacebuilding. However, Member States have recently been investing in capabilities for so-called 'Network Centric Warfare'[6], which at first sight appear more appropriate for robust 'search and strike' operations of a counter-terror or counter-proliferation type which clearly meet NATO and US priorities. This suggests that although the EU and NATO are not different in their global ambitions their organizational outlook makes them emphasize distinctly different military needs and visions of combat intensity. It appears from our first analysis that the strategic objectives of the two organizations create demands that emphasize different types of

6 "Network-centric warfare and all of its associated revolutions in military affairs grow out of and draw their power from the fundamental changes in American society. These changes have been dominated by the co-evolution of economics, information technology, and business processes and organizations, and they are linked by three themes:

- The shift in focus from the platform to the network
- The shift from viewing actors as independent to viewing them as part of a continuously adapting ecosystem
- The importance of making strategic choices to adapt or even survive in such changing ecosystems" (Cebrowski and Garstka, 1998: 28)

capability. The importance for the EU's ESDP is how it can manage to provide a framework for generating military capabilities for crisis management operations whilst the Member States are under pressure to prioritize capabilities that enable them to join *ad hoc* coalitions under the banner of the 'War on Terrorism'.

The EU's emphasis upon the importance of international law and rules-based multilateralism means it finds it very difficult to support 'preventive wars', which have no solid grounding in international law. The EU is also an organization with weak political cohesion amongst the Member States in CFSP and it has no common intelligence to build confidence and purpose of action in times of crisis (especially after the experience in relation to the Iraq war). It will not, therefore, have the cohesion to act purposefully in a controversial legal framework – we have seen this during the mid-1990s in the Balkans, over Kosovo, recently with Iraq and we will doubtless see it again.

When the legal context is less controversial or the political discourse deploys a more normative and moralistic emphasis such as with the quasi-legal-moral doctrine of the 'responsibility to protect' then the Member States will find it easier to act together through the EU. From an organizational perspective the Member State-EU-NATO tension might not be that incoherent and contradictory. The two institutions have different strengths and can complement rather than oppose each other. The two institutions have different strengths and can complement rather than oppose each other, but it is far from clear whether the co-operative relationship represented by Berlin Plus will evolve and evidence exists of continued and substantial competition such as in the debate over whether the EU should have its own headquarters to carry out 'advanced planning' or create a planning cell within NATO at SHAPE (Schnauder, 2003).

However, defense resources are not unlimited. At present the EU's ESDP needs – implied by the Petersberg Tasks and the Security Strategy's emphasis upon defense as an instrument in the crisis management 'toolbox' – are losing out to the Member States priorities (e.g. Network Centric Warfare) in responding to terrorism and WMD non-proliferation.

In order to reinvigorate Member State interest and therefore attract their investment in ESDP-oriented capabilities, there needs to be continued progress at the EU level in achieving a Strategic Concept. This should build on the present Security Strategy and provide the necessary decision-making framework for defense to evolve at the 2004 Inter-governmental conference.

The evolving and dynamic nature of the EU, *sui generis*, provides opportunities for the Member States to collectively generate the necessary European defense capabilities to respond to their shared global security concerns – a promise elusive in NATO but with some signs of real potential within the EU. Its decision-making structures and commitment to international law and rules-based multilateralism represent a challenge and a commitment by the Member States to make both the EU and the UN system work. The EU also provides limits to military action not least in relation to 'preventive war.' The EU will also be a limit to European defense if it cannot harness the recent commitment by the Member States, made at the Cologne Council which adopted the 'spirit' of St Malo, to place defense within a Strategic Concept with clearly defined military roles and missions. This is because the alternative will be to create a drifting ESDP with decreasing credibility and capabilities and one that resembles industrial policy rather than defense policy proper. The real limit to defense provided by the EU and its Member States will be to have lost an opportunity to tackle the structural problems at the heart of European defense that are necessary if we are ever to achieve effective European crisis management.

Europe's combined $175 billion defense budget and two million military personnel represent a vast resource and an opportunity to put effective and efficient capabilities at the service of an EU Strategic Concept. However, without thinking collectively it will be impossible for the Member States to meet their collective ambitions as set out in the Security Strategy to act globally and have a military instrument available to support political, diplomatic and economic objectives. If the Member States are not ready to do this, then perhaps we should not be embarking upon such an approach in the first place. What could be worse than the present absence of a Strategic Concept, is the promise and expectation created internationally by a prosperous, numerous, and powerful Europe claiming a global role and responsibilities but with a serious credibility gap in the military aspect of its 'toolbox'. We have perhaps already witnessed an insight into one consequence of this outcome, European division and indecisiveness on Iraq.

1.4 Capabilities

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.

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 complement present bottom up approaches, such as Member States engagement at the national level. By way of adapting to the demands of being a global strategic actor with a common defense 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?

In sum, this 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 need to be considered as operation *Artemis* in the DRC suggests.

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 PSOs. This short- to medium-term approach requires capabilities that should, if possible, be provided from member states' existing inventories. Where gaps exist procurement should be focused 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 defense 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.

These strategic considerations need to be incorporated into the present process of generating capabilities. It is necessary to provide a realistic debate on what level of military capability the EU needs for Crisis Management operations, which in turn will help provide more clarity in our understanding of the Petersberg Tasks (and what level of concurrency and sustainability) necessary for effective defense planning and realistic procurement and armaments policies.

2. Defense Spending and Financing Capabilities

2.1 European military strength (or Lack of 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 frequently by successive US governments. Two events are commonly considered to have acted as stimuli for the debate on capabilities – the war in Kosovo and the terrorist attacks of 11 September 2001.

A strong push to strengthen Europe's military capability emerged from the experience of the war in Kosovo (Kupchan, 2000). 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, viewed the Headline Goals as a complement to NATO, whilst others, notably France, viewed them as an alternative to NATO. The Iraq crisis, as well as the decisions taken at the four-country 'Praline Summit' in April 2003, have highlighted these differences[7]. Both though 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 (Ioannides, 2002). The

7 The Praline Summit was a meeting between the leaders of France, Germany, Belgium and Luxembourg (all who had opposed the US over Iraq) to discuss forming a core group to move ahead more quickly on defence integration. Relatively few new decisions or ideas emerged from the summit but one divisive proposal to establish autonomous planning, command and control facilities for the EU led to considerable debate between the Member States, particularly after Britain produced an alternative proposal in its Summer 2003 ´Food for Thought`paper that placed such facilities within NATO.

need for peacekeeping troops in Congo is proving an interesting example. 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 rely 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. This war on terrorism, notwithstanding the major differences of opinion that have split the EU over Iraq, has widened the EU debate to consider whether they can deal with non-conventional as well as conventional threats. The recognition that the EU is not particularly well prepared to deal with the Petersberg Tasks or an increasing array of posited new threats has increased expectations about the role of the RRF. One question though that is frequently left unasked is how much will the RRF cost and how can the EU afford it.

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 study (Wolf and Zycher, 2001: 25-34) and do not cover organizational and maintenance costs (O&M). The RAND study uses four different models and looks at the possibility of meeting these costs by the target date of 2003 but also a more realistic 2007.

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 organizational 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-defense to defense spending (the authors acknowledge that this is extremely unlikely so do not investigate it further).

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 defense or protecting individual national interests.

Finally, liberalizing and consolidating European defense procurement and industry could make savings. Keith Hartley (2001) estimates the savings from a Single Defense Market could be between 10 and 17 per cent, or up to $15 billion per year. The highest figure assumes that all future defense procurement would be done through an EU Procurement Agency. This, in turn however, would also mean overcoming considerable national vested interests.

Table 1: 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 Defense Industry and the European Defense 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

Defense expenditure quickly came into focus during the debates following the Helsinki European Council and the launch of the HHG. Indeed, defense budgets are a key framework issue in understanding the present HHG process under ESDP, which emphasizes a need to increase European military capabilities. According to current plans, defense spending within the EU overall will not increase substantially in real terms (although there are national variations) (Missiroli and Schmitt, 2002). 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. Concerns about European defense spending tend to concentrate on two questions: Is Europe spending enough on defense (especially in comparison to the US and is it spending its defense budget wisely?

The question of the adequacy of European spending on defense originates in the NATO burden-sharing issue. Traditional 'burden sharing' debates within NATO have focussed upon the fact that the US was contributing overwhelmingly more in defense 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 (Chalmers, 2002). Nevertheless, it is still recognized that the EU Member States should contribute more to these international commitments. In principle, therefore, the new burden sharing debate could make way for a new division of labor 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 Defense 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 some individual European member states. Nevertheless even between Member States, the current 'bottom up' approach under HHG and European Capabilities Action Plan (ECAP) reflects a *de facto* 'division of labor' between those states willing to take up a greater share of the military burden and those less inclined or unable to do so. As Lindley-French (2002: 789) argues "some Europeans do not 'do' security at all".

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

Country	1985-9	2001 (in constant prices)
US	6.0	3.0
France	3.8	2.5
UK	4.5	2.5
Italy	2.3	1.7
Germany	3.0	1.5
Spain	2.1	1.2
European Average (five largest states)	**3.1**	**1.9**

Source: NATO

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 to achieve that to which they have committed themselves. Analyzing Member States' defense 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 defense budgets and on the main functional budgetary headings relevant to equipment-based capability. Figures for these areas provide information on how Member States prioritize defense spending and reveal inter-state differences. For example, although Greece looks to spend a lot of its GDP on defense, the costs of its very large conscript army mean that its equipment budget is not so high.

European defense spending (see table 1 above and Annex I: diagram 1 and table 1) began to stabilize around the mid-1990s after a period of decline in the immediate aftermath of the Cold War. Most commentators believe that this level of defense 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 defense budgets as well as in other areas of public spending. One key player Germany has already made it clear that it cannot increase defense spending until 2006 at the earliest.

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 defense 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 defense spending, procurement and provision of capability in Europe.

The present debate surrounding how the EU should finance military crisis management operations centers 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 Member States 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 Member States 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 2004.[8]

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 defense 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 subsidizing Member States' 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 Member States over operations, thereby increasing the political tension in the crucial moments before an operation.

It is though not particularly helpful to analyze European defense spending solely through a comparison with that of the United States as is frequently done. A comparison of US and EU military capabilities does illustrate 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 and at a level proportionate with its foreign and security policy objectives, which are not identical to those of the US. Equally, American defense spending is scarcely a model for the efficient acquirement

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

of military capability. An audit on 2000 found that the Pentagon was unable to trace 2.3 trillion US dollars in transactions[9], while the General Accounting Office found inventory systems so lax that the army had lost track of 56 airplanes, 32 tanks, and 36 Javelin missile command launch-units. The GAO has similarly condemned defense procurement practices[10]. Similarly, de Briganti (2003) points to practices in American defense procurement that are not delivering military capabilities, such as investing in programs like the Boeing 767 tanker lease which seem aimed at propping up flagging firms, belated improving of old weapons like the B-52 bomber and developing technologies though unlikely to deliver the promised capabilities (e.g. the F-22 Raptor).

Why then are EU capabilities lagging so far behind US capabilities in areas the Europeans feel they need? Annual expenditure of US $175Bn, or nearly a quarter of world expenditure, is a significant amount. The problem lies more in the quality of European defense spending (Missiroli, 2002). There are, for example, two military indicators in which the EU surpasses the US: in the total number of armed forces personnel and the total number of major conventional weapons.

9 DoD Inspector General. 2000. Pentagon Audit Report. D-2000-091

10 GAO. 2003. Major Management Challenges and Program Risks: Department of Defense. GAO-03-98

Table 3: Indicators of military resources and capabilities

	EU	**US**	**World**
Military expenditures 2001, in US $Bn, 1999 prices[11]	172	311	806
Military expenditure 2001, as % of GDP[12]	1.76	3.1	2.5
Government defense-related R&D expenditure, in US $Bn, 2000 prices[13]	9.7	42.6	60
Employment in arms production n 2001 (000s)[14]	720	2,330	7,740
Armed forces personnel 2001 (000s)[15]	1,900	1,482	20,780
Weapon holdings 2001, aggregate number of major conventional weapons[16]	42,700	38,540	408,200

These indicators are though not ones to be proud of. 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. An even more embarrassing inadequacy relates to the figure for the number of armed forces personnel. Many countries still possess large standing armies designed for territorial defense. Therefore, although the cumulative strength of the EU's armed forces manpower is approximately two million, their deployability for international crisis management 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. 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

11 BICC Conversion Survey 2003
12 SIPRI Yearbook 2002
13 US/EU: OECD Main Science and Technology Indicators 2002/2, World: BICC Estimate (Conversion Survey 2002)
14 BICC Conversion Survey 2003
15 BICC Conversion Survey 2003
16 BICC Conversion Survey 2003

EU countries, and some of that is also spent for the wrong purposes[17].

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 defense 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 specialized 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 defense 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.

If Member States 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:

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

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 defense 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). Canceling existing procurement projects will meet resistance but is a necessary part of modernizing Europe's armed forces. Equally if defense spending is not to increase, one obvious way of bridging capability gaps is through increased armaments co-operation.

17 We are grateful to Herbert Wulf for contributing this argument.

Finally, option (c) proved popular in some defense ministries in the late 1980s where inefficient procurement programs and the pressure to reduce defense 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 programs '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.

3. Armaments Policy

The need to procure defense equipment more efficiently links to the final framing policy issue affected the equipping of the RRF. National armaments policies, comprising defense procurement policy, defense industrial policy (including exports) and defense-related research policy still vary considerably within the EU-15. Equally, defense 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 defense 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 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. Joint procurement of the necessary equipment would offer savings through economies of scale and avoidance of duplication as suggested by Hartley (2001). In practice, this might not be so easy to achieve. The need however to foster greater armaments co-operation is though generally agreed but it is proving difficult to manage.

There are three main reasons why armaments co-operation has been so difficult. Firstly, the role of European Union institutions has remained minimal as defense products are exempted by treaty from the Single Market[18] and therefore (with the exception of dual-use goods) exempted from regulation. This has meant that Member States have been able to protect their

18 Article 223 of the Treaty of Rome now Article 296 of the Treaty of Amsterdam.

defense firms from market forces. Nation states acquire other benefits besides defense equipment from national procurement. Krause (1992) suggests that there are three reasons for states to maintain a military industry: the pursuit of victory or survival in war, the pursuit of power and identity and the pursuit of wealth. While security of supply has certainly been a factor in Member States' desires to maintain their national defense industry, arguably both the perceived link between national sovereignty and defense production and the pursuit of wealth in the shape not only through arms exports but through technological innovation. As military technology increasingly 'spins off' from civilian technology rather than the other way round, this rationale may lessen over time, however. Moreover, the tendency of high technology industry to cluster means that there are still areas largely dependent on defense industry thus making employment another issue. Thus far there has been little sense of a 'European spirit' as states have manouevred to gain maximum advantage in defense industrial restructuring and through procurement for their firms.

Secondly, the armed forces of each country vary considerably is size, nature and capability. Decades of nationally based procurement have left procurement cycles, budgets and requirements out of sync across the EU. This makes collaborative projects more difficult to agree and also more expensive as national needs or variations often have to be factored into the project (Walker and Gummett, 1993). Finally, competition over arms exports and access to foreign markets has pitted different states against each other. Defense procurement in Western Europe, therefore, still consists mainly of two types of project; the purely national program 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 favor cost-efficient or joint procurement; the best ways to address the capability gap without spending more.

During the mid to late 1990s the largest arms producing and purchasing states did manage to make progress (Schmitt, 2000: Hayward, 1997). In 1998 France, **Germany**, Italy and UK signed a convention establishing the *Organisme Conjoint de Coopération en Matière d'Armement* (OCCAR)[19], with the aim to employ best practice in **defense procurement,** and to use competition as an integral part of achieving the delivery of cost-effective **defense** equipment. OCCAR intends to do this though continuous

19 OCCAR's website is http://www.occar-ea.org.

business improvement and the achievement of best value-for-money, the latter by abandoning prescriptive national workshare entitlements.

OCCAR manages a number of collaborative programs, including the Counter Battery Radar (COBRA), which will provide the armed forces with an enhanced capability for the location of enemy artillery. The A400M, Future Surface to Air Missiles Family (FSAF), the Multi-Role Armored Vehicle (GTK/MRAV/PWV), the HOT/MILAN Anti-Tank Weapon Systems, the ROLAND Ground to Air Weapons System, and the TIGER Helicopter programs are also managed by OCCAR. The Principal Anti Air Missile Systems (PAAMS) program 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 with Belgium joining in 2003. Sweden and Finland have also shown an interest in joining.

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 Defense 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 defense industry. Two years later in 2000, these Ministers signed the Framework Agreement which established measures for improving co-operation on harmonization of military requirements, security of supply, export procedures, research and technology, handling of classified information and the treatment of technical information.[20] Discussions are ongoing on the implementation of these measures. Despite continued rhetoric about the need for greater armaments co-operation within the EU, actual results of these initiatives have been though rather disappointing. The A400M saga was scarcely an example to hail as proof of progress. Nevertheless, the realization 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 (Mawdsley, 2003).

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

There is also an assumption that defense industrial consolidation within Europe will allow more efficient procurement. This belief has strongly influenced Commission thinking on the way forward. On 11 March 2003, the European Commission released a communiqué about the industrial and market issues of European defense, which picks up on issues raised in their earlier reports and the STAR 21 Report. This missive was also in response to the European Parliament's April 2002 request for such a communiqué. The Commission proposes action in seven areas; standardization, monitoring of defense-related industries, intra-community transfers, competition, procurement rules, export control of dual-use goods and research[21]. The communiqué's proposals are a mixture of well-prepared definite proposals based on existing work and vaguer, more political assertions sometimes based on less impressive evidence. It is also a very uneasy mix of economic liberalization coupled with protectionism which makes strange reading. This reflects the continuing struggle within the Commission between those who see defense industry primarily as a gap in the Single Market that should be filled, and those who are convinced that defense firms are vital to Europe´s future and thus should be protected. Concretely, the Commission plans to produce a handbook cataloguing standards commonly used for defense procurement by the end of 2004 and launch a monitoring activity of defense-related industries. It will also assess the impact of a simplified European license system for intra-community transfers and controversially initiate a pilot project of defense research related to aspects of the Petersberg tasks. Less concretely, the Commission intends to continue its reflections on the application of competition rules to the defense sector and work on optimizing European defense procurement, with the aim of creating a single set of procurement rules. Interestingly it does not mention the years of substantial work already carried out by OCCAR on precisely this. It will also ask Member States to allow it to participate in the international dual-use export regimes to ensure that firms are not damaged by more restrictive national regimes. Finally, the Commission wishes to pursue an EU Defense Equipment Framework, overseen by one or more agencies, to pull together intergovernmental initiatives like OCCAR and the Framework Agreement. Such a framework could also use Community instruments to tackle issues like off-the-shelf procurement, security of supply and facilitating

21 http://www.europa.eu.int/eur-lex/pri/en/dpi/cnc/doc/2003/com2003_0113en01.doc

European defense trade. While it is undeniable that a competitive and efficient European defense industrial base will be of benefit to those procuring equipment, it is important to understand the industrial imperatives currently affecting defense procurement. Agreement was reached in Thessaloniki by the European Council to set up an armaments agency. This agency will focus on "developing defense capabilities in the field of crisis management, promoting and enhancing European armaments co-operation, strengthening the European defense industrial and technological base and creating a competitive European defense equipment market" (European Council, 2003). The agency is also enshrined in the draft treaty produced by the European Convention.

However, the defense industrial landscape poses a problem for the functioning of a competitive defense equipment market. Two dominant features are evident in the present defense industrial scene. Firstly, an oligopoly in the aerospace and defense electronics sectors, as demonstrated by the creation of EADS and BAe Systems (two giant prime contractors in defense aerospace) and the emergence of Thales as a major defense electronics player. Secondly, the lack of consolidation of often-subsidized (protected) national capacities in other sectors, such as in the land-systems industry (particularly where tanks are concerned), shipbuilding, artillery and munitions (Vlachos-Dengler, 2002). While over-capacity and national protectionism still exists, and therefore further consolidation is reasonable to expect, 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 and or joint procurement are to be realized[22].

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

22 There is a tendency to overstate the likely savings achieved by this. Although an 1992 unpublished study for the European Commission by Hartley and Cox thought that centralised procurement could save up to 7.8 billion pounds annually, national reforms, the establishment of OCCAR technological changes and industrial consolidation would suggest that savings might now be rather less.

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[23]). While Thales-Raytheon co-operation on air defense 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 (Vlachos-Dengeler, 2002; Mawdsley, 2003; BICC, 2003).

States therefore are keen to procure equipment from their firms to ensure that a viable European market remains. This can work against some of the cost savings involved in collaborative ventures. The decision on the A400M engine is a telling one. Although a rival Canadian Pratt-Whitney bid was considerably cheaper than the European EPI consortium's, government pressure was put on the prime contractor to allow the Europeans to resubmit their bid. Unsurprisingly following the British government's decision to promise research funding to Rolls Royce thus allowing the European bid to sink its price and win the contract (Done, 2003). There are therefore dangers in linking defense equipment procurement too closely to defense industrial policy aims if the overriding aim is to provide military capability at the lowest cost possible.

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 realized.

The increasing complexity of weapons systems also calls for greater personnel specialization, either through national role specialization 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

23 This spurred the German government to announce plans to restrict foreign ownership of defense firms in August 2003.

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 programs 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 defense 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.

Defense R & D is the final plank of armaments policy and 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 defense 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 defense related R&D or any real policy co-ordination. The

activities under the Western European Armaments Organization's (WEAO) research cell such as the European Co-operation Long Term In Defense (EUCLID) program have had little success, mainly because the incentives for co-operation have proved insufficiently attractive.[24] 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 defense 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 defense production).

Although the EU's Fifth Framework Program 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 Program. In the past, military research was credited with many spin-offs into civilian innovations. This statement is often assumed to still be the truth but as the civil spin-offs from defense technological advances become fewer and non-defense related technology becomes more important to defense equipment development, the validity of this is being questioned. There is now to all intents and purposes a 'spin-in' effect rather than a spin-off effect (Rohde and van Scherpenberg, 1996). 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 regarded as essential to the information society, the aerospace sector and biotechnology. Thus if a technological gap exists, then it has the potential to damage the EU's competitiveness in civil industry too (Molas-Gallart, 2000). In recognition of this and policy developments in the area of security and defense, the question of whether defense research should be openly funded under the future Seventh Framework program is being discussed. The Commission recently suggested funding a pilot project in an area related to the Petersberg tasks[25] and it seems as if the European Council will agree. This is a sensitive question politically. According to the Commission's own estimate

24 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.

25 *European Defence – Industrial and Market Issues: Towards an EU Defence Equipment Policy*. COM (2003) 113 final. March 2003. Brussels.

in 1996[26] a third of the research it then funded was already in dual-use areas, is it really in the economic interest of the EU to now use its research budget to subsidize pure defense research?

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, defense 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 defense R&D. Equally, a policy on defense 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 defense and security requirements, which may not be identical to those of the US.

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' defense capability priorities in a period of economic constraint (despite recent French and British increases).

The present approach developing under ESDP does not favor 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 programs. 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,

26 *The Challenges facing the European Defence-Related Industry: Contribution with a View to Actions at European Level*, COM 96/10, January 1996, Brussels

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 favor 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 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 defense 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: Capabilities Analysis

Introduction

The first part of this report 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 analyzing 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 analyze EU requirements for a particular asset or capability – as defined by this Report's terms of reference – in the mid- and long-term.

This Report 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 Report 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 it Defense 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 obligations.[27]

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 characterize 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

Defense policy planning is normally based upon a time period of 25 years, influenced by the fact that the longest procurement programs 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.

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

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 defense and defense industries is usually sufficient to delay a change in actual defense policy. Procurement projects (defense 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 defense 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 programs – in the short-term at least the balance will remain in favor 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 Defense annual policy reports and is also an aspect of defense review mechanisms such as the UK's *ad hoc* Strategic Defense Review and the US's Quadrennial Defense Review.

This is not a call for a 'blank sheet' security and defense 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 Report 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 reference.[28]

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:

- Further political integration enables a continuation of today's trends towards greater co-ordination of defense 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 member states contributing on a case-by-case basis and NATO Command and Control assets are used.
- Alternatively, 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 defense

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

> 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.

Defense 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 defense 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' armories 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 characterization 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 involved.[29] This is less

29 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

problematic at the lower level of operation. It is, however, more controversial at the upper level.

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 defense 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

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these nuances of 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.

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.

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 finalized their work of reviewing the shortfalls and providing options for meeting them. It is expected that this process will be finalized 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 recognized 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 refueling, PGMs, UAVs and command, control communications assets).

NATO's original Defense Capability Initiative process included 59 detailed decisions which correspond to capability shortfalls, of which 70 per cent have been recognized 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 or 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 organize the movement of forces, and communications between forces and the relevant headquarters and armaments for defensive and offensive needs.

Below, the Report describes in more detail a fuller range of capabilities, but the point here is that projection forces require certain common organizational 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 refueling) 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 defense 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 modeling. 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 categorization 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;
- Defense 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 categorization of recent operations carried out by Member States and highlights that Member States do, indeed, have experience across the range of possible Petersberg Tasks.

Table 4:

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
UNMISET	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 specialized forces, as will consideration of terrorism and ESDP. In the absence of any guidance to do otherwise this Report 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 Report, 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 analyzing its existing capabilities and shortfalls for NATO planning purposes and as expressed under its Defense 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.

Table 5: European Military Capabilities

Deployability	**Sustainability and Logistics**	**Effective Engagement**	**Survivability of Force and Infrastructure**	**C⁴ ISR**
A400M	Air-to-air refueling	Precision guided munitions	Forces Protection (NBC)	Intelligence assets: satellites, airplanes, 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 defense	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 armored 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 defense, and on the other hand by the common conceptions for the defense 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 refueling. 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 aging. 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 modernized 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. 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 program or seek additional roles for this aircraft (NATO has already indicated that it might be suitable for an air-to-air refueling 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 containerized 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.'(Pagonis, 1992: 2)

This includes the capabilities mentioned in the Reports' 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 refueling

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 Refueling (AAR) can be performed during a deployment, thereby allowing the refueled aircraft to reach longer distance without the need of intermediate bases. Usually the flying refueling 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-defense 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 combat units. Due to the limited number of AAR assets available, however, and the multiple commitments, cross-training could only be practiced during major exercises.

A more sound solution would be a European procurement program, 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 Center might be adopted. Such a Command Center 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 defense 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 favor 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 organization 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 paralyzing 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 centers, is required. A further step is the ability to penetrate the adversary defenses, 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 defenses 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 defenses, 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 defenses, 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 assessments.[30]

Suppression of enemy air defenses (SEAD) typically refers to any mission designed to neutralize, destroy or temporarily degrade enemy ground-based air defenses. The two basic forms

30 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.

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 defenses 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 defense, preventing enemy SAMs from completing a successful engagement. While SEAD by jamming is usually referred to as "soft-kill" suppression, the utilization 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, labeled DEAD (Destruction of Enemy Air Defenses). While the primary goal of SEAD is the survival of friendly forces, that of DEAD is to locate and destroy air defense 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.

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 utilization of several US-supplied "black-boxes" could hamper this form of rationalization.

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 practiced 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 specialized 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 lead 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 meters for air-launched weapons and less than one meter for ground-launched missiles)[31].

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 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 meters 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 where 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 rationalization 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 practiced in the US, the Europeans should organize realistic training activities, with complex scenarios involving the actual release of weapons. The results of the exercises should be analyzed 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.

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

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 rationalization. Therefore, only a wide, EU-led program 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 tot 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 members 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 defense (TMD) to specialized 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 defense (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 defenses (there have never been any similar restraints upon theatre missile defenses (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 defense 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 programs 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 programs; 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 programs, 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 defense 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 defense. Do they want to restrict themselves to TMD in defense 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 defenses?

To an extent the answers to these questions depends on how the US proceeds. For example, if the US concentrates on boost-phase defenses 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 defenses 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 defense is offset by the vulnerabilities of newly deployed forward-based radars in Europe? How potentially destabilizing would it be to have automated boost-phase defenses 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 defenses may achieve, save to say that no defense 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 defense capabilities. Most programs 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 Defense (NATINEADS) program. 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.

Immunizing personnel against biological agents is an important form of protection. During the Gulf conflict in 1991, troops were offered immunization 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 organization to use any CBW capabilities.

Many European Countries posses 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, armor 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, Airplanes, and 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 CJTF HQs.

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 analyzed 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 report.

This study recognizes that if we are to understand the complex policy developments in ESDP a framework is needed within which to analyze the policy denouement. As highlighted in Section 1, procurement solutions to present European defense 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 program 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 maximize the benefits for European military needs for crisis management. It will be important to remove barriers to competition in the defense sector and to develop a competitive efficient defense 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 programs.

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 defense 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 defense 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 defense industrial policy at the EU level that becomes a defense 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 programs.

Present discussions on Framework 7 (see section 1) must be careful not to become a backdoor means of subsidizing defense industries in a way that does not promote market reform and competition. Whether a framework within the EU needs to institutionalize 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 defense industries and in particular whether Framework 7 should be extended to include defense 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 defense R&D, might be appropriate if it was based upon an approach to defense industrial reform that encouraged the universalization 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 recognized 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. Defense 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 maximize 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 defense 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 defense aspirations is their skepticism 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 recognizing 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 programs 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 harmonized 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 rationalization. Finally, the high costs of infrastructure to support air operations mean that modest rationalization 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 rationalization, 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 organized 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 organization to support the force. Most importantly, the manpower, headquarters, infrastructure and other savings would be realized 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 defense 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 programs 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 refueling 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 refueling 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 defense projects would be avoided by contracting for a capability, and leaving it to the contractor to optimize 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 rationalizing 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 programs.

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 modernization 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 organization 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 Defenses (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 rationalization of forces in being, and exploiting the moves towards public-private partnerships. Significant defense 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 rationalization of forces without too many issues of national sovereignty, combat power capabilities may well prove trickier. Major European defense 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 programs. 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 defense 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 defense 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 defense contributions. They would

make more effective use of European national defense 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 Defense Budget. If such an accounting system were to be managed by the EU, member states would contribute either defense capability or money. The potential problems of any such arrangement include the high degree of centralized 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 defense 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

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 rationalization 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 refueling 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 defense 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 defense and industrial aspects of European defense.

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 Defense Review and thereafter through annual published statements on defense aspects of ESDP from the Council. This process would be led by Defense 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 Defense 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 Defense 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 analyzed 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. Defense 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 polices 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 programs 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

defense industries should be monitored in close co-ordination with DG-Regio and DG-Emploi.

- Ensure that national defense industry subsidy is not replaced by subsidy at the European level – getting more 'bang for your buck' requires an efficient and competitive defense industrial sector.
- The EU must recognize 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 Defense Review and thereafter an annual statement on defense, 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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Annex

Table A1 – European defense 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 defense spending trends

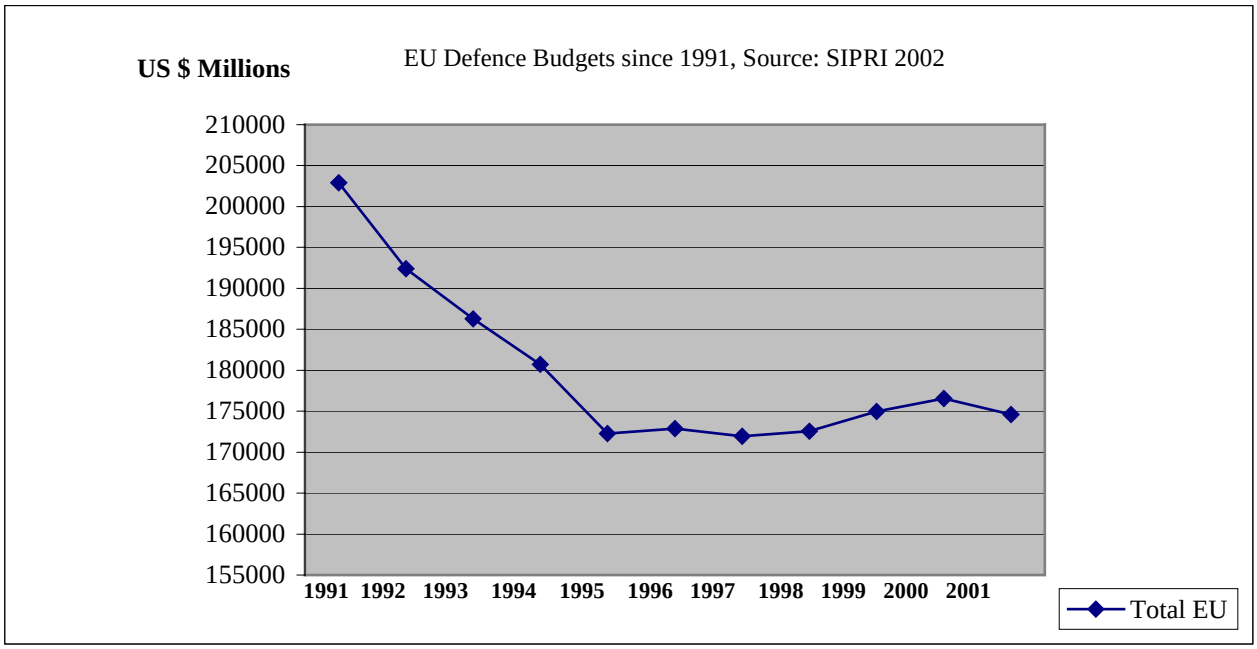


Table A2 – Defense Spending on R&D and Equipment (in € millions)

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 Defense Spending (in US $ millions)

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

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

Diagram A2 – EU and US Defense Spending 1991-2001

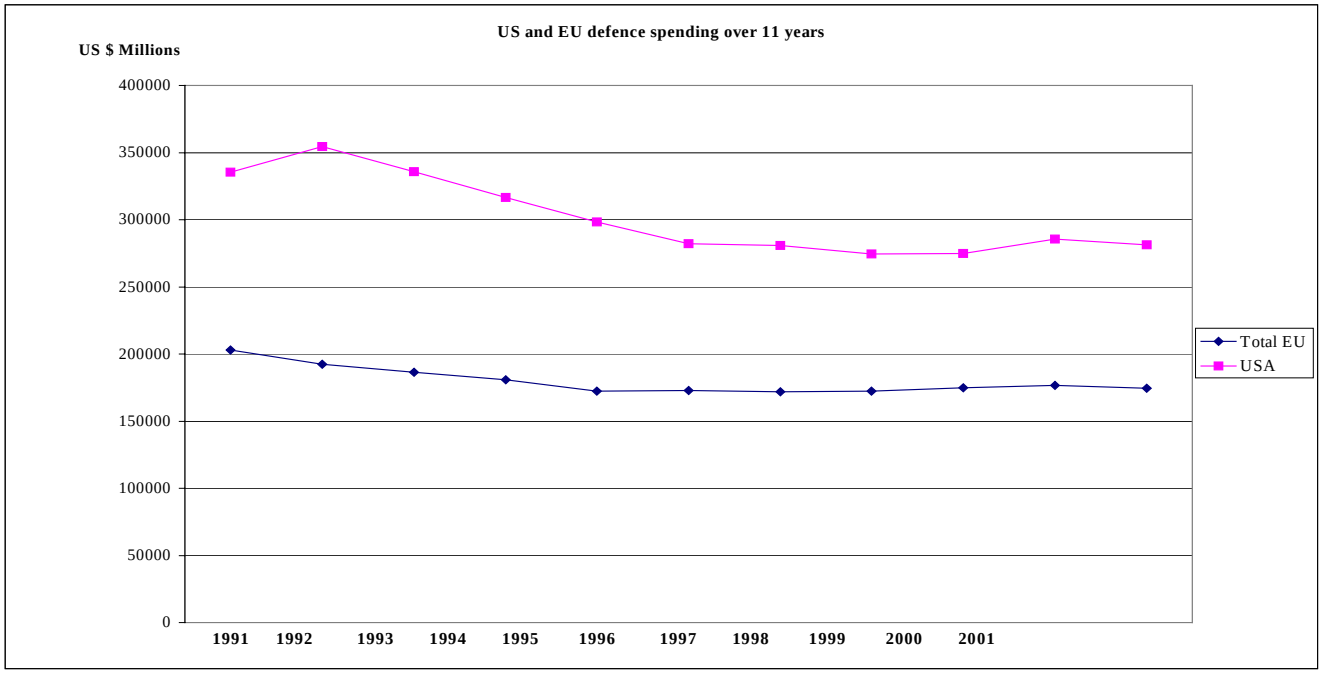
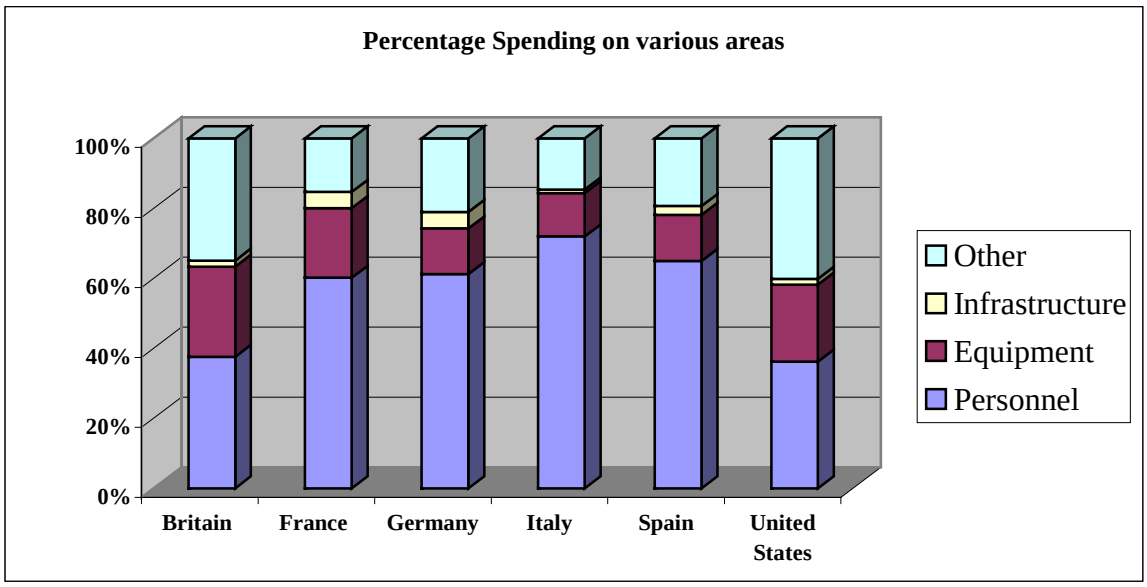


Diagram A3 – Defense spending per defense budget function



Source: NATO

List of Acronyms

European Union

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

NATO

DCI	Defense Capabilities Initiative
NATO	North Atlantic Treaty Organization
SFOR	Stabilization Force

Operations

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

Capabilities

AAA	Anti-aircraft artillery
AAR	Air-to-air refueling
ARMs	Anti-radiation missiles
AWACs	Airborne Warning and Control System
BATS	Biological Agent Treatment Sets
BDA	Battle damage assessment
BMD	Ballistic missile defense
C-130, C-160, cn-235, G-222	Combat zone transporters
C2	Command and Control
C3	Command, Control and Communications
C^4 ISR	Command, Control, Communications and Computers, Intelligence, Surveillance and Reconnaissance
CCI	Command, Control and Infrastructure
CEP	Circular Error Probability
COBRA	Counter Battery Radar
COLPRO	Collective protection
CSAR	Combat search and rescue
DEAD	Destruction of Enemy Air Defense
EW	Electronic-warfare
FP NBC	Forces Protection Nuclear Biological Chemical
FSAMF	The Future Surface to Air Missile Family
GPS	Global Positioning Satellite
GTK/MRAV/ PWV	Multi-Role Armored Vehicle
HET	Heavy equipment transport
HL	Heavy airlift: C17s, An 124s, A400M
HOT/MILAN	Anti-Tank Weapon Systems
HUMINT	Human intelligence
LPDs	Landing Platform Docks
LTH	Light transport helicopters
MEDEVAC	Medical Evacuation
MTH	Medium-sized transport helicopters
NAPS	Nerve Agent Pre-Treatment Sets
NATINEADS	NATO Integrated Extended Air Defense System
PAAMS	The Principal Anti Air Missile Systems
PGMs	Precision guided munitions
ROLAND	Ground to Air Weapons System
RoRo	Roll on Roll off Vessels
SAMs	Surface-to-air missiles
SEAD	Suppression of Enemy Air Defense

SIGINT	Signals intelligence
SSAL	Strategic sea and airlift
TMD	Theatre missile defense
TSAL	Tactical sea and airlift
UAVs	Unmanned Aerial Vehicles
WMD	Weapons of mass destruction

Procurement

R&D	Research and Development
O&M	Organization and Maintenance
WEAO	Western European Armaments Organization's
EUCLID	European Co-operation Long Term In Defense
EADS	European Aeronautic Defense and Space Company
BAe Systems	British Aerospace Systems
OCCAR	Organisme Conjoint de Coopération en Matière d'Armement

Financial

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