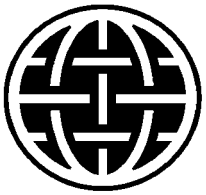


THE ATLANTIC COUNCIL

OF THE UNITED STATES

Transforming NATO Forces: European Perspectives

A Compendium of Papers Presented at a Conference on:
"Transforming NATO Forces: European Perspectives"
Held on 18 October 2002

C. Richard Nelson & Jason S. Purcell
Editors

January 2003

THE ATLANTIC COUNCIL

OF THE UNITED STATES

The Atlantic Council is a nonpartisan network of leaders who are convinced of the critical importance of effective U.S. foreign policy and the cohesion of U.S. international relationships. The Council promotes constructive U.S. leadership and engagement in international affairs based on the central role of the Atlantic community in the contemporary world situation. To this end, the Council:

- stimulates dialogue and discussion about critical international policy issues, with the intention of enriching public debate and promoting consensus in the administration, the Congress, the corporate and nonprofit sectors and the media in the United States, and among leaders in Europe, Asia and the Americas;

- conducts educational and other programs for successor generations of U.S. leaders who will value U.S. international engagement and have the formation necessary to develop effective policies.

Through its diverse networks, the Council builds broad constituencies to support constructive U.S. international leadership and policies. By focusing on critical issues, choices can be illuminated, priorities established, and possibilities for consensus explored. Important contributions by the Council include:

- identifying major issues facing the future of the Atlantic Alliance, transatlantic economic relations, and the integration into European structures of the countries of central and eastern Europe, including Russia;
- building consensus on U.S. policy towards Russia, China, Japan, Korea, and Taiwan;
- balancing growing energy needs and environmental protection in Asia;
- drafting roadmaps for U.S. policy towards the Balkans, Cuba, Iran, and Panama.

In all its programs, the Council seeks to integrate the views of experts from a wide variety of backgrounds, interests and experience.

Transforming NATO Forces: European Perspectives

A Compendium of Papers Presented at a Conference on:
"Transforming NATO Forces: European Perspectives"
Held on 18 October 2002

C. Richard Nelson & Jason S. Purcell
Editors

January 2003

For further information about the Atlantic Council of the United States and/or its Program on International Security, please call (202) 778-4968.

Information on Atlantic Council programs and publications is available on the world wide web at ***http://www.acus.org***

Requests or comments may be sent to the Atlantic Council via Internet at ***info@acus.org***

THE ATLANTIC COUNCIL

OF THE UNITED STATES

10th Floor, 910 17th Street, N.W.
Washington, D.C. 20006

Table of Contents

Foreword

The papers in this compendium were prepared for a conference in October 2002 designed to illuminate European perspectives on the growing transatlantic military capabilities gap and on how this gap might be bridged. The conference was organized into four panels: the first focused broadly on capabilities, the second on "Spending More Wisely" initiatives, the third on obstacles to closing the gap and the fourth on the role of defense industry. The papers prepared for each panel are grouped together and preceded by remarks from the panel's chair, where available. The compendium also features the text of a speech delivered at the conference by Admiral Ian Forbes, the Supreme Allied Commander Atlantic, on the prospects for an Alliance transformation command, and a rapporteur's overview, which distills the results of the discussions and ties the four sections together into a broader perspective. Each paper reflects the views of its author and not necessarily those of the Atlantic Council.

This compendium, and the conference on which it is based, would not have been possible without the support and participation of our cosponsor in this endeavor, the Directorate of Intelligence of the Central Intelligence Agency. The Atlantic Council is most grateful for this support.

Christopher J. Makins
President
The Atlantic Council of the United States

Executive Summary

C. Richard Nelson

I. Assessing the Nature and Scope of the Gap

The evident and growing transatlantic military capabilities gap has given birth to a litany of U.S. recommendations as to how NATO's European members might spend, procure and think differently in order to be better able to confront the challenges facing the Alliance. Many of these recommendations are sensible: the European Allies should spend their defense budgets as wisely as possible, while developing transformed rapid reaction units that can be deployed quickly to wherever needed and that will be able to operate effectively with their U.S. counterparts.

European governments certainly recognize the existence of the gap and they agree that measures must be taken in order to reduce it. However, these governments face a variety of concerns and constraints, which are both incompletely understood by many U.S. commentators and substantially varied among the different countries that comprise "NATO Europe". If the two sides of the Atlantic are to cooperate effectively in upgrading Alliance capabilities, U.S. officials and experts must fully understand European positions and be willing to support initiatives designed by Europeans, for Europeans. The United States should also take steps to change those of its policies that reduce the ability of European governments, planners and industry leaders to pursue transformation fully.

Understanding the prospects for transforming NATO forces with new capabilities requires informed judgments about how European members will respond to the challenge. The following papers represent an important contribution to furthering this understanding. Together with the discussion they stimulated, the papers pointed toward a general consensus on both sides of the Atlantic about the *need* for new capabilities. Most experts agree that the ability of NATO forces to work well together has eroded substantially since the end of the Cold War. Interoperability at every level – tactical, operational and strategic – is threatened.

Many factors contribute to this interoperability problem. Most often, the problem is described in terms of a growing gap in capabilities between the United States and other NATO members, which, in turn, is attributed to different levels of defense spending. As priorities shifted away from military security (and as the threats to that security seemed less and less evident following the end of the Cold War), both the United States and European members reduced defense spending substantially. However, the problem goes even deeper because the product of European defense spending amounts to much less than the sum of its parts in terms of national defense budgets and total deployable forces. Spending defense funds more wisely would be helpful in raising the effectiveness of European contributions to NATO. This could involve combining defense training and procurement infrastructure, pooling resources, moving from conscription-based to all-volunteer force structures and developing niche capabilities. Of course, in moving in this direction, care must be taken so that the Alliance does not overly depend on one member with critical capabilities.

Reasonable duplication of niche capabilities might therefore be necessary in order to avoid the risk of having a single point of failure.

The United States has also contributed to the problem of declining interoperability. For example, strong barriers have been erected by the U.S. government to protect military and dual-use technology. This discourages close transatlantic industrial cooperation. Furthermore, weapons, equipment and materiel are procured almost entirely from U.S. firms, reducing the potential benefits of broader competition. More importantly, the U.S. acquisition process has largely ignored requirements for NATO interoperability. This, in part, is due to the inefficient bureaucratic process of setting NATO standards, which often results in tailoring those standards to the technological pace of the slowest members. Nevertheless, common standards are needed to enable European forces to "plug in" and take advantage of rapidly changing technology.

Transformation

Transformation is a complex technical, procedural and cultural process designed to enable integrated battlespace operations in a fast and decisive manner. Command and control, always a difficult task for a multinational alliance, is at the heart of the challenge. Furthermore, the rapid, regular turnover of personnel makes it imperative that operational capabilities be exercised regularly, otherwise they will atrophy quickly. Transformation is not entirely about buying new equipment, but also about making what one has work together better.

Transformation is not a one-way process. In general, transatlantic cooperation is mutually beneficial – providing the United States with interoperability and the Allies with capabilities. If managed correctly, the United States might also gain new capabilities. Allied experience in urban warfare and expertise in chemical operations, for example, might make important contributions to U.S. and Allied doctrine and operations.

NATO will need to institutionalize the transformation process. Most likely this will involve transforming Allied Command Atlantic into a functional command responsible for future NATO forces. The extent to which this effort succeeds will be largely a function of the willingness of the North Atlantic Council to empower the new command. To be most effective, the new command will need to have a role in shaping NATO's doctrine and defense planning process. It should likewise have a role in setting NATO requirements and standards for new weapons and systems. And it should have the lead in concept development and experimentation.

Political Will

There is no shortage of good ideas or of opportunities for cooperation. Furthermore, there is evidence to suggest that much of this potential cooperation would be industry-led, if the legal restrictions on cross-border technology flows were loosened and the corresponding safeguards designed to prevent advanced technology from falling into the hands of undesirable actors were tightened.

Despite its many potential mutual benefits, however, the prospects for overcoming the obstacles to closer U.S.-European cooperation are poor. The U.S. defense market remains almost entirely closed to European competitors. Strict U.S. export controls and intellectual property laws discourage European producers from incorporating U.S. technologies. And, most importantly, there is little evidence of the political will on either side of the Atlantic that would be needed to surmount these obstacles.

Technology Gap

Europe is on a par with (or leading) the United States in several important areas of military technology. For example, leading work by Europeans can be found in radar, sonar, conventional submarines, mine warfare, and combat management systems. In fact, it may be argued that the central source of the transatlantic capabilities gap is not that the European defense industry lacks the technological capabilities of its U.S. counterparts, but that European governments have neither agreed to fund those capabilities nor organized to realize them.

Many Europeans believe that the United States has too much money for R&D and procurement. For example, the United States paid more than $300 million to develop an x-band phased array radar that was less complex and capable than a similar radar developed for $125 million by a European consortium from three countries. The U.S. funding advantage may also serve to stifle the kind of innovation that comes from dealing with much more limited funding. Lower levels of funding could force U.S. companies to make earlier decisions and trade-offs in the pursuit of new approaches.

II. Responses

Open architecture standards for command and control systems is one of the most promising areas for more interoperable European and U.S. technologies and forces. Transatlantic coordination on export controls, intellectual property rights and protection of sensitive technologies would also further cooperation by fostering industry-led joint ventures. The specific development of new platforms for Alliance-wide use, as well as greater national attention to common NATO standards, are likewise promising approaches.

Existing EU-led initiatives (such as the European Rapid Reaction Force) should receive the broad support of the United States and of the other non-EU member countries of NATO with the understanding that what is good for European capabilities will necessarily be good for Alliance capabilities. Transformed and interoperable European Rapid Reaction Forces may also be available for NATO missions as well as for missions that NATO declines (or fails) to undertake.

Finally, the ability of the Alliance to triumph over its adversaries is not merely a function of technological interoperability or the success of Alliance-wide capabilities initiatives. It also requires vigorous joint training exercises to ensure that all Allies speak and understand a common operational language. Furthermore, not every NATO member (especially the newest Allies) will be able to make key contributions of capabilities in response to the challenges

facing the Alliance. Nevertheless, it is important that political consultations be tailored so that all members remain enfranchised in the collective defense structure.

Transforming NATO Forces: European Perspectives

Transforming NATO Forces

Ian Forbes CBE[1]

I have been asked here today to discuss with you the thorny issue of "Transforming NATO Forces". As the Interim Supreme Allied Commander Atlantic, I come with a NATO view primarily. As a UK officer stationed in the United States and who has been a close observer of the U.S. national scene over the last year, I hope that I will come from an angle that may offer a slightly different European, but nonetheless, informed perspective.

Mine will also be a practitioner's perspective, because over 37 years of military experience, in hotspots around the world, I have been constantly reassured by the presence of U.S. military technology and know how. There is a distinct and chilly vacuum when you choose to be absent. In the Falklands in 1982, we went south to recover a group of small islands with the odds of success heavily stacked against us. I have to tell you that it was U.S. intelligence and a U.S. Sidewinder 9L missile on the Sea Harrier (delivered in prototype form) that were key enablers prevailing in that crisis; in the Gulf later in the decade, U.S. precision weaponry gave us in the coalition our first glimpse of the technological leap this country is capable of; in Bosnia later, I saw firsthand, in the Adriatic and on the ground in Sarajevo, what a different strategic situation can prevail when the United States chooses to engage and when it does not. And later off Kosovo, as the UK Battlegroup Commander onboard HMS INVINCIBLE, I saw the full might of U.S. Air Power contribute to a humbling of Milosevic's regime to stimulate the beginning of a new democratic dawn across the Balkan landscape. So I need no persuading of the need for U.S. engagement and leadership: NATO stands for "Needs Americans To Operate".

Given this background, I hope you can appreciate what U.S. influence in NATO Alliance business means to a naval officer such as myself. The Alliance is not a perfect construct, but it has a powerful synergy that cannot be disregarded. It has much that is artificial about it and like a difficult child, it needs nurturing to get the best out of it. Similar to the famous Franklin D Roosevelt comment that running the U.S. Navy is like punching a pillow all day. You end up exhausted and the pillow hasn't changed a bit.

[1] Text of the Speech Delivered on 18 October 2002

But that is, perhaps unfair. The Alliance has, in fact, changed a great deal over the last 10 years. It is more that, when you work closely with the organisation the rate of change, like the speed of the hour hand on a clock, is imperceptible. And this leads to frustration and tension. Which is not say that criticism is unfounded, but it does mean that we should not throw up our hands in despair when we fail to see progress as far and as fast as we would wish. The Alliance's record is impressive; it has served us well. Whilst to declare it as irrelevant would be a mistake, equally to neglect it in terms of reform would be foolhardy.

So we are clearly entering a period when NATO is going to have to undergo yet further, faster change. And the impetus for rapid change is strong. A large part of that will be the forthcoming process of Enlargement, with up to seven countries likely to be invited to enter the Alliance at the forthcoming Prague Summit. But I would rather focus on the impetus that is given by the large and increasing capability gap that we now face between the United States and its Allies. This gap is leading to not merely military inefficiency and dysfunctionality. But, some would argue, Robert Kagan most notably in recent months, it is also creating a political division with distinctive U.S. and European views of foreign policy based upon their relative strengths and weaknesses. I cannot disagree with Kagan's diagnosis of the symptoms, although I might question his linkage between cause and effect. Military weakness naturally inclines countries to seek peaceful means to resolve disputes. But, conversely, so does a belief in peaceful means render countries less inclined to spend extra on defence. But this is theology: The raw fact remains that there is a gap in both perception and capability that creates internal tension for the Alliance.

So we need to change. Machiavelli wrote in The Prince: "There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things". Despite this awful warning, I do have some ideas on a new order of things which should, if not close the military gap, at least reduce the rate at which the United States seems to be accelerating away. And I am prepared to take the lead. The European attitude to defence spending reminds me of Swift's comment that "…the stoical scheme of supplying our wants by lopping off our desires, is like cutting off our feet when we want shoes". So I applaud the pressure being applied to persuade European Allies to increase their investment in defence. There are I think now some signs that this pressure may be paying off. The biggest uplift in defence in my country for 20 years was announced this summer. Norway is going the same way. And this will be catching. I also applaud the Capabilities Commitments that the Secretary General, Lord Robertson, has been pushing so hard for Prague. But I suspect that waiting for help from nations will be like waiting for Godot: "Nothing happens, nobody comes, nobody goes. It's awful!" So while we wait, there is much that we can do internally within NATO's structure to improve matters. In particular, we need to export some of the U.S. transformational lessons to European nations, including above all the cultural and intellectual change that is leading Transformation.

I have been observing your Transformation process closely since my arrival. I have brought an objective outside scrutiny to bear, backed by some experience. I hope my view is therefore of some worth. It does not reflect the general view in Europe where many are yet to fully grasp the depth and speed of the process.

Overall, my impression is that U.S. transformation is of major importance. I note the ongoing dialogue about what exactly the term means, but I suspect that much of what lies behind the critics' words may be defensiveness regarding their own turf. Other aspects of the argument are just pedantry. But transformation, regardless of the precise definition, has behind it a powerful political imperative. This has delivered major investment in the process and a mechanism to deliver real and timely change. Joint Forces Command is an effective tool by which to break the logjams that can be caused by inter-service tensions in the fight for resources.

I also subscribe to the main tenets of the transformational process as undertaken by JFCOM. In particular I have been convinced by the virtues of the experimentation programme on which they are engaged. I saw Millennium Challenge on the ground and I was impressed with the technical, procedural and above all cultural progress that was being made in the drive towards truly joint capabilities operating in an integrated battlespace, in a faster more decisive way. I also note the speed and responsiveness of the process, and I saw with my own eyes command and control software tools being developed, by users in the field and on board ships, for delivery to operational commanders within months.

I do not accept the Van Riper thesis on Millennium Challenge. He seems to me to be ignoring the purpose of the exercise. I have some sympathy with his scepticism about some of the bumper sticker labels that are used to describe new concepts. However, it is precisely the purpose of an experimentation programme to prove or disprove the validity of concepts and to work out how to implement them. The United States has a laudable ability to stick up large labels as an aiming point and to drive towards them while accepting that the details are not yet worked out. To argue that a concept such as, for instance, 'Effects-based operations' lacks underpinning rigour misses the point. If it were a completely worked out concept, it would hardly be worth experimentation.

As to which of the JFCOM concepts under development are going to prove successful, I like the position of sitting on the fence with both ears pinned to the ground. The concepts are worth exploring and JFCOM and its Concept Development and Experimentation programme is an effective way of doing so. Some will fail the test, and others will take their place. This is a vibrant and dynamic process that is transforming the way the U.S. Armed Forces prosecute their business.

My main conclusion from this is that we, as an Alliance, have a major and growing interoperability problem. European under investment has made things bad enough on this front. The U.S. Armed Forces, already so much larger and better equipped than their European counterparts are now rapidly disappearing over the horizon. The scale and cost of transformation suggest that only the United States among the western industrialised nations is likely to be able to make the full investment in the capital structures and development costs necessary to create a transformed military by 2015. I think we need to look at a systematic system of franchising weapons, intelligence, logistics and communications capabilities – McDefence if you like – to enable other democracies to have a transformed capability at reasonable cost.

The United States needs to work with its Allies to ensure that common standards enable a 'plug-in' system of transformation that allows allies to take advantage of the U.S. capital investment. Whenever possible, allies ought to avoid duplicating the U.S. investment if the duplication is not bringing any additional capability to the Alliance. This system will require licensing for local manufacture and joint research and development on a scale we have only timidly begun to develop with the Joint Strike Fighter and other projects. I know this is difficult, but we have to continue to search for increased cost efficiency through multilateral co-operation.

But this is not only a technical problem: it is equally a cultural and intellectual divide. In my view, we are moving towards a point where U.S. commanders and staff will find it increasingly difficult to discuss operational issues with many of their Allied counterparts with mutual comprehension. This is exactly where NATO's important role as a coalition enabler should kick in, but, as we stand, that facilitation role could lead to incoherence and we seem to have no mechanism by which we can deliver fast accelerating U.S. transformational ideas to other NATO Allies. Nor do we have a mechanism by which allied experience in particular fields may be efficiently introduced to the U.S. process to achieve the U.S. priority of improving multinational interoperability.

There is some bilateral work going on. This is useful. But many of us operators would see difficulty with this approach: you can end up building capabilities and common understanding at a different level for each Ally. It does not pull all Allies together to try working as one seamless whole, preferably when preparing for operations rather than executing them. This is the sort of thing that can only usually be managed in NATO. Early this year we ran a large exercise in Poland, called STRONG RESOLVE. This involved 15,000 soldiers, sailors and airmen from 26 countries, including Partnership for Peace nations, working together in a simulated Crisis Response Operation. It was powerful training, really testing Allied interoperability, and using among other things a specially engineered Wide Area Network to stitch Headquarters communications together. If we confine ourselves to just bilateral work, we will be unable to replicate this sort of training experience.

We have therefore proposed that we should re-align the two NATO Strategic Command responsibilities along operational and functional lines: SACEUR looks after all operations, while we at SACLANT concentrate on the development of NATO's military capabilities – the futures piece. We believe that by replicating for NATO the role that JFCOM undertakes for the United States, we can make a real contribution to reducing this capability gap. Better for all of us that we Europeans remain associated with U.S. actions. Trying to ride the tiger is, after all, better than looking the other way. Adoption by NATO of the U.S. transformational process creates a win/win situation: The United States gets interoperability; the Allies get capability. Given that Allies accept the case for Transformation, they will be buying into thinking that requires them to put their money into more pertinent capabilities.

Our hope is that this would not be a one-way process from the United States to its Allies. There are areas of expertise and understanding in which NATO Allies can make a real contribution to U.S. thinking. What we need to create is a powerful centre or clearinghouse, here in Norfolk, that can provide real value on both sides of the Atlantic.

But, and this seems to me a major advantage, the buy-in required is not necessarily a substantial investment. Indeed, I suspect that a more efficient clearing-house might do much to actually save money. First and foremost, appreciation and understanding of fast moving doctrinal ideas and techniques will create an early bridge in intellectual and cultural processes; second, much of the JFCOM work involves the integration of diverse systems, many of them legacy systems. To bolt a box of tricks on to the side of an already existing system prolongs that system's useful life and ultimately saves resources. Similarly, C4I systems can be made to work together with the right know-how and experimentation programme. Transformation is not wholly about buying new equipment – it is as much about making what we have work together better.

Technological change, of course, cannot be resisted. If we just consider the growth of communications. 150 years ago, if you were commanding one of Her Majesty's ships cutting about the Indian Ocean, say, and you needed direction, then you scribbled a note in your cabin and handed it to some passing ship heading in the right direction. Once that had sailed around the Cape of Good Hope up Africa and battled through the Bay of Biscay and with good winds got into the Channel and to home, it was then only a day or so's gallop up to London with your precious dispatches. There their Lordships would read your message, sit down and scribble a reply and the whole process would have to be repeated. Having asked your question, about 6 months later, you got your answer. Today, of course, wherever you are in the world, you can from the comfort of your bridge just lift your handset and ask your question direct to whomever – you can even ask me in my office in Norfolk, Virginia. And about 6 months later I will give you an answer.

Which just goes to show that culture is just as important as technology in changing the way we work and that therefore transformation is not necessarily a matter of massive spending. It is about communication, education and training. The U.S. military, by virtue of its size and resources, has a powerful internal energy and momentum. While, rightly, OSD has identified the importance of enabling multinational operations, the incentive or opportunity to enable this can seem distant to a desk officer working a new concept in a purely U.S. environment. As a result, it is too easy for the U.S. military to grow away from its Allies, both linguistically and conceptually. The co-location and close co-operation of the sources of both Allied and U.S. national doctrine seems an effective way to overcome this problem. Imagine the synergistic effect if the training and education for both NATO and the U.S. joint forces were directed by the two headquarters, JFCOM and SACLANT, that were also working together in developing concepts and doctrine. The cumulative effect of this process over time could be quite stunning. Quite simply, JFCOM must be a catalyst for transformation both here and in Europe.

I do not deny the urgent need to invest more and to invest better. But one of the lessons that I took from the Kosovo campaign was not that the Europeans were too short of capital assets to participate properly in the campaign. Rather, they were short of the right bits to put on those assets and, too often, they simply could not co-operate and share information adequately. Both human and technical barriers were to blame. Acting as a real focus for the Alliance, there is much that we can do to tear down these barriers.

I hope I have convinced you that we have a potentially valuable role. So where do we go from here? Well, I hope that the concept is going to be agreed in outline at Prague, and, as a concept, it will form part of the overall capabilities package that will be discussed. That package is still being built, and this initiative is relevant and would benefit from the increased profile. Thereafter we need to implement it. This will not be that easy, but that's life – which Samuel Butler famously described as "…like playing a violin solo in public and learning the instrument as one goes on". We will learn as we go on. Of course, there is the internal change management that we will ourselves have to go through – but that does not worry me. What concerns me is that, as a command, we are left insufficiently empowered to do the job properly. If we are to deliver, we need control of come crucial levers and we will need some tools. Maybe a Joint War Fighting Centre and Integration Centre in Europe to complement that which Joint Forces Command undertakes at Suffolk, a position in shaping NATO's Defence Planning Process – giving it coherence based on a unified Combined Joint doctrine. All embracing influence over NATO's training and educational establishments, its Research and Technology processes, and its doctrinal and technological standardisation systems. Establishing these will undoubtedly impinge on many vested interests in and around NATO and I am also aware of Liddell Hart's warning that "the only thing harder than getting a new idea into the military is getting an old one out".

Yet the benefits, I would suggest, are real and if we have to change mindsets on our way, then that seems a small penalty to pay in order to deliver better, more interoperable capabilities to the Alliance. This is going to be period of change, and it would be easy to lose focus. We need to remind ourselves of MacArthur's words: "Through all this welter of change [our] mission remains fixed, determined, inviolable – it is to win our wars."

Capabilities for a Full Range of Threats

Richard Kugler

The first panel addressed three key issues: NATO's need for defense transformation in order to acquire new military capabilities for new missions; goals and plans to be adopted at the Prague Summit; and the attitudes of European countries regarding this agenda. The two speakers were Klaus Becher, Helmut Schmidt Senior Fellow for European Security at the International Institute for Strategic Studies in London, and Adrian Kendry, Senior Defence Economist for NATO Headquarters in Brussels. The moderator was Richard Kugler of the National Defense University, Department of Defense.

I. Becher Presentation

Mr. Becher provided a general overview of European political attitudes toward North Atlantic Treaty Organization (NATO) defense transformation and its quest for new capabilities. He noted that, as shown by public opinion polls, Americans and Europeans embrace similar strategic values and share common perceptions of threats, including that posed by global terrorism in the post-9/11 climate. Yet a strained, somewhat confrontational atmosphere marks today's transatlantic dialogue. This atmosphere owes not only to substantive differences on security issues, but also to structural differences between the U.S. and European roles in NATO and global affairs. Key to handling this situation, Becher suggested, is that both sides learn to distinguish between arguments over the merits of particular policies versus arguments that reflect basic structural differences.

Mr. Becher outlined the key structural factors at work. Owing to their experiences during the Cold War's late stages and in Yugoslavia during the 1990's, Becher argued, Europeans today have a broad definition of security. They see security as heavily a function of political and economic policies and the relationships that flow from them, not mainly as a byproduct of military strength and the willingness to use force to resolve crises. Their preference is to promote multilateral cooperative security, and to negotiate with adversaries rather than confront them. In Europe, this wider formulation of security is seen as standing in contrast to an allegedly narrower U.S. view, which focuses heavily on the military side of security management.

A second structural factor, Becher proposed, is the different international roles that animate the United States and Europe as they shape their security strategies and foreign policies. The United States is a superpower with a global view because it has interests, goals, and activities in many regions. It views Europe as merely one important region among several, and its instinct is to harness the Europeans to provide assistance in handling this global agenda. By contrast, the Europeans are mostly focused on their own continent, including the still-important task of enlarging NATO and the European Union (EU), bringing stability to Central and Eastern Europe, and working out a constructive relationship with Russia. Convinced that upholding international law is key to a stable future – a view especially prominent among the continent's smaller countries – the Europeans want to promote this

stance as the basis for handling security affairs elsewhere. This legalistic stance, Becher observed, contrasts with the U.S. view, which holds that geopolitics remains at work in other regions, and that while international law matters, traditional diplomacy and military power remain necessary and usable instruments of security policy.

A third structural factor according to Becher, is differences in the U.S. and European political processes. The United States has the luxury of acting with the independence of a single country where a strong consensus exists on behalf of an assertive national security policy and a well-prepared military posture. By contrast, Europe is composed of many medium and small powers that must reach a widespread consensus in order to act collectively. Moreover, their consensus-building efforts increasingly are being channeled through the EU, which is only in the early stages of developing a capacity for collective action in foreign policy and military strategy. Although professional militaries favor better defense preparedness and higher military spending, this attitude is not widely shared among finance ministries, parliaments, and the general public. Instead, the prevailing attitude is to downplay military affairs and new strategic initiatives in this arena. As a whole, Europeans are inward-looking and prefer to view foreign policy outside their continent as down the road – something to be pursued energetically only after Europe's unification has been achieved and its multilateral institutions have become better-able to handle the task.

Becher then pointed out a fourth structural factor, which he believes helps dampen today's transatlantic tensions. Europeans are not all of the same mindset, and many grasp the reasons for the U.S. stance on global security affairs. Britain especially is a strong U.S.-backer, and while France is intent on creating an independent Europe, it shares some U.S. attitudes on how best to handle external challenges. Other countries vary in their attitudes, but overall, viewpoints are distributed across the political spectrum in predictable ways. Liberal governments tend to be more critical of the United States; conservative governments, more supportive. Today's political atmosphere in Europe is thus muted rather than galvanized and polarized. A similar muted atmosphere prevails in the United States, where not everybody agrees with the sharp edges of Bush administration policies, and many people want to keep the transatlantic alliance intact. Thus, there is no widely shared sentiment in favor of fracturing the Alliance on either side of the Atlantic. In Europe, the prevailing hope is that the Americans and Europeans can continue working together by employing compromise and the art of the possible.

A fifth structural factor considered by Becher, is that the United States dominates the agenda-setting process in NATO. As a result, it enjoys the latitude to present its ideas and initiatives, and Europeans are placed in the position of reacting to them. This allows the United States to mobilize allies on its behalf, and it constrains the capacity of European opponents to assemble strong coalitions against U.S. initiatives. As a result, transatlantic debates typically result in U.S. initiatives being mostly adopted, but with modifications and compromises that bring enough Europeans on board. As a general rule, the process operates in a manner that builds consensus, and prevents polarization and confrontation. NATO tends to move ahead slowly and incrementally, but with enough energy to preserve its credibility while gradually strengthening its capabilities.

Becher closed his presentation by offering three observations. Europe, he argued, needs NATO more than does the United States. Europeans are willing to invest in improved NATO defense capabilities if the United States is willing to consult and cooperate with them. The United States and NATO must make clear to the Europeans that such investments will help strengthen European Security and Defense Policy (ESDP) and make them credible, influential partners of the United States. Taken together, these considerations provide hope for NATO's future, but they also underscore the need to strengthen multilateral frameworks for consultation and decision-making in handling events outside Europe.

II. Kendry Presentation

In his presentation, Mr. Kendry noted that at NATO civilian and military headquarters, a great deal of activity is taking place in the arena of designing plans and actions that will enhance NATO's capacity to perform new missions. The key challenge, as NATO Secretary General Lord Robertson emphasizes, is to develop better European military capabilities for these missions and to strengthen interoperability with U.S. forces as they undergo transformation. The ongoing NATO defense review, which will continue after the Prague Summit, is devoted to the capability issue. Prague will set the agenda. Afterward, the NATO Military Authorities will prepare studies and guidelines for carrying out this agenda. Then, it will be up to NATO's member countries to do their part, with NATO Headquarters playing a guiding and coordinating role. Much will depend upon the willingness of European members to pursue the goals and priorities upon which they themselves have agreed.

Kendry emphasized the importance of closing the widening transatlantic gap in new-era capabilities as effectively as possible. The Defense Capabilities Initiative (DCI), adopted in 1999, was well-intended but it has proven to be a disappointment owing to a sluggish response by NATO's members. Now that the United States is accelerating its defense transformation, the DCI needs to be refocused on highest-priority matters, rather than emphasizing too many initiatives in scattered ways. NATO Headquarters understands the need for this important change.

At Prague and afterward, Kendry argued, a key challenge is not only to induce the Europeans to spend more on defense (despite their often lukewarm attitudes toward defense preparedness) but also to prod them to focus the investment of new and already-existing resources on the right priorities. NATO must prepare for a wide range of future threats and operations, some of which are not commonly grasped by Europeans. A second challenge is to handle emerging tensions between NATO defense reform and the EU's efforts to build a European Rapid Response Force (ERRF) for the Headline Goal and Petersberg tasks. The Europeans are willing to respond to NATO's initiatives, but they do not want these initiatives to compete with the ERRF and dilute its progress. A third challenge is to harmonize NATO's next step toward a big enlargement with its need to pursue defense transformation. In particular, new members need to be given roles in NATO's force improvements and in the creation of better reaction forces. New members can perhaps play niche roles where they have appropriate capabilities.

Kendry closed by predicting that the Prague Summit would adopt such defense initiatives as a new NATO Response Force, an alliance-wide commitment to building enhanced capabilities in critical areas, and adaptations to the integrated military command aimed at streamlining while promoting transformation. He suggested that these defense initiatives will be embedded in a NATO decision to enlarge by admitting several new members and to strengthen cooperation with Russia through a NATO-Russia Council. Mastering this agenda, he stated, will require sustained effort that must get underway in the immediate aftermath of Prague.

III. Kugler Commentary

Kugler discussed the ideas behind the new NATO Response Force, which is intended to shore up NATO's relevance in an era of threats and operations outside Europe. NATO needs to replace the DCI, he said, with a new capabilities commitment at Prague. But for any such effort to succeed, it must focus on creating a new force configured for joint expeditionary missions outside Europe. This force must be able to project power swiftly over long distances, to conduct strike operations using advanced command, control, communications and computers; intelligence, surveillance and reconnaissance (C4ISR) systems and smart munitions, and to work closely with U.S. forces in these missions. Designed to meet this standard in affordable ways, the NATO Response Force is to be a small yet potent force organized into three clusters that rotate duty as a well-organized, designated force that can be employed by a NATO Combined Joint Task Force. For a six-month period, one cluster of troops will be ready for deployment within 7 days and will have 30 days of sustainment. During this time, the second cluster will be training and preparing for its upcoming cycle, and the third cluster will be standing down from its recently completed duty cycle. Each cluster will include about 21,000 troops composed of a composite air wing-equivalent, a brigade-sized ground task force, and one or two naval strike groups of 15 to 20 ships armed with cruise missiles and, when available, a European carrier.

This Response Force, he noted, will be mostly composed of Europeans, and is to be drawn from NATO's already existing High Readiness Forces. Authorization for its use will be decided upon by the North Atlantic Council. It is intended to complement the ERRF, not compete with it. Whereas the ERRF will perform Petersberg tasks at the low end of the combat spectrum, this force will be designed for intense combat at the high end. It is to be capable of performing multiple strike missions: e.g., as a stand-alone force under the integrated command in order to handle small crises; as a spearhead for a larger NATO intervention; and as a member of an informal coalition with the United States or the EU. NATO needs such a force, he determined, not only because of critical gaps in its own posture, but also because the ERRF will not be intended for high-intensity combat, will not be assigned to NATO, and will not be designed to be interoperable with U.S. forces.

Advanced training and exercises, he suggested, will be necessary for this force to possess the requisite readiness. The manpower, combat formations, and modern weapon platforms for this force already exist, but further modernization will be needed in such areas as communications, information systems, precision munitions, and specialized assets. Fielding of this force will likely take two to three years. Five-year costs will probably total about two

percent of existing European defense budgets. As this force is being created, as well as afterward, it can serve as a vanguard for helping the Europeans pursue their own transformation in tandem with the United States.

IV. Audience Commentary

After the presentations, audience members asked questions and offered commentary, with the panel members providing their observations in response. Much of the discussion focused on the NATO Response Force. Most audience members supported the idea, but offered remarks on the challenges of carrying out this idea successfully. One audience member pointed out that this force will be excellent for such contingencies as Afghanistan and Iraq, but that NATO will need to make it complementary with the ERRF, ensure that the North Atlantic Council has authority over its use, and provide some flexibility for countries to "opt-out" of specific contingencies if their parliaments so mandate.

Other audience members highlighted such issues as reconciling this force with the ERRF, incorporating new NATO members and Partnership For Peace countries, and relaxing U.S. export control laws in order to make key technologies available to the Europeans. Still other audience members raised questions about U.S. participation in this force, suggesting that while U.S. forces should be part of it, the Europeans should be mainly responsible for fielding it. Overall, the audience members expressed agreement with the Prague defense agenda, yet expressed awareness of the political problems of pursuing it given that many European countries still lag behind the United States in their attitudes toward defense preparedness for new-era missions.

Towards Strategic Dialogue in NATO: Europe's Condition[2]

Klaus Becher

The year 2002 has brought the transatlantic security relationship to a critical point. Decisions will have to be taken in the next years that determine if the North Atlantic Treaty Organization (NATO), in its military integration aspect, remains a vital institution and continues to provide a framework for further defense integration across the Atlantic and among Europeans – or if military cooperation between the United States and individual European allies is rather going to be based on bilateral and ad-hoc links in the future.

In 2002 there were mixed signals, ranging from the political and operational closeness displayed and practiced in the wake of the terrorist attack on the United States on 11 September 2001, to the fundamental (and at times acrimonious) disagreement between the German government under Gerhard Schröder and the United States over potential military action against Iraq to enforce the United Nations (UN) disarmament rules imposed on Saddam Hussein's Iraq after its 1991 defeat, banning Iraq's weapons of mass destruction and missile programs.

The purpose of this paper is to provide some explanation of the current transatlantic strategic environment and possibly to help to increase understanding on both sides of the Atlantic of the setting in which the beginning debate on the future of NATO is going to unfold in the coming years between the United States and its transatlantic allies in Europe (along with Canada). NATO's Prague summit in November 2002 only marks the beginning of this debate by reaffirming the crucial importance of the widening Alliance in today's international system and by establishing new common political and military goals.

Are there any specific European views, or sets of specific views in various European countries (now increasingly also including Russia) on key issues of this strategic debate – on the threat posed by terrorism, the dangerous spread of weapons of mass destruction, the regional and world-wide role of NATO in this context, or the capabilities NATO and its members need as a consequence? The assumption exists that one can describe U.S. views on the one hand, and European views on the other, and then check for overlaps and incompatibilities. However, this may be a misguided approach.

The recent systematic large-scale survey of public opinion in the United States and Europe, undertaken by the Chicago Council on Foreign Relations and the German Marshall Fund of the United States, "Worldviews 2002",[3] provides a valuable starting point for any discussion

[2] Paper prepared for the conference, "Transforming NATO Forces: European Perspectives" held by The Atlantic Council of the United States in Washington DC, 18 October 2002.

[3] Worldviews 2002. American and European Public Opinion & Foreign Policy, http://www.worldviews.org; see also Craig Kennedy and Marshall M. Bouton, "The Real Trans-Atlantic Gap", *Foreign Policy,* November/December 2002.

of differing approaches on both sides of the Atlantic to threat perceptions (including terrorism and weapons of mass destruction), the notion of security, and the use of force. The result of this unprecedented comparative survey demonstrates that, despite reports to the contrary, no fundamental differences in public opinion divide Europeans and Americans on these issues. The gamut of relevant opinions found in the European public, political parties, and among European experts is strikingly similar to the range of mainstream opinions expressed in the United States.

At the same time, some of these issues – and in particular the prospect of preemptive action or even preventive military attack on Iraq – have given rise to severe disturbance among the members of the Atlantic Alliance in recent months. It appears, however, that such confrontations are more an expression of structural obstacles to the conduct of a strategic dialogue than the result of a failed strategic dialogue ending in two well-defined opposing positions.

If there had been a strategic dialogue across the Atlantic in 2002, instead of the – presumably only temporary – structural incapacity to engage in serious strategic exchange, Europeans might well have found themselves in agreement with President George W. Bush's much-denounced National Security Strategy of September 2002, as it lays out a strategic agenda that seeks to promote peace based on human dignity and development.

Indeed, many apparent differences between U.S. and European statements do not reflect material differences in the assessment of threats and their causes, values (including the will to defend them), or national interests. For structural reasons, however, certain positions and ways of argumentation that are present in the U.S. public, media, and Congress regularly generate a stronger – and more negative – resonance in Europe than in the United States, at least for the time being. In this regard, it would be helpful if a distinction were elucidated between disagreements over policy and disagreements about international structure.

A key, fundamental problem often lies in a failure of transatlantic communication caused by incorrect European assumptions regarding the motivations, background and addressee(s) of positions taken publicly by U.S. leaders. Many statements tailored by U.S. leaders for a U.S. audience are incompatible with European styles. Certain other statements by U.S. officials are aimed principally at third parties, outside the transatlantic context, in order to affect their strategic calculus. This group of "third parties" includes potential aggressors, who must be deterred and exposed to pressure, or countries in need of unambiguous, determined reassurance. It is thus the tactical context of U.S. political language that is often lost on European spectators and other outside consumers of U.S. policies, in the public as well as in the political leadership.

It should also be noted that there is, today, very little institutional expertise on U.S. policy in most European countries. The intricacies of the U.S. strategic debate are not sufficiently followed, documented and objectively analyzed in Europe. Even in the highest levels of government, U.S. policy statements are not infrequently perceived and digested on the basis of media reports, rather than on the basis of the complete record in its proper context, which makes a number of grave errors of judgment almost inevitable.

Of course, the same applies to U.S. perceptions of European policies – perhaps even to a more serious degree. On the strategic level, however, European failures to read the United States correctly in terms of governmental interaction would seem to be both easier to avoid and more damaging to the European ability to actively and constructively influence international affairs.

The only real remedy for this phenomenon would probably be a much more proactive and timely inclusion of European leaders, advisers, and commentators as responsible participants in the evolving strategic debate on how to deal practically with the key issues of international security. Such inclusion should be at least as intensely pursued as it was in NATO with regard to nuclear deterrence during the later phases of the East-West conflict, though it would hopefully reach beyond the sharply asymmetrical, U.S.-dominated character of that historic debate.

Some may doubt that there is still sufficient common ground for a shared strategic outlook after September 11th, given that the United States considers itself at war and Europe does not. For many in Europe to fully grasp the nature of this new threat, it perhaps took further al-Qaeda terrorist attacks, and ones that were closer to home. Incidents such as the firebomb attack on European tourists at the synagogue in Jerba and the much larger-scale killing of tourists in Bali have already had a visible effect.

The unconditional and unlimited support pledged by NATO immediately after September 11th – which was indeed more support than the United States was prepared to take – should have reflected the conviction of the European Allies (and Russia) that they not only inhabit the same planet as United States, but that they are also acutely aware of the need to work together closely. It is precisely within this point of fundamental accord, however, that understanding underlying differences becomes essential.

I. Structural Factors of Distinction

It is fairly easy to come up with a long list of structural differences between the United States and its European allies. Perhaps the hard part is therefore to eliminate from such a list those items that represent myths or mental baggage from past eras – to say nothing of those that are simply of marginal importance. It then appears helpful to identify and highlight a number of relevant factors in the realms of political environment, history, geography and public communication that regularly cause the United States and Europe to adopt different approaches in style, procedure, and language, whether or not there exist corresponding differences on substance and merits.

There has been much debate, triggered by Robert Kagan's article "Power and Weakness",[4] on the structural gap between the United States and Europe as a whole, which is claimed to result mainly from the combination of two factors on the European side: a limited regional focus (reflecting equally limited capabilities) and a general aversion to wielding military

[4] In *Policy Review,* no. 113, June-July 2002.

power. The first of these factors is already changing; the second needs closer inspection – and some additional factors must be added to the equation.

It is apparent that politically, Europe today is generally more inward-looking than the United States (but this might change again in the future). This introversion is visible in the European public in general, but it is even more so among political leaders. The political agenda in European countries is dominated by issues such as unemployment and crime, which are still perceived as domestic issues, though they are strongly influenced by transnational economic and societal interaction. The aging of European populations adds to this domestic focus by making pensions and health care into dominant campaign issues and by reinforcing a mood of widespread aversion to change, including a notable reluctance in the face of unfamiliar challenges and possible new approaches.

Defense in particular, as the largest "discretionary" drain on the public budget, lacks glamour, and therefore enthusiastic support. It does not normally provide European leaders with opportunities to shine. In a majority of European countries, party officials see no incentive at all to present themselves as interested in defense and strategy. This would neither help their nomination nor gain them votes from the electorate. Outside the United Kingdom, there is no recent example in Europe of a political career being made on the basis of a strong profile in defense matters.

Based on Europe's success in transforming combative rivalry among nations into peaceful cooperation within a common legal and institutional framework, the notion is widespread among Europeans that the European Union (EU), by contrast to the United States, is a new, more advanced kind of "civilian power", which can promote international peace and security through the force of its good intentions and economic weight – and without military power. This perception ignores the fact that the United States has been the historical role model of a trading state and civilian power, and that it surpasses the EU to this day in its arsenal of soft power. Furthermore, the United States brings comparatively stronger experience and skill to the application of its soft power, not only in the Middle East, South Asia and Southeast Asia but most notably and successfully in the process of profound political transformation with Moscow since the mid-1980s. Before that, the long-term U.S. nurturing of European recovery and integration, in the interest of winning strong democratic allies in the Western camp, provides another obvious example of U.S. expertise in soft power – backed up by strong military power, but neither matched nor overtaken by it.

Transatlantic perception gaps often simply reflect the different roles to be played by a global power and by smaller, regional powers. Such gaps are likely to shrink as common challenges are met on the basis of common values and overlapping interests. The role Europeans like to assign to themselves in international security is an active one, although with a regionally limited focus and a predominantly political and economic thrust. This limited focus has more to do with the facts of political geography than with desired abstention.

While the United States enjoys much of an entire continent to itself and is surrounded largely by oceans, European countries exist in a somewhat crowded neighborhood. In terms of security and sustained stability, much unfinished business remains in the Balkans, Eastern

Europe, and the Mediterranean basin. The proximity of conflict and its consequences was intensely felt in Europe during the Balkans wars of the 1990s.

European complacency vis-à-vis matters of international security, often criticized by U.S. observers, has been on the retreat as a consequence of the visible, positive role NATO defense forces, working hand in hand with other European institutions, played in the Balkans in the last decade. Additionally, there is no longer an absence of strategic debate in Europe, and existing perception gaps are narrowing. For the foreseeable future, of course, the operational limitations of European forces will remain, primarily in regard to force projection – a structural development that was shaped to a considerable degree by U.S. preferences during the Cold War.

The lessons of Yugoslavia and Kosovo include the realization that diplomacy, in order to be effective, may need to be supported by the credible ability to use force. It has also been demonstrated that determined international military intervention can prevent genocide and protracted civil war. Specifically, these recent conflicts have driven home to Europeans the belief that, if war does break out, the fighting must be ended and the feuding parties disarmed, so that the spill-over effects of destabilization can be reined in and a process of peaceful reconstruction realized.

The lessons learned in Europe also reinforce the conviction that, for real gains in security, long-term political and economic engagement is required, and that it is neither sufficient nor advisable to impose an externally-defined order by force. There is the lingering perception that, in this context, the U.S. stress on the role of military power in dealing with conflicts can be an obstacle to the successful application of political, diplomatic, economic, and cultural tools of civilian power, which could make the difference in the long-term.

Europe's bitter history of instability, radicalism and societal imbalance, combined with the frequent international spillover of European conflict shows that it takes a well-coordinated combination of measures to achieve peace and democratic stability, with military force merely performing an enabling and supporting role. The trauma of the U.S. retreat from Europe and from the League of Nations after World War I, in effect diminishing the basis for sustainable peace among war-torn societies, serves as a lasting reminder that no good exit strategy exists after an international intervention.

In Europe, the Balkans experience has also shaped the evolving debate on the legitimacy and conditions of intervention and the use of force. Clearly, Europeans enter this debate from a different angle than does the United States. While the United Kingdom and France, in a formal sense, share the role of guarantors of international peace and security with the United States as permanent members of the UN Security Council, their military capabilities are bound to be insufficient for playing such a role independently, except in small contingencies, as occasionally in West Africa. For other European countries in the post-1945 world, the use of military force has for many years been imaginable only in terms of the collective self-defense of NATO territory under Article 5 of the Washington Treaty.

The popular memory of the horrors of two catastrophic wars in the 20th century strengthens the desire of Europeans not to get involved in combat if at all avoidable. The non-escalatory mindset generated by the nuclear standoff in Europe during the Cold War leads most Europeans (with exceptions in Britain) to consider the use force permissible only as a last resort. Even talk of the threat of the use of force is widely felt to be inherently destabilizing and counterproductive. Many Europeans would therefore argue that, except in the case of immediate self-defense, the legality of the use of military force can only be established by an international mandate duly agreed to through multinational procedures and in accordance with the UN Charter.

This attitude, while deeply rooted, is now coming under review as new kinds of threats from global terrorist warfare and from the aggressive use of weapons of mass destruction are becoming more widely understood. It will take time, however, to establish new, appropriate language – and to gain public acceptance for it. In any case, the requirement for multinational, procedural justification of the use of force is likely to remain a core element of European approaches.

While the themes of the debate and the range of positions that exist on the use of force are indeed quite similar in the United States and in Europe, the tone of the debate is not. Indeed, it is this aspect of the two different political styles and cultures that may have burdened the transatlantic relationship more than anything else in recent months.

U.S. foreign policy and the development of the U.S. military posture have presented themselves as forward-leaning since the mid-1990s, actively seizing opportunities to change the *status quo* of the global security environment in order to promote U.S. interests and values. While such a strategic approach is in itself similar to that of the long-term European transformation pursued vis-à-vis the former Soviet Union and the countries under its control since the late 1960s, the language in which it is wrapped, is not. There is as yet no equivalent of a transatlantic "Harmel doctrine" for addressing new global security challenges.

Whereas in Europe, public remarks on security and defense are generally expected to err on the side of caution if they are to be taken seriously, the U.S. political system often requires overstating one's case, to the point of alarmism, if one wants to get a hearing. This mechanism produces statements on matters of peace and war that sound unfamiliar to European ears, not just in substance, but also – and above all – in tone. Such statements, irrespective of their merits, are then perceived as out of balance and unprofessional; they can also be viewed as ignorant or as potentially dangerous acts of political brinkmanship. Obviously, this derailed comprehension can make it difficult to get serious strategic communication between allies back on track without the service of honest and persistent interpreters on both sides.

In particular, U.S. language of right and wrong in the public arena risks to conflict with taboos in Europe that are rooted in its legacy of struggle between competing confessions and of the devastation left behind by loud ideologies. Skepticism about such insufficiently focused rhetoric as the "axis of evil" (in spite of immediate clarification from the White House that there was indeed neither an axis nor a one-size-fits-all recipe for dealing with

different evils), references to "crusades" or bold insistence on "regime change" has been voiced in Europe as well as in the United States. The temptation to interpret such rhetoric, only half understood, as if it were an expression of actual U.S. policy, has been greater in Europe.

Remarkably, some of the criticism wielded at the Bush administration from Europe looks rather like a new dimension of familiar partisan political struggle, as allied governments from different strands of political identity – on the left and the right of the spectrum – display their different preferences in the transnational public debate. This is certainly a feature of the beginning of an age of democratic global governance.

Beyond such unavoidable irritants as matters of style and cross-national partisan struggle, there are two sets of issues that reflect true structural differences, in political and institutional terms, vis-à-vis the United States. They are likely to guide European preferences regarding international responses to the new security environment: the focus on long-term political engagement in addressing conflicts and threats, and the assertion of democratic autonomy in a U.S.-dominated international system.

The first of these two sets of issues is based on the European sense of mission in favor of a wide notion of security. European Allies, in general, stress the need to engage problematic phenomena – including proliferation and terrorism – with political, diplomatic, economic and socio-cultural means. Where possible, they advocate cooperation rather than confrontation. They believe in taking the long view and building common institutions. They insist that wielding political power, imposing sanctions, and applying military force might actually inhibit the positive processes of change that can lead to risk reduction and sustainable political solutions. All of these notions are of course entirely familiar and dear to U.S. policymakers, but in the U.S. policy debate such soft-spoken approaches are sometimes hard to defend. In the United States, strategic pronouncements and public spending on international security give much more prominence to adequate defense capabilities than to better overall resources for acting across the spectrum of foreign-policy measures.

This tension is increasingly at the heart of the transatlantic structural dilemma as Europeans fear, wrongly but strongly, that the U.S. is unilaterally moving more and more toward a military-dominated strategy. In addition, the dominant political and military position of the United States, supported by its strong economic position, feeds suspicion that, due to the temptations of power, the full continued U.S. commitment to the limiting rules of the law of nations – historically, very much a U.S. creation, including the enshrinement of international law in the UN Charter and a network of bilateral and multilateral treaties – is potentially becoming a structural uncertainty in today's international system. For smaller states, including European ones, it is a matter of necessity to insist on universal respect for the law of nations, to assert their independence and to emphasize the legal equality of states.

Since 1917, European fears regarding the transatlantic link oscillate between two poles – fear of U.S. disengagement from responsibilities abroad, with potentially devastating consequences for Europe and the rest of the world, and fear of overbearing U.S. dominance in its phases of active international leadership. In the current European debate, the first of

these has been nearly forgotten, while the second has become a strong factor in European debates.

In response to U.S. strength, some Europeans may look for ways to "balance" the United States, others will stress the moderating effects of institutionalized cooperation and still others will put their hope on the time-tested self-balancing virtues of the U.S. political system. All of them will together strive to preserve and to strengthen the autonomous decision-making power of European nations, not just to preserve as much of their own democratic sovereignty as they reasonably can, without damaging their ability to benefit from international cooperation.

Frustration with the asymmetry of power in the U.S.-dominated international system is aggravated by the lack of a sense of co-ownership of the largely U.S.-driven current strategic agenda among Europeans, unlike during the period of the East-West conflict. The exceptional vitality of the U.S. political, administrative, legislative, academic and media machinery provides the United States with a unique tool for setting agendas, generating support and getting things done on a highly professional level. To be sure, there are phases of gridlock and directionless drift in U.S. history, but even in such phases the United States often manages to impose its own agenda and preoccupations on much of the rest of the world.

It is important to realize that other countries and governments do not usually enjoy the benefits of similarly powerful political systems. They must live with the fact that they, too, are to a considerable degree governed by Washington – even taxed, but without representation.

The agenda-setting dominance of the United States is not in itself a bad thing. One must be aware of its existence, though, and realize that certain strategic debates – such as those on strategic export controls, proliferation of weapons of mass destruction (WMD) and counter-proliferation – are almost entirely U.S.-made. The contributions others can make to such debates are normally only reactive, and often defensive, even if there is strong fundamental agreement on underlying threats and risks and the need to address them. This fact limits the impact non-U.S. actors can have on key strategic debates and leaves them without a true sense of ownership of the policies that are, in fact, jointly pursued.

As a result, new agenda items imposed by the United States are often initially ignored or rejected without adequate consideration of the merits. It is not infrequently presumed that the United States proposes such items because it is in its interest to change the rules, or further, to use the opportunity to tilt the playing field in its own favor. The debates on anti-proliferation since the Carter administration, and on counter-proliferation since the Bush administration of 1989 to 1992, have been examples of the phenomenon of delayed reception to global strategic change in most European countries, admittedly complicated at the time by the exclusive European focus on the East-West context in Europe. The notion of terrorism as a new form of asymmetric international irregular warfare, with all the ensuing legal implications, provides another recent example where most European strategic experts have not yet arrived at the same conclusions as their U.S. counterparts.

The regrettable effect of such delays, from a European perspective, is that valuable opportunities are missed to influence and support the crucial first phases of coming to terms with new strategic challenges, both intellectually and politically. As terminologies and priorities become bifurcated, Europeans lack credibility and standing within the U.S. debate in later phases and are then left to critique it from the sidelines.

Ironically, however, it is true in many cases that the beliefs and arguments of those Europeans who criticize the United States most vehemently, such as on environmental issues or arms control, are in fact imported from positions originally developed in the U.S. debate.[5] By denying the shared transatlantic nature of global governance issues – environmental protection, the promotion of human rights, the use of military force et al. – and casting them instead as Europe-versus-the-United-States issues whenever the U.S. debate has moved on in a different direction, European governments and activists in effect minimize the chances for successful implementation of their own objectives.

Institutions that breed a habit of early consultation before terms are set and decisions are made can make the crucial difference in preventing the structural strategic alienation that could otherwise result from U.S. dominance. NATO has over decades allowed for strategic cross-fertilization, as has the Group of 7 (now 8) process (G-7/G-8) in other fields. The best remedy of all would be if European allies were willing to enhance their own strategic analysis resources. This would allow them to grasp a larger share of the international market of strategic ideas by offering more timely, high-quality, practical concepts of their own for resolving issues that are considered of key importance by the United States.

The authority and credibility of democratic governments depends in part on their visible effort to speak up or to act in the name and interest of their constituents – the more so in an environment where the challenges of global governance and decision-making are debated in a globalized public space but dealt with, for lack of transnational democratic institutions, through intergovernmental channels of influence. For the time being, the apparent asymmetry of influence (read: U.S. dominance) leaves European governments in a situation where they feel a need, now and then, to reassert their own democratic credibility – and reelection chances at home – by explicitly refusing to go along with U.S. wishes, without respect for the merits of the issue in question. In such cases, European governments have even resorted to using a certain amount of populist anti-hegemony rhetoric.

In democratic systems, with their need for legitimacy in the eyes of the public, a sustainable basis for continued active solidarity with other countries must be nurtured and defended. All European governments have found it advisable for this purpose in the recent past to combine their focus on determined transatlantic cooperation against terrorism with the expression of more or less pronounced public reservations, and in some cases even harsh criticism, of certain aspects of U.S. policies and the style in which they are pursued. Unfortunately, this assertiveness vis-à-vis the Bush administration, though it may have begun

[5] One striking illustration among many is provided by the history of clean-air regulations, pioneered in California – and to some noteworthy degree under Governor Ronald Reagan – long before the issue migrated to Europe through the combined effects of U.S.-derived media and academic attention and the economic need to react to the international trade and technology consequences of new U.S. policies.

as a balancing act to preserve public support for joint policies, has at times deteriorated into an atmosphere of mistrust and disdain, notably during the German election campaign.

As the need for democratic assertiveness in regard to U.S. leadership responds to a key requirement of governance, it is not likely to go away. It raises two distinct dangers: that the United States might lose faith in those allies that make a habit of denouncing it; and that the European public might, at some point, actually begin to believe the negative things some of its politicians are saying about the United States and its elected government. Both of these unintended psychological effects would spell the end of the transatlantic Alliance and make the continuation of a cooperative world trade system rather difficult. Talk of hegemony should therefore be applied with caution by leaders on both sides.

II. NATO: What Kind of Transformation?

These structural factors, and the way both the United States and European countries are going to handle them in the coming years, are likely to shape the role and future relevance of NATO. In Europe, there has regrettably not been much of a discussion yet on the kind of NATO Europeans would want to see in existence a decade from now, and which would be in their own interest. Conceptual innovation in NATO has been left to the United States. If this continues, it could create the risk that the evolving new NATO will be seen as being outside Europe's own structural development.

The preparations for the Prague summit helped to create at least an awareness that an active European policy approach toward NATO would be helpful and desirable. After all, NATO is a European institution, and in fact one of the most important ones – established at the initiative of European governments and with a broad, and widening, European membership.

Whereas the United States would be quite comfortable organizing its security relations with its European Allies on a bilateral basis if necessary, the unique multinational achievement of NATO is above all in the European interest. Not only is there a continuing important political role for NATO to play in mastering the unfinished business of stabilization and integration in Southeast and Eastern Europe; even more importantly, Europeans need NATO's military integration structures as the most important (and in many respects only) available effective framework for organizing their own defense efforts. With the French realization of the 1990s that operational integration in NATO missions will be a regular feature of European security and defense in the future, this point is now also true for Paris.

No European country is in a position to pursue defense on its own in any meaningful and adequate way, and European approaches towards integrated defense have always found that replacing the European *acquis* in NATO with a completely new structure would be both unaffordable and counterproductive. In any case, a framework for working with the United States in international security and defense would still be needed even if NATO were to disappear.

Future scenarios for the international security environment in the decades ahead fall into two large categories: those where the United States and the other major democratic, market-

based powers continue to co-manage the international system cooperatively, and those where they cease to do so. The political decision for partnership or rivalry – for cooperative or antagonistic global governance – is the most important independent variable that is likely to shape the political and economic future of the world's societies. The answers to many other questions, including the future role and performance of international institutions like the UN, the World Trade Organization (WTO) and NATO, are likely to follow, in practical terms, from this fundamental decision.

Given the structural resistance to U.S. dominance described above, there are those in Europe today, across party lines and national boundaries, who advocate a bold step of European self-assertion vis-à-vis the United States and NATO, which is seen as a mere instrument of U.S. control. Structural dissatisfaction with U.S. leadership makes these voices call for the EU to assume the role of a countervailing or alternative power in the world – though European voters show at present neither practical desire for such a role nor any willingness to fund it. After having achieved a single market, the Euro, and a voice in the world, the EU and its member states must soon decide on which side of the debate between partnership and rivalry they will want to come down.

Equally, after having achieved the position of the world's sole leader, the United States must decide if it will remain reliably engaged in international cooperation and willing to make its unique resources available to international governance, or if it will turn inwards, from a position of defensive strength, restricting its international leadership to intermittent unilateral action dictated primarily by its own political agenda.

Of course these two decisions will never be made in a clean-cut way, and the fundamental issues involved will remain at the heart of the political debate in Europe and the United States. What both sides must do, however – and in fact what they have already begun to do since September 11 – is to confirm beyond doubt their predominant commitment to joint approaches for defending the international order on which their existence depends.

Essentially, the shared, acutely felt need of governments to strengthen their ability to deliver security and prosperity at home by jointly mustering the required resources of power, governance and finance can be identified as the main driving force behind such a renewed political commitment to a higher level of security cooperation.

More often than not, this functional requirement is likely to favor cooperation over conflict and disengagement in the transatlantic relationship because cooperation is in most cases the most effective way to supply what is needed to satisfy shared political demands for security and prosperity. In a world of transnational, increasingly globalized interdependence, the effective capability to act on one's political responsibility depends on the pooling of resources – coordination of measures, exchange of information, provision of funds – that only institutionally anchored cooperation and integration can offer.

This, then, implies two things for Europe's future approach to NATO. First, by working with the United States in transforming NATO into a strong tool for addressing the key challenges of international security and defense, Europeans can successfully pursue several of their core objectives at once:

- To improve their own ability to cope with new security challenges;
- To advance the European integration agenda;
- To influence U.S. decisions and actions in practical cooperation and trustful transnational democracy, and;
- To ameliorate the structural dilemmas of the transatlantic security relationship.

Secondly, Europeans need to formulate the strategic essentials that need to be defended in the further development of NATO:

- Consistent U.S./NATO practical support for the further deepening of European Union integration;
- Cultivation of an institutional, multilateral framework for decision-making, control and cooperation;
- Respect for Europe as an equally important but different part of the democratic community, and;
- True and timely consultation before final decisions are made and action is taken.

It is encouraging that President George W. Bush, in his National Security Strategy, has promised consistent consultations among partners, with a spirit of humility, as a necessary element of U.S. leadership,[6] as well as close coordination with allies to form a common assessment of the most dangerous threats.[7]

Historically, NATO's most obvious purpose has always been to help build a strong Europe. As the European Security and Defense Policy (ESDP) gains strength and relevance over the next decades, there will be an ever-increasing need for improved practical interaction and mutual involvement between the EU and NATO. Already at the present stage it is more essential to cross-reference force planning (and in a much more intense way) among individual nations, the EU and NATO, than envisaged before.

Preserving and building on NATO's vitality as the world's most cutting-edge military alliance will be essential for Europeans if they want to strengthen the international role of the European Union with operational military power. It will take several more years for Europeans to achieve consensus on what they want to do with their combined international responsibility, on what place military force will occupy in the toolbox of European strategy, and on what other requirements must be met for making the best use of Europe's power.

One requirement will be to develop and promote a professional, politically convincing European vocabulary for security and defense, at both the national and European levels, that can match its U.S. equivalent in depth and precision. The British experience of trying to combine a strong and trusted position in the transatlantic alliance with an equally strong spirit of national and European leadership in defense, crisis management and international development might provide some inspiration.

---

[6] *The National Security Strategy of the United States*, September 2002, p 25.
[7] Ibid., p. 16.

Above all, European leaders should be exercising a new tone in justifying decisions about the use of force to their own publics – moving away from the traditional argumentation that they are devoid of choice because measures were either pressed on them by the United States or mandated by some international body. Instead, they will need to explain and to defend their own actions as reflective of their countries' interests, overlapping with that of other allies. This process of emancipating the European political discourse on the use of force, in order to put it on a more serious and reliable footing in the long run, may make it advisable to say "no" to the United States in some cases.

For Europe, the task for the era ahead is to muster the necessary set of security-sector capabilities that is needed to preserve an attractive basis for NATO's continued military integration as a valued instrument of international security and defense in cooperation with the United States. In this context, it is highly significant that the United States is now prepared to encourage its allies to engage in the constructive duplication that would reduce reliance on U.S. military assets, thus alleviating pressures on limited U.S. resources and mitigating fears that the United States would be tied down by having to come to the rescue of failing European forces.

NATO's capability-building initiatives, in conjunction with the EU's own initiatives, play an important role in providing Europeans with a coherent framework for adapting their defense priorities and programs in an expedited, focused, and harmonized way. Such initiatives include shared acquisition and operation as well as role specialization.

While there was some suspicion that the new NATO Response Force was designed to undermine the EU's own Headline Goal capability-building efforts, at closer inspection the opposite is the case: the NATO Response Force looks like a very good next step in the ongoing adaptation of European force structures:

- It lends additional support to the focus on mobility, versatility, rapid availability and well-trained multinationality, and thus facilitates Europe's defense identity.
- It also ensures that NATO is able to act as a unit visibly at very short notice, and offers the chance for Allied, not unilateral action, in other regions.
- It can become a cutting-edge showcase of the positive contributions military forces can make to the early, effective resolution of conflicts and security threats.
- It can also provide a seminal environment for translating U.S. transformation efforts into a broadly supported Allied effort to master "jointness" and to exploit the advantages of technological innovation.

The asymmetric distribution of military roles in the Alliance – with the United States, the only military power with global military reach, being far more capable militarily than any other country to the point of being even more capable than all of its allies together – makes it impossible and undesirable for Europeans to simply copy the U.S. approach to transformation. The gap cannot be closed. In all likelihood, it is going to grow deeper and wider. Marginal increases in European defense spending will not change this picture.

Europe has much to gain, though, from better exploiting the force multiplication, cost efficiency and risk limitation that can be derived from jointness and network-centric concepts and operations, adapted to European needs. The opportunity offered to NATO to work closely with the United States in Norfolk, Virginia, in developing and applying the evolving doctrines in this field is highly attractive. Not only can it help Europeans to jump-start their own flavor of military transformation in response to the new strategic and technological defense environment, but it can also provide a valuable window to developments at the heart of U.S. doctrine and practice for sharing European experiences and promoting European preferences.

There are certain areas such as civil-military relations or urban warfare where European input is likely to prove valuable. There is also likely to be fertile doctrinal tension over the U.S. conceptual preference for lethality and overwhelming force, which is not regarded by many European military leaders as constituting adequate strategy for the manifold scenarios that are not about forcing an enemy into capitulation, regime change and occupation, but rather about preparing a secure environment for cooperative post-conflict stabilization.

Here is an opportunity for true strategic dialogue across the Atlantic that benefits both sides. The European angle of stressing the political nature of the use of force at all stages of a conflict (in a continuum of engagement for conflict control and sustainable stability) may prove helpful to the U.S. military in its effort to adjust to real-world missions where the enemy is hard to define and the threat may be easier to destroy through long-term, complex civil-military engagement than through overwhelming force.

On the other hand, it is lamentable that so many Europeans still remain skeptical of the transformation debate as such and fail to appreciate the intellectual drive behind it. Compared to the United States, knowledge of military affairs is today rather limited and generally in low demand in most European countries. The gut feeling is dominant that war and the use of military force should be rejected as a matter of principle except for self-defense of a territorial nature.

As a result, most Europeans seem to miss the point entirely that transformation, as an idea, is about making war much less likely, rendering nuclear weapons obsolete, and allowing future armed conflict to be shorter, less bloody, and less devastating, especially for non-combatants, than the traumatizing wars of the last two centuries. Once understood, this goal should be seen as perfectly in tune with global humanitarian priorities and with Europe's own objectives and aspirations.

Looking at the future of NATO, there is no reason why a capabilities-based military transformation strategy cannot coexist productively with a broader civilian-power strategy, geared at the optimized application of a whole range of capabilities of different kinds. In fact, it makes perfect sense to address the uncertain, but certainly dangerous 21st century, with a combination of both.

In substance, U.S.-European differences on the fundamentals of strategy are small. The different functional role played by the United States in the international system and the

unique advantage it enjoys in its military strength, however, have led to different terms of the debate on both sides of the Atlantic, which duly complicate the transatlantic dialogue. What will be needed in the coming years is an intensified professional dialogue on strategy and doctrine across the Atlantic aimed at strengthening the collective ability of the United States and Europe to preserve – and defend – international peace and security.

"Spending Wisely"

Jacques S. Gansler

The first panel of the 18 October 2002 Atlantic Council conference, *Transforming NATO Forces: European Perspectives,* demonstrated the need for increased capability on the part of NATO Europe forces. The second panel then took this point as a "given" and focused instead on the ways in which such increased capability can be achieved. In general, there were two broad themes that emerged from the discussions and papers: first, there is relatively broad agreement on the directions available for improving capability; second, there is considerable consensus about the importance of recognizing the differences in perspective, and political will, present among the various NATO countries – and particularly those between the United States and many of its European Allies.

I. Increasing Capability

"Spending More, Wisely"

Dealing with the broad issue of *how* to increase capabilities, an initial distinction was raised between "spending more, wisely" and "spending more wisely". The first option involves actually increasing national defense expenditures, but doing so in a changed (and, presumably, "wiser") fashion. In this case, being "wiser" implies that any increase in defense Euros should go toward the areas and programs that will enhance military capabilities for likely 21st century operations. The issue is therefore one of "capability versus quantity".

The U.S. representative on the Panel (Jacques Gansler) noted that much of the increased defense expenditures of the early Reagan build-up in the United States went to increase current platform expenditures (i.e. ships, planes and tanks) and that this had the effect of driving up the costs of these systems without necessarily producing a proportional increase in overall military capability. Thus, it was argued, any present increases in NATO-member defense expenditures should be focused on gaining maximum utilization of existing platforms through the enhanced capability that comes with added intelligence sensors, improved and integrated command/control/communication systems, enhanced mobility, missile defense systems, precision offensive weapons, and defensive capability against chemical and biological warfare – all areas that have received inadequate funding in the past.

"Spending More Wisely"

It was recognized, however, that while some countries, e.g. the United States, the United Kingdom and (more recently) France, are increasing their defense budgets, other NATO countries are not (and some are even cutting their budgets back). Thus, although many at the conference did feel that increased European defense budgets are necessary to close the transatlantic capabilities gap, other ways to gain significant capability, which would not require additional defense Euros, were proposed. As a result, a consensus emerged that the most desirable approach to increasing NATO Europe's capabilities would be to take full

advantage of any additional Euros that become available, while simultaneously taking actions that would increase capability within existing budgets.

Specifically, in order to get "more bang for the buck" the panel addressed three major considerations: what equipment and services are bought, how equipment and services are bought and how troops and services are supported.

What Equipment and Services Are Bought

Ideally, one should approach this issue by doing a marginal-effectiveness analysis. Namely, if one has a certain amount of money to spend, then one should determine whether, for example, the gain in military effectiveness is greater if one buys an additional ship or if one spends that same amount of money on additional precision weapons to be fired from a current ship. Clearly, such an analysis depends on the initial conditions, i.e. does the country in question have any ships and, if so, how modern are they? So this is not necessarily a method of analysis that can be applied cleanly and distinctly. However, an overarching consideration of NATO Europe's capabilities suggests that the resources currently being expended need to be rather dramatically shifted into areas that would have higher military effectiveness for likely 21st century combat scenarios. Essentially, existing funds would be shifted into the categories listed above, e.g. precision weapons, secure command and control, mobility, intelligence etc.

The panel members, along with the conference participants, agreed that a key factor in determining what equipment and services are bought should be the degree to which interoperability among the various allies' equipment is achieved. It was also agreed that true interoperability requires changes in tactics, doctrine and, especially, training in addition to the procurement of interoperable equipment. Any new, NATO integrated forces would clearly require a major focus in this area. Finally, it was noted that the United States, in the last few years, has shifted to making interoperability a critical military requirement for all of its new systems, and that it is now working to upgrade much of its legacy force to achieve such interoperability.

In essence, the question of "transformation" of forces, equipment, training, doctrine, tactics etc. – associated with the so-called "revolution in military affairs", as it affects the decision on "what equipment and services are bought" and, therefore, how it affects resource distribution and the organizational structures within each country – is perhaps the most critical of all issues. Correctly fostering transformation is more important than the issue of "smart buying" (which is discussed below) as there is no point in perfectly buying the wrong systems. However, once one has indeed selected the "right" systems, it is critical to get maximum effectiveness out of concomitant expenditures.

How Equipment and Services Are Bought

Europeans recognize that, historically, having each country separately develop and buy its equipment – in small quantities and independently – is grossly inefficient and that this practice has resulted in the current unfortunate state of affairs, in which military equipment is very expensive in Europe and difficult to compare to state-of-the-art U.S. equipment. For this reason Europeans have been exploring a variety of different approaches, e.g. through

OCCAR and WEU, etc. to address this issue. However, the general impression at the conference was that these efforts are making relatively slow progress. Additionally, the tendency toward industrial consolidation within Europe might well lead to the maintenance of the historic European model of defense industry monopolies. Thus, even if significant efforts at common development and common buying among European countries were to be undertaken successfully, Europe would still lack the benefits of innovation and lower cost that result from competition. Given this longstanding problem and noting the already established need to achieve equipment interoperability, there was general agreement among the panelists about the desirability of increased transatlantic open markets – with the corresponding requirement that both the United States and European countries change their practices in order to make this happen.

A key element of "buying smarter" is addressing the actual acquisition practices of each of the NATO countries. This process has a variety of names; in the United States it is referred to as "acquisition reform" and in the United Kingdom as "smart buying". Acquisition reform includes a variety of issues. Among those currently being addressed in the Alliance are the use of commercial equipment, sub-systems, and buying practices; the integration of civil and military industrial operations; the use of evolutionary, or "spiral", development for continuous technology evolution; making "costs" a military design requirement; and far greater use of the private sector to perform those functions that are now being done by the government – but that are not "inherently governmental" – and which can be performed in a competitive environment (through public/private competitions, public/private partnerships, privatization, outsourcing, etc.) With regard to this last point it was noted that the average savings from such competition has been in the range of 30 percent, and this, with improved performance!

How Troops and Equipment Are Supported

The last of the ways briefly discussed for achieving significant military capability enhancements within existing budgets – or, in this case, even with reduced budgets – is the introduction of modern logistics. Here, the commercial world has achieved improved responsiveness, reliability, accuracy, and readiness at dramatically lower costs through the use of modern information systems and rapid transportation. In the United States, over $80 billion annually is spent on logistics, and the results are an order of magnitude inferior to what world-class commercial firms would be able to achieve with comparable requirements and resources. The United States is therefore making efforts to overcome its institutional resistance in this area, and to truly modernize its systems. Similar efforts are underway in the United Kingdom and, perhaps more slowly, in other European countries (that have historically not addressed out-of-area-operations requirements). Clearly, this is an area where interoperability of multinational systems would have a very large payoff, and this should receive significantly increased attention accordingly. The introduction of competitive market forces would likewise have a very large benefit, in terms of improved performance at significantly lower cost.

In summarizing this aspect of the panel's deliberations, there was general agreement that "the timing is right" for shifting to smarter buying on the part of all of the NATO governments. Resources are short all over, and demands are rapidly increasing for new and

different military operations – from anti-terrorism to concerns about weapons proliferation to the challenges posed by "rogue states". The French panelist (Daniel Bastien) observed that a recent and growing feeling of insecurity has, in fact, convinced the French public to back increases and redirections in French military expenditures, something which "…would not have been possible even two years ago."

II. Increasing Security

The Relationship between Military Expenditures and Security

There was a very broad consensus among the panelists and conference participants that there are quite significant and widespread differences in perspectives with regard to the measures that need to be taken to enhance Alliance security. Differences in perspective exist both within Europe and across the Atlantic. As the Dutch representative on the panel (Dick Arnold) observed, "A European common [united] military view is *not* likely in the near future." Some governments, as related by the French representative, have taken the position that *both* higher defense spending and better defense spending are required to increase Alliance security. He observed that France is moving to an all-volunteer force and to a procurement increase of 14 percent over the next six years. He further stated that France would encourage its European allies to professionalize their forces, and he quoted the French Defense Minister as stating that improved capability is the number one priority for Europe and NATO and that France is committed to achieving this on a multinational basis – including the requirement for mobility. By contrast, the Dutch Panelist (Dick Arnold) stated that the Netherlands will decrease its military budget by 0.5 percent and that the government sees security as based not primarily on military expenditures but rather on a strong economy and police force, etc.

The Role of the United States

Nevertheless, the opinion is widely held in Europe that the United States lacks a coherent policy with regard to cooperation, i.e. that the United States wants its European allies to quickly bridge the current technology gap, though it is not willing to change its technology transfer rules and procedures to allow the Europeans to take advantage of far more advanced U.S. military technologies. The Europeans express the view that recent U.S. unilateral actions (withdrawal from international treaties), displays of power politics (regarding Iraq), and one-way military trade restrictions (with regard to "buy America" and to the absence of relaxation of technology controls) indicate a lack of U.S. trust in its allies. The Dutch representative went so far as to argue (a point which has previously been made by German industrialists) that the Europeans will "design out" U.S. parts if U.S. technology transfer policies are not changed in the near future. He also went on to express the view of many European industrialists that the United States should avail itself of far more European technology, and not simply assume that the Europeans will "build to print" from U.S. designs.

This issue has existed for sometime, and it does not appear to be headed for resolution in the near future. The simple fact that the Europeans spend much less on military research

and development (than does the United States) indicates that they will always lag in military technology, unless their investments are significantly increased and far better coordinated within Europe. The only obvious alternative to this is much greater transatlantic cooperation, which many believe (including the U.S. panelist) to be the desired approach. However, greater cooperation would require a significant change in U.S. technology transfer and export control policies with regard to its allies – and a corresponding change on the part of many European countries to their technology and equipment export controls to third countries (this would include business practices such as bribery).

III. Going Forward

In general, this panel discussion was full and open, and many current issues were aired in a friendly, positive, and constructive fashion. The general conclusion, nevertheless, was that there are clearly many issues to be worked out in the near future, and that it is up to administrations on both sides of the Atlantic to focus not only on strengthening intra-European cooperation, but also to explicitly work on strengthening cooperation and trust among all NATO allies. The main point is that this is not an "either/or"-type choice; rather, it is necessary to do both – strengthen European military forces and strengthen transatlantic military forces. It is extremely likely that future military operations will involve coalition partnerships. Having maximum military effectiveness in such situations requires integrated military forces.

How to Create More Value for Money through Transatlantic Cooperation

D. Arnold

I. Introduction

Transatlantic cooperation in defence matters is hardly a new topic. The number of conferences, exchanges of delegations, and initiatives set in motion are countless. Every meeting invariably concludes with good intentions and promises to strengthen cooperation. Regrettably, results have so far failed to materialise. Therefore, before launching into full consideration of the possibilities for transatlantic cooperation between the United States and Europe in the technical field, it is advisable to analyse why such cooperation has not yet become reality.

The principal causes of this can be identified: different political viewpoints, purely economic hindrances and the absence of any necessity for cooperation and its concomitant mutual trust.

Transatlantic Political Differences

By far the most important difference between the United States and Europe is the existence in the United States of an unequivocal, unique security policy, as the basis for the development of comprehensive defence plans. Although European countries are becoming increasingly conscious of the urgent need for cooperation in the area of security, it may yet take a while for the European Union to be able to impose similar policy on its sovereign member states.

Although in the operational field bilateral or multilateral initiatives are undertaken (with the aim to achieve a certain form of integration) these represent only modest steps towards necessary policy adjustment. Unsurprisingly, they are also isolated phenomena, which are certainly not the outcome of a much-needed common European security policy. Such initiatives are mostly undertaken as an opportunity for efficiency enhancement and saving of costs, and certainly not least to rack up a political success.

Examples are the Anglo-French and German-Dutch cooperation regarding ground forces, and, in the maritime area, the operational integration of the Dutch and Belgian navies. There is, of course, also the Anglo-Dutch amphibious taskforce.

The situation is not much better in terms of transatlantic cooperation. Although in the defence sphere various initiatives are in progress, mostly linked to NATO or to construction programmes, the actual will for cooperation is absent. This is due to the continuing desire of the United States to be independent of Europe. In Europe, there are several countries that

entertain the same views, France being a case in point. A small section of Europe, however, including the Netherlands, wants to honour NATO agreements.

Mutual Trust

A large part of Europe compares the position of a superpower to that of a multinational enterprise, in which checks and balances might be achieved by the management being required to give account to a supervisory board. In the comparison, a superpower should be answerable to the international community and system of laws, embodied in the United Nations. The current course of the United States, with "deviant" positions, i.e. concerning the International Criminal Court in the Hague and the Kyoto treaty, has negatively impacted others' trust in the United States, and it has reinforced the feeling of many U.S. allies that it is undesirable to be dependent on the United States.

As a consequence, we see large-scale European initiatives such as Galileo (for the realisation of a European GPS), but this same tendency can also be observed in many smaller ways. Thus, Inria is engaged in developing a European form of MATLAB (a mathematically evolved programme). Apart from the sense of needing to act more in a European spirit, the European defence industry has, of necessity, started searching for European solutions (applying non-U.S. technology) to address the export problems that arise from the use of U.S. components. Last year's sharpening of U.S. regulatory measures relative to intellectual property rights (IPR) has only exacerbated these problems.

Changing U.S. Foreign Politics

With the pronouncement of President George W. Bush concerning the new "muscular U.S. foreign policy", transatlantic differences that we have already pointed out are once again underscored. On the one hand, the forceful U.S. policy is expressive of vision and determination, which, even in the unified Europe of today is impossible, because of the absence of a European security policy. On the other hand, current U.S. policy betrays a clear preference for unilateral action, if necessary, which is very much feared in Europe. Especially from a superpower, as mentioned before, a responsibility is expected vis-à-vis safeguarding the international legal system. Such a system is not easily compatible with the U.S. pronouncement that it will eliminate threats before they reach its borders.

The closing paragraph of the pronouncement reads as follows: "While the United States will constantly strive to enlist the support of the international community, we will not hesitate to act alone, if necessary, to exercise our right of self-defence by acting pre-emptively against such terrorists." Although the necessity of combating terrorism is nowhere disputed – and though there is widespread appreciation for the efforts of the United States in this regard – in a large part of Europe concern is evident about the right(s), according to this pronouncement, the United States is allotting itself.

Economic Interests

Finally, a distinct difference in economic policy can be perceived between the United States and European countries. Whereas military research and product development in the United States are completely subsidised, less and less money in Europe is earmarked for these purposes. Subsidies for product development amount to between 30 and 60 percent, while royalties generally have to be paid to the government.

In the research field the situation is not much better. After the cold war, in this field, too, the subsidy taps have been largely squeezed shut. This is most poignant in France, with the United Kingdom close behind.

Apart from R&D, procurement policy also plays a part, as European economic interests are often at loggerheads. The Joint Strike Fighter (JSF) is a striking example. In spite of the Dutch government having expressed its preference for a more European road, in the end, the JSF was nevertheless chosen, to the detriment of the Rafale and the Eurofighter. Elaborate offset arrangements, in which Dutch industry will be broadly involved for the further development of the aircraft and the production of components, have turned the scales. It is, however, open to doubt as to whether the elements selected for cooperation are indeed those, where the United States too will maximally benefit from European expertise. After all, the affixing of wing parts or the low-cost construction of fuselage struts, although they have interesting technical aspects, hardly number among the high-tech developments that are Europe's strong suit. The situation would be different in the event that the airborne radar of the JSF were being developed in cooperation with Europe. In that case, through European industrial partnering, a coupling could be made between the radar of the JSF and a new generation of the active phased array radar for the Rafale – and perhaps even for the Eurofighter. The current solutions are more along the lines of the basic "build to print" level, where degrees of freedom are allowed in the interest of cost reduction. Similar experiences could be observed in the choice between the Apache and the Tigre helicopter.

As long as there is no better plan for a European initiative with series size – and hence cost saving – being the prime consideration, national industrial interests will continue to play a big role and rationalisation in the European area will remain elusive. However, as previously noted, transatlantic cooperation in subsidiary areas is still within the realm of possibility, provided proper agreements are arranged on intellectual property rights.

As a final problem of the transatlantic economic model, the lack of free access to markets on both sides could be mentioned. For years Europe has tried to vet better access to the U.S. defence market, with deplorably little result.

Conversely, increasing pressure from U.S. producers on the traditional European market can be observed. Although not all attempts to gain access to the European market have been equally successful, the trend is clearly discernable. Examples in the maritime sphere are F100, Greece, Turkey and Norway. It would not be sensible to conclude, however, that cooperation is more important to a country than its economic interests.

European Initiatives

Nevertheless a number of changes in Europe can be identified, which aim to achieve a better balance with the United States. After the success of Airbus, the European manufacturers of guided weapon systems have undertaken a concerted initiative in MBDA.

More dynamism can be found in the tendency toward rationalisation of the European naval ship building industry. Privatisations, take-overs and joint ventures (JVs) are causing the European defence industry to change and to strengthen its essential qualities. Cases in point include: BAe, Finmechanica, Marconi, Thales, Saabtech and EADS.

In the technical field, the EU is characterised by civilian subsidy arrangements, such as the 5th and 6th Framework Programme and Eureka, with 16.3 billion Euros having been allotted for the 6th Framework Programme over three years. These activities concentrate on furthering clustering among the partners.

Worth mentioning among European military research programmes are the EUCLID and Eurofinder arrangements. Eurofinder is described as "an annual opportunity whereby European industry is invited to bid directly to the EUCLID cooperative defence research programme". However, the programme provides only a modest financing of up to 50 percent, which is quite insufficient for the requirement of maintaining Europe in a competitive position.

Finally, there exist the national schemes for scientific research, mostly intended for civilian purposes, but in some countries also for military purposes. In the United Kingdom, for instance, much attention has been given to the establishment of the Towers of Excellence (civilian) and Defence Technology, Centres. The latter initiative is an attempt by the Ministry of Defence to make industry take the lead in a number of selected research areas, jointly with universities and research institutions. Industry is expected to contribute 50 percent, which may be in money or in kind. The question, however, is if this initiative, which is at present being implemented, will have sufficient momentum to embrace the technologies which are already developing at such a great speed.

Civilian initiatives are also important, because the distinction between technology for civilian applications and technology for military applications is often no longer clear. The introduction of commercial off-the-shelf products (COTS), but also the abolition of Milspec components, has caused the importance of specifically military research to fade.

This modest list of European subsidies for research, however, does not mean that outside it no technology research for defence purposes is taking place. In a number of countries, including the Netherlands and Germany, much specific research is undertaken as part of product development programmes, such as Active Phased-Array Radar (APAR), which will be dealt with later.

II. Maritime Focus

In the first part of this paper an attempt was made to paint a realistic picture of the political and economic forces that could thwart closer cooperation between the United States and Europe. The present part will draw attention to programmes among European partners, especially in the maritime sector. Also, the possibilities for transatlantic cooperation in this area will be examined.

European Projects

After the NATO Frigate Project (NF 90) had run aground in the early 1990s, two separate programs in Europe were initiated, both based on interpretations of the NATO Anti-Air Warfare System (NAAWS) study. On one side, the United Kingdom, France and Italy formed the Horizon Consortium; on the other the Netherlands, Germany and Spain joined forces in the Tripartite Frigate Consortium (TFC). The Horizon programme was focused on a single ship type, with a single combat system, based on European missiles in combination with the SAMSON for the British navy and EMPAR for the French and Italian navies. The TFC programme, on the contrary, was based on a combat system "loosely coupled" with the ship's own systems. This combat system would comprise an APAR-SMART-L "sensor suite", in combination with the U.S. Standard Missile and ESSM, and a common AAW module. Unfortunately, these programmes have split up: the Horizon programme into a French-Italian Horizon project and the British F45 programme; the TFC into a joint Dutch-German LCF/F124 and the Spanish F100 programme.

It is evident that, due to the present position of the European Commission within the European context, it is not yet possible, as it is in the United States, to project a single maritime vision and to act accordingly. Differences in culture, in operational outlook and, not least, in national economic interests, render any joint European initiatives in maritime matters impossible for the time being. This in spite of the clusters that have been formed by a number of European countries to reach affordable solutions. Examples of such alliances are the earlier realised Landing Ship Transport, Dock (LPD) and Fleet Auxiliary Tanker, which involved the Netherlands and Spain. Mention must also be made of the recently signed MoU between France and Italy for cooperation in the Multimission Frigates (FMM) programme, as a logical sequel to the Horizon programme. A future development may be cooperation between the Dutch LAC programme and the German F125 programme. Whether there will be any form of cooperation in the development of the British Carrier CVF and the French PA 2 is an open question.

Transfer of Concepts

The big question to answer is whether the above described transatlantic gulf is truly as bad as it seems and, if not, whether the two "worlds" might not be brought together in some other way. Europe, after the cold war and partly because of NATO instigation, could be seen enthusiastically embracing the U.S. strategic "From the Sea" concept. National operational concepts were modified and new construction programmes adapted accordingly. As a consequence, the focus was shifted to "Littoral Operations", with the acquisition of LPD-

type vessels and the development of new ship types, among which numbers the Dutch LAC, and a leaning towards smaller Corvette-type vessels. In all probability, the recently launched new U.S. maritime strategy, Sea Power 21, will have the same effect. It will again put a distinct stamp on NATO strategy and provide countries with a cue to adjust their national concepts. If this U.S. strategy indeed comes to be seen as an important input for NATO and for the United Nations, the moment will have come to assess the effect Seapower has on existing defence plans. We must then ask ourselves how an enhanced harmonisation between the United States and Europe could be achieved in this regard.

It would be unrealistic to expect a division of labor to emerge from this. The fact is that, as discussed earlier, the United States does not want to be dependent on Europe and *vice versa*. But the prelude to the implementation of this new U.S. strategy may offer opportunities to attain closer, cost saving cooperation.

U.S. Naval-Industrial Partnership

Before going, in more detail, into the possibilities of cooperation under the Sea Power 21 concept, attention must first be devoted to the partnership within the United States among the navy, industry and academic worlds, a phenomenon that some three years ago was strengthened by the motto "technology faster to the warfighter".

After a clear run-up, during which the full breadth of the technology issue was examined, a concept came into being, which seamlessly connects to the new maritime strategy. The adaptation of the business processes, including, among others, knowledge management, technology transfer, rapid prototyping and the coupling of CONOPS (Concepts of Operations) with product development, have turned the R&D process on its head. At the same time interaction was improved among the operational user, the warfighter and the product developer. Technical *tours de force* only make sense if they offer added value to the user. In this respect, new product concepts are no longer validated by their technical effect, but useful CONOPS need to come out of latest technical possibilities. New concepts therefore need to be validated with the aid of, for instance, a Seagoing Battle Laboratory.

During the U.S. Naval-Industry Partnership Conference, it was striking to notice how consistent the overall picture of U.S. naval strategy has become with development of the required technology. The challenge presented by CNO Vice Admiral Vern Clark to the industry, to provide the necessary technology as fast as possible, underscored once again the necessity for a still closer cooperation between the navy, the academic world and the industry. This is indeed an integral scheme, which Europe is sorely lacking.

It is nevertheless the very need for new technological applications, which may promote improved transatlantic cooperation. For the sake of more efficient and for new operational applications, advantage should be taken of the size of the pool in which the required technology is available. Since, as is well-known, only some 50 percent of the required technology originates in the United States, the pool might be expanded to Europe. Then, use could be made of a larger knowledge potential. However, account should naturally be taken of the fact that the United States and Europe often wish to go in different directions.

Is Technical Cooperation Possible in the Near Future?

Through the following examples an attempt will be made to identify some of the problems which impede European cooperation with the United States.

Technology Development

To be able to realise cooperation in the technology field, the fundamentally different processes employed in the United States and in Europe ought to be explored. The United States is especially known for its revolutionary approach, with big, sudden leaps forward being made in the technical concept of a product. Often, competing consortia are involved in order to obtain a better comparison of the technical creativity of each and of the corresponding price tags.

The fact that, compared with Europe, the United States can work with large series, makes it all the more possible, after a technological leap has been made, to supply products over a longer period based on the same technical concept. This explains why few innovative improvements are observed in existing products. Interestingly, European commercial departments often seize upon this phenomenon in order to keep their own developers from being innovative. The United States, after all, can apparently get away with "obsolete" technical concepts.

In Europe the process of technology development is generally and substantially different. Limited series, along with orders that are often spaced many years apart, make sudden large technological leaps almost impossible. This has led to Europe being more engaged in evolutionary activities. Relatively small innovative adaptations lift European products from one technology generation to another. Simultaneously, new customer requirements can be met. If, in Europe, the need should nevertheless develop for a technological breakthrough to be introduced into a new product, such a need could only be fulfilled by an international collaborative partnership, so that costs and risks might be shared. The development of the active phased array radar (APAR) by the Netherlands, Germany and Canada, provides a good illustration of this point.

SEAPAR Development

Since APAR is only suitable for the high-end of the market, a cheaper version is at the moment being developed for the middle market segment, which will have both lower performance and price. However, this version, which is supported by NSPO, will be quite suitable for control of the ESSM. As said before, this development, too, needs a partnership to be able to bear the concomitant cost. As a first option, a partnership with Raytheon was considered. Raytheon had just begun the study of an X-band phased array, the Spy 3, with Thales being able to contribute the experience gained in the development of the already operational APAR. It seemed a perfect match. The reality, however, turned out to be quite different. The TAA, which was needed for the technical talks to begin, was long in materialising – taking nearly two years. The two years' delay gave Raytheon an additional two years' progress with its X-band design, which rendered a cooperative arrangement more difficult. Moreover, when Raytheon then received a development grant of over 300 million

dollars, the necessity for cooperation completely evaporated. Although discussions are still being held, their eventual outcome is not difficult to predict.

The question now is what can be learned from this failed partnership plan, and, whether or not any opportunities have been left unexplored. First, it is unacceptable that, in a rapidly changing technological environment, Raytheon and Thales had to wait two years for permission to talk about the technological content. This is, however, a general complaint and thus it need not specifically apply to this project. Furthermore it seems clear that a contract of more than 300 million dollars for the development of a relatively simple X-band phased array is unreasonable, if one considers that the much more complex APAR cost less than 125 million dollars to develop (which included the extra management costs of sharing that development among three different countries)! When it is finally considered that Raytheon has encountered a number of design problems, which had already been solved by APAR, it is evident that a large amount of money was spent unnecessarily. U.S.-Dutch cooperation in this case might therefore have yielded considerable savings. Also, two competing products will again exist side by side, with each claiming a part of the market.

The general conclusion, therefore, is that the United States has too much money at its disposal and that it is not necessarily forced to look for partners as result.

Defense Advanced Research Projects Agency (DARPA)

Another example of lack of interest in partnership on the part of the United States (and possibly of missed opportunity) are repeated attempts in the past to interest DARPA in new real-time architecture for C2, based on distributed databases. Although Thales Nederland, formerly Hollandse SignaalApparaten BV, has built systems with this for 10 years, only now are the Network Centric architectures becoming aware of the power of this approach. It is a pity that in the past DARPA has not been more receptive to ideas from outside. This is a complaint which is often voiced both inside and outside the United States.

Recent attempts by both British and Dutch research laboratories to be allowed to compete for research contracts have led to the qualification "selected but not funded". This is quite acceptable, provided a follow-up statement is given in the subsequent year. This, however, has not been the case. It is therefore all the more surprising when a new Request for Proposal (RFP) is issued with virtually the same contents and only a slightly different slant. This is probably not done on purpose, but it demonstrates, again, a different way of doing business and possibly a difference in business culture. These experiences are nevertheless harmful for the realisation of a proper transatlantic cooperative climate.

Office of Naval Research (ONR)/Office of Naval Research International Field Office (ONRIFO)

Although for four years a good relationship has been built with ONR, with staff being introduced to various research institutions in the Netherlands, the United Kingdom and Germany, this has not yet led to any form of cooperation. Only a conference on "Decision Making in the 21st Century", largely sponsored by Thales and the French General Armament Authority (DGA), can be deemed a minor success.

During talks with ONR in August of this year, a different policy was announced, entailing more emphasis on cooperation with the industry. Even the technology developed in the Naval Research Lab would then become available for transfer. At the moment talks are being held to examine if this new approach could also mean openings for foreign industries and if so, on what conditions. Time will teach what new opportunities will be created in this way.

"Gap in Naval Capabilities with the United States"

It is a general fact that the military capabilities of the US take an ever greater lead over Europe. It is nevertheless interesting in light of this to see how great the difference in capabilities in reality is between the US and Europe for maritime purposes.

Radar

Europe, with the recent developments of APAR, SAMSOR and EMPAR as Multi-Function Radars (MFRs), and Smart L, S 1850 M as volume search radars, has acquired a distinct position in the development of state of the art radar systems. It would be to go too far in this paper to make a comparison of the technical radar capabilities. It is self-evident, however, that Europe is a global player in this field.

Sonar

European sonar developments are among the most advanced in the world. Discussions between Thales Underwater Systems (formerly Thomson Marconi Sonar) and U.S. naval agencies have not yet resulted in any form of cooperation.

Conventional Submarines

Owing to the U.S. focus on nuclear submarines during and after the cold war, knowledge of conventional submarines is hardly present in the United States. Moreover, the technology of these vessels has benefited from a recent series of innovations. Improved acoustic designs have rendered them practically undetectable, while sensors have also been greatly refined. In combination with fuel cell aided propulsion, such as that used by HDW in the latest German submarines (U212A), the aforementioned acoustic design improvements make this ship type one of the most formidable weapon systems in the "littoral environment". Not surprisingly, interest in these submarines has persisted, even alongside all of the nuclear developments, and such interest has even shown a slight recent increase. The world leaders in the area of conventional submarines are HDW, DCN, Kockums and Izar. Recent U.S. participation in HDW underscores this reality.

Ship's Integration and Reduced Manning

A big difference between the U.S. Navy and a number of European navies, including the Royal Netherlands Navy, is the manner in which ships are equipped and manned. Partly on account of limited budgets, a long tradition has grown in Europe of saving operational cost. Since operational cost is in large measure personnel cost, continuous efforts have been devoted in recent years to reducing ships' crews. This pursuit is usually confused with a penchant for far-reaching automation. The truth is, of course, different. Much of the research carried out in the Netherlands (chiefly by the Netherlands Organisation for Applied

Scientific Research, or TNO) in close cooperation with the Navy, has not focused exclusively on the automation aspect, but rather it has closely considered the human factor. What are the duties to be performed on board? Is the distribution of tasks optimal, and are the available means properly adapted to the humans using them?

An important consideration in this approach is also the degree of responsibility that can be, or is desirable to be, assigned to the various ship functions, such that supervision is limited to a minimum, and a flat organisation is achieved. Care should always be taken, however, such that the dependability of the system is at least maintained. The success of this approach hinges on teaching programs – which is not to be confused with practical training – on having the required level of excellence and on the measure of trust invested in staff.

The combination of job analyses and far-reaching integration of, for instance, the bridge complex, the command and technical centres and the weapon systems themselves, has made possible a considerable reduction of crews. Thus, a Dutch multipurpose frigate in active service, built towards the end of the 1980s, makes do with a crew of some 140 people. Even more strikingly, the new LCF of the Zeven Provinciën class, of 6500 displacement tons, has a complement of only 200, including the entire squadron staff. The Netherlands has thus learned to appreciate that reducing manning is not a contingency measure, but a conscious process, in which innovation and human acceptance go hand in hand. In this area of experience and know-how, fruitful collaboration with the United States could be feasible.

Mine Warfare

The sea territory inside and around Europe is particularly suitable for the use of mines. In World War I as well as in World War II, this fact led to the mines being deployed very extensively. In spite of attempts to create safe waters, a large quantity of the threat installed is still present in the sea, with mines frequently washing ashore or being dredged up. Of necessity, Europe has therefore specialised in mine removal and the European industry is the market leader in this sector. Expertise in the fields of mine hunting, sweeping and destroying, which often involve the use of underwater and surface drones, makes Europe an interesting partner in this respect.

Combat Management Systems

Europe also has wide experience with C2 systems, found for example in Thales, BAE, STN, DCN and Saabtech. Also, a number of navies build their own surface warfare (SW) systems, among which is the Royal Netherlands Navy. Incremental system development with the aid of formal methods, real-time distributed database system architecture (which in a simple way enable important requirements to be met such as reconfiguration and graceful degradation) and large-scale integration have made Europe into a significant knowledge repository in this field. Thus, for example, a Dutch-developed SW architecture has successfully supplied a solution for the C2 system of the DDX and European C2 systems fully satisfy the requirements of the Deep Water Programme. The question remains, however, as to whether the United States will allow this kind of system to be furnished from outside the country, even if it were proposed that the actual construction of the system take place locally, under licence. There is no doubt, in any case, that Europe is second to none in this area, including to the United States. With Network Centric, however, the picture is less encouraging.

Closing the Gap?

It is evident that, in a number of areas, Europe definitely does not lag behind the United States. Therefore, the "gap" is a relative notion, certainly with regard to available know-how. This will change, however, if Europe continues to fritter away its already meagre budgets among too many, often competing initiatives. Hamstrung by NATO obligations on the one hand, and on the other by purely national views and interests, Europe is lacking in ideas regarding a more balanced approach to implementing European naval requirements. Therefore, an urgently needed European cleanup of its fleets should not be expected in the foreseeable future. Large aircraft carriers, and similar major units in the U.S. sense, will thus continue to elude this divided Europe, as no single European nation could find the necessary financial means to acquire such ships within their own budgets.

One may ask, however, if it is at all necessary to even desire to close the gap. This line of thinking suggests that, on the contrary, a distribution of complementary tasks, on the basis of mutual dependence and founded on unconditional trust, ought to provide the often-voiced solution. Unfortunately, the reality is still intractably different.

III. How Can Money be Saved Now?

The first part of this paper attempted to delineate the dilemma at the root of the problems bedevilling cooperation across the Atlantic; the second part highlighted European initiatives and the perceived gap between the United States and Europe in the naval arena. The present part will deal with the way in which a better and more cost-efficient cooperation might be accomplished. Time has taught that joint NATO initiatives have been unable to prevent the duplication of development efforts. Thus, beside the NATO Seasparrow by a NSPO-led consortium, the European Aster missile could be seen coming into being. It is therefore necessary that, for fruitful cooperation, alternative ways be explored. Below, some suggestions will be advanced.

Joining the U.S. Navy Initiative

During the past three years, an organisation has been created within the U.S. Navy, in which cooperation between the academic world, industry and the navy is furthered, such that a faster transfer of technology to the warfighter is achieved. An interesting aspect of this is that the efforts are less technology-based than they are focused on the introduction of new or improved CONOPS. The issue, therefore, is to create added value for the warfighter. Strengthened by 9/11, but chiefly guided by the new naval strategy and foreign policy of the United States, this new concept has grown into a smoothly running machine. A machine, however, that runs on U.S. fuel alone. Relevant knowledge and technology available in Europe is completely ignored by this process. An acceleration of the "technology faster to the warfighter" concept's progress and possible savings in cost could be achieved through the participation of a number of European countries in this initiative.

Initially, the desires and ideas of onboard users from several navies might be combined and analysed, and solutions to them devised. The actual implementation could then be undertaken bilaterally or multilaterally, and agreements on IPR made case-wise. In this

process, technology can be exchanged and ideas can mutually reinforce one another. This approach even makes it possible for national interests to pursue a technical elaboration of their own. Savings in this case would come in the joint problem analysis and concept development. At the same time, attention can be given to interoperability. It would surely be indicative of a narrow view, were interoperability regarded solely as the ability to couple communication, sensor and shooter networks. Interoperability is to a considerable extent determined by the "language" spoken among those concerned and the resulting understanding. Situation awareness and decision making are elements of growing importance in this respect.

A joint approach to common problems will enhance insight, while different concepts can be put to the test by different navies. This would be a big advantage, which can only raise the chances for interoperability.

It needs to be stated, finally, that Europe can still learn a lot from this U.S. approach. The broad, but nevertheless pragmatic way of tackling issues, and the willingness to use cooperation for generating new solutions, should command respect, though they are not always cost-effective to the same degree. Joining forces with Europe could considerably improve this facet.

Open Architecture for (Naval) C2

Although standardisation is pure agony, of which also NATO has had its share, still there are possibilities for a *de facto* open system architecture standard to be found for C2. The ideas in circulation go in the direction of a layered structure, with functional objects being positioned on the standardised Business Object Layer (BOL). Then, functional objects become exchangeable, obtainable from different suppliers, and replacable in the event of obsolescence. Old functional blocks can be placed on the BOL with the aid of a container, so that legacy presents no problem. Also, new functions can be downloaded via the network, to enable special missions. Besides the object layer, the middleware must be suitable for executing complex functions. A strict standard is not needed for this, but it should be appreciated that for the Naval Weapons Center (NWC) different requirements apply than platform-oriented ones only. It is advisable to let the middleware grow along with the complexity of the system. This is possible as long the interface with the BOL is maintained. It is nevertheless advisable to think in terms of communities, especially with innovation of the middleware, as these entail their own standardisation. Thus, Common Object Request Broker Architecture (CORBA) has the Object Management Group (OMG), a community for Java, and the development of communities can be observed around Open Wings and SunOne.

The system is not bound to HW. The open architecture renders the system adaptive, flexible and cost-effective. Plus, as has been said before, functionality can be acquired from different sources. Plenty of chunks are available for such a development. It is just a matter of getting to work. If the issue is addressed correctly, the whole dispute about homeland defence can benefit from it also.

Couple the Demonstrator World

At present, the product creation process is characterised by rapid prototyping in a synthetic environment and by demonstrators. One encounters demonstrators everywhere, intended to be incorporated into a comprehensive system, but with no possibility of observing them in operation in the larger context, because of elements lacking. Through inventorying available demonstrators and coupling them, a Synthetic Digital Battle Space (SDBS) is originated, with which big leaps forward can be made in innovation, technological development and the enhancement of CONOPS.

The advantage of this kind of network is that operators can familiarise themselves with any limitations of the network, enabling them to devise specific solutions. This may be done as a joint exercise or it may result in subcontracting to centres possessing the necessary expertise, both in the United States and Europe, or anywhere else in the world. Speed and cost should be the crucial factors in deciding which options are preferred. The so-called "black program syndrome" should be ignored at this point.

Another advantage is that interoperability and communication are integrated at an early stage in the design, in contrast to the practice of later (often too late) adaptation, at huge cost and with considerably more annoyance on the part of the warfighter. The trick is to finalise the technical interfaces before the warfighter has to use them.

The advantage of the creation of an "open architecture", in which demonstrators can be coupled and functions tested, is the speed at which a high degree of integration can be achieved. The approach should be output-driven, rather than formalistic and bureaucratic.

In the proposed scheme, countries would retain their own identity (and their security), while the total system is brought into mutual conformity. Again, costs are saved in this way, because the SDBS does not burden any single country; rather all participant countries contribute a part of whole. Likewise, illuminating ideas can be adopted, and interoperability can be introduced at a basic level.

An additional advantage is the possibility for a common library to be established of functional models and scenarios, which are needed for simulation in the synthetic environment. NATO could play an important part in this, by making available a standard library. Naturally, countries will also want to develop their own models. NATO and WEAG should encourage the implementation of these functional models, e.g. by providing funds. This would raise the importance of the synthetic environment, and enable better design criteria to be developed, which would ensure that fewer problems arise in later phases. Also, for the governments themselves, a better understanding of the performance of future systems is a means to mitigate, or even eliminate, a certain number of risks.

Logistics

A last proposal for using funds more prudently is to impose some sort of order in the labyrinth of tooling, shared data environments, Inventory Locator Service (ILS) and lifecycle

cost modelling, and new (planned/condition monitoring) maintenance concepts. Not so long ago, a large portion of these issues was approximated by the CALS notion (this concept underwent changes, evolving from computer aided logistic support into continuous acquisition and lifecycle support). With the advent of the internet, e-business was (mistakenly) thought to supersede CALS. The fact that e-business did not provide for the exchange of large construction data files, which needed to be configured for an extended period, was not immediately apparent to everybody.

Likewise the work of the NATO CALS office in Brussels, which provided a satisfactory impetus to the development of a standardised data model, thereby enhancing the exchange possibilities of data (e.g. guidelines for cooperation with subcontractors concerning data files and configuration management), has not been properly appreciated. Incidentally, this model has been taken over in the PLCS initiative by STEP/ISO, and is now available.

If these frantic attempts to realise coherent and complete systems based on a shared data environment are considered in prime contracting and product development, as well as in logistic systems, it is obvious that some transparency is urgently needed.

There is no point in reviving the CALS initiative. All the more because in the last few years e-business has acquired more functionality, being able to provide answers in a limited number of instances. In fact, the different "business processes" can be evaluated on best practices, leaving the choice of the necessary tooling to the user. Governments may help by providing information about problems associated with projects. Sufficient material is available and many creative solutions have been devised. Much misery can be prevented by combining this information and making it generally accessible. The intention is by no means to create an individual standard. Again, the issue is interoperability, which, incidentally, was the basis of CALS. Much money can be saved also on the development of logistic systems. At the moment various initiatives are in progress in a number of countries, all of which have set their sights on the same objective. A joining of forces would be a real boon here.

A similar action could be initiated around modern maintenance concepts, which might lower the "cost of ownership" dramatically. At the moment, the picture is far from clear, suggesting the difficulty of introducing new maintenance concepts into product development. The problem is most pronounced in the integration of various subsystems, often from different suppliers. Divergent maintenance philosophies lead to a considerable diversity in the overall system, which is not very efficient. This can be prevented by considering this issue jointly as well. Such an action should be output-driven on the basis of concrete cases.

IV. Conclusion

In the first part of this paper, a comprehensive treatment was attempted of a number of differences between the United States and Europe, which stand in the way of strong and efficient cooperation in the defence field. It is especially the difference in foreign policy outlooks, and the absence of the univocal European security policy needed to satisfy internal

European defence requirements, which fundamentally hamper transatlantic cooperation, and which have led to some spectacular non-successes.

Thus, the sharpening of U.S. regulatory measures surrounding IPR and the exchange of technology, as well as the fact that the U.S. defence market is virtually closed to Europe, have widened the rift between the two continents. Willingness to give up some of their independence is not really present in either the United States or Europe. Compared with Europe, the U.S. defence budget is of such magnitude that the U.S. government has become convinced that it will be able to develop any missing elements itself, ignoring the possibility that funds might be used more efficiently, or for other purposes.

Adding to the big problems encountered in the European quest for unification, organisations such as NATO and WEU are seeking a new orientation and a redefinition of their identity. Large-scale initiatives regarding a division of tasks (interdependence) or joint development are therefore unlikely to emerge in the short-term. Although there are ideas galore for large transatlantic projects – for instance the collective development of HE weapons and high-power lasers – these are not likely to be implemented in the near future and, for the time being, they remain in cold storage.

A more pragmatic approach, as argued in the second and third parts of this paper, will therefore need to be adopted, with attention focused on the possibilities of combining initiatives that are already in progress, enabling results to be attained in the short run. Also, certain problem areas should be examined in the interest of finding a common solution.

The new policy of the U.S. Navy of bringing technology faster to the warfighter through close cooperation between the navy, the academic world and industry, is a sound initiative, in which Europe could take part and which provides a platform on which knowledge and skills might be exchanged. After all, the perceived technology gap in the maritime arena turns out, upon closer examination, to be clearly relative, offering sufficient scope for close cooperation. It should be appreciated, however, that a better arrangement for IPR is absolutely essential to realise close cooperation.

In the proposals for attaining a *de facto* standard regarding open architectures for C3I and radar, IPR plays a smaller role, as the term open architecture already implies accessibility for third parties. Functionality can be developed individually or in consortia, for which separate agreements can be made.

Since the open architecture for C3I is principally based upon open COTS standard interfaces, the concept is applicable to far more areas than for naval systems alone. Coupling to homeland defence, joint operations and combined operations are among the possibilities. This fits entirely within the interoperability concept. It should therefore be relatively easy to start up an initiative for this type of architecture, which offers promising opportunities for cost savings. A precondition, however, is that this *de facto* standard is applied to projects in the pipeline, such as Deepwater. Speed is therefore of the essence.

The interconnecting of demonstrators in a virtual digital battle space, the study of guidelines for logistic concepts in a shared environment and new integrated maintenance concepts likewise need not run into difficulties, being more a matter of simple implementation.

The intention of this paper is not to provide an exhaustive summary of feasible combined projects, in which funds would be employed in a more efficient and justifiable way. This would have been outside the paper's scope. Rather, the intention is to sketch a framework in which, in spite of the limitations indicated, the two sides of the Atlantic could nevertheless cooperate in mutually acceptable ways. The examples presented are therefore meant simply to point out a direction, in which the parties, in a pragmatic way, might rapidly and relatively cheaply achieve results that are attractive for both sides. A basic consideration in this context is that the will to cooperate be present – a requirement which can only be met if the United States and its European allies are able to express mutual respect and trust. This simple precondition may, in view of conflicting cultural and political interests, be one of the biggest impediments to the success of the scheme proposed here. Time will tell whether the determination can be summoned to negotiate this key obstacle.

Transforming NATO Forces: Spending More Wisely

Daniel Bastien

The purpose of this paper, within the framework of the October 18, 2002 Atlantic Council conference on "Transforming NATO Forces: European Perspectives", is to address, from the French perspective, the issue of "spending more wisely". In other words, it will seek to answer the question, "How should we proceed to improve NATO capabilities given European budgetary constraints?"

I. Setting the Stage: Current European Defense Initiatives & Spending

What is Good for Europe is Good for NATO (and *vice versa*)

Before elaborating on the issue of "spending more wisely" within NATO, it might be useful to discuss the special position of France within NATO. France was one of the founding members of the Atlantic Alliance and, though it is not part of the integrated military structure, it remains a member of the political Alliance. France has been, and should continue to be, one of the most active contributors to "NATO-led" operations, be they in Bosnia–Herzegovina, Kosovo or Macedonia.

If one then parts from the assumption that military operations carried out under either the European Union or NATO umbrellas would be waged by the same military units, using the same equipment and the same procedures, the very basic but very true principle emerges that "What is good for European defense capabilities is good for NATO", and that "What is good for NATO capabilities is good for European defense".

France is actively engaged, with several other European partners, in building up European defense. This translates into an autonomous capacity to form, launch and wage military operations (Petersberg tasks, to be more precise) when NATO, as a whole, cannot or will not do so.

"Spending More Wisely" or "Spending More, Wisely"

It is easy to argue that one's defense Euros should be spent "more wisely", and a lot has already been done in this direction in Europe. However, if one considers the defense budget levels of most NATO member-states, one could also argue that spending "more" in objective terms might also be appropriate. Certainly, spending a very low military budget very wisely brings with it the satisfaction of having not wasting money, though such a spending pattern is not sufficient to achieve the level of capabilities needed to operate in every possible scenario. It is clear that in the area of defense, a very pertinent answer to capabilities shortfalls is to increase the level of military budgets.

This paper will not avoid the issue of spending "more wisely", though it will start by addressing the necessity for European countries to spend "more". It will relate the views of the French Minister of Defense on this subject, as she recently presented them to her NATO colleagues in Warsaw in the fall of 2002, and, more recently, at the National Defense University during her visit to Washington later that year. It will then detail some of the efforts that the new French government is prepared to undertake in order to reverse the trend in French defense spending, and examine how those efforts should affect European capabilities (and therefore NATO capabilities). Finally, it will address the options that should be considered to improve the Alliance's collective military capabilities.

At the end of September 2002, the French Minister of Defense opened her speech in Warsaw by stating that, "…as France's Minister of Defense, improving capabilities is at the top of my priorit[y list]." She added, "I believe that it should be at the top of our priorit[y list] within the Atlantic Alliance."

II. Looking Toward The Future

The Importance of the Prague Summit

With these two very clear statements, the stage is set to point out that France welcomes the New Defense Capabilities Initiative (new DCI), or, as it is sometimes called, the Prague Capabilities Commitment. This initiative provides NATO member-states with a new impetus to improve our defense in a world that has become much more dangerous in the recent past, as the attacks of September 11, 2001 clearly demonstrated.

France believes that if NATO is to constitute a credible defense system, it must send a clear message at the Prague summit that it is committed, at the highest political levels, to achieving a significant improvement in alliance capabilities – and this, within a very precisely defined timeframe. This is why the word "commitment" is appropriate to use in this context.

To succeed at Prague, NATO's member-states have to be more focused on objectives and also more precise than they have been in the past about these objectives. The Alliance must improve those capabilities that are the most relevant and necessary for force projection and for multinational operations. Improved capabilities must focus on deployable forces and on the ability of those forces to operate coherently as a multinational unit.

Choosing Among Capabilities

The French government knows which of its generic capabilities need to be improved in order to enhance collective, alliance capabilities: signals from space, electronic warfare, strategic bombers, cruise missiles, and, among others, strategic airlift. Indeed the modernization of French forces has been influenced by the emphasis on certain capabilities that originated with the DCI process. Two typical examples are the cruise missiles that France is currently developing and the Airbus A 400 M program, which France, along with its European partners, is looking to launch in the near future.

Aside from those just mentioned, France recognizes that other areas are likewise in need of improvement, such as strategic mobility, (including both air mobility and maritime mobility), power projection, force projection, command capabilities, satellite communications, strategic and operational intelligence and measures to protect against nuclear, biological and chemical weapons (NBCs). In some of these areas, the transatlantic gap will take years to bridge.

Given all of these priorities for long-term military improvement and transformation, France must immediately identify and acquire certain key capabilities which will be needed in the short term, and which are essential to the success of modern military operations. For example, it must consider ways to bridge the gap in strategic lift before the Airbus A 400 M becomes available. France must also work to provide its forces with adequate helicopter support, as modern military operations require forces that are flexible and mobile in theater. Rapid intelligence gathering, analysis and data dissemination are likewise crucial to the success of such operations. Multinational forces need to have a UAV (Unmanned Aerial Vehicles) capability as well as the standardized doctrine and procedures necessary to exploit it. These are just a few good examples taken at random.

European Efforts and European Synergy

In acquiring capabilities of the sort mentioned above, effective cooperation by two or more countries on specific projects will be necessary to realize a synergy effect. The European effort in this direction, the European Headline Goal, is a good example of such cooperation.

The European Headline Goal holds out the firm prospect of substantial improvement in European capabilities, which will also improve significantly the capabilities available to NATO, because the military assets in question, as previously noted, are the same. NATO and European capabilities initiatives are mutually re-enforcing, and they are intended to be so.

Equipment capability panels have been established within the realm of European defense. These are the so-called ECAP panels, ECAP standing for "European Capabilities Action Plan". Each of these European capability panels is chaired by a lead nation, which will endeavour to oversee and to stimulate progress in specific capability domains.

There have already been some promising initiatives in the areas of interoperability and standardization of European forces. And as European interoperability efforts follow NATO standardization agreements and procedures, progress made within the European framework will also be of direct benefit within NATO. Again, what is good for the European Union is good for NATO. Some of these European projects concern key areas such as UAVs, Combat Search and Rescue, NBC protection, operational head quarters and strategic airlift.

Each step forward in the ECAP process – and indeed each capability planned or acquired – has been based on consensus and on the determination of the states involved to fulfill those goals endorsed at the highest political level. The French therefore recommend that NATO avoid setting unrealistic goals in the new DCI. Otherwise, one is at risk of creating expectations that can not be met. Still, the new DCI should aim to improve operational coherence among allies and to define the key capabilities to be acquired. Against this

backdrop, we must recognize that improved capability can only be achieved with increased resources and better spending.

The Necessity of Spending "More"

As far as the resources for capabilities initiatives are concerned, either in the European context or in the Atlantic Alliance context, it is obvious to say that each of the European countries should increase their defense budgets. France is going in this direction. Indeed, France is determined to improve and to modernize its capabilities, as it desires to be able to respond to the diverse challenges that the free world will have to face in the near future.

In this respect, the French Military Program Bill of Law for the years 2003 to 2008, by which the government plans its military spending for the six years to come, seeks to increase the resources dedicated to procurement by 14.6 percent (compared to the previous Military Program Bill of Law, which was mainly focused on the transition from a draft system to an all-voluntary, professional force.) France has not experienced a comparable rise in expenditures for over 70 years.

France's commitment to its military spending objectives is evident in the communications it has had with the European Commission regarding the latter's insistence that France take measures to reduce its budget deficit by 0.5 percent for 2003. Indeed, the French Finance Minister publicly defended the government's decision to keep its budget deficit at the present level by saying, "For 2003, we decided there were other priorities in France, such as an increase in military spending."

Much of this increase in resources will be committed to filling the gaps in capabilities identified in the NATO DCI and by the European Headline Goal process. The increase will allow France to modernize and upgrade its forces and their capacity for interoperability. A rough sketch of France's plans is as follows:

- Improve capabilities for precision strike by acquiring UAVs, as well as air and sea-launched cruise missiles;
- Improve projection capabilities through a new fleet of attack helicopters and the renovation of the airlift fleet;
- Strengthen communications capabilities by launching two new communication satellites;
- Acquire a second aircraft carrier with an air wing of Rafale multi-role aircraft and E-2C Hawkeyes.

Additionally, France is actively encouraging its European partners to shift to all-voluntary, professional militaries and to develop the capabilities with which Europeans might make a major contribution to dealing with international challenges and threats. France argues that, whatever the size of their resources, all European partners have something to contribute and that all should make efforts to do so effectively. While this might be "wishful thinking" in a few cases, France hopes that its general disposition will be contagious.

The Need for Better Transatlantic Industrial Cooperation

Better transatlantic industrial cooperation, in addition to higher defense spending in Europe, should help improve both interoperability and the overall capabilities of NATO. France regrets a lack of coherence from the U.S. side in this matter. On the one hand, the United States is asking its European allies to bridge the technology gap; on the other, it is making little if any progress toward permitting greater transatlantic technology flows. As an example, France has been awaiting, for quite some time, the U.S. answer to its proposal that the two countries sign a Franco-American Declaration of Principle in the field of industrial cooperation, as have already been signed between the United States and some of its other allies. Technology transfer is thus a real problem. In this domain, the United States is not perceived as a cooperative partner. Indeed many U.S. experts acknowledge that progress on this issue has been very slow and that a lot remains to be done.

Transatlantic cooperation has also become difficult in matters where the United States has become aggressive with its allies on the industrial and commercial fronts. To illustrate this point, one might present 2 examples:

- The promotion of U.S. projects to its allies, such as Missile Defense, in which there is not much room for European industry and;
- The promotion of U.S. short term solutions to European weaknesses, like the C17 in the area of strategic airlift, or the Joint Strike Fighter (the JSF could well mean the end of European capacity in this domain).

Too Many Countries Feel Comfortable under the NATO Umbrella

France has long insisted that too many European members of NATO are content under the NATO "umbrella", and, therefore, that these countries do not make the necessary effort to shore up their defense budgets. They feel comfortable with the protection offered by the Alliance (read: by the other members) or, more specifically, by the protection offered by the United States.

France would argue that, thanks to the build-up of a European defense capability, European countries have become progressively more conscious of their weaknesses and shortfalls – and of the impossibility of their carrying out autonomous operations without the use of several key NATO assets. Though much has been said regarding an autonomous European defense structure capable of carrying out military operations in which NATO declines involvement, European governments have realized that, even with the use of some NATO assets, it would be difficult to do more than limited peace keeping or low intensity peace enforcement operations without U.S. involvement. This is not acceptable in France's view. Being aware of their limitations, European administrations and parliaments should progressively make the same efforts to upgrade their capabilities as France is currently making.

When one talks about improved NATO capabilities, one should simultaneously consider reforming NATO's structures. France, in this regard, is decidedly in favor of a more reactive organization with "lighter" structures.

European Multilateral or Bilateral Initiatives

In regard to spending more wisely, European countries have launched bilateral and sometimes multilateral initiatives that will have positive effects on NATO capabilities.

The following initiatives might be cited as examples:

As some may know, France and the United Kingdom, some seven years ago, created what was at the time called the Franco-British "Air Group", which was intended to allow both to spend more wisely the money that each country had available for strategic and tactical air lift. With this small body, composed of just a few officers from the two countries gathered in an airbase in the United Kingdom, each country's representatives ask the other's, before sending an aircraft somewhere in the world to pick up cargo, for instance, whether one of its partner's aircraft in the applicable part of the world has the requisite space available and is also slated to fly back to Europe. In this way, both France and the United Kingdom have saved a lot of money and have avoided situations in which their aircraft would have had to fly empty. This is therefore a good example of spending "more wisely" in a group of countries. Interested in this concept, other European countries have joined (Germany, Belgium, Italy, Spain and others). After taking in these new members, the Franco-British "Air Group" became the "European Air Group" and it has consequently led defense Euros to be spent "more wisely" at the European level.

Considering the positive effects of such an initiative, the concept has been progressively expanded to include air refueling sorties.

France and the Netherlands have also developed a similar concept in regard to maritime power projection and amphibious operations. These two countries, whenever they can, share assets in this particular area.

Another way to spend more wisely is to avoid unnecessary duplication whenever possible. An example of avoiding duplication is the project of common helicopter piloting schools that France and Germany will use to train personnel on the new Tiger attack helicopter. This common school will be established in the south of France. Other users of the Tiger attack helicopter will be welcome to take part. Furthermore, a similar joint school will be opened in Germany to train the military technicians of different countries who will have the responsibility of maintaining this fleet of Tiger helicopters.

With the future arrival of the Airbus A 400 M transport aircraft, there should be an opportunity for the creation of a joint European transport pilot school, and of a joint European transport aircraft maintenance school. The money that can be saved from the use of such schools can then be spent to improve shortfalls in other areas.

European Defense Initiatives Will Have a Positive Effect on NATO Capabilities

To conclude, it is the conviction of the French government that European defense initiatives will have a positive effect on NATO capabilities for two main reasons. First is the concomitant necessity to spend more in the military domain in order to acquire a minimum European capacity to carry out more or less autonomous operations. Second is the drive to spend additional defense Euros better by sharing or pooling more assets, when possible.

There should be no doubt regarding France's will to spend more – and to spend better – for defense. France hopes that her efforts will be contagious and, accordingly, imitated by other European members of NATO.

The Transatlantic Gap: Obstacles and Opportunities for Closing It[8]

Reiner K. Huber[9]

Abstract

Based on the results of comparative defense budget analyses, it has been argued that by further downsizing military forces and instituting structural changes, Europeans would be able to reduce considerably the transatlantic gap in military capabilities – provided that they coordinate national defense and armaments planning processes and operate expensive major items jointly. However, closing the gap will require both a sizeable increase in defense spending and an integration of European national militaries into one common European military force.

In order to pave the way for making this vision a reality, Europeans should agree on conversion criteria for the transformation of their militaries similar to what they have done to qualify for monetary union. These criteria should include lower thresholds for sustained modernization expenditures in relation to GDP and military manpower contributions to standing forces for crisis reaction operations (CRO) in relation to population size, irrespective of national personnel structures (all-volunteer or conscription). The results of computational experiments suggest that a level of about 0.6 percent of GDP for RDT&E and procurement, along with a manpower contribution to common CRO forces of about 2.0 soldiers per one thousand inhabitants, should be sufficient to approach U.S. CRO capabilities in the long term, provided Europeans reduce their combined peacetime military manpower levels to about 1.5 million volunteers and adapt force and defense industrial structures in order to improve the efficiency of defense spending to a level comparable to that of the United States.

With a view to immediate threats and stabilization requirements, European modernization efforts should be focused on the European rapid reaction force for addressing the spectrum of Petersberg tasks, possibly outside the NATO framework, and on creating a NATO rapid reaction force for advanced combat operations outside Alliance borders. In addition, measures for protection from information warfare threats and missile attacks need to be given priority.

However, unless the project of developing a European Common Foreign and Security Policy is completed and a European authority for its execution established, multinational

[8] Invited paper presented at the conference "New Capabilities: The Transformation of NATO Forces" of the Atlantic Council of the United States, 18 October 2002, Washington, D.C.

[9] Institute of Applied Systems Science and Operations Research, University of the Federal Armed Forces Munich, D-85577 Neubiberg, Germany. huber@informatik.unibw-muenchen.de

cooperation and division of labor will necessarily remain limited. So too will the integration of European forces, because of the uncertainty associated with the decisions of national governments regarding the employment of military force.

I. Measuring the Gap

In the context of this paper, the term "transatlantic gap" refers to the discrepancy in peacetime operational capabilities between U.S. and European NATO forces that can be made available for (non-Article 5) crisis response operations (CRO)[10] without the large scale mobilization of reserves. It is undisputed among experts that such a gap exists. Moreover, the operations of U.S. forces in Afghanistan suggest that the capability gap observed in the Kosovo war has increased considerably since then. If one assumes that the transatlantic gap matters, the question arises as to how wide it is and as to what it will take to close it.

Military experts agree that the assessment of military capabilities is an extremely difficult and complex undertaking. First of all, there is the question of what missions one has in mind. Furthermore, military capability is a function of both quantitative factors, such as the number of soldiers and weapon systems, and qualitative factors, which account for the quality of soldiers, equipment, tactics and operational doctrine. More often than not have qualitative factors turned out to be more critical to success than sheer numbers. However, the degree to which qualitative factors such as operational doctrine and leadership, training and readiness, type and age of equipment, and human factors do affect military capability is not easily measured and not agreed upon among experts in many cases.[11]

Most approaches for capturing the value of qualitative factors in capability assessments use so-called scoring systems that provide numerical measures or "scores" for the contributions of individual combat units and weapons of a given type, and of different versions of a weapon type (e.g. of the main battle tanks A1M2 and Leopard 2), to the combat potential of a military force. These scores represent the combined judgment of military experts drawing on field experience, empirical evidence from military history, models of military operations embedded in doctrine, and the results of computer simulation experiments.[12] All of today's better known scoring systems emerged during the Cold War period. Based on data from World War II and from the Korean War, they were used widely to assess the balance of forces between NATO and the Warsaw Pact. Therefore, they are considered to apply to

[10] The NATO term CRO includes Operations-Other-Than-War (OOTW)/Peace Support Operations (PSO) as well as military operations in the context of so-called "Other Security Interests" (OSI) such as combating terrorism, securing economic life-lines, defense against and control of weapons of mass destruction, and protection of vital infrastructures.

[11] For this reason, qualitative factors have hardly ever been addressed in arms control negotiations. For example, the aim of the negotiations between the Warsaw Pact and NATO on conventional forces in Europe (CFE) was to establish numerical parity in the main weapon systems categories (main battle tanks, armoured fighting vehicles, artillery pieces, combat helicopters and combat aircraft) without regard to performance characteristics or age.

[12] As early as 1972, the Soviets had completed and tested the mathematical *Model of Strategic Operations* that became the principal tool for generating the data from which experts determined the combat potential values of weapon systems and military units (Tsygichko and Stoeckli, 1996).

classical armored warfare missions only.[13] As a result, using them to assess the current and future capabilities of military forces appears to be highly questionable, considering NATO's new missions as well as the new military technologies that promise to make classical armored warfare largely obsolete. Besides, scoring systems have been criticized on theoretical grounds for failing to meet the axiomatic requirements of additive utility functions which are applied in computing aggregate force capability. Moreover, the experience-based military judgments used to enter scores is often anecdotal; the empirical evidence revealed by military history can be rather incomplete and of questionable relevance to circumstances other than those that characterized the historical events in question.[14]

It is for these reasons that Huber and Schmidt (2000) have proposed a new methodological approach for measuring the transatlantic capability gap, which is not based on scoring the existing military manpower and weapons inventories of the United States on the one hand and of the European NATO countries on the other. Rather, their "Relative Military Potential Measurement" (RMPM) takes a long term view by considering the military potential that the countries in question may be able to generate eventually from their peacetime force postures, both in quantitative as well as qualitative terms, given the observed trends in real-term defense spending and the size and personnel structure[15] of their military forces.

How Wide is the Gap?

RMPM measures the quantitative dimension of the transatlantic capability gap in terms of the maximum number of soldiers that European NATO forces taken together may deploy in CRO from their peacetime force postures relative to the United States. The qualitative dimension is measured in terms of what Europeans spend per active solider, relative to the United States, on research, development, experimentation and procurement to account for force modernization; and on operation and maintenance (O&M) to account for the level of readiness, training and field experience.

The Quantitative Dimension

According to *The Military Balance 2000-2001,* the combined military manpower of the 17 current European NATO allies amounts to 2.5 million in peacetime, with a mobilization build-up capability of nearly six million.[16] Discounting Luxembourg, European peacetime

[13] Most notable among them are the WEI/WUV (weapon effectiveness index/weapon unit value) mechanism of the U.S. Army, RAND's SFS (Situational Force Scoring) and the British BAMS (Balance Analysis Modeling System).

[14] Biddle's comparison of the recorded history of the *Battle of 73 Easting* in the Gulf War to a number of virtual histories generated by means of computer simulations at the Institute for Defense Analyses illustrates the limited relevance of that battle's outcome for estimating loss-exchange ratios in any future offensive battles fought by a technologically superior force against enemies capable of avoiding the defensive errors committed by the Iraqis (Stephen Biddle: Explaining the Loss-Exchange Ratio in the Gulf War. In Hans W. Hofmann and Heinz Schelle (Eds.): *33 Jahre militaerische Systemanalyse* , Neubiberg 1996, Universitaet der Bundeswehr Muenchen, pp.53-69).

[15] The term "personnel structure" refers to categories of personnel in military forces. Different personnel categories may or may not contribute directly to the operational potential of a force.

[16] The corresponding figures for the United States are 1.37 and 2.57 million. Though the U.S. peace time military manpower level in 2000 was only 55 percent (and the build-up capability 44 percent) of the combined NATO-European level, the U.S. defense budget was more than twice the sum of the defense budgets of the

force sizes range between 610,000 for Turkey and 22,000 for Denmark (with an average of 167,000). Personnel structures fall into three categories:

- **All-volunteer Forces** (Belgium, the United Kingdom, the Netherlands, France and, in the near future, Italy and Spain);
- **A Variety of Conscription Forces** (Denmark, Germany, Greece, Poland, Portugal, the Czech Republic, Hungary, and Turkey, with the percentage of conscripts varying between 13 percent in Portugal and 87 percent in Turkey, and the terms of mandatory service between 4-12 months in Denmark and Portugal and up to 18-21 months in Turkey and Greece);
- **Militia Forces** (Norway).

Disregarding sociological and socio-political considerations, there are essentially two militarily relevant reasons why the majority of European countries have held onto conscription: 1) Compulsory military service provides forces with a large pool of trained reservists from which they can draw the personnel needed to build up to wartime strength and to replace casualties, and 2) While serving with the armed forces, conscripts are a readily available source from which volunteers may be recruited in peacetime.[17]

However, in comparison to all-volunteer forces, the number of soldiers that conscription-based forces may contribute to CRO is more or less limited depending on the relative number of conscripts in the force and the terms of their mandatory military service. This is because conscripts are usually not available for CRO unless they volunteer and agree to extend their terms of service so that they can be given additional, CRO-specific training.[18] In addition, volunteers who are required to train conscripts are not available for operations. Based on a mathematical model of how the CRO manpower of a military force depends on personnel structure, personnel rotation policies, training requirements and domestic support, Huber (1998) has calculated that the theoretical German manpower limit for sustained CRO deployment[19] could have been increased by a factor of 2.5 had the 231,000 strong German

European allies in that year, namely 287 compared to 137 billion US$. In other words, the United States spends nearly four times the European amount per soldier for defense. No wonder many in the United States view Europe's militaries as oversized and underfinanced, or largely "incapable" by U.S. standards.

[17] It is mainly for the second reason that the German armed forces are reluctant to give up conscription. In addition to the first reason, Greece and Turkey regard conscription as the only way to maintain their comparatively large standing forces, which consist, in large part, of conscripts serving compulsory terms of at least 18 months. In addition to mutually-shared perceptions of potential military threat vis-à-vis each other, compulsory military service is considered an important instrument of secularisation in mostly rural Turkey.

[18] Therefore, unless the duration of compulsory service is as long as in Turkey and Greece, conscripts willing to serve in CRO are *de facto* accorded the status of volunteers, as is true in the German armed forces.

[19] The manpower capacity calculated from Huber's model does not account for the actual force structure with regard to service branch and unit types. Therefore, the capacity is a theoretical value representing the maximum that could be reached if the force structure were appropriate for the operation in question. For example, it was primarily the lack of active logistics and medical units in the peacetime German Army structure designed for defense in Central Europe (Article 5 operations) that caused its Chief of Staff to state, when the German contribution to KFOR was discussed, that the actual deployment capacity for the operations in Bosnia and Kosovo taken together was about 7,300 as opposed to the theoretical limit of about 10,000 calculated by Huber. However, the principal objective of the current defense reform and procurement programs is to bring

Army of 1998 replaced its 110,000 conscripts with volunteers. Put another way, the theoretical CRO deployment capability (of about 10,000) at that time would not have been affected had the German Army's military manpower been reduced to about 110,000 volunteers.[20]

Applying the logic of Huber's model (and the basic assumptions outlined in footnote 11) to all of NATO-Europe's 12 national armies of 1998, Huber and Schmidt concluded that, taken together, Europe's theoretical capacity for sustained CRO deployment would be about 80,000 soldiers from a total of 1.6 million ground forces as opposed to about 90,000 for the U.S. Army and Marine Corps, the combined strength of which amounted to approximately 650,000 in 1998. In other words, the Europeans' theoretical manpower capacity for sustained CRO came to a mere five percent of the combined peacetime strength of their ground forces as opposed to 14 percent for U.S. ground forces. NATO-Europe's manpower capacity for sustained CRO can be expected to increase by about 25-30 percent as soon as France, Spain and Italy have converted to all-volunteer forces and the current capacities of the three new members (Poland, the Czech Republic and Hungary) are accounted for.

The Qualitative Dimension

The numbers presented above suggest that the transatlantic gap is not really significant, and about to disappear soon, if one looks at the quantitative dimension only. However, the gap becomes apparent if one takes into account the qualitative dimension, measured in terms of what NATO countries spend on defense RDT&E and the procurement of equipment in relation to the size of their military forces.

Similar sustained RDT&E and procurement expenditures per active soldier are an indication that the military forces in question should have, or eventually will have, comparable modernization levels, which are indispensable for interoperability. Fig. 1 adapted from Huber (2002) presents a chart of the respective expenditures of the NATO allies relative to those of the United States in the year 2000, based on the data published in *The Military Balance 2000-2001*.

It will be noticed that most of the European NATO allies (including Germany) spend less than one third of what the United States invests per active soldier in force modernization.[21]

---

about changes in force and personnel structure as well as equipment for making the German armed forces better suited for CRO.

[20] Huber's model considers two categories of military personnel: volunteers and conscripts. In his calculations he assumed, for both categories, that only soldiers with a minimum of 12 months training and at least another six months of service may be assigned to crisis response operations. In addition, it was assumed that the ratio of trainees to training personnel (including staff and administrative personnel) is 2:1 for basic training and 3:1 for training in combat and combat support functions; that 20 percent of the Army's total manpower is required for manning the administrative and elementary support services; that for each deployed soldier, a domestic mission support of two soldiers is required; that personnel rotation policies prescribe operational assignments out-of-area of six months to be followed by 24 months of domestic service; and that conscripts may serve in elementary and domestic mission support functions following their basic training.

[21] Relative to the United States, Germany's RDT&E and procurement spending level per active soldier in 2000 was at 0.23 as opposed to 0.25 in 1998. During the Cold War period, prior to the adoption of NATO's Long Term Defence Programme (LTDP) in 1978, that ratio was around 0.4, dropping to about 0.22 in 1989. The slight increase in per capita modernization spending levels since the end of the Cold War is primarily due to

Only the United Kingdom's modernization expenditures come close to those of the United States followed, at a considerable distance, by Norway[22], France, and the Netherlands.

It should be pointed out, however, that the complementary values to those presented in Figure 1 must not be interpreted as reflecting the true spending deficits that need to be corrected relative to the United States in order to attain interoperability with U.S. forces. The effective spending deficits are smaller, or the effective spending levels higher, as the U.S. force structure is characterized by relatively large and capital-intensive air and naval forces in comparison to most European force structures.

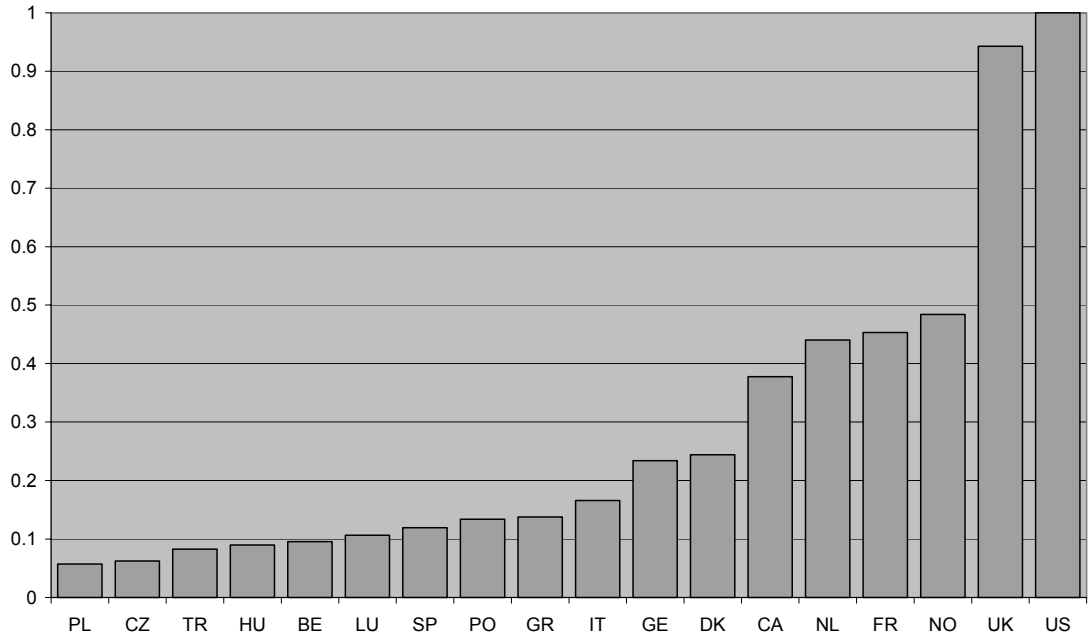


Figure 1:
Modernization Expenditures per Active Soldier (2000) Relative to the United States

Huber and Schmidt have estimated correction factors that account for force structure, in particular the relative shares of air and naval forces as compared to ground forces in the militaries in question, so that the corrected modernization expenditures per active soldier reflect the modernization levels that European forces may reach eventually – relative to the United States – if the observed trends in RDT&E and procurement spending persist.[23]

---

the fact that manpower reductions exceeded budget reductions during that period in both the United States and Germany.

[22] Norway's relatively high expenditures for RDT&E and procurement per active soldier may be misleading as Norway's forces are of the militia type, characterized by a fairly small number of active forces serving at any given point in time. Based on the number of soldiers that may be activated for duty in crisis situations, Norway's expenditures are less than 0.2 in relation to the United States.

[23] The correction factor accounts for the relative distribution of RDT&E and procurement expenditures among U.S. air and naval forces on the one hand, and the ground forces on the other; and for the differences in the manpower levels of U.S. and European air, naval and ground forces. Based on the evidence obtained from several U.S. and U.K. defense budgets, Huber and Schmidt have assumed that approximately 75 percent of the investment expenditures for RDT&E and procurement per soldier go to air and naval forces and 25 percent to

For the sake of simplification, and considering the limited accuracy of the available data on the one hand, and uncertainties about future force structures on the other, the relative modernization levels (RML) thus calculated are grouped into five broad modernization categories. The categories are in intervals of 0.2 over the range 0<RML<1.0, defined by the relative modernization expenditures corrected for the (current) force structure.

Based on the data for the year 2000, the results are as follows:

- A (0.80 < RML): United Kingdom
- B (0.60 < RML < 0.80):
- C (0.40 < RML < 0.60): France, the Netherlands, Norway[24];
- D (0.20 < RML < 0.40): Denmark, Germany,
- E (0.20 > RML): Belgium, Czech Republic, Greece, Italy, Poland, Portugal, Spain, Turkey

Compared to the results compiled by Huber and Schmidt with 1998 data, only France and the Netherlands had switched categories by the year 2000, even though procurement expenditures by some other countries have increased since then.[25] An increase of 18% was sufficient to move the Netherlands from category D to category C; a reduction of 10% between 1998 and 2000 caused France to drop from category B to category C.[26]

Longer-Term Implications of the Gap

Considering the national manpower capacities for sustained CRO discussed above, we conclude that approximately 55 percent of the theoretical CRO capability of NATO-Europe's ground forces falls into the bottom category, "E", 30 percent into categories C and D, and merely 15 percent into the top category, "A". In other words, the transatlantic gap is indeed significant. Only about 15 percent of Europe's long-term CRO potential, that of the United

ground forces. Example: As 0.691 of the German Bundeswehr's manpower resides in ground forces (as opposed to 0.536 for U.S. forces) the share of investment spending for German ground forces which would be required to match the U.S. spending level calculates as 0.25(0.691:0.536) = 0.3; that of the air and naval force components as 0.75(0.309:0.464) = 0.5, which add to an adjustment factor of 0.8. Therefore, Germany's effective RDT&E and procurement expenditures per soldier in relation to the United States is 0.29 rather than 0.23 as shown in Fig. 1.

[24] Norway's placement in category C is debatable because the per capita expenditure levels underlying Figure 1 are calculated with the number of soldiers on active duty, which is usually quite small in militia-type forces like Norway's. In fact, if Norway's modernization investments were related to the sum of its active soldiers and reservists, Norway would drop to category D.

[25] The magnitude of these increases suggests, however, that they may only in part, or not at all, reflect sustainable trends. Rather, they more accurately reflect one-time payments for major procurement items.

[26] Recognizing the deficit in military capital spending accumulated in the past decade vis-à-vis the United Kingdom and the United States, the new French government under President Chirac plans to spend 87 billion US$ on force modernization between 2002 and 2008 (see Keith. B. Richburg: French military to get big upgrade. *International Herald Tribune*, Thursday, October17, 2002, p. 6. See also Bastien's paper in this compendium). This is the equivalent of 12.8 billion US$ per year, assuming a two percent inflation rate, or 1.5 times French modernization expenditures in 2000. In fact, the level of France's military capital spending will approach one percent of GDP during that period, or more than 40 percent of its defense budget, which will be sufficient to bring France back into modernization category B. France might even reach category A in the long term if this spending level is maintained beyond 2008.

Kingdom, can be expected to reach a modernization level comparable to that of U.S. forces if the trends in European RDT&E and procurement spending observed since the end of the Cold War persist (and if no major changes in personnel and force structures are implemented by the majority of European NATO allies). As observed by Francois Heisbourg (2001), the consequence will be a functional and geographic division of labor in the Alliance: The United States will undertake the tasks of global warfare, leaving the Europeans the responsibility for regional peace support operations, and for providing post-war security and assistance in rebuilding war torn societies – that is, unless Europeans widen their strategic horizon and agree on a significant increase in defense RDT&E and procurement spending.

It goes without saying that such a development would be resented by many a European government and that it is becoming to neither the Atlantic Alliance nor the project of a European Common Foreign and Security Policy (CFSP). Therefore, bridging the transatlantic gap by reducing deficits vis-à-vis the United Sates must be considered as a *conditio sine qua non* for saving NATO's relevance as a military alliance. The question is how Europeans might proceed in bridging the gap.

II. Bridging the Gap

Toward a "Common Principle"

It should be pointed out that this paper will not attempt to outline a blueprint for change in European defense postures. Rather, it will try to illustrate essential conditions to be met and a basic principle to be followed by all Allies in order to reduce, and eventually close, the transatlantic gap in an efficient manner.

The analysis presented above suggests that the primary issue is that of modernizing European forces in order to regain the capacity to carry out joint operations with U.S. forces and, it should be added, among European allies as well, over the entire spectrum of Alliance missions. That requires that nearly all of the European NATO allies increase RDT&E and procurement spending substantially. In order to minimize the increase in overall defense spending necessary for increasing RDT&E and procurement funds, personnel and O&M costs need to be lowered by reducing the overall peacetime manpower level of European military forces. This in turn requires that conscription-based forces reduce the number of serving conscripts, or end or suspend conscription altogether.

This logic is captured in a common principle for force planning in the Atlantic Alliance that has been applied in algorithmic form by Huber and Schmidt to estimate, in quantitative terms, the degree to which the transatlantic gap may be reduced given certain levels of defense spending. The principle formulated in 1998 reads as follows:

> Stepwise reduction of manpower and conscript levels in a manner that the highest possible level of modernization can be reached without having to increase the defense budget in real terms and subject to the constraints that 1) the existing capability for out-of-area (OOA) deployments (in the context of CRO) is not decreased and 2) active manpower levels must not decline below a level that is required for maintaining a sufficient pool of reservists for replacement and build-up as long as the resurgence of a massive ground force threat against NATO-territory may not be dismissed altogether.

The results of applying this principle are presented in Figure 2, adapted from Huber and Schmidt. It shows how the collective capacity of European ground forces for sustained CRO could be enhanced with respect to both quantity and quality in comparison to U.S. capacity in 1998, assuming that the relative manpower distribution among the three services (Army, Navy and Air Force) is maintained by the Allies as it was in 1998.

The two bars on the left, labelled US98 and EU98, refer to the theoretical CRO capabilities of U.S. and European ground forces, assuming sustained defense spending and force structures akin to those in 1998. Both are measured in relation to U.S. capability. The three bars to the right illustrate, for three different levels of sustained defense expenditures, the relative magnitude of long-term improvements in the overall European CRO capacity that would be feasible – theoretically – if the defense planning of all the European Allies were based on the aforementioned common principle.

The acronyms CP98, 1.5 GDP, and 2.0 GDP denote the following:

- CP98: The defense budgets of European Allies are sustained at their 1998 levels in real terms;
- 1.5 GDP and 2.0 GDP: Defense budgets are increased to, and sustained in real terms at, levels of 1.5 and 2.0 percent respectively of their 1998 GDP by all countries that had not reached these levels in 1998. Otherwise, defense budgets are sustained at the 1998 levels.

It will be noted that NATO-Europe's collective CRO capacity could be increased by more than 40 percent, from 0.90 to almost 1.3 of the U.S. level, without spending more on defense than was spent in 1998 if, except for Greece and Turkey[27], the European Allies would adopt all-volunteer forces and reduce their collective active manpower from 2.4 to 1.5 million. In addition, European ground forces at modernization level A would increase to 0.53 of the U.S. level, compared to less than 0.20 in 1998, while those on modernization level E would decrease from more than 45 percent of the collective European CRO capacity in 1998 to less than four percent.[28]

[27] However, the conscript levels would be reduced to 50 percent of the manpower level for Greek forces and to 60 percent for Turkish forces.

[28] The remaining category E capability is provided by Belgium, which converted to all-volunteer forces in the past and, therefore, would have little room for savings through further reductions without violating the *common principle*.

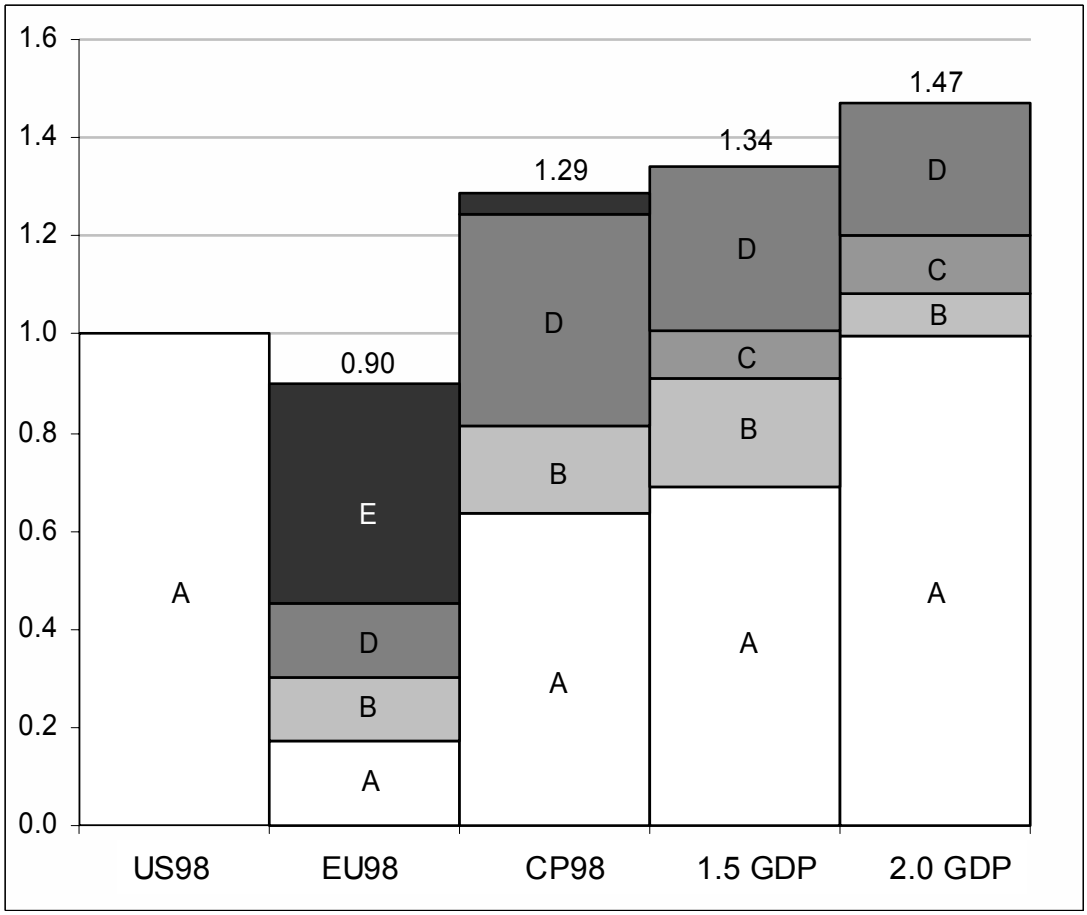


Figure 2:
Implications of the Proposed Common Principle for the CRO Capability of European NATO Allies Relative to the 1998 U.S. Capability, Given Different Levels of Sustained Defense Spending

The additional improvement resulting when minimum budget levels are increased to 1.5 percent of GDP is rather small because only four allies (Belgium, Germany, Portugal, and Spain) had defense budgets below that threshold in 1998.[29] However, a significant improvement would result if defense budgets were increased to 2.0 percent of GDP by those allies who spent less than this amount in 1998.[30] At a 30 percent reduction of the total active manpower level, from approximately 2.4 to 1.7 million, sufficient funds would become available to bring European category A capability up to the U.S. level. Europe's overall OOA-capability would increase by two thirds to almost 50 percent above the U.S. level. In that case, the forces of Denmark, France, Germany, Italy, and the United Kingdom would be in category A, Belgium and the Netherlands in category B, Portugal and Spain in category C, and Greece and Turkey in category D.

[29] The 1998 defense budgets of the European Allies taken together amounted to 1.8 percent of their collective GDP.

[30] In addition to Greece and Turkey, only France, Norway, and the United Kingdom have spent more.

A comparison of the cases EU98 and CP98 on the one hand, and CP98 and 2.0 GDP on the other, suggests that the relative payoff associated with changes in personnel and force structures outweighs the relative payoff from increased defense spending without the simultaneous implementation of structural reforms. In fact, without structural reforms, the situation reflected by EU98 would not change significantly as it leaves Europeans with a total peacetime manpower level of 2.5 million, compared to about 1.7 million when the common principle is applied.

Thus, we conclude that a policy of increasing defense budgets, without undertaking structural reforms at the same time, is highly inefficient with a view to CRO capabilities. In contrast, structural reforms, especially in conjunction with suspending conscription, would enable significant improvements in the quantity and quality of the collective CRO capabilities of European allies, even if defense budgets were not increased at all. And even if the transatlantic gap is not bridged by higher defense expenditures, these must be instituted by a number of European allies in order to eliminate the considerable inequities in defense burden-sharing among Allies.

On Burden Sharing

An indication of the relative magnitude of the current inequity in burden sharing is provided by comparing the defense budgets of the NATO allies as a percentage of their respective GDPs.[31] Figure 3 shows the respective percents for the year 2000. It will be noted that the defense budgets of only four of the 18 NATO allies (without Iceland) exceeded the NATO average of 2.35 percent of GDP in that year, and that only six of the 16 European Allies had defense budget levels higher than the European average of 1.75 percent of GDP. Germany's figure of 1.22 percent is about half of the NATO average, and about two thirds of the European average. Discounting Luxembourg, only one of the European NATO allies (Belgium) has dedicated less of its GDP to military defense than Germany.

The fact that six European allies (without Luxembourg) allocated less than 1.5 percent of their GDP to defense in 2000, as opposed to only four in 1998, is an indication of the continuing trend of declining defense budgets in Europe.[32] The fact that the defense budgets of the three new members of the Alliance (the Czech Republic, Hungary and Poland) exceed that threshold compensates little for the effects of that trend because of the comparatively low GDPs of these countries.[33] While the theoretical CRO capacity of the European allies shown in Figure 2 for 1998 (EU98) may have improved slightly in quantitative terms, the prospects of improving the overall quality in the long term have actually deteriorated. This is because all of the military forces of the new members are of category E, with little prospect of change unless force sizes are reduced further and structural changes implemented, and assistance is extended to them for adapting to Western equipment standards.

[31] GDP = Gross Domestic Product

[32] Denmark and Italy have joined the ranks of Belgium, Germany, Portugal, and Spain, whose defense budgets had been below 1.5 percent of GDP already in 1998.

[33] Their current GDP is about 30-40 percent of the average Western European GDP.

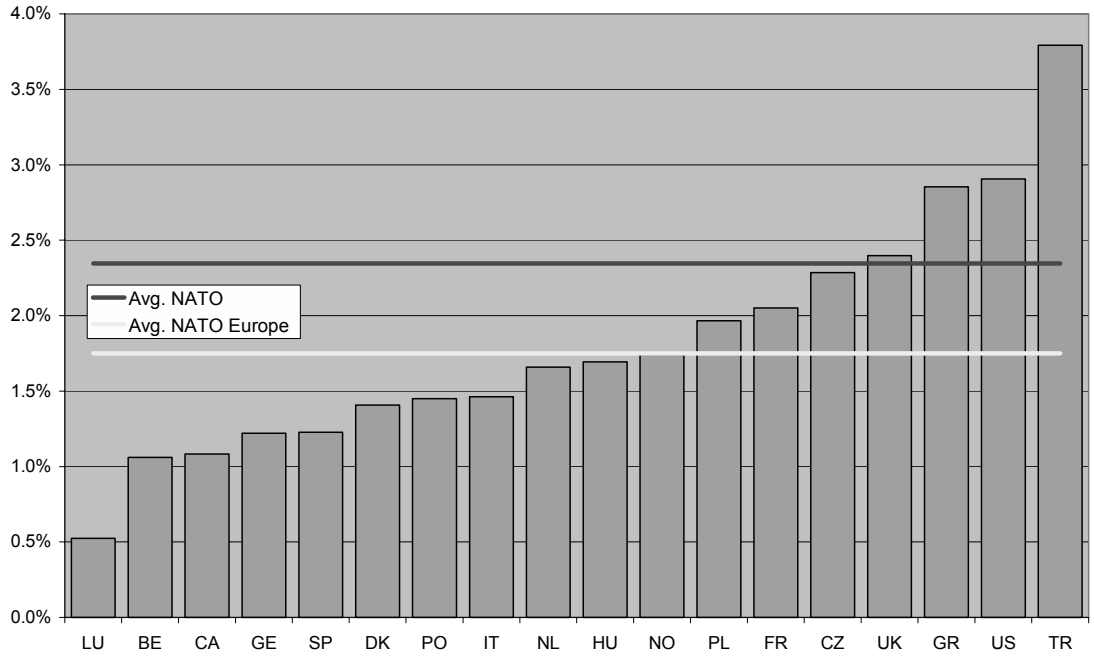


Figure 3:
Defense Budgets (2000) as Percentage of GDP

The admission of seven new members to NATO will most certainly increase the pressure for sweeping defense reforms in all but a few European militaries in order to free up funds to modernize one's own military, and also to provide modernization assistance to the new members of the Alliance.[34] In addition, the trend of declining defense budgets must be stopped because the savings associated with downsizing and restructuring will not be sufficient if Europeans are serious about reducing, and eventually closing, the transatlantic capability gap (unless, of course, they are willing to accept a transatlantic division of labor as suggested by Fancois Heisbourg).[35]

[34]A zero cost strategy for doing this has been outlined by Huber and Friedrich (1997) for the first round of NATO enlargement. It involves a comprehensive approach including a formula for material and financial modernization assistance in addition to the universal the application of the common principle.

[35] Almost all NATO allies, including the United States, have reduced their defense budgets since the end of the Cold War, albeit to different degrees. For example, the level of Germany's defense budget in 2000, measured as a percentage of its GDP, is about 45 percent of its average level during the Cold War, in comparison to 50-55 percent for all the other Allies except Belgium, whose level has dropped to about 35 percent, and Greece and Turkey, which both spent essentially the same percentage of their GDP on defense in 2000 as during most of the Cold War. In this context, it should be pointed out that our estimates of the average level of GDP-related defense budgets of NATO allies during the Cold are based on the GDP-related defense expenditure data compiled in *The Military Balance 1987-1988* covering the period 1955-1985, adjusted by a factor of 0.8 to account for the average ratio of defense budget levels and defense expenditures which include defense-*related* expenditures that do not benefit the military directly. For example, Germany's average level of defense expenditures is listed in *The Military Balance* as varying between 4.3 and 3.2 percent of GDP, resulting in an average of 3.4 percent for the period 1955-1985. Therefore, during this time period, the average defense budget level actually corresponded to approximately 2.7 percent of the Federal Republic's GDP as compared to 1.22 percent for the defense budget of 2000, or 1.5 percent for Germany's defense expenditures in 2000.

An assessment of the results of computational experiments on the implications of the common principle for force planning as shown in Figure 2 indicates that closing the transatlantic gap should be entirely feasible, at least in theory, if each of the European Allies were to allocate at least today's NATO-European average of 1.75 percent of their GDPs to their defense budgets, or about 2.2 percent to pay for all defense-related expenditures[36], provided that Europeans adopt appropriate force structures and reduce their military manpower levels further.

Reasons for Integrating European Defense Forces

It must be pointed out, however, that in addition to the universal application of the common principle, the quantitative and qualitative build-up of European CRO capabilities (as shown in Figure 2) implies that the efficiency of both operations carried out by combined European forces as well as Europe's force modernization processes, will be free of the not inconsiderable friction that frequently inhibits the effectiveness of multilateral military operations and diminishes the efficiency of multinational RDT&E and procurement processes. Besides, the military manpower levels resulting from the unlimited application of the common principle will very likely turn out to be too small for efficient national militaries, especially for those of smaller and/or economically less viable countries, each of which needs to provide its own administrative, training, and support organizations regardless of the size of the forces in question.

Multinational military entities such as, for example, the German-Netherlands corps, are certainly important vehicles for reducing overhead and increasing efficiency, as well as for sharing the cost of – and using common – infrastructure and training facilities. However, part of the savings thereby gained is usually lost because of the increased requirements for the coordination of several national bureaucracies and the additional friction commonly associated with transnational cooperation today.[37]

For similar reasons, European multilateral RDT&E and weapon system production programs are inherently more expensive than comparable U.S. programs, to say nothing of the way in which national production and procurement is hampered in European countries by small production runs and, in many cases, export restrictions. For example, based on empirical data, the late chief of the aircraft pre-design office of MBB[38], Horst Herbst (1977), claimed that the cost of multinational combat aircraft development programs increases by a factor of the square root of the number of nations involved. Accordingly, the cost of a four-nation program would be double that of a unilateral program. Even if the involved countries' RDT&E costs are only half what they would otherwise be, thanks to identical procurement requirements for all four, the additional cost of multilateral development programs are significant, especially as some EADS experts consulted recently regard Herbst's formula as

[36] See previous footnote.

[37] This would also be true for the coordination and cooperation of national bureaucracies entrusted with spending, on commonly agreed upon force modernization programs, the savings resulting from the force reductions prescribed by the common principle.

[38] Messerschmitt-Boelkow-Blohm (MBB), which eventually became part of DaimlerChrysler Aerospace (DASA), is now part of the European Aeronautic and Space Defence Company (EADS).

outdated. Today's cost growth factor should be considerably higher because of the cost of modern technology and the much higher complexity of combat aircraft and, as a consequence, of development and production as well as the industrial and governmental management processes involved.

It is obvious that Europeans can ill afford the inefficiencies and losses associated with doing business as usual in defense if they ever hope to reduce, and eventually close, the transatlantic capability gap. Therefore, nothing short of:

- replacing the many national defense and armaments planning bureaucracies with common European defense planning and RDT&E agencies;
- consolidating European defense industries into viable business enterprises; and
- integrating the European militaries into European Armed Forces

will ever yield a return on European defense investments that is comparable to that achieved by the United States.

The International Herald Tribune of November 26, 2002 quotes an unnamed French politician who reportedly pointed out that operations in Afghanistan illustrate that the European Allies will not be able to play a significant political or military role in future crisis management as partners of the United States unless the members of the European Union (EU) bundle their military defense efforts in common European forces.

III. Future Threats

Of course, it goes without saying that a common European defense force is a long-term vision at best, which today is regarded by many as somewhat politically naïve. There are numerous bureaucratic, legal and cultural details as well as national differences in structures, doctrine, behavioral norms, leadership and command styles that need to be addressed when creating a European military that will not simply resemble a number of national units controlled by integrated staffs.[39] Moreover, the project of a Common Foreign and Security Policy (CFSP), or even the formation of a Federation of European States, must be completed first, as the integration of defense implies that European states give up a significant part of their national sovereignty by transferring decisions about war and peace to a supranational authority.[40]

[39]The idea of common European forces is not new. As early as 1952, several European states signed the "Treaty on the Creation of a European Defense Community" (EDC), which implied the creation of a European defense force including a common defense budget. However, the EDC never came about because the French National Assembly refused to ratify it in 1954. Nevertheless, the so-called military protocol of that treaty may still provide a useful conceptual basis for developing the legal and behavioral framework for European military forces. This is also true for the common code of behavior regarding the politico-military aspects of security adopted by the members of the Organisation for Security and Cooperation in Europe (OSCE) in 1994 (see Fröhling, 2002, and Frisch, 2002).

[40] The unilateralism practiced by the German chancellor Schroeder and parts of his government with regard to an Iraq strategy is not encouraging because it must be perceived, by many of Germany's European partners, as a deliberate snub to the European Union's (EU) nascent CFSP. In any case, Germany failed in the first serious outside challenge to this project and missed an opportunity to fill the rhetoric of the EU Cologne summit of

However, a universal adoption of the common principle for the evolution of European militaries would make sense in any case, considering that the security environment of the 21st century will likely be characterized by a high degree of uncertainty about the threats facing the Atlantic alliance, save one: the re-occurrence of the threat of a massive invasion of alliance territories by heavily air-supported armored forces has become the most unlikely military challenge that NATO will have to face in the future, if ever again.

The trends in global demographic, environmental, economic, social, and technological developments as identified, for example, by the United Kingdom's "Project Insight" (Hamid, 1999) or Germany's just completed project, "Armed Forces, Capabilities and Technologies in the 21st Century"[41] suggest that a fundamental change in warfare has taken and is still taking place. Wars between and among states, as dominated the first part of the last century, are being increasingly replaced by intra-state (civil) wars between ethnic and religious factions and among groups interested in ongoing conflict for economic reasons, to say nothing of international terrorism and organized crime. The observation that only 15-20 percent of all wars and warlike conflicts since 1945 have been conducted between or among states has led political scientist Herfried Muenkler (2001) to propose the hypothesis of "privatization of war" and, as a consequence, the return to situations characterized by what von Johannes Kunisch (1973) refers to as "small wars", similar in nature to those fought in the European middle ages with feudal levies and short-term contract mercenaries (*condottieri*) before standing armies emerged.[42] Today, the position of the state as the only legitimate party for conducting war is being nullified by non-state actors such as warlords, guerrilla groups, and criminal organizations, which live on war and, therefore, have no interest in ending war and violence. Muenkler considers the terrorist attacks of September 11, 2001 to have been dramatic manifestations of that trend, the consequences of which may be dire indeed if weapons of mass destruction (WMD) come into play. Unless the international community has the means for appropriate prevention, failing and weak states like the Taliban's Afghanistan will be hijacked by such actors to provide staging grounds for their operations. More worrisome still is that rogue states may not resist the temptation to supply such groups with the know-how and weapons to carry out attacks, or they might even employ these groups covertly, as mercenaries, in the hope of avoiding discovery and retaliation.

In other words, the "design threat" of most of the militaries of the European Allies has made way for asymmetric threats directed at states and their critical infrastructures by globally operating non-state actors and rogue governments. International terrorism and

June 1999 with substance when, under the chairmanship of Chancellor Schroeder, European government leaders specified both organizational measures and a time table to begin making CFSP a political reality.

[41] The "Zentrum fuer Analysen und Studien der Bundeswehr" (ZAS - Center for Studies and Analyses of the Bundeswehr) was commissioned by the German Ministry of Defense in 1999 to analyze what type of military would be required in the 21st Century. It was supported by experts in relevant scientific fields as well as by industry and the military. A publication of the findings will be available from the ZAS by November, 2002.

[42] See also the treatise by Carl von Clausewitz (1984) on the aims a belligerent party adopts, and the resources it employs (pp.585-594).

organized crime are the most immediate of these asymmetric threats, followed by the proliferation of WMD[43] and aggression by rogue states.

The recent war in Kosovo and the operations in Afghanistan against the Taliban and al-Qaeda have demonstrated that the European Allies have little military capability to contribute to Alliance operations of that kind, or to perform effectively CRO including support of coercive diplomacy vis-à-vis rogue states such as Iraq.[44] Bringing about a European military capability to deal with such threats, together with the United States, is of utmost urgency.

Roles for European Forces

The EU's Rapid Reaction Force (ERRF), originally scheduled to become fully operational in 2003, will certainly contribute to such a capability.[45] To be built from the Western European Union's multinational Euro Corps, the ERRF will consist of national force contingents, which the EU members have agreed to contribute. Controlled by a multinational staff, the ERRF is meant to enable the EU to mount major operations in Europe's neighborhood, within 60 days, involving army, air force, and naval forces of up to 60,000 military personnel and for up to one year, in cases when NATO is either unwilling to act or incapable of doing so. The ERRF's mission spectrum comprises the so-called "Petersberg tasks", which range from humanitarian missions such as non-combatant evacuation and disaster relief operations to Peace Support Operations (PSO) including combat operations for peace enforcement.[46]

While the force contingents that NATO members contribute to the ERRF would also be available for NATO operations, the ERRF's mission spectrum does not cover those under the NATO-category "Other Security Interests" (OSI, see footnote 2). But it will be OSI-type missions involving antiterrorist operations such as in Afghanistan, those in defense of economic life lines, preventive offensive operations against WMD arsenals that threaten alliance members, and ballistic missile defense (to name but a few examples) that will

[43] Given new types of actors, the traditional approach to arms control of negotiating international treaties, is of limited value for preventing the proliferation of WMD. There is the additional need for active measures to prevent proliferation and, if prevention fails, to neutralize WMD preemptively or punish their use. It should be emphasized, however, that, in parallel, an international legal framework needs to be developed that legitimizes the use of active measures. Otherwise, the international community could eventually face chaos like in the European middle ages, albeit at significantly higher levels of destruction.

[44] This is why German chancellor Schroeder's repeated election-campaign pronouncements, that Germany will under no circumstances participate in military operations against Iraq, were quite unnecessary, considering the lack of German capacity to do so. However, while helping Schroeder to win the German elections, it obviously did support, at least for a short while, Saddam Hussein's perception that the coercive threat posed by the United States and Britain lacked the support of important allies and, therefore, was not very credible. Thus, if anything, Schroeder's statements have contributed to making war against Iraq more likely and the United Nations less credible.

[45] The decision to establish the ERRF was made at the EU summit in December 1999 in Helsinki.

[46] It is highly unlikely, however, that the 2003 deadline for the formation of the ERRF will be met because of delays caused by political differences on the role of non-EU NATO members in ERRF deployment decisions involving the use of NATO assets. Also, no agreement has been reached on funding the force. At their recent informal meeting on Crete, EU defense ministers decided that military experts would compile a list of the weapon, transportation, and communication systems available from the participating forces by March of 2002 as a basis for discussing ways to fund the procurement of missing systems.

constitute NATO's article 5 missions in the 21st century rather than the traditional defense of NATO territory against invaders.

Dedicated to Petersberg tasks, the ERRF will very likely be ill equipped and trained to take on most OSI missions. Therefore, complementary forces will be needed to cover the OSI mission spectrum. Such forces might include, for example, the European "spearhead force" backed by strategic response forces as proposed by Richard Kugler (2002), or the NATO rapid reaction force (NRRF) proposed by the U.S. administration for responding rapidly to threats and conflicts outside the borders of the Alliance.[47]

In addition to creating a force for joint (U.S.-European) high-tech strike operations within the next two years, the adoption of these proposals would provide a focus that European force modernization efforts have lacked in the past, which unfortunately allowed European governments plagued by budget problems to postpone force modernization programs agreed upon in NATO's Defence Capabilities Initiative (DCI) of 1999. Kugler points out that the formation of such a new European high readiness, high-tech spearhead force would also provide the participating European allies with a "…vanguard for promoting training exercises and experiments with U.S. forces, thus helping the European and American militaries pursue transformation together," (p. 51) and, it should be added, a nucleus for modernization and transformation across all European forces as they are scaled down in size to free funds for modernization, as proposed by the common principle.

The adoption of Kugler's (or the U.S. administration's) proposal appears like a logical step to take for Europeans worried by the prospects of a division of labor as envisaged by François Heisbourg on the one hand and (hopefully) temporary European funding problems on the other. Besides, a two-tier field force structure consisting of ERRF for Petersberg tasks and NRRF for advanced combat operations, may be a highly efficient solution for NATO and the EU to cope with the uncertain and dynamic security environment of the 21st century.[48] In addition, the interoperability and multinational cooperation required in both tiers will help to acquire the experience, and bring about essential military-technical and operational prerequisites for, molding the European militaries into one common European armed force by the time the CFSP becomes a reality.

Summary Judgments for Moving Forward

The results of the analysis presented above illustrate that by coordinated downsizing of their forces in conjunction with structural changes, including the conversion to mostly volunteer forces, the European allies should be able to reduce the transatlantic gap in military capabilities considerably – even if big increases in defense budgets were not to materialize in the near future. In the long term, sustained defense budget levels on the order of 1.8 percent of GDP, or defense expenditure levels at about 2.2 percent GDP, would permit

[47] See *The Washington Post*, Tuesday, September 24, 2002, page A14; and Wednesday, September 25, 2002, page A24.

[48] The reader is referred to Cherry, Huber, and Hodgson (1998) for a cursory comparative analysis of ground force requirements for homogeneous force structures designed for major theater war, and assigned to PSO on an ad hoc basis whenever a demand occurs; versus ground forces consisting of two tiers, one specialized in PSO and the other in major theater war (MTW).

Europeans to eventually match the CRO capability of the United States, not only with regard to quantity but also with regard to quality, provided that they implement organizational change. Such change would aim to increase the efficiency of defense spending to a level comparable to that of the United States. To that end, Europeans should begin to better coordinate defense and armaments planning, procure and operate major items jointly and share assets.[49] Eventually they need to integrate their militaries in one common European armed force.

In order to pave the way for making this vision a reality, Europeans should agree on conversion criteria for the transformation of their militaries, similar to what they have done to qualify for monetary union. These criteria should include lower thresholds for sustained modernization expenditures in relation to GDP and military manpower contributions to standing forces for CRO in relation to population size, irrespective of the countries' personnel structures (all-volunteer or conscription).

At the meeting of EU defense ministers in 1999 in Portugal, France proposed that all EU governments agree to spend 0.7 percent of their GDPs on defense RDT&E and procurement.[50] Our calculations have shown that this would be sufficient to allow all European militaries to eventually reach the lower end of modernization category A, provided they reduce their combined peacetime military manpower levels to about 1.5 million and adapt military and defense industrial structures in order to improve the efficiency of defense spending to a level comparable to that of the United States.

With a view to immediate threats and requirements, European modernization efforts should be focused on the European rapid reaction force for addressing Petersberg tasks, possibly outside the NATO framework, and on creating a NATO rapid reaction force for, among others, high-tech strike operations against terrorist organizations and networks, their infrastructure and weapons of mass destruction, and for protection of the economic lifelines of the alliance. In addition, high priority must be given to measures and systems for the protection of critical military and economic infrastructures from asymmetric threats and missile attacks.

However, unless the project of developing a European Common Foreign and Security Policy is completed successfully and a European authority for its execution established, multinational cooperation and division of labor will necessarily remain limited, to say nothing of an integration of European forces, because of the uncertainty associated with the decisions of national governments regarding the employment of military forces.

---

[49] The AWACS program is a highly successful example for the joint procurement and operation of a major item. Air transport and refueling systems might be operated on a similar basis. Sharing training facilities and common logistics for weapon systems saves overhead cost.

[50] Considering their collective GDP, the European NATO allies fell 30 percent short of this threshold in 2000. Together they spent a mere $38.5 billion in that year on defense, rather than 55 billion as envisaged by France, whose RDT&E and procurement spending in 2000 was about 10 percent below the mark of 0.7 percent of GDP, that of Germany was 0.64 percent, however. The increase in military capital spending planned by the new French government of President Chirac for the period 2003-2008 would be close to 1 percent of GDP. (See also footnote 18).

References

Biddle, S. (1996): Explaining the Loss-Exchange Ratio in the Gulf War. In H. W. Hofmann and H. Schelle (Eds.): *33 Jahre militaerische Systemanalyse* , Neubiberg 1996, Universitaet der Bundeswehr Muenchen, pp. 53-69.

Cherry, W.P., Huber, R.K. and T.J. Hodgson (1998): Ground Force Requirements for Post-Cold War Operations: A Systems Analysis Approach. In: A .E. R. Woodcock and D. F. Davis (Eds.) *Analysis for and the Resolution of Conflict*. Cornwallis Park, Nova Scotia: The Canadian Peacekeeping Press.

Clausewitz, C. von (1984): *On War*, Book Eight, Chapter Three. Indexed Edition edited and translated by Michael Howard and Peter Paret. Princeton University Press.

Frisch, T. (2002): Europaeische Verteidigungspolitik – quo vadis? *Europaeische Sicherheit 2*, pp. 7-11.

Froehling, H.-G. (2002): Europaeische Streitkraefte und Innere Fuehrung. *Europaeische Sicherheit 9*, pp. 24-28.

Hamid, S. (1999): Force Planning under Uncertainty: The "Project Insight" of the United Kingdom. In: R. K. Huber and H. W. Hofmann: *Defense Analysis for the 21st Century: Issues, Approaches, Models*. Baden-Baden: Nomos, pp. 108-138.

Heisbourg, F. (2001): *Hyperterrorisme: La Nouvelle Guerre*. Paris: Jacob Odile.

Herbst, H (1977): Integrierte Zeit-, Kosten- und Leistungsplanung in der Flugzeugentwicklung. In: R. K. Huber, H. Schelle and H. W. Hofmann (eds.): *Waffensystemplanung*. Muenchen-Wien: Oldenbourg Verlag, pp. 355-376.

Huber, R.K. (1998).: Umfangsreduzierungen der Bundeswehr zum Abbau des Investitionsdefizits: Konsequenzen für die Wehrstruktur am Beispiel des Heeres. *Europaeische Sicherheit 10*, pp. 43-47.

Huber, R.K. (2002): Standards und Konvergenzkriterien für die Weiterentwicklung der europaeischen Streitkräfte. *Europaeische Sicherheit 4*, pp. 45-50.

Huber, R.K. and G. Friedrich (1997): A Zero-Cost Option for NATO Enlargement: Arguments for a Comprehensive Approach. *The Potomac Papers* (August). McLean, Virginia: The Potomac Foundation.

Huber, R.K. and B Schmidt (2000): The Challenge for Defense Reform in Europe - Conclusions from an Analysis of Defense Budgetary and Structural Constraints on European NATO Forces. *The Potomac Papers* (May). McLean, Virginia: The Potomac Foundation.

Kugler, R. (2002): National Security in a Globalizing World of Chaos: The United States and European Responses. In: P. van Ham and R. Kugler (Eds.): *Western Unity and the Transatlantic Security Challenge*. The Marshall Center Papers, No. 4, pp.39-53.

Kunisch, J. (1973): Der Kleine Krieg: Studien zum Heerwesen des Absolutismus. *Frankfurter Historische Abhandlungen*. Wiesbaden: Steiner.

Muenkler, H. (2002): Die brutale Logik des Terrors: Wenn Doerfer und Hochhaeuser zu Schauplaetzen von Massakern werden – Die Privatisierung des Krieges in der Moderne. *SZ am Wochenende*, Nr. 225, 29./30 September, p. 1.

Tsygichko, V. and F. Stoeckli (1996): Combat Potential and Operational Planning – Past and Present. In: Reiner K. Huber and Rudolf Avenhaus (eds.): *Models for Security Policy in the Post-Cold War Era*. Baden-Baden: Nomos, pp.99-106.

Enlargement and the Capabilities Gap

Robert Mroziewicz

I. The Effects of NATO Enlargement

Political and Regional Impact

The turning point in the NATO enlargement process came with the decision, taken by the Clinton administration in autumn 1996 and endorsed by the Allies at the Madrid summit in July 1997, to invite Poland, the Czech Republic and Hungary to start accession talks. The door was left open for the eventual admission of other candidates. In March 1999 these three countries were admitted into the Alliance. The enlargement of NATO strengthened U.S. leadership in the Alliance and consolidated its position as the chief "playmaker" in the Eurasian area. This is because the entry of the three Central European countries swelled the ranks of the stoutly pro-American wing in NATO. By taking Poland, the Czech Republic and Hungary into NATO, the United States ended the security limbo in Central Europe and effectively eliminated the risk of a resurgence of Russo-German contention for influence in the region.

The admission of new members to NATO had a pronounced effect on the balance of power in U.S.-Russian relations and on Russia's position in European politics. Moscow's veto proved of no avail in blocking NATO plans, confirming that it was by far the weaker partner in relations with Washington. The eastward shift in the Alliance's frontiers increased its appeal and augmented the United States' freedom of action in Central and Eastern Europe.

The New Strategic Concept

The first wave of NATO enlargement is even more important in the light of NATO's New Strategic Concept, approved at the Washington, DC summit in April 1999. The New Strategic Concept listed terrorism alongside other threats, such as organized crime or the uncontrolled migration of large numbers of people – and all of that was put in the context of Article 4 of the Washington Treaty. Thus, the invocation of Article 5 in response to a terrorist attack may indicate that major acts of terrorism will permanently qualify within the scope of that provision, simply because it will be extremely hard to call a definitive end to the present war on terrorism and repeal the invocation of Article 5.

The Importance of Article 5

But it should also be remembered that Article 5, in addition to its political and military significance, has always reflected the psychological bond between all Allies, as manifest in the "all for one, one for all" principle. For NATO's European Allies, the principle of collective defense does not solely serve as a guarantee in case of security threats or as a guarantor of the durability of transatlantic links, but it also provides for the possibility of influencing the United States' global policy and of preserving political equilibrium within NATO. It is also the cornerstone of the Members' defense policies, as joint defense planning underlies joint

action against common threats. As threats become decreasingly common and military capability problems increasingly hinder joint operations (so that they now have been reduced to, simply, a common political line), the common defense policy forestalls any trends to re-nationalize defense policies and is therefore the last robust pillar of the Alliance.

A re-nationalization of defense and security policies in Europe or, broadly, in the Euro-Atlantic area, would manifest itself, on one hand, in the loss of the capacity to team up with the United States in conducting large-scale military operations, and, on the other hand, in the expansion of military muscle solely from the perspective of security threats to one or only a few Allies. In other words, states that feel safe from military threats would fail to reform effectively their armed forces. In turn, states exposed to such threats or wary of their neighbors would aim to acquire military capabilities that respond to their own national, rather than Allied, expectations.

Hence, the abandonment of Article 5 may trigger a political erosion of the coherence of the Alliance, which, after September 11th and given NATO's pending enlargement, should not be called into question: it may engender a re-nationalization of defense policies and thereby spell an end to NATO as a defense pact with a common military structure. The Prime Minister of Canada, Jean Chrétien, signaled the risk of such a scenario when he declared that the Canadian units deployed to Afghanistan (under Article 5 operations) would be pulled back if embroiled in armed combat.

Article 5, with its intrinsic collective defense function, is thus of key importance to the survival of NATO as an effective political entity.

Combating Terrorism

Although terrorist threats have long been acknowledged by NATO (as the Strategic Concept adopted at the Washington D.C. Summit bears out) the Allies – and hence the Alliance – are not prepared to repel a terrorist attack or to crush terrorist networks; neither do they command, except for the United States, adequate military capabilities to launch expeditionary missions, such as the current one in Afghanistan. The first cause of this deficiency is the deepening technological gap, not only between the United States and the other Allies, but also between and among the European Allies themselves.

II. The Roots of the Transatlantic Capability Gap

There already is open talk of the risk of allied military capabilities diverging permanently with, on the one side, the United States armed with next generation technologies, and, on the other side, the rest of the Allies, who in fact cannot achieve theatre interoperability with the United States. The rift will widen after the admission of new states to NATO, leading to a third or even fourth category of allied members.

Differences in Defense Spending

The second cause of deficient allied capability is the widening gap in defense spending between America and Europe, as well as between and among the European states

themselves, which is largely (but not solely) attributable to budgetary constraints, foot-dragging on armed forces reform and the fragmentation of the European defense industry.

The Atlantic Alliance is not composed solely of military and economic powerhouses; it also includes countries with limited resources, of which one is Poland. The position of these latter countries in the Alliance might be gauged by two standards of "investment" in defense: their relative defense spending compared to that of other NATO members and their financial contributions to the organization itself.

Defense Spending

Measured as a percentage of GDP, Poland's defense expenditures compare favorably to those of its allies. In 2000 defense appropriations came to approximately 1.99 percent of GDP, which is just below the average for the European part of NATO and which puts Poland in eighth place on that scale for the Alliance as a whole. Hungary's index was 1.68 percent, and the Czech Republic's 2.3 percent; the top two rungs belonged to Greece (4.87 percent) and Turkey (4.52 percent). It is also worth mentioning the figures for the United States (2.93 percent), France (2.7 percent) and for the United Kingdom (2.45 percent).

Though proportionately Poland spends more than Germany's 1.5 percent of GDP, it comes off much worse (at 12th place) in terms of absolute defense expenditures. These come to around $3.2 billion per year, which is almost as much as in Belgium ($3.23 billion) and Norway ($2.91 billion) but more than in the Czech Republic ($1.11 billion), Denmark ($2.42 billion), Hungary ($0.78 billion) and Portugal ($2.2 billion). Poland's annual defense expenditures are slightly lower than those of Spain ($7.08 billion), Greece ($5.2 billion) and the Netherlands ($5.99 billion); they are significantly lower than those of Italy ($20.66 billion), Germany ($28.36 billion), the United Kingdom ($35.16 billion), and France ($40 billion). The United States spends approximately $296.37 billion a year, in other words much more than all the other Alliance members combined.

Poland occupies a lowly position (14th) in respect to outlays for modernization, i.e. procurement of weapons and equipment. The share of appropriations for this purpose in its defense budget comes to about 11 percent. The biggest spender on modernization in NATO is Turkey (34 percent), next comes the United Kingdom (27 percent) and the United States (23 percent). The Czechs earmark close to 22 percent of their defense budget for modernization.

Poland occupies an even lower position in terms of defense spending per capita. In 2000 it came to $85 per statistical Pole, which puts it at the bottom of the Alliance. The Hungarians spent $91 per capita, the Czechs $120 and the Turks $135. In the United States the annual bill is $968 per capita, while in Europe the biggest spenders are the Norwegians ($809) and the French ($785).

Direct Financial Contributions to NATO

All member countries contribute to financing NATO's civil budget according to the same principles, with the difference accounted for by the distribution of financial burdens borne by each member state. The cost-sharing of the civil budget is illustrated in the table below.

The biggest share – amounting to nearly a quarter of NATO's total civil budget – comes from the United States. At the same time, if the contributions paid by the United States, France, Germany and the United Kingdom are added up, it will be found that these four countries (out of 19 in total) put up an amount representing over 70 percent of the total budget. Among the newest NATO members, Poland pays 2.48 percent of the civil budget, Hungary 0.65 percent, and the Czech Republic 0.9 percent, which add up to a total of 4.03 percent.

Percent Paid of NATO's Civil Budget

Country	%
Belgium	2.76
Canada	5.35
Czech Republic	0.9
Denmark	1.47
France	15.35
Germany	15.54
Greece	0.38
Hungary	0.65
Iceland	0.05
Italy	5.75
Luxembourg	0.08
Netherlands	2.75
Norway	1.11
Poland	2.48
Portugal	0.63
Spain	3.50
Turkey	1.59
United Kingdom	17.25
United States	22.41

Poland's contribution to infrastructure financing amounts to 2.48 percent of the agreed appropriation in cases where the burden is distributed among all 19 member states. If the number of countries participating in a project is smaller (excluding France), the Polish contribution rises to 2.8474 percent. Poland occupies the twelfth place among the Nineteen in terms of the size of its contribution to financing common Alliance infrastructure.

Considering the budgetary problems of the Baltic countries, Slovakia and Slovenia, the above figures will remain almost unchanged after the accession of these countries to NATO. Even with the further addition of Romania and Bulgaria, this data will change only slightly.

Threat Perceptions

The root causes of the capability gap are far more serious than those revealed by differences in defense spending. First among them is the belief that, official rhetoric notwithstanding, fewer and fewer threats to international security qualify as threats equally common to all NATO member-states, or to the United States and Europe. The argument behind this belief is that although the terrorist threat is common to many of the Allies, only the United States is facing it on a large scale (State Terrorism), which is a form of warfare. Of NATO's European members, only the United Kingdom, in view of its close involvement with the United States in the Middle East (Iraq), is a likely target of possible terrorist retaliation by enemies of the United States and her allies.

This difference of views on what constitutes a security threat has led to differences of approach to security policies, including that with regard to the role of armed forces. One example is the ballistic missile defense system (BMD) designed to protect the United States from attack by so-called "states of concern"; another could be the creation by the European Union of its own rapid reaction force for crisis management in its immediate neighborhood. One also witnesses the effect of NATO members' different strategic cultures in the powerful impact these exert on armed forces reforms and on realignments against new threats. While such countries as the United States and the United Kingdom (for geopolitical reasons), and France (for historical reasons), have always had armies of an expeditionary type, others, like Germany and Poland, possess, for those same reasons, heavy ground armies that they find very hard to reform.

III. The Transatlantic Gap and the Future of Joint Military Operations

Given differences among the Allies in the perception of threats and among their military capabilities, decisions on joint military operations are extremely hard to come by. And, even when decisions are made, differences in operational strategies often get in its way. On the one hand, the United States employs its technological superiority for precision air strikes to reduce collateral damage and human losses. On the other hand, the European Allies rely more on human assets, because they lag behind in arms technology and have developed different military traditions. Such differences surfaced over the option of a ground operation in Kosovo, which Prime Minister Tony Blair did not rule out, and which Bill Clinton long resisted.

Coalitions of the Willing and Able

Thus it appears that NATO as a monolith is not likely to be an effective instrument for Afghan-style operations, because the Allies will not be able to agree on a mission profile and mode. And even when the Allies are able to reach consensus, differences in armaments and the resulting differences in preferred modes of operation are so extensive as to preclude the full interoperability of all NATO members. Secondly, the United States – given its technological edge and huge national capabilities – will not eagerly make its conduct contingent upon the participation or input of its Allies. Hence, "coalitions of the willing and able", forming on a case-by-case basis, is the most likely scenario for the future.

The pertinent question is, then, what impact those "coalitions of the willing and able" will have on NATO's political cohesion. Will this lead to an Allied hard core of states with leading capabilities and political clout, which – like a quasi Security Council – will dominate the Allied decision-making process?

Political Cohesion Threatened

It appears therefore that in respect to military capabilities and to the question of political cohesion, the Alliance is slowly reaching a critical mass. Exceeding it may push the Allies toward a trade-off situation, in which a choice will be necessary between NATO's political and military effectiveness, on the one hand, and NATO members' equal political rights on the other. NATO may find itself in a predicament similar to that of the European Union and thus be compelled to seek a decision-making mechanism that is more viable than the rule of consensus.

This dilemma is coming to a head, following the trends that were observable before September 11th, but which became very pronounced afterwards. They are in part analogous to the processes needed when the rationale behind *ad hoc* coalitions for military operations had to be debated. The key fact is that even though such coalitions are of an *ad hoc* nature, they will likely consist of a certain steady constellation of major allies: the United States, the United Kingdom, France and Germany. These states generally bear the heaviest military burden and responsibility for a given operation and so they will certainly demand to have a bigger influence on the way NATO functions.

Such a prospect – either in the short- or longer-term – depending on international policy dynamics and the Allies' ability to respond to those dynamics, invites consideration of the following scenarios:

- The European Allies, both new and old, will vastly increase their defense expenditures, which will, to a large extent, bridge the gap between them and the United States. This could provide the basis for new rules in the Alliance, which would allow for some differences in security perceptions, but which would also guarantee political cohesion. This would be borne out by genuine consensus and joint decisions on when and where to involve all member states, as well as joint decisions on when and where to involve only a circle of states. Those involved would, however, continuously consult the non-participating Allies regarding their actions.

- Alternatively, the gap and the concomitant reluctance or incapability to undertake joint operations will worsen, but the Alliance will effectively transform itself to retain its political role in Europe. A change of its organizational rules will be the necessary response, for instance by institutionally sanctioning differences in opinion and action among the NATO members. In time of crisis, those Allies with particular political clout and military capability would acquire the right to decide on Allied actions, effectively restricting the others' right of veto in non-Article 5 operations. Another possibility is to follow the EU pattern in CFSP and apply widely the rule of "constructive abstention from the vote", of which NATO has so far made only limited use, and then only for less

important matters (the so-called "procedure of silence"). Thus, the Alliance would become a forum for Euro-Atlantic cooperation and consultation on global security issues, but joint military operations would be limited to Article 5 defense of NATO's territory and Members. All "out-of-Treaty" operations would rest on coalitions of "the willing and able", which could decide between the use of NATO's military structures or national command structures.

One must not forget, however, that, next to a coalition of "the willing and able", a separate coalition of "the willing but unable" may exist. The political support of the latter at a certain stage of operations may prove to be at least as important as the military capabilities of the former. One must also consider that the issue of capabilities might often be relative in the sense that not every state that fails to achieve interoperability with the United States will be thus incapable of any and all action. After all, not every conflict that may engage NATO will necessitate the use of sophisticated military capabilities and tactics such as those employed in Afghanistan. Hence, the failure to pay adequate attention to the consequences of an emerging coalition of "the willing, but (in a given case) unable" may additionally sap Allied cohesion. It may even, in a future crisis requiring armed response, beget a third coalition of "the unwilling, but able".

No doubt, NATO's political cohesion and military fitness are extremely important for Poland (and, indeed, for the other new members) as they determine the character of Euro-Atlantic ties and hence the sense of security within Poland. On the other hand, Polish policy can have only a limited and issue-conditioned bearing on the political processes unfolding within the Alliance, not simply because Poland's political clout is smaller than that of the biggest European Allies, but also because the basic course of NATO's evolution depends on the position adopted by the United States. This does not mean, however, that the Alliance's future will be decided without Poland's participation. But it *does* imply giving correct answers to the questions that have emerged in the debates about NATO after September 11th.

IV. The Danger of Re-Nationalization of Allied Defense Policies

What may in fact pose a problem, however, is the already-mentioned growing re-nationalization of Allied states' defense policies. As a result of such a development, potential security threats to Poland, or to other individual Allies, will in fact no longer be treated as common to all Allies – if the Alliance even commands sufficient capabilities with which to forestall them.

Possible Responses

To avert such a scenario, Poland will have to do two things:

Firstly, Poland (as well as other members) needs to consistently and continually reform its armed forces to acquire the capabilities necessary to effectively assist its Allies, especially in out-of-area operations. The degree of Poland's involvement in NATO operations is a stronger political and military guarantee of Poland's security than are the provisions of the Washington Treaty, including Article 5. In other words, the scale and timing of the Allied

response to Poland's call might well prove a function of the scale and timing of future responses by the Polish Armed Forces to Allied calls for support.

A second way in which one might erect a barrier to the re-nationalization of Allied defense policies might center on Poland's involvement in multinational projects in the armament sector and around the integration of command structures or military units. (For example: it would be of benefit, if, as part of the reform of Allied command structures, Poland got consent to host one of the local commands for aerial operations.)

The first proposition would require a precise identification of those areas of Allied capability improvement where Poland can play an essential role. A relevant catalogue of Allied weaknesses is to be found in the Defense Capability Initiative adopted at the Washington D.C. Summit and as part of the complementary EU Headline Goals adopted in Helsinki. Cooperation in this area will inevitably lead to an increased technological, economic, and hence also political interdependence.

In turn, armed forces integration processes and the establishment of joint units and/or commands not only enables a more efficient resource allocation, but also – from a longer-term perspective – it is the best guarantee of joint thinking in regard to security and of joint action against emerging threats, because it will minimize room for solo action and for a failure to act on the part of any one of the European Allies.

Tough Decisions

However, to induce such an outcome, Poland will need to make a few fundamental decisions, above all regarding the creation of professional rapid reaction units or even on abolishing conscription in favor of an entirely professional army. Such decisions will largely determine the ability of Poland's Armed Forces to join in long-term cooperation programs with the Armed Forces of the key regional partners of Poland that already rely on professional militaries or are well on the way to achieving this objective.

Once implemented, these policies should help ensure enduring security for Poland while also preventing the political sidelining of Poland within NATO. The level of risk of Poland lingering away from the mainstream of Alliance policy is directly related to both its objective military weaknesses and to the tendencies discussed earlier that have surfaced in NATO after September 11th – tendencies that will become even more pertinent following the admission of more new states into the Alliance.

V. NATO and Regional Politics

Poland's membership in NATO carries a strong political dimension, which exists alongside its obvious security implications. Significant in this regard is Poland's role in Euro-Atlantic relations; on a larger scale, Poland's membership in NATO also bears on its room for action in international politics. Poland's most important objective is therefore to become a state with which the core Allies *de facto* consult on their intentions, whether in the forum of the Alliance or, prospectively, the EU, or possibly even anywhere outside of that forum, when one

or more Allies launch actions on their own. The tacit objective here is to avoid a situation where improved relations and strengthened collaboration with Russia – which is also dictated by Poland's interests – would imply surrendering to Russia exclusive responsibility in any area east of NATO's borders. Still, irrespective of the shape of the new collaborative formula in the NATO-Russia Council, involving Russia should not rely exclusively on the tacit consent of NATO's biggest Allies without prior consultations with other Members, including Poland.

The Imperative of Double (NATO-EU) Membership

Without all European partners being members of both the EU and NATO, effective cooperation between these organizations is unlikely to develop in the long term. Consequently, non-membership of any EU or NATO country in the other institution will have a negative impact on the future of European security and also on Euro-Atlantic relations.

Membership in both the EU and NATO for all European partners will put an end to what may justly be called political schizophrenia. In discussions between the two organizations, representatives of the same country may often find themselves on both sides of the table and obliged to present divergent views of and solutions for particular issues (depending on whether they represent their country to NATO or to the EU in the negotiations). This situation makes already difficult talks, concerning for instance access of the EU to the capabilities and resources of NATO, unnecessarily complex. Double membership of European countries in both the EU and NATO will certainly help Europeans to develop a common position, even if it offers no instant remedy to all difficulties.

EU and NATO membership of European countries will also help to make discussions on security more rational, which in turn will make European defense spending more rational. EU member states would be making a mistake were they to develop separate military capabilities for EU needs and for NATO. This may well happen if the two organizations continue to have different membership. Duplicating military capabilities would be both a financial and a political mistake, as it would heighten tensions between the EU and NATO. Even now units assigned by European NATO members to the nascent European Rapid Reaction Force are also available to NATO. This is a desirable state of affairs and will become natural as the memberships of the EU and NATO converge.

Double membership should also help to develop a strong European pillar for the North Atlantic community, which is one of the main conditions of good relations between Europe and the United States. NATO membership of all EU member states will not subordinate the Common European Security and Defense Policy (CESDP) to NATO; conversely, it will amplify Europe's voice within NATO, which will become a prime forum to discuss security issues between the EU and the United States.

Moreover, double membership will open the way to co-operation in the armaments industry throughout the North Atlantic region. The future of the industry is not that of consolidations in Europe and North America respectively, but rather of consolidation giving

birth to multinational corporations with roots on both sides of the Atlantic. The merger of Daimler with Chrysler is a good example from another sector, and it demonstrates that future mergers of European and U.S. arms producers need not imply domination of the former by the latter.

It is important to remember that the convergence of NATO and EU membership will not solve all problems. Yet it will certainly help calm tensions among European countries, as well as tensions between the EU and the United States.

Paradoxically, Central and Eastern European countries seem to pose fewer problems in regard to such double membership than do some Western European countries. All ten EU accession countries from Central and Eastern Europe are NATO members or candidates. Eight of them (the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia) stand a chance of EU membership beginning in 2004. Only Romania and Bulgaria will stay outside the EU for longer; yet, just as was the case with Estonia, Latvia, Lithuania, Slovakia and Slovenia, these two are very likely to be invited to join NATO at its Prague summit in November 2002. In the middle of the decade, eight Central and Eastern European countries will therefore achieve double membership. The two other countries, Romania and Bulgaria, will be NATO members and will have a chance of EU membership in around 2010.

Transnational Cooperation

One of the fundamental qualities of modem security is that there is seldom a clear dividing line between the internal and external security of a state. As a consequence, many different national institutions (the police, the army, the immigration service etc.) need to cooperate and to set up specialized services such as a gendarmerie, a hit force or chemical and biological defense units. On the other hand, with such a broad approach to security and the need to be constantly alert in order to react to new developments, the state may be overburdened with both financial and administrative responsibilities. In other words, the only effective, if imperfect and slow process that can ensure the security of the individual state is international cooperation, whereby each country has a specialized responsibility to contribute to greater European security.

Given the foregoing, it is unjustifiable to insist on a model of, for instance, heavy territorial forces based on universal conscription. This would also serve to preserve the divide between and among the Allies. Reluctance to increase military budgets has the same effect. Certainly, Alliance solidarity does not mean that all countries need to have significant military capabilities, but that each must try to come up with ways to contribute added value to the capabilities of NATO as a whole. It follows that, in the future, EU countries with limited potential, both in Western and Eastern Europe, which are thus unable to develop significant national capabilities, will have to get involved in international projects and find their specialization there. Even such European powers as the United Kingdom, France, or Germany are not now, nor will they ever be, able to develop independent capabilities to respond to all possible conflict scenarios.

Specialization is also an approach meant to ensure solidarity among European partners in the future, especially given that the EU will likely always have a hard core of countries with relatively large military potential (the United Kingdom, France and Germany). There is a risk that these countries might take action on their own, ignoring the opinions of other EU member states in the case of threat. This would be the end of an effective Common Foreign and Security Policy (CFSP). Consequently, it is indeed desirable that stronger members refrain from developing some of the military capabilities in which the weaker members specialize, if mutually agreed by all EU or NATO members. Importantly, countries with a weaker military position may also provide a significant contribution to soft security, e.g., Poland, Lithuania, and Slovakia will be responsible for the common Eastern border of the EU.

Towards a European Army

In this context, Europe should initiate a process to replace several national armies with pan-European military capabilities and, in the longer term, a European army as a pillar of the North Atlantic Treaty. National armies were formed to protect countries from their immediate neighbors. Today, EU and NATO member states face no risk of conflict with those neighbors who are members of their same political or security "club". There is also now no risk of aggression on the part of European countries which remain outside the enlarged EU and NATO. It is thus anachronistic to cling to national armies in today's Europe.

The formation of a European army, alongside European border guards for the protection of joint borders, should be the ultimate aim of European integration in the area of the Common Security and Defense Policy. Creating a European army is the only way to prevent the re-nationalization of security policies in Europe whereby some countries would concentrate heavily on threats to their own security while practically ignoring those common to all partners. It is also the only way to preserve and to reinforce political coherence both in NATO and the EU.

The formation of such an army would probably not imply the existence of European soldiers falling outside national jurisdiction, but rather the creation of a common European command, inside of which individual countries develop their specializations. This would, however, require that all countries follow the same general direction in developing their military forces, e.g. by abolishing or restricting universal conscription in order to form fully professional armies across NATO Europe. Although the concept of a European army is strictly political and cannot be successfully implemented in the long-term unless the political integration of European security policy advances, this innovation might well prove an important way to stop the drifting apart of the European and North American security orientations.

Specialization

As European societies are visibly tired of European integration while politicians are not ready to deepen the process, this concept should be put into practice on a step-by-step basis,

by using opportunities to combine capabilities (e.g. common strategic transportation) or to divide them functionally (specialization). Specialization should not be understood to imply concentration on a narrow area, i.e. developing a single kind of military force or a single component thereof. Each NATO member has a specific geographic location, history, and military tradition. Specialization is thus a matter of emphasis, of setting several (rather than several dozen) priorities for each country, which would allow each to contribute an added value to the capabilities of either NATO or the EU. Today, added value consists not in quantitative potential (headcount, hardware) but in qualitative potential, i.e. the ability to deploy resources (transportation, logistics) and/or to use them more effectively (precise munitions, refueling systems). Most importantly, all these measures should enhance the common potential of the European pillar rather than simply that of individual states.

Specialization starts with regional or international cooperation, enabling more rational deployment of resources and the avoidance of an overlap of existing capacities. Although this issue typically appears in the context of the CESDP discussion between the EU and NATO, or between European countries and the United States, it is an exclusively European issue, as demonstrated by the development of a joint Czech-Polish-Slovak brigade, joint international battalions, and the planned formation of a European strategic transportation command unit. Such cooperation has far-reaching political ramifications as it offers each and every country the opportunity to participate in solving the problems of international security.

VI. NATO in Central and Eastern Europe

Support for U.S. Activism

The perception of threats is still a divisive element among those European countries, which, in the future, will be part of both the enlarged EU and NATO. More eager than some Western European countries to be good allies of the United States, Central and Eastern European countries generally consent to the United States' exceptional approach to world-wide security. They accept the use of force as a tool to defend one's interests, even if international law does not provide explicit grounds for such action. Hence, among other reasons, the determination of many Central and Eastern European countries to become members of NATO has been based on their conviction that U.S. leadership is the only way to protect their sovereignty.

Distrust of Russia

With their experience of being close neighbors of Russia and of languishing in Russia's "sphere of influence" for many decades, these countries are very cautious about plans for the broad opening of Euro-Atlantic institutions to Russia. Unlike some European capitals, as well as Washington whose position has visibly changed in the wake of September 11th, Central and Eastern European countries tend to make their support for Russia's efforts to establish closer relations with NATO and the EU contingent on real changes in Russia's policy rather than on merely declared changes. In other words, these countries are much less willing to give Russia political credit.

As a result of these two factors (support for U.S. activism and distrust of Russia), Central and Eastern European countries tend to view NATO as a U.S. tool for protecting its European partners against military aggression from third party countries, mainly Russia. This view is, however, far removed from reality. In fact, the newest members have come to NATO with perceptions that often differ from the actual evolution of the organization, as well as interests that may contradict those of NATO's older members. The reaction of Central and Eastern European countries to the ongoing politicization of NATO and to its ever-closer cooperation with Russia may give rise to serious trouble in the organization and undermine its position. The same may affect the EU. To ensure that this does not happen, all members of both organizations, including their existing and future members, need to carefully manage their own doubts and those of their partners. The countries of Central and Eastern Europe must realize that there is more to NATO membership than being a partner of the United States. The organization can only work if it is seen as being of value in its own right; its survival should be prioritized over the desires of some to develop relations with one or several new partners.

Equality within Europe

With their greater political experience and, usually, greater capacity for action, the Western European Allies must make sure that new members feel they are being treated equally. This is a question of assuring consultation with, and representation of, the Alliance's weaker members, even if their objective military limitations would exclude a country or a group of countries from playing an important role in a given situation. Central and Eastern European countries, as well as the smaller countries of Western Europe must be able to participate actively in shaping the plans and actions of Europe's largest players.

Author's Acknowledgements

In this paper I took into consideration discussions during the Warsaw Center for International Relations conferences on the subject of "NATO and New Security Challenges" (26-27 April 2002) and "Poland, NATO and New Members" (17 January 2002); as well as G. Gromadzki, O. Osica "An Overview of European Security", Stefan Batory Foundation report, Warsaw, June 2002; J. Onyszkiewicz, O. Osica "Towards a New NATO", Center for International Relations report, March 2002; A. Biegaj "The United States and the Common European Security and Defense Policy", the Polish Quarterly of International Affairs (PQIA) vol. 10 no. 1; S. Parzymies "The European Perspective of Transatlantic Relations", PQIA as above; A. Fałkowski "NATO Finances", PQIA, vol. 10 no. 4.

The Role of Europe's Defense Industrial Base in NATO Transformation

Pierre A. Chao

It is fair to say that the role of the transatlantic defense industrial base is often overlooked in policy debates over NATO's "strategic" issues. Yet, there is perhaps no more enduring representation of the transatlantic relationship than the day-to-day interaction between the U.S. and European defense industries. The claim can be made that the ebbs and flows in these links provide a better sense of the true strength of the Alliance than most grand speeches or pronouncements. The recent focus on the "revolution in military affairs/ transformation" has generated the opportunity to once again re-examine (and for some to question) the health of the transatlantic defense industrial relationship. As is always the case, there are areas of strength and areas of concern.

I. A Technology Gap?

It has become fashionable to point to a military technology gap as one discusses the transformation of NATO forces to lighter, more mobile and more lethal out-of-area forces. There are those who would affirm that the United States has an unassailable technological lead in weapon systems and state that Europe has little to offer. A corollary to these views is the pronouncement that, as a result, the U.S. defense industry has no need to ally itself with European corporations.

The retort by Andrew James and others is that the problem is not a technology gap but a funding gap and an operational capability gap. This view is supported by a study conducted by Paul Kaminski, former Undersecretary of Defense for Acquisition, which concluded there was no large technology gap between the United States and Europe, but rather a problem of scale and of funding focus. One can certainly not claim that Europe's scientists are dumber than those of the United States. Europe is developing unmanned aerial vehicle; uninhabited combat vehicle; cruise missile; precision strike; command, control, communications and other technologies. Europe's challenge is that much of the technology is only in the developmental stage and Europe's smaller procurement budgets limit its ability to turn technology into products.

The dilemma for Europe is how to solve the problem of the gap. The concept of catching up is politically infeasible in today's environment. Europe remains intensely focused on its grandest experiment – the integration of Europe into the European Union. The economic costs of integration, combined with a focus on social issues and a European public that does not see itself at war, makes substantial increases in defense spending difficult to implement. Buying all military equipment off the shelf from the United States is also politically infeasible for the larger countries of Europe (the United Kingdom, France, Germany and Italy). It is fairly axiomatic that taxpayers demand a certain *quid pro quo* in the form of jobs or other

benefits in return for their euros being spent (the same could be said of U.S. taxpayers and their dollars).

The solution may be for European industry to focus on particular niches or high value added technologies that can be contributed to the Alliance. Although, once again, the question is raised whether there will be any money left to invest in new technologies after Europe covers the costs of existing legacy systems. Andrew James raises another intriguing solution – Europe could focus on developing militaries based on less technology-dependent doctrines that could be contributed into the NATO capabilities kit.

II. Current State of Transatlantic Industrial Cooperation

A second set of concerns has developed over the fear that the "steam has gone out of transatlantic cooperation". Proponents of this view point to the lack of large mergers between transatlantic primes, the apparent lack of interest in cooperation on the part of U.S. defense companies (now that U.S. defense spending is on the rise), and the structural differences between U.S. and European industry. The claim is that U.S. companies are shareholder-focused while European companies have mixed interests. The U.S. companies have a dominant position, while the European companies desire transatlantic relationships without being dependent on the United States. They point to the limited buying of European equipment by the U.S. Department of Defense.

It may be that the critics are defining progress in the transatlantic relationship in the wrong way. It is not entirely clear that mega-mergers between the major primes on both sides of the Atlantic are politically feasible (or even desirable from a policy standpoint). In fact, a lot of management theory would note that it is far more likely that a second or third tier firm, looking to improve its strategic position, would be willing to enter into a transatlantic merger. Furthermore, contrary to public perception, there appears to be quite a bit of joint venture and partnership dialogue and activity underway within the industry. Recent examples include the Raytheon-Thales joint venture, the Northrop Grumman-EADS discussions, the Joint Strike Fighter agreements and the discussions over missile defense technology.

It has also been stunning to see how much the European industry has changed in terms of ownership and operating philosophy. The listings of Saab Aerospace, EADS, Finmeccanica (and the upcoming listing of SNECMA) have instilled far more of a shareholder culture within Europe – narrowing the philosophical differences with U.S. industry. Is the U.S. industry somewhat distracted and internally focused with the ramp-up of U.S. defense spending? Certainly, but not as much as the critics would fret. The steam may have gone out of transatlantic rhetoric, but the underlying activity appears intact – and for good reasons.

III. The Case for Transatlantic Industrial Cooperation

The fundamental case for a strong transatlantic defense industrial alliance is simple (and should be articulated once again):

The Technological Argument

Technology is a key competitive advantage of the U.S. and European militaries; therefore, sustaining a technological lead over adversaries remains critical. However, one of the enduring elements of technology innovation is that it can originate anywhere. U.S. industry cannot afford to isolate itself from Europe simply because the United States does not possess a monopoly on ingenuity. History proves this point – the jet engine was invented by an Englishman, the rocket made its greatest initial advances in Germany, the helicopter came from a Russian émigré and some of the world's leading wireless technology and biotechnology can be found in Europe today. The United States may have a lead in current military technology, but as the revolution in military affairs continues to push into new areas such as information technology, robotics, biotechnology and nanotechnology, the broadest aperture into innovation will be critical.

The Political Argument

A strong transatlantic industrial relationship also serves a political purpose. It sustains the links between the United States and Europe, generating the environment for day-to-day dialogue. A further opening of the U.S. market to European industry could also help to relieve some tensions over export policies. It is fair to state that industries trapped behind a "Fortress Europe" or a "Fortress United States" would turn to third country markets to provide growth and critical mass in revenues. Some of the most problematic issues related to arms exports over the last thirty years can been linked to isolated defense industries.

The Military Argument

There is a military argument as well for closer links between the industrial bases of Europe and the United States. As NATO countries find themselves increasingly involved in out-of-area coalition operations, the need for interoperable equipment will expand. Interoperability problems during the Gulf War and in Kosovo rudely awakened NATO militaries. The simplistic solution of "just buy all the equipment from me" is politically infeasible. The realistic solution therefore becomes greater cooperation amongst the various industries – establishing common standards, common interfaces and plug-and-play systems. It implies more than a manufacturing relationship between U.S. and European industries; it demands joint development of weapon systems.

The Competition Argument

There is certainly an element of competition that is derived through transatlantic cooperation. Today's environment is characterized by a U.S. defense industry that has reached a level of concentration not seen in 80 years, a single major U.K. defense prime and much of continental Europe's defense industry contributed into EADS. As policy makers search for competition, they are forced to open their markets to non-domestic firms. It should be noted that there has already been a considerable opening of the U.K., Swedish, and even French and U.S. markets to foreign competition and ownership.

The Economic Argument

Finally, there is an economic argument for an increasingly intertwined transatlantic defense industrial base. The pressure of ever-increasing weapon system costs, fewer new weapon programs, elongated development times and limited NATO defense spending argues for

further consolidation of the industry. Defense systems have become increasingly more complex and their development costs have grown dramatically. Since the Wright Brothers' aircraft, it is estimated that the cost of a fighter aircraft has quadrupled every decade. Today's F-22 fighter development costs are two-and-a-half times (or fourteen times in current dollars) that of the previous generation F-15 and the Eurofighter/Typhoon costs over two-and-a-half times those of the Tornado. Helicopters and bombers have experienced a similar cost-curve, while warships and tanks have doubled in cost every decade since the beginning of the 1900s. We have reached the point where virtually no single country can afford an advanced fighter on its own. Add to this trend the fact that there are fewer new weapon starts, supporting fewer research and development teams. Finally, the elongation of program development periods has further compounded the cost problem. It simply takes longer to get an aircraft from concept to production. For example, the P-51 Mustang fighter took 100 days to develop in 1940 and the first deliveries occurred within a year. The late-1960's and 1970's generation of aircraft, such as the Tornado, F-15 and F-16, took eight to nine years from concept to first delivery. The latest generation of fighters, such as the F-22 and Eurofighter, will be almost two decades in development. These longer development times increase the cost to the customer, delay the break-even points for defense companies, and raise the risk of a program termination.

The trends related to cost, programs and development times have conspired to put pressure on the defense industry to consolidate. Fewer programs, huge development costs and elongated development cycles favor larger companies, with deep financial resources, that are better able to withstand extended periods of investment and preserve engineering talent. Higher political risk has encouraged the creation of companies with broad product lines and a presence in multiple sectors of the defense industry, so that they can better weather the turbulence of program cancellations or shifts in weapon procurement strategies. These inexorable economic trends will slowly and gradually erode the steadfast political resistance to a transnational defense industry.

IV. Looking Forward

As we look forward we see numerous reasons for continued and increasing transatlantic military industrial links. There will certainly be significant resistance to major mergers between major defense primes, but those may not be the types of links required as NATO continues to transform its militaries.

To see real transatlantic relations, one must look behind the major headlines and fancy speeches. Instead, one might watch the day-to-day contact between companies, the acquisition of small suppliers and the joint ventures and cooperative agreements. The true transformation to a transatlantic defense industry is occurring far more quietly, subtly and steadfastly than most would believe.

Closing the NATO Capabilities Gap: Challenges for the European Defense Industry[51]

Andrew D. James[52]

I. Introduction

The imbalance in European and U.S. military capabilities has been an issue for NATO throughout its history, but the last decade has seen rising concerns that this gap could grow to such an extent that U.S. and European armed forces will find it increasingly difficult to operate effectively together as the 21st century progresses. At the heart of these concerns lies the conviction that the United States is well on the road to exploiting new technology for the purpose of implementing a Revolution in Military Affairs (RMA), while the Europeans lack the strategic vision as well as the resources to do likewise.

The Gulf War, NATO operations in support of the United Nations in Bosnia-Herzegovina and Operation Allied Force in Kosovo, as well as the recent military action in Afghanistan, provided stark illustrations of the gaps in operational capabilities between the United States and Europe.[53] These include gaps in strategic mobility assets (such as aerial refuelling and air transport), precision-strike munitions and C4ISR (command, control, communications and computers, intelligence, surveillance and reconnaissance). In November 2002, the Prague summit will adopt a new capabilities initiative that will focus on a small number of capabilities seen as essential to the full range of Alliance missions. The capabilities should contribute to the Alliance's ability to defend against chemical, biological, radiological and nuclear attacks; ensure secure command communications and information superiority; improve interoperability of deployed forces and key aspects of combat effectiveness; and ensure rapid redeployment and sustainment of combat forces.[54]

This paper considers what role, if any, the European defense industry can play in closing the NATO capabilities gap. The paper argues that the central source of the transatlantic capabilities gap is not that the European defense industry lacks the technological capabilities of its U.S. counterparts, but that European governments have neither agreed to fund those capabilities nor organized to realize them. In the absence of a large (and unlikely) increase in

---

[51] Paper presented at the Atlantic Council of the United States conference on "Transforming NATO Forces: European Perspectives", Washington D.C., 18 October 2002.

[52] Contact details: PREST, University of Manchester, Oxford Road, Manchester M13 9PL, UK. Email: Andrew.James@man.ac.uk

[53] David C. Gompert, Richard L Kugler and Martin C. Libicki, *Mind the Gap: Promoting a Transatalntic Revolution in Military Affairs*, National Defense University Press, Washington DC (1999); Robert P. Grant, "The RMA – Europe can keep in step", Occasional Papers 15, June 2000, Western European Union Institute for Security Studies (Paris).

[54] "Statement on capabilities issued at the meeting of the North Atlantic Council in Defence Ministers Session", NATO Press Release (2002) 074, 6 June 2002.

European defense spending, NATO Europe needs to find effective mechanisms for joint investment with the United States in technology development and acquisition. Without greater transatlantic collaboration the transatlantic gap may become unbridgeable.

II. European Defense Industrial Capabilities

Competing Views of European Defense Industrial Capabilities

In the eyes of some (mainly U.S.) commentators, the European defense industry has rather little to offer in closing the capabilities gap. European governments are not seen as seriously addressing the transatlantic capabilities gap nor is the European defense industrial base seen as capable of delivering needed capabilities. In this view, the U.S. drive towards transformation along with its increasing defense spending, has given U.S. industry an already unassailable technological lead. Not only that, but the United States is said to have stronger commercial information industries than Europe and successful acquisition reform is allowing the Department of Defense to gain access to those commercial technologies through a growing use of standard off-the-shelf products.[55] The naysayers concede that, selectively, the Europeans may have some excellent defense and information technologies; but overall they are lagging and will fall even further behind as U.S. industry responds to the demands of the Department of Defense's transformational agenda.[56]

To varying degrees, such views are shared by figures in Europe. A report by the Assembly of Western European Union in 2000 observed that the gap in military research spending between the United States and Europe meant not only that a technological gap existed but that it would probably widen still further.[57] General Klaus Naumann, the former chairman of NATO's Military Committee, has argued that even if there are niches in which the Europeans have the lead, they are at least five years behind the United States in the crucial area of C4I (command, control, communications, computers and intelligence).[58] Industry figures in Europe have repeatedly warned that Europe's defense technological position relative to the United States is at risk of erosion without significant increases in European defense spending for research, development and for the procurement of advanced weapons systems.[59]

Europeans tend to hold the view that the gap does not currently exist at the technological level so much as at the operational level. In their review of the lessons learned from the Kosovo campaign, French analysts and officials argued that, despite the obvious *capability* gap, there was no *technology* gap *per se*. European science, technology and industrial assets were up to U.S. levels but defense budget decisions had led Europe to acquire different types

[55] David C. Gompert *et al,* note 53.
[56] Paul Mann, "Technology gap called NATO's salient issue", *Aviation Week & Space Technology*, 17 June 1995; David C. Gompert *et al,* note 53.
[57] Assembly of Western European Union, *The Gap in Defence Research and Technology between Europe and the United States*, Report submitted on behalf of the Technological and Aerospace Committee, Forty-Sixth Session, 6 December 2000 (Paris).
[58] Quoted in Assembly of Western European Union, *op cit*, note 57.
[59] "Hertrich: Europe's defense technology future at risk absent more funding", *Defense Daily International*, 15 February 2002.

of equipment and to invest less in transformational capabilities.[60] Similarly, the U.K. Ministry of Defence has observed that, with regard to science and basic technologies, the gaps between Europe and the United States are small, or often non-existent, not least because the growing importance of globalized commercial technologies to advanced defense equipment means that such technologies can be accessed by Europeans as well as by the United States.[61] Indeed, it is worth emphasizing that Europe's position in many commercial technologies matches or exceeds those of the United States, with particular European strengths in the mobile telecommunications sector and bespoke software development and application. European capabilities in information technology have been recognised by the U.S. Department of Defense.[62] Similarly, in the commercial aerospace sector, the product and process technologies used by Airbus Industries match – and in some areas exceed – those of Boeing.

Addressing NATO Capabilities Requirements

Europeans can point to a number of current or planned programs as illustration of the technological capabilities of the European defense industrial base.

- *Strategic Mobility Assets*: Europe can more than hold its own in conventional platforms and this is reflected in European technological capabilities related to strategic mobility assets. Thus, with respect to air-to-air refuelling, the Air Tanker consortium led by EADS is offering the A330 for the United Kingdom's Future Strategic Tanker aircraft program and the A310 Multi Role Tanker Transport aircraft has been ordered by Germany. The planned Airbus Military Company A400M represents a European industrial response to NATO Europe's strategic airlift needs.
- *Precision Strike Weapons*: MBDA has developed the Storm Shadow/Scalp EG cruise missile.
- *C4ISR:* France is deploying the Helios series of optical observation satellites. A European industry team offered the Stand Off Surveillance and Target Acquisition Radar (SOSTAR) as an alternative to the Northrop Grumman J-STARS for the NATO Air Ground Surveillance (AGS) requirement.[63] Similarly, Europe has programs that span the entire spectrum of UAVs. Analysts suggest that Europe is a little ahead of the United States in developing small, tactical UAVs and a little behind the United States on medium- and long-endurance systems, although there will be growth in European capabilities in those areas. Germany's STN Atlas has four tactical UAVs in prototype development.[64] In France, Sagem manufactures a line of tactical UAVs for observation and reconnaissance and the long-range Horus-SD for strategic applications. Sagem and Dassault Aviation

[60] *Les Enseignments du Kosovo: Analyses et Références*, November 1999, DGA (Paris); Pierre Sparaco, "France disputes Europe's defense gap", *Aviation Week & Space Technology*, 6 March 2000: pp.24-5; David S. Yost, "The NATO capabilities gap and the European Union", *Survival*, Winter 2000-01, pp.97-129.

[61] "Technology and its role in the strategic trans-atlantic relationship", presentation at the Royal Institute of International Affairs by Sir Keith O'Nions, U.K. Ministry of Defence Chief Scientific Adviser, February 2002.

[62] Gopal Ratnam and Amy Svitak, "How Europe can close the gap", *Defense News*, August 5-11 2002, pp.1-4.

[63] SOSTAR is being developed by Thales, the Dornier unit of EADS, Alenia Difesa's FIAR and the Dutch government-owned Technisch Natuurwetenschappelyk (Luke Hill, "NATO considers merging AGS", *Jane's Defence Weekly*, 13 June 2001, p.3).

[64] Gail Kaufman, "Future market needs unclear", *Defense News*, July 8-14 2002, pp.22-26.

are collaborating to develop an unmanned combat air vehicle (UCAV).[65] Thales has called on the French government to find funding for a naval network centric system demonstrator.

However, these programs also illustrate the European Achilles heel – namely that the European defense industry may have the technological capabilities to meet many of NATO's capability requirements but it has struggled to turn these into operational capabilities. The A400M debacle illustrates the industrial and political challenges facing Europe. The case of UCAVs shows how Europe is lagging the United States in developing certain critical transformational technologies. The call by Thales for the French government to fund a naval net-centric system demonstrator shows how – in many areas – Europe remains at the development stage, whilst the United States has already fielded operational capabilities.

Creating Opportunities for Transatlantic Teaming

Europeans can also point to the opportunities for teaming between Europe and the United States to address NATO and European requirements. Consolidation has indeed created a more robust European defense industrial base with the emergence of BAE Systems, the European Aeronautic Defence & Space Co. (EADS), Thales and MBDA as global players and it has made it possible for European firms to enter into partnerships with their U.S. counterparts from a position of greater equality.

There is some history of transatlantic partnering as a means for U.S. companies to gain access to European technological capabilities. The relationship between McDonnell Douglas and British Aerospace to gain access to British vertical take-off and landing (VTOL) technology for the AV-8B is well known. The Joint Strike Fighter continues that relationship through the partnership between Lockheed Martin and BAE Systems and Rolls-Royce.

There are other examples of the use of teaming by U.S. companies to access European technology. In October 2002, Northrop Grumman announced that it intended to enter into a cooperative agreement with Swedish naval systems company Kockums and its German parent company, Howaldtswerke Deutsche Werft (HDW) that will allow it to access leading-edge Swedish naval stealth technology. Kockums will join a team assembled by Northrop Grumman's Ship Systems sector to compete for the U.S. Navy's Focused Mission Vessel Study as part of the DD(X) program. Also in October 2002, it was announced that Thales will supply dipping sonar to Raytheon for the U.S. Navy's MH-60 R Multi Mission Helicopter.

Equally, European and U.S. companies are pursuing partnerships to bring together complementary technological capabilities. For example, the Northrop Grumman-EADS Transatlantic Industrial Proposed Solution (TIPS) proposes the use of the Airbus A320 as a platform for the surveillance system. Similarly, the transatlantic AFCON frigate consortium utilises a naval platform built by Bazan of Spain and the Lockheed Martin AEGIS combat system.

[65] John Brosky, "French flying fast to win share in UCAV market", *Defense News*, April 29-May 5 2002, p.8.

III. The Challenges for the European Defense Industry

The central source of the transatlantic capabilities gap is not that the European defense industry lacks the technological capabilities of its U.S. counterparts but that European governments have neither agreed to fund those capabilities nor organized to realise them.

The Procurement Spending Gap

In many respects, the transatlantic capabilities gap is essentially a budgetary issue rather than a technological issue, with inadequate European procurement spending preventing European technology from being translated into improved capabilities.

The transatlantic spending gap is well documented. The United States spends about 3 percent of its GNP on defense and this figure is rising. By contrast, NATO Europe spends only about 1.8 percent and this figure is more or less static. Furthermore, only Turkey and the United Kingdom are spending the same proportion of their defense budgets on research, development and procurement as does the United States.[66] Likewise, the United States accounted for 62 percent of all NATO funds allocated to procurement in 2000. More than that, European defense spending is far less efficient than U.S. spending because Europe has no single defense market and because its many national defense establishments cannot exploit the level of integration enjoyed by the United States. Consequently, Europe may spend on defense 60 percent of what the United States spends but it generates nowhere near 60 percent of the capabilities.

The overall defense spending increases proposed by the U.S. government for 2002 and beyond are unlikely to be matched by Europe. In 2001, defense expenditure by non-U.S. NATO countries continued the decline that began following the end of the Cold War, falling by 5.1 percent in real terms from $173 billion to $164 billion (in constant 2000 dollars).[67] The United Kingdom's 2002 Spending Review, setting new budgets for the three years to 2005-06, includes a real terms increase of almost 4 percent in the U.K. defense budget by 2005-06 and the 15 percent increase for the capital element of the budget is likely to include a significant increase for equipment procurement.[68] In October 2002, the French government submitted a new bill for military funding between 2003 and 2008 that boosts defense spending in 2003 to $13.3 billion, a $1.1 billion increase from the current level, and to $14.7 billion by 2008. The 2003-2008 military programming bill generally provides for the modernization and maintenance of the French military's equipment in an attempt to raise spending to a level equal with the United Kingdom. Against this, Germany's defense budget crisis means that it has struggled to fund even its top priority defense programs – including

[66] "Defence and security in an uncertain world", Keynote speech by NATO Secretary General, Lord Robertson, Forum Europe, Brussels, 17 May 2002.

[67] *The Military Balance 2002-2003*, Oxford University Press for the International Institute for Strategic Studies (London). However, it ought to be noted that, when measured in real local currency, most countries have increased spending with the exceptions being Canada, Belgium and Turkey.

[68] House of Commons Defence Committee, *The Future of NATO*, Seventh Report of Session 2001-02, HMSO (London).

the A400M and Meteor. Italy's procurement budget faces the real possibility of substantial cuts, placing a further question mark over the future of the Eurofighter.[69]

As a recent Atlantic Council report noted, the likelihood is slim that the European allies will increase their defense spending. In large measure, this is due to different spending priorities on the part of European governments and to recent slow economic growth. Lower defense spending is engendered in part by a European perception, since the end of the Cold War, that the West no longer faces the same size and intensity of military threat.[70] Neither the needs of the NATO Defense Capabilities Initiative nor requirements of the European Union's Headline Goals have succeeded in convincing member states to increase significantly the amount of money spent on defense.

The Research and Technology Spending Gap

At the same time, future capability development in Europe is being hampered by limited European R&T expenditure. European spending on R&T remains about a quarter of that spent by the United States and, with U.S. R&T spending likely to increase over coming years, that gap will widen further. R&T spending has tended to be scattered and dispersed in national programs – specific technological priorities in individual areas have traditionally been decided on a national basis.[71]

Europe has made some progress in coordinating its R&T activities, not least because cooperation is seen as serving as a counter-weight to the United States' perceived dominance in technology. The biggest push towards R&T cooperation has been made among the six Letter of Intent (LoI) countries (France, Germany, Italy, Spain, Sweden and the United Kingdom) who together represent about 85 percent of the defense R&T funded in Europe. A key element of the Framework Agreement is that related to efforts to promote R&T cooperation. The LoI six have encouraged the setting up of a mechanism that enables them to share R&T plans, carry out R&T jointly and share results – both among themselves and more widely in WEAG. The governing MoU is called EUROPA and the associated European Research Grouping will allow the Framework Agreement countries to cooperate with other WEAG countries whilst still satisfying the Framework Agreement conditions. This is regarded as a highly flexible arrangement for R&T cooperation with few restrictions on what can be implemented under it.[72]

The LoI six have also launched ETAP (European Technology Acquisition Program), an initiative established in 2001 to mature European combat aircraft and UCAV capabilities. ETAP is designed to lay the foundations for European combat air systems of the future. Future combat air systems may include manned aircraft (which may well be developments of existing aircraft such as Eurofighter, Gripen and Rafale); air and ground launched

[69] Tom Kington, "Italy: Eurofigther at all costs", *Defense News*, October 7-13 2002, pp.1-10.
[70] Robert Hunter, George Joulwan and C. Richard Nelson, *New Capabilities: Transforming NATO Forces*, The Atlantic Council of the United States, Washington D.C. (September 2002).
[71] Assembly of Western European Union, *op cit*, note 57.
[72] Address by Graham Jordan, Director of Science & Technology, U.K. Ministry of Defence at *European Defence R&D: Funding the Future*, Brussels, 24 January 2002.

uninhabited air vehicles (UAVs) and uninhabited combat air vehicles (UCAVs); conventionally-armed long-range cruise missiles (CALCM); and command, control, communication, computing, and intelligence (C4I) systems to link all these together.[73]

The Operational Requirements Gap

A further challenge for the European defense industry is that its principal customers – namely European governments – have been slow to adopt the new transformational technologies.

The United States has adopted new technologies and operational concepts more rapidly and on a larger scale than have its European allies and the dynamic at the heart of the military information revolution in the United States has not been as evident in Europe. European investment priorities have been different. Military customers have not demanded cutting-edge information technology because (unlike in the United States) they have not perceived compelling strategic problems – such as those of projecting power against dangerous rogue states – for which this technology is essential. The United States has attached great importance to the policy of "full spectrum dominance" and its assessment of the global security environment has been a key driver of its technological developments.[74] In contrast, European procurement patterns have tended to reflect the legacy of NATO Europe's Cold War territorial defense role. Equally, the European Union's Headline Goals for developing force capabilities focus on developing a rapid reaction force for so-called Petersberg goals – low intensity missions such as peacekeeping – rather than on the high intensity military missions that are the focus of NATO.[75]

European governments are only now beginning to invest in transformational mobility and network-centric assets. Within NATO Europe, the United Kingdom is furthest ahead in the shift towards expeditionary warfare, as an outcome of the 1998 Strategic Defence Review (SDR). The main focus of the SDR was on force structure, resulting in a fairly comprehensive set of proposals to rationalise and re-organise the armed forces, upgrade their equipment and technology, reaffirm the importance of logistics coordination, and prepare them more efficiently for rapid deployment and joint actions with other countries, including NATO's combined joint task forces and UN missions. Indeed, the U.K. government's three-year comprehensive spending review released in 2002 announced (for the period 2002 to 2005-06) over £1 billion of new capital spending and £500 million of new resources. This spending is to be devoted to new network-centric capabilities and other equipment.[76] In 2002, France announced its intention to embark on a modernization plan with a shift in strategy toward creating the capability to project military force anywhere in the world. The

[73] "European governments and industry to cooperate on future capabilities and technologies for combat air systems", Press notice on behalf of the defense ministries of France, Germany, Italy, Spain, Sweden and the United Kingdom, 19th November 2001, Paris.
[74] Assembly of Western European Union, *op cit*, note 57.
[75] Jeffrey P. Bialos, "Thoughts before yet another NATO Summit – Will Prague 'Visions' of coalition warfighting capabilities translate into armaments realities?", MIMEO, The Johns Hopkins SAIS Center for Transatlantic Relations, Washington DC (September 2002).
[76] *The Military Balance 2002-2003*, *op cit*, note 67.

objective is to keep pace with developments in the United Kingdom.[77] In Italy, the government's concern to reduce the technology gap between it and its allies is reflected in the latest White Book on defense that makes air defense and aerospace surveillance key priorities. Airborne early warning aircraft, surface-to-air missile batteries, mobile and fixed surveillance radars and C4I are to receive immediate funding.

Once again, however, Europe's ability to turn these aspirations into reality turns upon the question of funding. The demands on European defense budgets stem firstly from the continuing need of most European countries to pursue transformation of their militaries from a Cold War posture focused on territorial defense to one that provides a substantial ability to conduct force projection operations, and secondly from the large costs of RMA capabilities. The Europeans are thus trying to play catch-up on two fronts simultaneously.[78] A few large programs take a large share of existing modernization spending. Thus, the Eurofighter program is expected to consume over half the modernization budgets of Germany, Italy and Spain in coming years. Shifting substantial spending to meet transformational needs in the areas of advanced surveillance and precision targeting systems is likely to be impossible without an overall increase in spending.[79]

Developing Effective Models for European Armaments Cooperation

A further challenge for the European defense industry is to develop effective models for European armaments cooperation. Historically, collaborative programs among European nations have proved costly, as decision-making has been driven by political rather than economic and industrial imperatives.[80] Where European governments have decided to pursue collaborative programs, those programs have all too often been based on strict *juste retour* work share agreements to satisfy national governments' needs to deliver local jobs in exchange for spending taxpayers' money on defense. At the same time, these collaborative programs have frequently been dogged by problems because they have often been established after national equipment requirements have become relatively firm – leaving the collaborative program to try to deliver a common solution to often-conflicting national requirements. The consequence has been a high failure rate amongst such programs and cost over-runs for those that have survived.

The A400M debacle is an exemplar of much that shackles Europe in delivering conventional capabilities. The Airbus Military Company (AMC) A400M is a critical part of the European Union's plans to set up an autonomous Rapid Reaction Force because the aircraft is intended to provide Europe with an indigenous medium- to heavy-lift military transport aircraft. Eight countries – Belgium, France, Germany, Luxembourg, Portugal, Spain, Turkey and the United Kingdom – plan to procure the A400M. The eight nations plan to order a total of 196 aircraft and the program will be managed by the European program management organization OCCAR (Organization for Joint Armaments Cooperation). However, even though there is a consensus among European governments to improve their

[77] Keith B. Richburg, "In shift, France Vows to Modernize Military", *Washington Post*, October 16 2002, p. A16.
[78] Robert P. Grant, *op cit*, note 53.
[79] Assembly of Western European Union, *op cit*, note 57.
[80] Ethan B. Kapstein, "Allies and Armaments", *Survival*, Vol. 44, No.2, Summer 2002: pp141-55.

collective airlift capability, getting the joint program under way has been difficult. One of the main challenges has been to get all the participants to maintain their procurement commitments. Italy recently announced withdrawal from the program, and Germany, the aircraft's largest buyer, has been hesitating to confirm its order due to internal political and funding problems.[81]

U.S. Export Controls and Technology Transfer Regulations

A further challenge for the European defense industry has been how to enter into effective collaborative ventures to acquire U.S. technology. In large part this is a function of the difficulties posed by U.S. export controls and technology transfer regulations. Time and again, these security regulations have made transatlantic collaboration difficult and – in some cases – they have driven European companies to deliberately design-out components and sub-systems from European programs. The history of the Medium Extended Air Defence System (MEADS) program highlights the sensitivity of technology transfer issues in transatlantic industrial relationships as well as the often limited political commitment to these kinds of government-to-government collaborative programs on the part of the U.S. Congress. The United States insisted on having the right to conduct on-site security inspections of German and Italian facilities, and at the same time proposed the use of 'black boxes' to protect U.S. technology. Such proposals were rejected by the German government, which saw MEADS as a test case for U.S. willingness to share technology with its allies. A stalemate ensued which was only broken after eight months of sometimes tense negotiations.[82]

The U.S.-U.K. "Declaration of Principles", signed in February 2000, provides a bilateral model for the management of transatlantic relationships covering the harmonisation of military requirements; export procedures, information and technology-related security as well as joint research programs. The U.S. Defense Trade Security Initiative (DTSI), announced in May 2000, represents a potentially significant change in U.S. rules on export controls, promising to streamline the license approval process and to provide licensing exemptions for unclassified items for qualified firms – provided that there is an agreement between the United States and the country in question. Spain and Sweden are now pursuing a Declaration of Principles but the U.K. experience has been that tangible progress can be slow – it took two years before the United Kingdom introduced the first legislation. Industry is encouraged by initiatives such as DTSI and the Framework Agreement, but is withholding judgement until it sees how these initiatives are implemented toward a regulatory regime that is designed for better cooperation.[83]

---

[81] Katia Vlachos-Dengler, *From National Champions to European Heavyweights: The Development of European Defense Industrial Capabilities across Market Segments*, RAND National Defense Research Institute (Santa Monica), 2002.

[82] Andrew D. James, "The prospects for the future", in Burkard Schmitt (ed.) *Between Cooperation and Competition: the Transatlantic Relationship*, Chaillot Paper 44, 2001, Paris.

[83] *Trans-Atlantic Defence Industrial Cooperation*, A report by the NATO Industrial Advisory Group to the Conference of National Armaments Directors, Spring 2002, Brussels.

IV. Should the European Defense Industry Try to Keep Up?

Buying from the United States

There is little doubt that the European defense industry faces considerable challenges in trying to keep pace with developments in the United States and the scale of these challenges has prompted some U.S. commentators to question whether autonomous European development and acquisition efforts are necessarily the most effective means of utilizing scarce European defense spending. Such commentators argue that European programs that lead to a duplication of development efforts are costly and wasteful in the context of European spending constraints. The A400M and Galileo programs have been singled out for particular U.S. criticism. U.S. industry, it is argued, already has an almost unassailable technological lead over its European counterpart. The United States can offer operational capabilities, whilst European projects are in many cases still on the drawing board. European collaborative efforts to catch-up with the United States – the naysayers continue – are likely to be more costly and quite possibly technologically inferior to buying off-the-shelf from the United States.

Indeed, much of the (U.S.) thinking on the capabilities gap has been underpinned by an implicit (and sometimes explicit) assumption that the only way of closing that gap is for European governments to procure U.S. technology and weapons systems. European industrial participation may be offered as part of the export package, but the core technologies will be from the United States. Such arrangements have a long history dating back to the F-16 program and earlier. In the 1980s, the United Kingdom and France both decided to acquire the Boeing E3 AWACS (Airborne Warning and Control System) in recognition of the fact that it was neither technologically feasible nor cost effective to seek to develop a similar capability.[84] In 1995, and for similar reasons, France ordered the E2-C Hawkeye airborne early warning/command and control aircraft for the French Navy. The U.K. government selected Raytheon-developed technology to meet its ASTOR airborne ground surveillance requirement.

Certainly, developed U.S. solutions do exist for many of NATO Europe's capability requirements. The acquisition of C-17s and C-130Js has been proposed by NATO Secretary General George Robertson as a means of meeting Europe's strategic airlift requirements until the A400M enters service. The U.K. government is currently evaluating the acquisition of the Cooperative Engagement Capability as the basis of its naval network-centric warfare capability.

The Case for European Initiatives

Undoubtedly, there are situations where European governments will seek to acquire U.S. technologies off-the-shelf, though it continues to be the case that the acquisition of developed U.S. solutions remains an unattractive option for many European governments.

[84] The U.K. had attempted to do so with its Nimrod AEW program but that was eventually cancelled due to technological difficulties and massive cost overruns.

The politics of defense procurement means that politicians will continue to demand local content in exchange for their agreement to spend large sums on defense equipment and – in the current climate of weak electoral support for defense spending in Europe – initiatives that oblige European governments to buy U.S. technology are unlikely to gain much support. Equally, there is a strong feeling in Europe that it is crucially important to the development of the Common European Security and Defense Policy (CESDP) that Europe establish a strong and competitive defense industrial and technological base. In this view, autonomous crisis-management operations are feasible only if Europeans succeed in narrowing the technological gap that exists between European countries and the United States.[85]

There is also a strong industrial case for European efforts to address the capability gap. The development of strong capabilities in transformational technologies is seen by European industry as vital to sustain the European defense industrial base and retain Europe's established defense export markets. European companies are also keen to gain a substantial share in the significant growth market for C4ISR, UAVs and so forth.

V. Closing the Gap

The European defense industry is seeking to address the capabilities gap through a combination of internal reorganisation, new program development and the active pursuit of transatlantic alliances.

Internal Reorganisation to Address the Transformation Agenda

There is little doubt that the European consolidation process is helping to eliminate redundancies and to create the underpinnings for increased cooperation in Europe on defense.[86] EADS has reshaped its research and technology strategy to improve synergies between its business units, especially in military technologies.[87] BAE Systems is investing considerable effort in the development of a C4ISTAR sector strategy to address key programs in the United States, the United Kingdom and the rest of the world and a key element of this is to focus across the organization to exploit technological capabilities and market opportunities. Similarly, Thales is re-orientating its communications business group to focus on network-centric warfare.[88]

New Programs

A second leg of the strategy of European defense companies is to launch new programs focused on transformational capabilities. In 2002, EADS announced that it intended to launch an EADS UCAV program for which it would seek funding under ETAP and/or through industrial partnering. French companies Dassault and Sagem have agreed to share the R&D

[85] Assembly of the Western European Union, *op cit*, note 57.
[86] John D. Morrocco, "Allies' capability gap finds no easy solution", *Aviation Week & Space Technology*, 18 June 2001: 137-140.
[87] Craig Hoyle, "EADS reshapes research and technology strategy", *Jane's Defence Weekly*, 1 May 2002, p.22.
[88] Gopal Ratnam and Amy Svitak, "How Europe can close the gap", *Defense News*, August 5-11 2002, pp.1-4.

costs of their UAV programs and Dassault is self-financing the development of its own UCAV in the expectation that it will gain funding from the French government in the 2003 defense budget.[89] Thales is seeking French government funding of around 10 million euros ($9.7 million) for a new contract to build a demonstrator for a naval system using a network-centric warfare approach and is seeking to interest the Dutch, German and Italian as well as the French navies.

Transatlantic Relationships to Access U.S. Technological Capabilities

European defense companies are also pursuing industrial relationships with U.S. companies as a means of accessing U.S. technology and filling their own capability gaps.

One notable transatlantic defense industrial development is the strategic alliance between EADS and Northrop Grumman. The two companies signed a MoU in 2001 under which they agreed to explore opportunities in ground surveillance and a number of other areas of defense electronics, such as aerial targets and decoys, airborne electronic attack and fire control radar. The first product of this relationship was an agreement to offer a 'European version' of a weather and navigation radar, developed by Northrop Grumman, for the Airbus A400M military transport aircraft.[90] A further development has been the agreement between Northrop Grumman and EADS to develop a Eurohawk variant of Northrop Grumman's Global Hawk UAV for marketing in Europe. The most substantial part of the two companies' common activities is their collaboration on the TIPS solution to NATO's AGS requirement.

Equally significant is the joint venture between Thales and Raytheon. Thales Raytheon Systems Company has combined the capabilities of the two companies in the area of air defense command and control centers, air defense radars and battlefield air surveillance in North America.

More significant still, from the point of view of transatlantic defense industrial relationships, have been the acquisitions undertaken by BAE Systems in the United States. BAE Systems North America Inc. is now one of the leading suppliers to the U.S. Department of Defense as a consequence of its acquisition of Lockheed Martin's Aerospace Systems and Electronic Systems businesses and its earlier acquisition of Sanders (as part of GEC Marconi). These acquisitions have given BAE Systems a leading position in the growing U.S. market and they also present the opportunity for BAE Systems to gain access to U.S. R&D programs and technology. A key element of BAE Systems' C4ISTAR sector strategy is to build on its North American capabilities in EW and information dominance and leverage them into U.K. and rest of the world programs. Nevertheless, BAE Systems must contend with the constraints imposed by U.S. export and technology transfer regulations as it tries to create a true multinational business organisation and these are undoubtedly constraining its ability to utilize U.S. technology in European programs.

---

[89] John Brosky, "French flying fast to win share in UCAV market", *Defense News*, April 29-May 5 2002, p.8.

[90] John D. Morrocco, 'EADS, Northrop Grumman broaden cooperative links', *Aviation Week & Space Technology*, *12* June 2000, pp. 35-6.

VI. Promoting Transatlantic Cooperation

In the absence of a large (and unlikely) increase in European defense spending, NATO governments need to find effective mechanisms to facilitate European defense modernization through transatlantic armaments cooperation. Such cooperation needs to recognize the technological capabilities of European partners as well as the political imperative for balanced cooperative arrangements. A critical question here is how serious the United States is about NATO and the transatlantic capabilities gap. NATO Europe certainly needs to face up to its responsibilities but the United States also has to play its part in the modernization of NATO's capabilities. There are three ways in which it can do so.

The Need for More Common Programs

First, the United States needs to offer technology and joint programs to support European transformation and promote common, joint programs to strengthen the NATO defense technological and industrial bases.[91] Currently, the degree of cooperative engagement in armaments development and production is extremely low. Significantly, there is virtually no meaningful cooperative engagement in key U.S. transformation programs – from UAVs to military space to information dominance – or in the other areas that are relevant to closing the capability gap or enhancing interoperability. JSF, and potentially missile defense, are by and large not related to coalition force improvements in interoperability or capability, but undertaken for reasons of affordability (JSF) and geopolitics (missile defense).[92]

Of course, the record of transatlantic armaments collaboration has been patchy. The cancellation of the modular standoff weapon (MSOW) and the common frigate during the early 1990s left policy-makers reluctant to engage in further collaborative programs. The history of MEADS has highlighted the challenges of transatlantic cooperation. Key programs such as NATO AGS have been subject to long delays. However, there have been some success stories. The long term and evolving multi-national Sea Sparrow and ESSM procurement program could be cited as an example of how joint cooperative programs could be put together to allow for both commonality and economic participation. JSF will be set up in a similar way.[93]

Transformation-orientated cooperative armaments programs (or European participation in ongoing U.S. programs) may provide a means of closing the capabilities gap.[94] Equally, deep and balanced transatlantic links between defense research agencies in the United States and Europe could help so long as they go beyond the current exchange of information to incorporate joint projects.[95]

[91] Jeffrey P. Bialos, *op cit*, note 75.
[92] *Ibid.*
[93] NATO Industrial Advisory Group, *op cit*, note 83.
[94] Jeffrey P. Bialos, *op cit*, note 75.
[95] Assembly of Western European Union, *op cit*, note 57.

U.S. Export and Security Controls

At the same time, the U.S. government needs to recommit itself to the reform of its export and technology transfer controls. For NATO transformation to be effective, the United States must be willing to trust its European partners by sharing advanced technology, such as stealth and command-and-control systems. Moreover, the U.S. government will likely need to relax export controls if it wishes allies to have comparable capabilities. At the same time, increased technology transfer will need to be accompanied by improved safeguards on the part of European allies.[96] The Defense Trade Security Initiative (DTSI) and Declaration of Principles process launched by the Clinton administration represented an important step, but it is now time for the Bush administration to show that it is serious about overcoming the export control and technology transfer roadblock. There are signs of some progress. In Autumn 2002, the State Department will begin a review of the current policy guiding conventional arms transfers in a move that may lead to the relaxation of export regulations and that may facilitate armaments and industrial cooperation.[97] Equally, reports that the U.S. government is prepared to export the Predator UAV to Italy suggest that the Bush administration may be willing to adapt policy in a bid to close the capability gap.[98]

Promoting Industrial Linkages

A third way in which the U.S. and European governments could promote transatlantic cooperation is through support for transatlantic defense industrial linkages, joint ventures and industry-led initiatives to design common platforms for NATO requirements.[99] Of course, these industrial linkages will only emerge if they make commercial sense to defense contractors. Thus, programs like NATO AGS have a potentially critical role in providing a focus for transatlantic teaming not least because new technologies and opportunities for change can be created by nurturing multiple partnerships among prime contractors.[100] Equally, governments on both sides of the Atlantic need to sustain and enhance the climate for transatlantic teaming, joint ventures and M&A through periodic affirmation that such forms of transatlantic industrial cooperation are desired. The environment is far from satisfactory at the moment. In the eyes of many Europeans, the Bush administration – focused on the war against terrorism – has appeared less interested in these matters than was the Clinton administration. Equally, the response of some European governments (not least that of Germany) to U.S. acquisitions in Europe has left some U.S. commentators questioning European commitment to transatlantic M&A.

VII. Conclusions and Prospects for the Future

The objective of this paper has been to consider what role, if any, the European defense industry can play in closing the NATO capabilities gap. More than anything else, what is

[96] Robert Hunter et al, *op cit*, note 70.
[97] Jason Sherman, "Reviewing U.S. export rules", *Defense News*, July 22-28 2002, p.8.
[98] Amy Svitak, "New U.S. policy paves way for Predator sale to Italy", *Defense News*, April 15-21 2002, pp.1-4.
[99] Robert Hunter et al, *op cit*, note 70.
[100] Robbin Laird, "Industry transformation: company efforts can help reshape military", *Defense News*, May 6-12 2002, p.13.

revealed is that the central source of the transatlantic capabilities gap is not that the European defense industry lacks the technological capabilities of its U.S. counterparts but that European governments have neither agreed to fund those capabilities nor organized to realise them. The European defense industry has responded to these funding constraints by pursuing transatlantic defense industrial relationships, but ultimately it is the decisions of governments that will determine the extent to which the NATO capabilities gap is addressed.

Substantially independent technology development in Europe to match U.S. capabilities is unrealistic given the respective levels of investment. And it seems unlikely that (with the exception of the United Kingdom and France) NATO Europe will see significant increases in defense budgets in the foreseeable future. In the absence of a large (and unlikely) increase in European defense spending, there must be joint investment with the United States in technology development and acquisition if NATO Europe wishes to pursue the same capabilities and doctrine as the United States in the future. Creating the conditions for such collaboration places responsibilities on both Europe and the United States. Europe needs to take the capabilities gap seriously and ensure that it reallocates scarce defense budgets to address NATO capabilities requirements. The U.S. government needs to play its part in the modernization of NATO Europe's capabilities, not least by offering technology and joint programs to support European transformation and enabling this process through changes to technology transfer regulations.

Without such policy initiatives, the NATO capabilities gap is likely to become unbridgeable. The capabilities gap is likely to lead to an ever greater divergence of doctrines between NATO Europe and the United States, making coalition warfare increasingly difficult if not impossible for all but a few European militaries. Indeed, the consequence could well be the emergence of a capabilities gap between those European countries who have invested in transformational and network centric capabilities (in particular the United Kingdom and France) and the rest. Overall, Europe would be left to undertake the low intensity peacekeeping roles envisaged by the European Union Headline Goals. The consequences for the European defense industrial base would be considerable. A less technology-dependent approach could be supported by more or less independent European technology development and acquisition, but would most likely exclude European defense contractors from high growth sectors and many export markets. Increasingly global European defense contractors might well respond by focusing increasing attention on the U.S. market, at the expense of Europe, through M&A and quite possibly concentrating R&T efforts in the United States.

Accept the Gap

Martin Lundmark

I. Introduction

Influential individuals on both sides of the Atlantic Ocean confess to the gospel of more transatlantic integration, yet there is not much. This paper will discuss why there is indeed little transatlantic integration and suggest that the behavior of the market is the result of compromise among politics, corporate goals and sound market forces.

The defense industry is an industry strongly affected and regulated by government policies. Company networks are intricately connected to national networks – an important aspect for this paper to consider is therefore how the interaction between these networks affects corporate strategy.

Concerned governments and defense companies believe that the transatlantic defense industry is in need of closer relationships and, generally, more integration. The U.S. government and defense industry are in clearly dominant global positions – hegemonic positions. Corporate strategies in the defense industry are strongly affected by government interests and policies, and U.S. defense-related industry policy is the result of the interplay between many governmental actors or groups in the United States and their respective vested interests. In order to more deeply understand the resultant corporate strategic outcomes, the wider U.S. context – outside of corporate strategy itself – must be addressed.

A striking characteristic of the transatlantic defense industry context is that the arguments for more openness and for more industry integration have changed so little since the 1980s. The main arguments in favor of integration still focus on creating a two-way street, avoiding fortresses and creating interoperability. This fact thus points to a very slow process of change. Another striking characteristic is that both sides (the United States and "Europe") appear repeatedly to fail to communicate. Each side feels that the other does not understand its points, and each sees the other's priorities as being too self-centered. Due to this, there is a need to better understand the interests, priorities and arguments of the U.S. defense industry as well as those of the U.S. administration (and so again for the European side).

I have investigated the U.S. side more thoroughly and more systematically, and plan to do a similar level of research on the European side next year. Therefore, the U.S. discussion in this paper will be more elaborate. In any event, I believe that the development of U.S. corporate and governmental priorities is what mainly steers the transatlantic context, such that a stronger focus on the United States will be more illuminating.

This report presents a management perspective on corporate strategy, not a political science perspective. The focus is on the prime integrator level, thereby covering, on the U.S. side:

Lockheed Martin, Boeing, Raytheon and Northrop Grumman. On the European side this category includes BAE Systems, EADS, Thales and MBDA[101].

A prime integrator is a company that is on the highest integrative level of the supply chain. A prime (also commonly labeled prime contractor) is able to manage the responsibility of a major defense industrial contract and the integration of systems within it. The notion of a prime connects to a tiered structure below the prime. Directly below is the first tier company, which integrates major systems. The second tier company manages sub-systems and the third tier company supplies parts and components. Companies can be primes for some projects, and lower-tier companies for others. There are, however, just a handful of companies on each side of the Atlantic Ocean that at present are seen as primes.[102]

A Need to Liberate the Discussion

In order to get a wider, and hopefully freer, perspective, I intend to dodge the more common discourse about the transatlantic defense interface. Hopefully, a few detours will enrich the concluding discussions. The first theme is drivers for, and inhibitors of, transatlantic defense industry integration and how the outcome of that interplay creates a defense industry-specific pattern of integration. The second theme leapfrogs more than ten years ahead and presents four different scenarios for the future transatlantic defense industry market.

My research in the United States during 2001 took place before September 11th. I first focus on the results of that project, and then turn to how September 11th might have changed the U.S. context. After that, I will return to those questions offered to me by the Atlantic Council.

II. A Truly Transatlantic Market

There is a lot of talk about a transatlantic defense industry market. Serious men (seldom women) in serious positions have for years stated that there is a need for a truly transatlantic market, without really specifying what *constitutes* a "truly" transatlantic defense market. Too often the analysis does not go much further than that. There are considerable arguments suggesting the need for increased integration and cooperation – yet there is not much integration. Why is that?

In order to understand the dynamics of the defense industry in a transatlantic perspective, these dynamics must be related to a wider context, outside of the industry itself. In order to comprehend how actual corporate links develop, an understanding of the outer systems and spheres must exist. Government priorities, security policy, military development, technological development, commercial industry development and overall threat perception

[101] MBDA is not a functioning company yet, more of a consolidated future.

[102] Starron (1992) from the National Defense University, USA is referred to as the origin of the typology in Dowdall, P. and Braddon (1992), "Puppets or Partners: The Defense Supply Chain in Perspective", p. 106-8. (in: Latham and Hooper (1992). Also see Krause (1992).

all play a part. Neither corporate strategy nor government policy alone can explain industrial outcomes. The hard part is thus to create an understanding of how they interact.

Fortresses

An often-used metaphor in the transatlantic context is the risk of fortresses being created on the two sides of the Atlantic Ocean: a "Fortress America" and a "Fortress Europe". The fortress discussion points to the tendency of both sides to concentrate on their respective strengths, instead of focusing on how to improve in a joint capacity. It is clear that this tendency, and also the resultant existence of fortress-like behavior, do exist.

Adams (2001) discusses the co-existence of diverging and converging tendencies for fortresses in the United States, and points to strong tendencies in both directions. It is therefore important not to dramatize any single process or force; the outcome is an intricate interplay between both diverging and converging forces on both the corporate and the government sides, as well as on the U.S. and European sides.[103] Examples of such tendencies on the U.S. side could be reluctance to share technology despite multilateral cooperation or the effective favoring of U.S. companies in procurement. On the European side such tendencies could be initiatives by governments to focus on protecting European industrial capacity (and thereby ignoring global incentives to consolidate) or prioritizing European military capacity rather than NATO military capacity.

The United States vs. ?

The transatlantic struggle for a "better" transatlantic market is too often depicted by U.S. commentators as an expectation that "the Europeans get their act together" and speak with one voice. This depiction often ignores European collaborative arrangements. For their part, Europeans must better understand how the U.S. actors reason; they must understand U.S. priorities. Europe will never, to allude to Henry Kissinger's famous question, have one united voice that can be reached at a single specific telephone number.

What is Really the Problem?

So what is the big problem with limited long-term integration within the industry structure? The problem, from an aggregate, transatlantic governmental perspective, is that there is over-capacity on both sides of the Atlantic Ocean[104] and that there are far too few projects

[103] Adams, G. (2001), "Fortress America in a changing transatlantic defence market", in: *Between cooperation and competition: the transatlantic defence market*, Schmitt, B. (ed), Institute for Security Studies, WEU, Paris and Lundmark, M. (forthcoming 2002), *Drivers and inhibitors for transatlantic defence industry integration – The U.S. perspective*, FOI Report.

[104] Over-capacity has been fundamentally adjusted for in several European countries; and the same might be said of some companies in the United States. It appears as if the gulf between demand and capacity has decreased in the last five years or so, but I am certain that there still exists substantial mismatch. What constitutes "over-capacity" is not an objective statement; a sustained national capacity might not be addressed as over-capacity, rather as a national domestic asset. According to Sapolsky and Gholz, the U.S. consolidation has still not created the consolidation benefits of a balanced adjustment of production capacity in relation to an altered demand (i.e. after the Cold War).

under way seeking to remedy that mismatch between capacity and demand. From a strictly economic perspective, it can also be claimed that too many national resources are directed in several (most?) countries towards defense industry. Furthermore, there are considerable potential benefits from increased transatlantic cooperation concerning the development and production of defense materiel – primarily regarding economies of scale, stronger mutual political commitment and interoperability.

III. Defense Industry Consolidation, Cooperation and Integration

In order to structure a discussion on industrial integration, a typology ought to be presented of degrees of corporate integration. Due to political restrictions, cross-border mergers and acquisitions seen in other industries are not plausible among the largest defense companies. Instead, companies create defense-specific modes of integration (*juste retour*, work share, teaming arrangements and certain joint ventures) that represent compromises between, on the one side, generic business incentives for global consolidation and restructuring, and, on the other side, political regulation and constraints.

The defense industry is part of a global network, consisting of links between companies and groups of companies, as well as links with states or between states, within different coalitions or alliances. Corporate and state policies are dependent upon each other, and defense industry policy is a subset of broader state considerations regarding defense and security policy. State policies are increasingly becoming integrated, both within states and between states.[105]

Demand for defense products is considerably lower today than it was at the end of the Cold War. There is on-going industrial over-capacity as national defense-industrial systems still have not adjusted to the change in the post-Cold War geopolitical situation.[106] Due to this, companies are fighting for market presence and trying to get a hold or a share of the defense materiel programs that come into existence. Parallel to this, states are cooperating more and more on programs and procurement, among other reasons because of increasing R&D costs, interoperability concerns and security policy concerns. Major programs are thus so pivotal, that they shape the industry landscape and steer industry restructuring – thereby directly affecting corporate strategy options.

Just Another Industry?

The defense industry is often described as being unique to a high degree, and that it must therefore be judged on its own merits. It does have, and should have, certain unique (i.e. restrictive) characteristics, but it is becoming more and more dependent upon the technological developments of the commercial sector. Another important aspect to consider is that defense companies are too often viewed as instruments of national priorities, when in fact almost all are private enterprises subject to the short perspective of the stock market and cognizant of their obligation to create shareholder value. Furthermore, the defense-specific

[105] Axelson & James, 2000; Lundmark et al, 2000; Axelson, 2001.
[106] Markusen and Costigan (1999), Sapolsky (2001).

value addition is more and more a question of combining commercial technological applications and adding a defense-specific solution to that combination.

IV. Transatlantic Defense Industry Integration

Arguments concerning why there should be transatlantic defense industry integration are in general too rich; they contain too much and are therefore unhelpful for sustaining a fruitful discussion. One such argument might be to say that, "we need a truly transatlantic defense industry market". The emphasis is also more often on mergers and acquisitions, than on other forms of intermediary collaborative arrangements, such as joint ventures and teaming arrangements.

This report will therefore explore a compromise solution, somewhere between, on the one hand, the fundamental political turmoil that prime contractor mergers and acquisitions create, and, on the other hand, the gloomy metaphor of Fortress Europe and Fortress America. To calibrate this aim further; there are more positive benefits to be found somewhere in the relatively blurry whereabouts of teaming arrangements and joint ventures.

U.S. Interest

In order to more deeply understand the fundamental factors that create the transatlantic defense industry context, one must reflect upon national self-images. In the U.S. case, this is clearly spelled out.

The starting point for the U.S. government as to what should guide its security and foreign policy is its national interest. There is no generally applicable definition of the U.S. national interest; it appears to have different meaning for different people, often depending on the specific interlocutor's interests or agenda. A useful marker of U.S. national interest can be found in the policies adopted and followed coherently by several important government bodies, the most important among these being the White House and the Departments of State and Defense. The larger the number of other central agencies that follow these same policies, the stronger the national interest.

To conclude, someone who stresses the importance of national interest would argue that the United States must shape its foreign policy according to what is best for the United States and to the preferred U.S. view of the world.[107] Decisions by the United States to a large extent determine what can and can not be done in the global defense industry. Despite continuous debates about the dominance of the United States, its current hegemony is likely to remain undisputed in the foreseeable future.

European Governments' Interests

European governments can never have the same global posture as the United States and they are always far from the same level of self-sufficiency with respect to defense technology and

[107] Krasner (1978), Von Vorys (1990) and Trubowitz (1998).

production. Each nation has its own security policy posture and contributes to larger multilateral security obligations (such as those of the UN, NATO or EU) in accordance with their respective capacity and priorities. One important goal of the United States' friends and allies in Europe is to benefit from their relations with the United States, but at the same time not to become too dependent – they are fundamentally determined to have some degree of self-sufficiency.

Drivers and Inhibitors for Transatlantic Defense Industry Integration

The wider context of national and international defense industry network drivers for and inhibitors of transatlantic defense industry integration have been identified. These drivers and inhibitors are the factors that either governmental or corporate bodies view as either driving or inhibiting arguments. None of the drivers and inhibitors is put forward by all representatives of the government or the corporate sides. Some of the drivers and inhibitors are the effects of the strict interests of some parts of the government, e.g. Congress or the U.S. military services.[108]

U.S. Government Drivers

From the U.S. government perspective, the main driver of transatlantic links is that they would strengthen NATO, achieve interoperability and sustain a technology transfer to friends and allies. Another important driver is that it would create business opportunities for U.S. companies, and a strong defense industry is seen as being in the U.S. national interest. A well-developed set-up for transatlantic collaboration would also increase U.S. control of technology transfer, promote peace and security and secure U.S. leadership. A last important driver is to create more equal structures for sharing R&D spending in defense matters.

U.S. Government Inhibitors

When it comes to inhibitors, the U.S. approach becomes much more fragmented, and thus less united. The special interests of different groups (especially Congress, different governmental departments and the military services) are divergent and self-centered.

The inhibitor that is most clearly voiced is the fear that transatlantic integration will allow advanced technology to get into the wrong hands, and that it might therefore, eventually, be used against the United States. The current rigidity of U.S. export controls makes transatlantic co-operation very cumbersome, which impedes transatlantic links. In addition, a combination of concerns over U.S. jobs, protectionism and patriotism leads to the conservation of the present structure and makes transatlantic cooperation, as well as European direct investment, extremely difficult.

U.S. Corporate Drivers

The main driver for U.S. companies is to gain access to European markets, either by creating joint projects[109] or by selling more of the material that the United States is already procuring (the F-16 is a good example). There is of course also European technology that is better

[108] Lundmark (2002:I).

[109] Based on existing U.S. programs or defence solutions.

than that in the United States, and U.S. companies seek to benefit from that technology. By partnering with European companies, they can get around protectionist barriers and become a stronger part of European networks. All this would improve their global position. In a way, the European market might present U.S. companies with their only new market opportunities or possibilities for expansion.[110]

U.S. Corporate Inhibitors

There are also some factors that offset strong arguments for transatlantic links. Many U.S. companies have a fairly secure position, as they sell steadily to the U.S. Armed Forces. Many wonder why they should want to jeopardize business secrets and a prioritized/advantageous position? Furthermore, Congress as well as the Armed Forces, often prefer all-American solutions. The immense difficulties of dealing with both U.S. export legislation and European bureaucracies deter many companies from engaging in transatlantic ventures – it's simply too hard to do. One might also ask if there is really all that much to be gained from transatlantic cooperation. Are there significant synergies to extract? Will cooperation be financially rewarding?

European Government Drivers

The main driver for European governments is the prospect of vetting technology transfer from the United States. Another important driver is to try to create market access for European companies in the United States, which is currently very hard to attain. By creating transatlantic collaborative arrangements, individual European countries might get part of U.S. R&D money and thus achieve economies of scale. NATO cohesion, interoperability and the desire to assure transatlantic stability are also drivers.

European Government Inhibitors

One main inhibitor is the desire of European governments to protect European jobs, which, apart from preserving the European defence industry, is reinforced by European cohesion within the EU. European states are also concerned that transatlantic cooperation will make them too dependent on U.S. arms transfer; they strongly desire to maintain their domestic and European industrial base. Generic political investments in European identity and in European military cohesion also inhibit cooperation because they direct efforts away from the transatlantic context.

European Corporate Drivers

The European corporate yearning for transatlantic links is primarily guided by two factors. First, European companies desire access to the U.S. market. Second, they wish to get access to U.S. technology and to get involved in activities connected to the huge U.S. R&D budget. For market growth, the U.S. market is really the main option. Otherwise, arguments for improving global position apply equally well to European and U.S. companies.

European Corporate Inhibitors

Engaging in transatlantic ventures creates the risk of having to face harsh decisions regarding rationalization because it would open up protected national positions. European companies have business and technology secrets to protect (just as do their U.S. counterparts), and there

[110] This was the fact before 9/11. Afterwards, the clear market expansion is in the United States.

is a general concern that huge and strong U.S. companies will extract whatever synergy a given European company can offer, and then move on to exploit another company. The whole process of creating transatlantic links is also seen as extremely cumbersome and burdened with a high probability of failure.

Conclusions Regarding Drivers and Inhibitors

The U.S. government drivers and inhibitors clearly differ from those of U.S. companies, though they share the same basic assumption: that the United States is the world leader and should remain so. The government drivers are primarily based on different interpretations or subsets of what constitutes the national interest. The corporate drivers might be couched in the national interest point of view, but the bottom line for U.S. companies is what is best for their shareholders, as well as the long-term position and well being of the company. Some of the drivers are clearly spelled-out and often cited (e.g. interoperability, NATO cohesion, burden sharing) and others, because they are less altruistic, are not as often discussed (e.g. safeguarding U.S. hegemony and its dominant global position, promoting U.S. interests).

The United States acts fairly predictably and coherently on an aggregate level. However, if one decomposes the Military-Industrial Complex (MIC) and its subsets or different interests groups, different actors clearly compete for power, money and the phrasing of priorities.[111]

European governments all want a strong link with the United States, but they are hampered by domestic concerns, smaller size and smaller budgets.

European companies are more desperate to create some kind of transatlantic cooperation. The U.S. companies have a much more attractive position. The strategic impact of strong transatlantic cooperation is much greater for a European company, albeit both European and U.S. companies might be keen on it. The interest is thus mutual, but the resistance or inhibitors are somewhat different.

V. Typology of Integration

Based on the overarching concept of an interplay of drivers and inhibitors – European and U.S., governmental and corporate – I now aim to discuss the outcome of initiatives for transatlantic defense industry integration. The defense industry-specific pattern of integration is a result of compromises between corporate strategic goals and government considerations (which are usually restrictive). In other industries, global consolidation is generally manifested in more straightforward mergers and acquisitions. The defense industry, however, tends to produce collaborative arrangements that, overall, must be seen as sub-optimal and as having an impeding effect on the potential transnational integration of production assets and of mutual development structures.[112] (See Figure 1 at the end of this chapter.)

[111] This polarity apparently conflicts with academic definitions in political science. I choose, however, not to further engage in discussion of these definitions in this paper.

[112] This typology is explained and elaborated extensively in my forthcoming (2002) FOI report.

Modes of Integration

Transnational integration has gone much further in other industries, with extensive alliances, mergers and acquisitions – usually followed by rationalisation and the exploitation of synergies. In the defense industry, however, such market forces and trends are hampered by governments' restrictive concerns. The modes of integration among defence primes are limited to dysfunctional – often failing – defence-specific collaborative arrangements in the form of *juste retour* and work share. Mergers and acquisitions among primes are not plausible due to government restrictions as well as to limited prospects for synergies. More open and interactive arrangements, such as strategic joint ventures and teaming arrangements, are creating slightly more open set-ups, but overall transatlantic defence industrial collaboration is very limited and caught somewhere between the Cold War and the markets of the 21st century.

Transatlantic joint ventures have, by tradition, been project-oriented and they have not included the integration of assets. Currently, there are some important joint ventures and projects, which will probably become future guideposts for the defense industry. Transatlantic defense industrial integration is limited, especially among prime contractors. The three main paths of future industrial integration therefore appear to be strategic joint ventures, teaming arrangements and government-initiated, strategic, multilateral priorities.

Companies on the prime level are primarily working on one of two main tracks in order to create transatlantic integration: joint ventures or teaming arrangements.

Innovative strategic joint ventures are seen as role models for future defense industry structural integration, for companies desiring *deepened* integration and cooperation. Strategic joint ventures are not limited to a certain project; they aim for a certain segment or technology area. The strategic perspective is thereby more far-reaching. The market impact of strategic joint ventures is so far very limited, but it has a strong potential for far-reaching future impact in my view.

Teaming arrangements appear to prevail as the most common form of cooperation.

Juste retour and work share arrangements are expected to occupy a smaller and smaller share of the collaborative market in the future. As such arrangements expire, new multilateral and transatlantic cooperation will probably take the form of joint ventures or teaming arrangements.

Government partnering on defence projects has an integrative impact, since it demands industrial partnering. However, government-initiated collaboration tends to fail more often and be clearly more cumbersome to manage than industry-led programs. Still, government-initiated programs do have an impact on industrial integration.

VI. The Characteristics of the Transatlantic Context

Suspicion-driven vs. Trust-based

Concerning policy for transatlantic defense industry integration, the United States, *as an aggregate,* acts fairly consistently and predictably. Its actions and priorities are primarily steered by what is best for the U.S. global position, and, subordinate to that, what is best for U.S. multilateral commitments. However, the United States, decomposed into its MIC[113] sub-sets, reveals a domestic struggle for power, for the proper interpretation of what constitutes the national interest and for priorities within the defense budget.

The U.S. defense industrial context is still clearly dominated by a Cold War, suspicion-based climate. This is most clearly shown by the meticulous and highly restrictive U.S. export control system. The defense industry in the United States (and elsewhere) lags behind other industries in benefiting from global supply-chains with distributed centers of excellence. The defense industry must move towards a more trust-based context in order to be better synchronized with other industries and to better benefit from globalized supply chains.

European countries have so far been junior to the United States in almost every transatlantic defense aspect. The NATO role during the Cold War was beneficial for European states. Since the end of the Cold War, they have tried to find a balanced domestic defense industrial capacity and to create a more equal relationship with the United States. Both strivings are still problematic. As long as the Europeans need the United States more than the United States needs Europe, the dominance of the U.S. suspicion-driven context will prevail.

To conclude, the enormity of the U.S. defense capacity dwarfs any opponent and also gives the United States options and flexibility within its force structure that no other country can match. This overall defense capacity is simply unrivalled. Furthermore, the connections between concepts such as national interest, grand strategy, military doctrine, theatres of war and power projection place the U.S. defense industry dynamics in the right setting and offer the possibility for a deeper understanding of the overarching transatlantic defense industry context.[114]

Export Control

U.S. export controls resist globalization as they are based on suspicion rather than trust. However, the need for companies to benefit from globalization and to satisfy market needs will force U.S. export controls to change, sooner or later, which will allow this market to function, in interaction with Western Europe primarily. It is a necessity for the continued survival of European defense companies, that they have some kind of foothold on the U.S. market – that they be a part of some kind of transatlantic link. Since the United States will never accept a European-led transatlantic integration process, the United States must be committed to resolving the problem. The stock market will ultimately force and demand

[113] MIC – Military-Industrial Complex.

[114] These connections are discussed more extensively in Lundmark (2002:II).

this change, unless governments are willing to pay a considerable premium to maintain a sub-optimal defense technology cocoon.

Transatlantic Wedges

There is obviously a slow development of transatlantic defense industry integration, and an overall stability of the continental industrial landscapes. European direct investment is limited and does not change the U.S. industrial landscape to any real extent. Each continental context appears to be continentally controlled. There are, however, a number of eastward investments and processes by which U.S. companies and U.S. programs will irrevocably change the European context. I call these events "transatlantic wedges". Firstly, U.S. companies have acquired Bofors Defense in Sweden, Mowag in Switzerland, Santa Barbara in Spain and HDW in Germany. This last acquisition is especially interesting, since the U.S. non-diesel submarine capacity is now bolstered by U.S. ownership of, by far, the dominant diesel submarine producer in Europe. Due to these acquisitions, the idea of a European, government-driven consolidation into border-crossing European towers of excellence is weakened; the conditions have substantially changed. U.S. private enterprise will have its say. Secondly, the Joint Strike Fighter – the biggest defense program ever – will be linked to substantial parts of European aerospace industry and of government aerospace funds for decades. The case for a next European fighter thereby becomes much more fragile. The United States will also, for the first time ever in a large (perhaps the largest) defense program, make itself truly dependent upon another nation, the United Kingdom. The strategic industry impact[115] of JSF can simply not be overstated.

Conclusions

Overall, an expected harmonization of the defense industry towards a more globalised context and the concomitant openness to non-defense influences and technology is believed to be slowly but gradually steering the defense industry towards a more trust-based, rather than a suspicion-driven, industry context.

The case of a shift from a suspicion-driven context towards a trust-based context is a hypothetical case, inspired by proposals of export reform in the United States in 2000/01 and supported by interviews. There is therefore weak *empirical* evidence. The *logical* case for a shift towards more transparent, transatlantic cooperative ventures rests on the following assumptions:

- The U.S. export control context is a product of the Cold War and it must still adjust to the disappearance of the bipolar Cold War context;
- Other types of industry are much more globalized and have, to a much higher degree, created global, transparent supply chains. Defense companies striving to maximize shareholder value have strong incentives to benefit from such possibilities;
- The defense industry is leading technological development only to a small extent; civil industry is way ahead of the defense industry;

[115] My concept of *strategic industry impact* is elaborated in a forthcoming (2002) FOI report (Lundmark, 2002:II).

- Cooperative ventures marked by the Cold War context will be gradually phased out. New cooperative ventures will, to a larger extent, be trust-based or at least more open – aiming to benefit from the potential of global supply chains – and the balance among cooperative programs will thereby shift. Strategic, cross-border joint ventures (like Thales Raytheon Systems), the Joint Strike Fighter and other multilateral cooperative ventures will lead the way. Industry will lead governments towards increased transatlantic integration, not the other way around.

An important point to consider is that integration does not necessarily follow from cooperation. Cooperation might create separated, firewall-like structures where bi- or multilateral initiatives have, to a substantial extent, kept national structures separated and intact.[116]

In the realm of short-term, cross-border consolidation, companies can be expected to work through two main paths. Firstly, they can (as in JSF) create multilateral partnering arrangements, which, in themselves, can not be said to create lasting cross-border integration, although they create models and patterns for equity integration. Secondly, they can create strategic joint ventures such as Thales Raytheon Systems or such as that between Northrop Grumman and EADS. Such joint ventures will have an implicit, important future role in a strategically important product area – with the consent of the concerned "home" countries – and this area will thus become harder to penetrate or to get access to for other actors and constellations.

VII. The Future of the Transatlantic Context

Regarding the future of the transatlantic defense industry market, I shall now discuss the consequences of September 11th and then explore – with the help of four scenarios – the possible future contexts of the transatlantic defense industry.

September 11th

The tragic events of September 11, 2001 mark the beginning of a new era. First the Cold War, then the post Cold War environment and now the post September 11th environment have defined/define corresponding eras. It would be too speculative, however, to try to foresee in more detail how this tragedy will affect future defense materiel cooperation and the defense industry. New threat assessments will clearly create altered priorities that cause governments to redirect money within their defense budgets. The case for interoperability should get a further boost due to renewed cohesion within NATO. How European states judge the United States' handling of the war against terrorism in the near future will have a strong impact on the future transatlantic context. Defense industrial links is but one part of this.

Due to the outcome of, and the lessons learned from, Operation Enduring Freedom, U.S. doctrine will change, U.S. priorities concerning weapons and capabilities will change and the

[116] Molas-Gallart (1999), Sapolsky/Gholz (1999), Axelson/Lindgren (2001) and Lundmark (2002:II).

allocation of funding among the Services ought to change.[117] On the one hand, there are stronger incentives for cooperation and for converging security views of the world between the United States and Europe. On the other hand, the United States will probably change its doctrine in a clear way, whereas European states will probably change their global and mutual posture, rather than doctrine. The overall effect of this on the transatlantic defense industry interface is unclear. I believe that it will change politically and rhetorically, but that the corporate incentives and disincentives for cooperation will remain the same.

The effects and long-term impact of September 11th are continuously evolving in 2002, and will have a fundamental impact on, especially, U.S. defense spending, defense priorities and doctrine.[118] The 17 percent increase in defense spending by President George Bush will have long-lasting impact on the defense industry. It will most probably also further increase the defense capability gap between the United States and Europe, thereby perhaps putting further strains on transatlantic burden sharing. Hopefully, the resulting impact will be converging, not diverging[119], vis-à-vis Europe and the United States.

All told, the long-term effects of September 11th will probably increase the technology gap. The incentive is not at all as strong in Europe as in the United States to increase defense budgets. Resistance towards such increases has also been much stronger in Europe, especially after the Cold War.

The U.S. defense industrial base will change its composition, the force structure will change and the United States will likely show a much stronger commitment to achieving technological breakthroughs than will Europe. Arguments for transformation that were put forward earlier in 2001 will be revised in the light of experiences after September 11th.

The United States raised its defense budget by 17 percent in the spring of 2002. According to interviews in the United Kingdom in April 2002, the $48 billion budget increase will not substantially alter the demand of the U.S. Armed Forces as a majority of the money will go to maintaining Operation Enduring Freedom and to the purchase of already developed systems. Experiences from this operation will, however, have significant impact in the future on the U.S. global posture and on what kind of armaments it will prioritize – and not prioritize. Admittedly, the process of military transformation has already created some clear changes (e.g. abandoning Crusader), but true change is still mired in rhetoric.

"Europe" Is Not at War

After the Gulf War, and even more so after Kosovo, it was apparent that these wars had been extremely successful because of U.S. involvement and that the European allies were not

[117] See e.g. Singer (2001), *Who's the Big Winner? – All Services Likely to Reap Rewards*, Defense News.
[118] See e.g. Ratnam, Sherman and Svitak, (2001), *Bush Opens Arsenal to Mideast – Pakistan, Oman, Egypt, UAE Could Receive Long-Awaited Jets, Spare Parts from U.S.*, Defense News. This article describes one (out of several) ways in which September 11th has changed and will change how governments restrict the trade of arms. Political incentives thereby govern the market structure to a considerable extent.
[119] Alluding to Adams (2001), accord of the U.S. export control system and transatlantic convergent and divergent forces.

at all at the same level militarily as the United States. The simple conclusion was that there existed a clear and substantial technology gap between the United States and the Europeans. NATO launched the ambitious Defense Capabilities Initiative (DCI), which pointed to certain deficiencies within the NATO family. The goal of the DCI was that the European NATO members upgrade their defense capabilities to a substantial extent. After a few years, not much had changed. European defense budgets were not increasing, albeit the years of decrease after the end of the Cold War had stopped. The capability gap was not closed at all. The conclusion must be that DCI was highly unrealistic, both in ambition and in underestimating European reluctance to raise budgets. European voters and politicians did not act as if they truly desired to close the gap.

After September 11th, a new threat perception was formed. So have European defense budgets changed? Germany has had very serious problems fulfilling its obligations in European collaborative ventures (especially A400M and Meteor). The German domestic force structure is a bleeding cost-producer and it is unlikely that new budgets will address any real transformational needs. France recently announced a 14 percent budget rise, though its procurement decisions were very traditional. The French defense minister stressed that France had fallen behind the United Kingdom, and that, through some procurement decisions, the French government would attempt to address that fact. The United Kingdom is close to the U.S. posture in the war against terrorism, but Prime Minister Tony Blair has severe problems in getting domestic opinion in line with his own. Apart from Tony Blair, Europe does not, in general, consider itself engaged in a war. European countries have all contributed to the Afghanistan campaign, some substantially, some not more than they feel they must.

Until a few years back, the European Union had very little impact on national defense budgets and defense priorities. NATO had been the sole European multilateral defense body. However, with the advent of the European Security and Defense Policy (ESDP) and the adjoining creation of a future Rapid Reaction Force, this dynamic changed to some extent. It is still unclear what impact it will have on the role of NATO, but these moves clearly represent a diverging force. Things are not the same, though defense budgets do not appear to have risen and the Rapid Reaction Force demands resources. As a result of this European initiative, EU members are presently engaged in a study of how to remedy the three broad under-critical European capabilities – precision strike, strategic airlift and intelligence. This has created an initiative called the European Capabilities Action Plan – ECAP. ECAP has identified a number of sub-areas under the aforementioned three broader deficiencies, and EU members have engaged to work on these sub-areas voluntarily, taking a lead in respect to those for which they believe themselves well suited. One of ECAP'S weaknesses, however, is that it is managed on a voluntary basis, suggesting that EU members might not feel obliged by it to act. As was the case with the DCI, ECAP might prove over-ambitious; time will tell. Though it should be noted that NATO has worked to close capability gaps for decades, while the EU is becoming more ambitious – so something has changed already.

Europe has repeatedly – and for many years – been accused of having too little defense R&D resources, as the United States spends four to five times as much on defense R& D as all of NATO Europe combined. This is of course correct; the problem is, however, that

Europe has in practice proven that it does not want to raise its defense R&D spending to the U.S. level, and, therefore, this imbalance does not seem to have changed to any real extent. The United States has also pointed to major duplication of defense R&D within Europe, since individual European countries were all seen as trying to solve the same problems – each with insufficient resources. The Europeans have not rejected this claim, and no real inventory has been made. A recent unofficial inventory made within the EU has – to the surprise of some EU members – shown that intra-European duplication is not that severe at all (some un-orchestrated, divine force seems to have caused the individual countries to have defense R&D priorities that are not so overlapping at all). However, even if European R&D has not been terribly overlapping, its combined product is still a far cry from that of the United States.

Year 2015 - Scenarios for the Future Transatlantic Defense Industry Market

A scenario is a comprehensive future view of the world in which an organization will have to act. A scenario must be relevant, credible and interesting – and, if several scenarios are used, they should encompass as fully as possible, the range of relevant, strategic options that lie ahead. When using scenarios as a strategic tool, the time frame in question must be sufficiently far into the future that conditions are likely to have changed, *however,* it must not be so far away that it becomes beyond grasp. I have chosen to build scenarios for the year 2015.

In order to grasp the most central aspects of what drives the development of the transatlantic defense industry context, I have chosen two main variables. The first one, *market logic*, concerns to what extent the market is driven by market (corporate) considerations and priorities, or to what extent it is driven by political, governmental considerations. Thus, this variable has two outcomes: a market driven or a politically driven transatlantic defense industry.

The second variable concerns the degree of *market integration.* Market integration concerns to what extent the European and U.S. defense industries are integrated, i.e. how closely they cooperate and how transparent their interaction becomes. The outcomes in this case are either a common transatlantic market or European and U.S. fortresses.

This results in four different scenarios, each with their combination of outcomes. The question is then what kind of defense, security and geopolitical developments would lead to these different situations – and what characterizes each context. (See Figure 2 at the end of this report.)

Just Another Market (Common Transatlantic Market, Market Driven)

In this case, governments have accepted the full impact of general market forces on the defense industry. Protectionism and national interests in regard to domestic capacity have been set aside and governments feel that they get the best value for their money by buying wherever and from whomever the best deal is being offered. The market is highly competitive and it is not dominated by a small number of giants. Companies that are not competitive will disappear and new companies will enter the market. Solutions and new

technology from the commercial sector will be abundant; and there will be small barriers or differences between the defense and the commercial sectors. The upgrading cycle time is short – there is therefore a need to avoid hampering the inflow of the latest commercial solutions. The decisive defense capabilities have very high IT, sensor and network content. The overall context is clearly trust-based and national borders are not very economically important. Globalization - in all aspects - has had a far-reaching impact.

Defense Microsofts (Fortresses, Market driven)

Terrorism, as from al Qa'eda today, is still rampant and it appears to be perpetual. Certain Mid-Eastern and Central Asian nations support terrorism. The EU and the United States are militarily superior, but cannot decrease the level of discontent with the West in those parts of the world. Dominant companies have in this case been allowed to grow without restrictions. The high cost of R&D needed to create new solutions or technological breakthroughs along with fundamental incentives for economies of scale (both for governments and for industry), have made it so that governments collaborate extensively in order to lower unit price. Even so, toothless governments have caused the formation of a very tight defense industrial oligopoly, in which one or two global companies dominate segments. The priorities of the companies and the economic incentives of very large, transnational corporations have not been interfered with, either by the EU, or the United States. Anti-trust legislation has therefore proven futile or been abandoned altogether. On the prime level, the global number of companies is two in the United States and one in Europe. Companies have created hegemonic positions such as those enjoyed presently by Microsoft in some markets. Governments attempt to decrease corporate bargaining power by collaborating multilaterally, though the competing alternatives for purchasing sophisticated defense materiel are limited. The overall context is trust-based and pragmatic between Western governments concerning military capabilities, but it is suspicion-driven (i.e. restrictive export controls) for defense companies.

The EU vs. the United States (Fortresses, Politically Driven)

Diverging forces between Europe and the United States have caused NATO to collapse. The United States has chosen to "go it alone", and there are many differences in threat perception and budgetary commitments. The EU has a strong collective military identity, and the United States concentrates on its own priorities (seeking political partners when their security interests coincide with U.S. interests). An important exception is that the United Kingdom has parted with the EU and is now closely linked to the United States. In coalition with the United States, it has much responsibility for Atlantic-area stability. The United States has shifted its security and military focus from the Atlantic to the Pacific Ocean, and the EU has a greater responsibility for the unstable regions on its borders. The degree of transatlantic defense collaboration is very limited and it garners only half-hearted political support at best. The two continents are not real military opponents, but they are much further apart in their views of the world than they have been in the past. Russia has become a more interesting partner for the United States because the U.S. government sees collaboration with Russia as a way of decreasing Europe's power, and also as a way to obtain some interesting technology on the side. The overall context is clearly suspicion-driven, but with more trust-based openness within the EU. Commercial solutions have proven

inadequate for governments' need of control, so technology is to a larger extent than today being developed defense in-house, protected by governments.

NATO United (Common Transatlantic Market, Politically Driven)

NATO has proven to be the number one Atlantic security body, and EU military forces are organized as subsets of the overall NATO capacity. NATO has expanded all the way to the Russian border, to include Ukraine, Moldova and Georgia, but not Belarus or Russia. The United States is still the dominant player, but the NATO community has collectively solved its security concerns. Overall Alliance defense priorities are harmonized, and interoperability has come a long way. The NATO community constitutes a militarily, economically and culturally strong identity, creating a distinct North-South polarization vis-à-vis the rest of the world. The overall context is trust-based within NATO United, but dominated by a stronger suspicion-driven interface towards the rest of the world (apart from Australia and New Zealand). Defense technology is the art of putting together commercial solutions into a defense solution. Some very sophisticated segments concerning, e.g. sensors, data fusion, material technology, system-of-system integration and encryption are developed within a strict defense-related community, and these are transferred over borders with strong restrictions. The NATO defense-relevant sphere comprises certain small parts outside the United States and Europe, primarily in Japan, Singapore and Australia. NATO United has a decisive defense-technological advantage over the rest of the world.

These four scenarios grasp, in my view, the most important potential future defense industrial developments foreseeable and address fundamental aspects concerning the future of the transatlantic defense industrial (and global) contexts. The true outcome will probably be somewhere in-between all of them. All four assume that the United States will continue to dominate budget-wise and technologically.[120] Hopefully, these scenarios will, at a minimum, provide some food for thought.

How do these Scenarios Affect the Transatlantic Defence Industry?

Where should transatlantic defense industry go? If the preferred outcome is increased and improved NATO collaboration (which in itself demands harmonization and a reduction of the transatlantic gap), *Just Another Market* and *NATO United* are the preferred scenarios. These two, however, rest on different overall developments. In the first scenario, military harmonization is no longer relevant – technological development is too rapid – and the maintenance of a national defense-industrial capacity is no longer seen as important. The defense industry has therefore become just another industry, which is very far from happening today. *NATO United* simply strengthens NATO's current strivings, neutering the EU (militarily) and also reinforcing the global North-South polarization.

So which drivers and inhibitors will prevail? Government-wise, in all scenarios, I assume that the Unites States will maintain its hegemonic position. Drivers for maintaining that position are therefore seen as prevailing (albeit phrased somewhat differently in different scenarios). Europe will always be concerned about its own security, but that will not be achieved through excessive dependence on the United States. European countries will only

[120] I intend to further expand on this scenario trajectory in a coming paper. The scenario discussion is inspired by a forthcoming FOI report on scenarios for future defense industry.

address global obligations when its own, clear interests are threatened. Given present (2002) trends in favor of the harmonization of military requirements, of the coordination of non-military R&D (military R&D will follow to some extent) and of economic convergence within the EU, European defense industry will likely become more and more harmonized, *irrespective* of the state of transatlantic relations. If relations with the United States deteriorate, the pace and degree of intra-European integration will be higher. The United States will always (or at least until 2015) be clearly stronger militarily and budget-wise.

As for *companies*, they are mainly influenced by two desires: to strengthen their market positions and to fulfill obligations to their investors. The overall context and its degree of flexibility are determined by governments (but less so than in the *Just Another Market* scenario) and companies will exploit the possibilities and opportunities offered by each scenario. If monopoly is allowed, the biggest companies will strive for that status. If commercial technology is accessible, enabling better products for prevailing demand (and if defense technology is not closely monitored and restricted by governments) companies will strive to benefit from commercial development. Overall, in my view, governments should set restrictive, defense-specific outer limitations and leave to the industry the finding of proper modes of collaboration and technology flow. The overall defense-specific context should shift more to a trust-based context. This would improve NATO collaboration as well as inflow from commercial innovation and also make defense industry more responsive (and thereby more healthy) to generic management and technology trends in the commercial sector.

It should be quite apparent to what extent diverging and converging forces impact transatlantic relations. Different forces become dominant in different scenarios, due to changing conditions and priorities. In one scenario there is substantial convergence; in another there is considerable divergence. In the other two, convergence is achieved for different aspects, while a certain distance prevails otherwise.

Conclusions for NATO

To begin, I find the future prospect of an even, truly transatlantic, fair and reciprocal defense industry (or however along those lines one would describe such a phenomenon) highly unrealistic. Therefore, regardless of the scenario that eventually prevails, a transatlantic gap will persist. Having said that, how will the two spheres interact? In order to understand what steers and shapes the market, it is fundamental to understand both corporate and government priorities, and to attempt to understand how these interact. I now, finally, return to the questions given to me by the Atlantic Council.

What are the challenges and opportunities for transatlantic cooperation between defense industries? This has been discussed in the above sections. The challenge lies mainly in having a more equal context, not in effecting an improbable increase of European defense budgets.

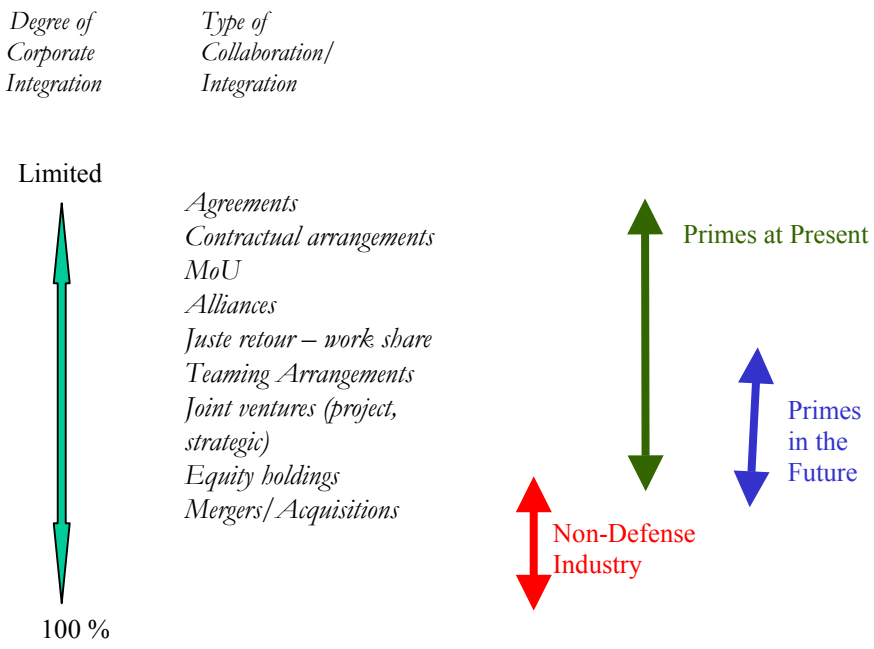
Are the prospects improving for NATO collaboration or not and why? Since the gap in my view is not decreasing – probably increasing – and since Europeans have differing ambitions in regard to NATO than does the United States, the prospects for collaboration appear not to be

improving. However, relations are probably not automatically deteriorating due to an extended (perpetual) gap. A gap has existed for a little over fifty years, so why should it not be able to exist for a few more decades without seriously harming transatlantic relations?

How could such cooperation best contribute to reducing the capabilities gap? Budgets will never be equal, nor will the degree of power. If the overall context can assume a more trust-based nature, the mutual exchange of ideas and technology will increase. Interaction with commercial innovation should also benefit. Overall, the defense industry would be treated less as a unique industry. U.S. and European companies would therefore have to compete in a less protected environment and competitiveness would be a larger determinant of which companies stay in the market. Furthermore, collaborative arrangements might allow companies to interact more freely and promote true integration of production assets and innovative centers of excellence.

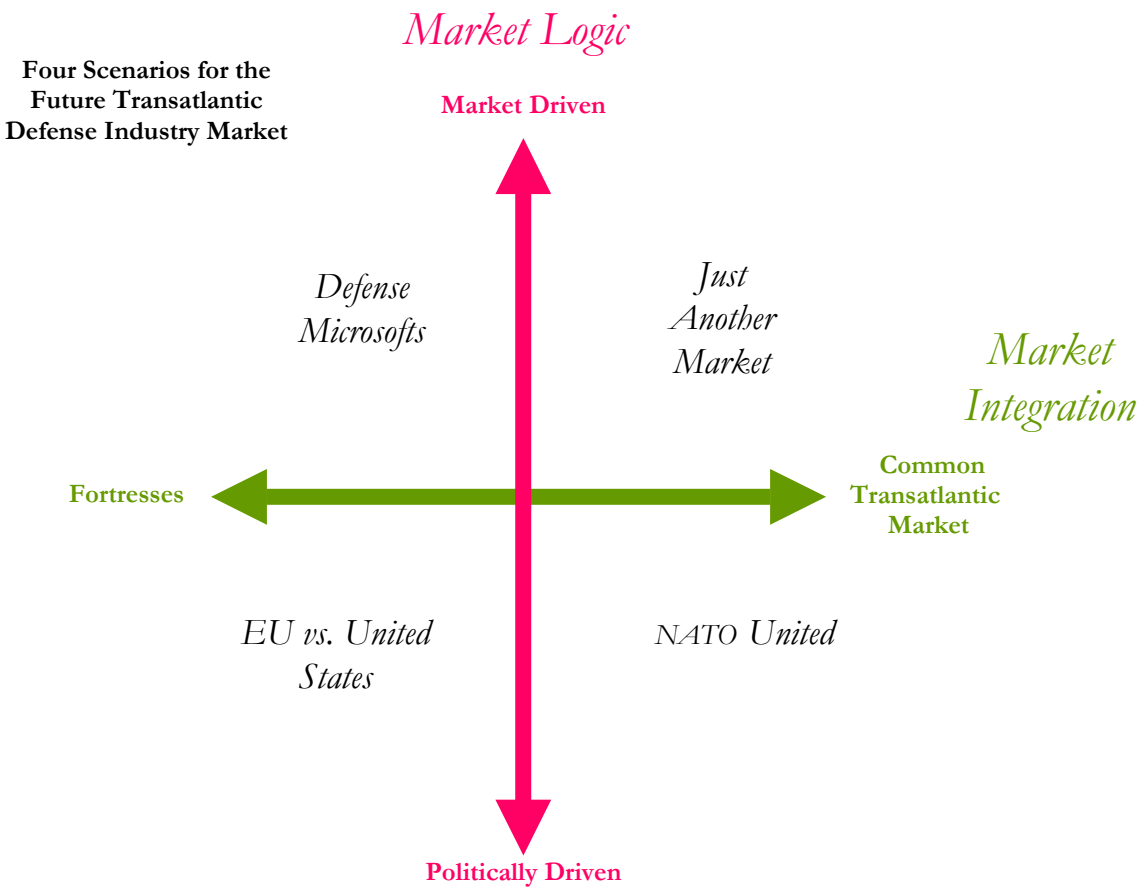
What does the European defense industrial base offer for the United States? I am not able to point to the exact product or technology areas where European companies or military forces could best contribute to overall NATO capabilities. If Europeans are consistently left to act in a U.S.-defined context (as in the present suspicion-driven state of affairs), if the United States acts more and more unilaterally (as does George W. Bush) and if European budgets do not change considerably, then the NATO community will gradually erode. It could ultimately lead to the Europeans parting militarily with the United States. Within a more trust-based context, Europeans will be more active and relevant participants and constructive, defense-technological harmony will exist inside NATO. Greater diversity, more ideas and solutions and also a better U.S. global position (both for the country and for its companies) would be the U.S. dividend from such a changed context. Governments should set the context, therefore, but let industry lead the way.

Figure 1:
Modes of Transatlantic Integration among Primes



Focus on primes, in a transatlantic context:
Shift from *suspicion-driven* to *trust-based*

Figure 2:
Year 2015 Transatlantic Defense Industry Scenarios



References

Adams, G. (1999), "The necessity of transatlantic defence co-operation", in: *Europe's Defence Industry: a Transatlantic Future*, Centre for European Reform (CER), London, p. 42-48.

Adams, G. (2001), "Fortress America in a changing transatlantic defence market", in *Between Cooperation and Competition: the Transatlantic Defence Market*, Schmitt, B. (ed), Chaillot papers 44, Institute for Security Studies, Western European Union, Paris).

Axelson, M. and James, A. (2000), *The Defence Industry & Globalisation – Challenging Traditional Structures*, FIND Programme, FOA User report, Swedish Defence Research Establishment (FOA), Stockholm.

Axelson, M. (2001), *Defence Industry Shift – from Manufacturing to Services*, FIND Programme, FOI User report, Swedish Defence Research Agency (FOI), Stockholm.

Axelson, M. and Lindgren, F. (2001), *Internationella Samarbetsmönster Hos Försvarsindustrin i Sverige* [*International Patterns of Collaboration in the Defense Industry in Sweden*], FIND Programme, FOI User report, Swedish Defence Research Agency (FOI), Stockholm.

Bengtsson, L., Holmqvist, M. and Larsson, R. (1998), *Strategiska Allianser – från Marknadsmisslyckande till Lärande Samarbete* [*Strategic Alliances – from Market Failure to Learning Cooperation*], Liber Ekonomi, Malmö.

Bitzinger, R. (1999), "Globalization in the Post-Cold War Defense Industry: Challenges and Opportunities", in: *Arming the Future – A Defense Industry for the 21st Century*, Markusen, A. and Costigan, S., eds, Council on Foreign Relations, New York.

Dowdall, P. and Braddon D. (1992), "Puppets or Partners: The Defense Supply Chain in Perspective", p. 106-8. in: Latham and Hooper (1992).

Krause, K. (1992), *Arms and the State: Patterns of Military Production and Trade*, Cambridge Studies in International Relations, Cambridge University Press, New York.

Gompert, D., Kugler, R. And Libicki, M. (1999), *Mind the Gap – Promoting a Transatlantic Revolution in Military Affairs*, National Defense University Press, Washington D.C.

James, A (2001), "Defence industry consolidation and post-merger management: Lessons from the USA", Aerospace Management, Vol. 1, Number 3, p. 252-267.

Krasner, S. (1978), *Defending the National Interest – Raw Materials Investments and U.S. Foreign Policy*, Princeton University Press, Princeton.

Lundmark, M., Axelson, M., Bjurström, E. and Lindgren, F. (2000), *Striving for Security of Supply – the Swedish Model of Mutual Dependencies*, FIND Programme, FOA User Report, Defence Research Establishment (FOA), Stockholm.

Lundmark, M. (2002:I), '"The Transatlantic Defense Industry Market: Future Modes of Integration", in *Breakthroughs*, pp. 11-21, Security Studies Program, Massachusetts Institute of Technology, Cambridge.

Lundmark, M. (2002:II), *Drivers and Inhibitors for Transatlantic Defence Industry Integration – The U.S. Perspective*, FIND Programme, FOI User report (forthcoming), Swedish Defence Research Agency (FOI), Stockholm.

Markusen, A. and Costigan, S. (1999), "The Military Industrial Challenge", in: *Arming the Future – A Defense Industry for the 21st Century*, Markusen, A. and Costigan, S., eds, p. 3-34, Council on Foreign Relations, New York.

Molas-Gallart, J. (1999), *The European Missile Industry*, CRIS Papers 1, Centre for Research in International Security (CRIS), Manchester.

Ratnam, Sherman and Svitak, A. (2001), Bush Opens Arsenal to Mideast – Pakistan, Oman, Egypt, UAE Could Receive Long-Awaited Jets, Spare Parts from U.S., Defense News.

Sapolsky, H. and Gholz, E. (1999), "Private Arsenals: America's Post-Cold War Burden", in: *Arming the Future – A Defense Industry for the 21st Century*, Markusen, A. and Costigan, S., eds, p. 191-206, Council on Foreign Relations, New York.

Sapolsky, H. (2001), "Buying Weapons Without an Enemy", Breakthroughs, Spring 2001, Vol X No.1, p. 27-35, Security Studies Program, Massachusetts Institute of Technology, Cambridge Singer (2001), Who's the Big Winner? – All Services Likely to Reap Rewards, Defense News.

Trubowitz, P. (1998), *Defining the National Interest – Conflict and Change in American Foreign Policy*, The University of Chicago Press, Chicago.

von Vorys, K. (1990) American National Interest, Praeger, New York.

Annex A: Short Author Biographies

Dick Arnold was appointed Technical Director of the Thales Business Group Naval Systems in 2000, which was changed in 2002 to Technology Director for the Business Group Naval and Director Co-Operations in Thales Research and Technology. Mr. Arnold was born in 1943 in The Hague and started his career in the Royal Dutch Navy in 1963. After a period of 23 years, during which he qualified as gunnery officer, studied weapon technology at Delft University, carried out research on the dynamic behavior of towed bodies (VDS) and participated in the development of the Goalkeeper system, he left the Navy in 1986 with more than 15 years of sea duty. In Hollandse Signaal he was assigned as manager of the mechanical design and construction department. During the merger with Thomson-CSF he left after finishing his role in the integration team and became Technical Manager of the Philips Deck factory (VCR's) in Vienna. In 1992 he was "called" back to the Netherlands and was promoted to Technical Director of Signaal, where he stayed until mid 1999. The next year he was assigned as technology director of Signaal in the Netherlands and Corporate Co-Operation Director in Paris, a post he held until acceptance of his current position with Thales.

Daniel Bastien has been serving as Defense Attaché to the French Embassy in Washington since September 1, 2000. General Bastien is a French Air Force Academy graduate. He spent six months at the USAF Academy as an exchange cadet, and then served as a fighter pilot, flying the T33, Mystère IV, Mirage 3R, Mirage 3C, Mirage F1 and Mirage 2000. He served in the French demonstration team, commanded a fighter squadron and a fighter wing. He also spent one year at the U.S. Air War College as part of an exchange program. From 1992 to 1995, he served as Military Adviser to the French Ambassador at France's Permanent Mission to the United Nations, in New York. From 1995 to 1997, he was assigned to Mont de Marsan Air Force Base as Base Commander. In September 1997, he joined the French Presidence as Air Assistant to the Chief of the French President's Personal Military Staff in charge of bilateral and multilateral relationships, a post he held until acceptance of his current position.

Klaus Becher is the Helmut Schmidt Senior Fellow for European Security at the International Institute for Strategic Studies (IISS) in London. Previously he worked in Germany at the Stiftung Wissenschaft und Politik (SWP) in Ebenhausen (1997 to 1999) and the German Council on Foreign Relations (DGAP) in Bonn (1988 to 1997). He holds an MA in international relations (University of Bonn, 1983). He is German and lives in Bonn and Richmond/Surrey.

Pierre A. Chao is a Managing Director and Senior Aerospace/Defense Analyst at Crédit Suisse First Boston. Mr. Chao has been involved in numerous landmark transactions and has been on the Institutional Investor All American Research Team since eligible from 1996 to 2002. Mr. Chao has been ranked the number one aerospace/defense analyst in the 1995 to 1999 Greenwich Associates polls, number one in the 1998 to 1999 Reuters Polls and appeared on the Wall Street Journal All Star Team four times. Mr. Chao was appointed by President Clinton to the Presidential Commission on Offsets in International Trade, is a

consultant to the Army Science Board and is a Senior Advisor at the Center for Strategic and International Studies (CSIS). Previously Mr. Chao was associated with Morgan Stanley Dean Witter, Smith Barney, JSA International and Purdential-Bache Capital Funding. Mr. Chao received dual Bachelor's degrees in Political Science and Management Science from M.I.T.

Ian Forbes is the Acting Supreme Allied Commander Atlantic (SACLANT). Admiral Forbes joined the Royal Navy in 1965 and qualified as a Principal Warfare Officer in 1976. He specialized as an Anti Air Warfare Officer in 1978. He has commanded four ships and has participated in the STANDING NAVAL FORCE ATLANTIC on 3 occasions. Admiral Forbes was appointed CBE following work on Yugoslavia in the MOD in 1991/93, and was awarded the Queens Commendation for Valuable Service in recognition of HMS INVINCIBLE's participation in the NATO bombing campaign over Bosnia in 1995. On promotion to Rear Admiral, he moved to the post of Military Advisor to the High Representative in Sarajevo, Carl Bildt, later assuming the duties of Chief of Staff within the High Representative's office in Bosnia. He then commanded the UK Task Group. He was the Commander onboard HMS INVINCIBLE and then HMS ILLUSTRIOUS during the crisis with Iraq in 1998, and returned to the Gulf onboard HMS INVINCIBLE in the wake of Operation Desert Fox the following year. He later relocated to the Adriatic to command the UK maritime contribution to NATO operations in Kosovo. He assumed his appointment as Flag Officer Surface Flotilla in April 2000. He was promoted to Admiral in December 2001 before taking up his current appointment. Admiral Forbes is a graduate of the RAF Staff College at Bracknell and he attended RCDS in 1994.

Jacques S. Gansler, former Under Secretary of Defense for Acquisition, Technology and Logistics, is the first holder of the Roger C. Lipitz Chair in Public Policy and Private Enterprise at the University of Maryland. As the third ranking civilian at the Pentagon from 1997 to 2001, Professor Gansler was responsible for all research and development, acquisition reform, logistics, advanced technology, environmental security, defense industry, and numerous other security programs. Before joining the Clinton Administration, Dr. Gansler held a variety of positions in government and the private sector, including Deputy Assistant Secretary of Defense (Material Acquisition), Assistant Director of Defense Research and Engineering (Electronics), Vice President of ITT, and engineering and management positions with Singer and Raytheon Corporations. He is the author of *Defense Conversion: Transforming the Arsenal of Democracy*, MIT Press, 1995; *Affording Defense*, MIT Press, 1989, and *The Defense Industry*, MIT Press, 1980.

Reiner K. Huber is Professor of Applied Systems Science at the University of the Federal Armed Forces Munich. During his 40-year career he has served on several advisory panels of NATO and of the German Ministry of Defense, in various councils of professional societies, and as a visiting lecturer at the (U.S.) Naval Postgraduate School, the Korea Institute of Defense Analyses, the (UK) Royal Military College of Science, and the Military Operations Research and Analysis Institute in Beijing. He has organized and chaired nine international scientific conferences, (co)edited 13 books and authored more than 170 articles in scientific and professional journals on military operations research and defense research issues and applications. His most recent work emphasizes military stability of multipolar international

systems, crisis management and peace support operations, ballistic missile defense, and convergence criteria for defense reform in Europe.

Andrew James is a research fellow and member of faculty at the University of Manchester in the United Kingdom. He has a particular interest in corporate strategy in the defense industry and is the author of a number of recent reports on defense industry consolidation, globalization, and the prospects for a transatlantic defense industry. He has been a consultant in this field for the European commission, FOI (the Swedish government's defense research establishment), CNA Corporation and a number of leading strategy groups. Andrew joined the University of Manchester in 1993, after five years working as economic and industrial policy adviser to the Labor Party's Parliamentary Spokesperson on Industry in the United Kingdom's House of Commons.

Richard Kugler is a Distinguished Research Professor at the Center for Technology and National Security Policy at the National Defense University. He has thirty years of experience in the defense business, which includes twenty years at the Department of Defense and ten years at RAND corporation. Dr. Kugler has been a member of the Senior Executive Service since 1981. He has authored or edited fourteen books on U.S. national security strategy and published articles in *Foreign Affairs*, *Survival*, and other journals. Dr. Kugler served in Vietnam as a USAF officer from 1968 to 1972. He obtained his PhD in 1975 from the Massachusetts Institute of Technology.

Martin Lundmark, M.Sc. Industrial Marketing, is the manager of the Defence Industry Programme (FIND) within the Swedish Defence Research Institute(FOI). FIND follows and analyses the international consolidation, cooperation patterns and conditions of the defence industry. Mr. Lundmark's recent studies include transatlantic defence industry integration and he is presently the project leader of a Swedish government assignment concerning national strategy for multilateral defence collaboration. Martin is a reserve officer in the Swedish Air Force and a graduate student at the Stockholm School of Economics. He was a guest researcher at the Security Studies Program at M.I.T. in the spring of 2001, and will be a guest researcher at the Fondation pour la Recherche Stratégique (FRS), Paris in the spring of 2003.

Robert Mroziewicz was born in Warsaw, Poland. He graduated from the University of Warsaw in 1965 and received his MA in 1970. He earned his PhD from the Polish Academy of Sciences in 1984. From 1965 to 1990 he worked in the capacities of Assistant, Adjunct and then Associate Professor at the University of Warsaw and at the Polish Academy of Sciences. Mr. Mroziewicz then accepted the post of Ambassador, Permanent Representative of Poland to the United Nations, which he held from 1990 to 1992. From 1993 to 1997 he was Under Secretary of State, Ministry of Foreign Affairs and from 1997 to 1999 he was Under Secretary of State, Ministry of National Defense. He then returned to academia and, since 2000, has held the title of Professor at both the private Collegium Civitas (Warsaw) and the public University of Warsaw.

C. Richard Nelson is the Director of the Atlantic Council's Program on International Security. Dr. Nelson joined the Atlantic Council in 1993 after more than 30 years of government service

with the U.S. Army and with the Central Intelligence Agency. His Army career included command and staff assignments, including service in Laos and Vietnam and a tour with the Director of Net Assessment in the Office of the Secretary of Defense where he was responsible for analyzing the military balance in East Asia. He also served in the National Intelligence Council, initially as a national estimates officer in the analytic group, and later as assistant NIO for Science and Technology. He also was a professor of political science at the Industrial College of the Armed Forces, National Defense University and he taught international relations for more than 10 years at George Mason University. Dr. Nelson's education includes a Ph.D. in Political Science from Kansas University, an M.A. in Far Eastern Studies from the University of Michigan, and a B.S. from the U.S. Military Academy, West Point.

Annex B: Acronyms

AAW – Anti-Air Warfare
AFCON – Advanced Frigate Consortium
AGS – Air Ground Surveillance
AMC – Airbus Military Company
APAR – Active Phased-Array Radar
ASTOR – Airborne Stand-Off Radar
AWACS – Airborne Warning and Control System
BAe – British Aerospace
BAE Systems – British Aerospace & Marconi Electronic Systems
BAMS – Balance Analysis Modeling System
BMD – Ballistic Missile Defense
BOL – Business Object Layer
C2 – Command and Control
C4ISR – Command, Control, Communications and Computers; Intelligence, Surveillance and Reconnaissance
CALCM – Conventionally-Armed Long-Range Cruise Missile
CALS – Continuous Acquisition and Life-cycle Support
CESDP – Common European Security and Defense Policy
CFE – Conventional Forces in Europe
CFSP – Common Foreign and Security Policy
CNO – Chief of Naval Operations
CONOPS – Concepts of Operations
CORBA – Common Object Request Broker Architecture
COTS – Commercial Off-The-Shelf (products)
CRO – Crisis Reaction Operations
CVF – Future Aircraft Carrier (United Kingdom)
DARPA – Defense Advanced Research Projects Agency
DASA – DaimlerChrysler Aerospace
DCI – Defense Capabilities Initiative
DCN – Direction des Chantiers Navals (France, Office of Shipbuilding)
DD(X) – Destroyer (of any type or of an as yet unspecified type)
DGA – Délégation Générale pour l'Armement (France, General Armament Authority)
DTSI – Defense Trade Security Initiative
EADS – European Aeronautic Defence and Space Company
ECAP – European Capabilities Action Plan
EDC – European Defense Community
EMPAR – European Multifunction Phased Array Radar
ERRF – European Rapid Reaction Force
ESDP – European Security and Defense Policy
ESSM – Evolved SeaSparrow Missile
ETAP – European Technology Acquisition Program
EU – European Union
EUCLID – European Cooperation for the Long-term In Defence

EW – Electronic Warfare
FMM – Frégates Multi-Missions (Multimission Frigates)
GDP – Gross Domestic Product
GNP – Gross National Product
GPS – Global Positioning System
HDW – Howaldtswerke Deutsche Werft (Germany)
HE – High Energy
HW – Hardware
ILS – Inventory Locator Service
IPR – Intellectual Property Rights
ISO – International Product Data Standard
IT – Information Technology
JFCOM – Joint Forces Command
JSF – Joint Strike Fighter
J-STARS – Joint Surveillance Target Attack Radar System
JV – Joint Venture
KFOR – Kosovo Force
LAC – Land Attack Corvette
LCF – Air-Defense Command Frigate (the Netherlands)
LoI – Letter of Intent
LPD – Landing Ship Transport, Dock
LTDP – Long-Term Defence Programme (NATO)
M & A – Mergers and Acquisitions
MATLAB – Matrix Laboratory
MBB – Messerschmitt-Boelkow-Blohm
MBDA – The company that resulted from the merging of Matra BAe dynamics, EADS-Aerospatiale Matra Missiles and Alenia Marconi Systems
MEADS – Medium Extended Air Defence System
MFR – Multi-Function Radar
MIC – Military-Industrial Complex
MoU – Memorandum of Understanding
MSOW – Modular Stand-Off Weapon
MTW – Major Theater War
NAAWS – NATO Anti-Air Warfare System
NATO – North Atlantic Treaty Organization
NBC – Nuclear, Biological and Chemical (weapons)
NRRF – NATO Rapid Reaction Force
NSPO – NATO SeaSparrow Program Office
NWC – Naval Weapons Center
O & M – Operation and Maintenance
OCCAR – Organisation Conjointe de Coopération en Matière d'Armement (Organization for Joint Armament Cooperation)
OMG – Object Management Group
ONR – Office of Naval Research
ONRIFO – Office of Naval Research International Field Office
OOA – Out of Area

OOTW – Operations Other Than War
OSCE – Organisation for Security and Cooperation in Europe
OSD – Office of the Secretary of Defense (United States)
OSI – Other Security Interests
PLCS – Product Life Cycle Support
PQIA – Polish Quarterly of International Affairs
PSO – Peace Support Operations
R & D – Research and Development
RDT & E – Research, Development, Test and Evaluation
R & T – Research and Technology
RFP – Request for Proposal
RMA – Revolution in Military Affairs
RML – Relative Modernization Level
RMPM – Relative Military Potential Measurement
SACEUR – Supreme Allied Commander Europe
SACLANT – Supreme Allied Commander Atlantic
SDBS – Synthetic Digital Battle Space
SDR – Strategic Defence Review
SEAPAR – See "APAR" above
SFS – Situational Force Scoring
SNECMA – Société Nationale d'Etude et de Construction de Moteurs d'Aviation (France)
SOSTAR – Stand Off Surveillance and Target Acquisition Radar
STEP – Standard for the Exchange of Product Model Data
STN – Systemtechnik Nord ATLAS Elektronik GmbH (Germany)
SW – Software
TAA – Technical Assistance Agreement
TFC – Tripartite Frigate Consortium
TIPS – Transatlantic Industrial Proposed Solution
TNO – The Netherlands Organisation (for Applied Scientific Research)
UAV – Unmanned Aerial Vehicle
UCAV – Unmanned Combat Aerial Vehicle
UN – United Nations
VTOL – Vertical Take-Off and Landing
WEAG – Western European Armaments Group
WEI – Weapon Effectiveness Index
WEU – Western European Union
WMD – Weapons of Mass Destruction
WTO – World Trade Organization
WUV – Weapon Unit Value
ZAS – Zentrum für Analysen und Studien der Bundeswehr (Germany, Center for Studies and Analyses of the German Army)

THE ATLANTIC COUNCIL'S BOARD OF DIRECTORS

CHAIRMAN
*Henry E. Catto, Jr.

VICE CHAIRS
*Carol C. Adelman
*Daniel J. Callahan, III
*Barbara H. Franklin
*Chas. W. Freeman, Jr.
*Roger Kirk
*Geraldine S. Kunstadter
*Virginia A. Lampley
*Richard L. Lawson
*John D. Macomber
*Jack N. Merritt
*Hilliard W. Paige
*W. DeVier Pierson
*Ronald P. Verdicchio

TREASURER
*Peter W. Smith

SECRETARY
*Walter B. Slocombe

PRESIDENT
*Christopher J. Makins

DIRECTORS
David L. Aaron
*David C. Acheson
Donald M. Alstadt
G. Allen Andreas
Marilyn W. Andrulis
Nancy Kassebaum Baker
Reginald Bartholomew
Judith H. Bello
Lucy Wilson Benson
Dennis Blair
Julia Chang Bloch
Beth A. Brooke
Harold Brown
Kent N. Brown
Dan W. Burns
Richard R Burt
Sarah C. Carey
Michael P.C. Carns
Gareth C.C. Chang
Daniel W. Christman
Wesley K. Clark
William Clark, Jr.
Vance D. Coffman
*Curtis M. Coward
W. Bowman Cutter
W. Kenneth Davis
William H. Draper, III
Stanley Ebner
Stuart E. Eizenstat
*Robert F. Ellsworth
Richard W. Fisher
*William H.G. FitzGerald
Leon S. Fuerth
*John L. Fugh
Sherri W. Goodman
Andrew J. Goodpaster
Lincoln Gordon
C. Boyden Gray
Maurice R. Greenberg
*Janet Mullins Grissom
Donald L. Guertin
Kenneth H. Hannan
*Harry Harding
Rita E. Hauser
Marten H.A. van Heuven
James Hogg
*Mary L. Howell
Chun-tu Hsueh
*Benjamin Huberman
Robert E. Hunter
Robert L. Hutchings
Mercy W. Jimenez
*George A. Joulwan
Paul G. Kaminski
Arnold Kanter
Robert M. Kimmitt
*James V. Kimsey
Henry A. Kissinger
Michael V. Kostiw
*Charles R. Larson
Roderick K. von Lipsey
*Jan M. Lodal
John R. Lyman
Diana MacArthur
Barry R. McCaffrey
James P. McCarthy
Joan M. McEntee
*David E. McGiffert
Judith A. Miller
*Steven Muller
William A. Nitze
Robert E. O'Brien
Philip A. Odeen
Charles R. Perry
William J. Perry
Thomas R. Pickering
Joseph Prueher
Norman W. Ray
Stanley R. Resor
Joseph E. Robert, Jr.
Paul H. Robinson, Jr.
Marjorie M. Scardino
James Schlesinger
John P. Schmitz
*Brent Scowcroft
John M. D. Shalikashvili
Elizabeth Sherwood-Randall
C.J. Silas
Matthew R. Simmons
Kiron K. Skinner
Esther T. Smith
Roy C. Smith
William Y. Smith
*Helmut Sonnenfeldt
George J. Stathakis
*Paula Stern
Robert D. Stuart, Jr.
Gordon R. Sullivan
*Sandra E. Taylor
Terence A. Todman
Carl E. Vuono
Roger W. Wallace
Togo D. West, Jr.
Mason Willrich
R. James Woolsey

HONORARY DIRECTORS
James A. Baker, III
Frank C. Carlucci, III
Warren Christopher
Harlan Cleveland
C. Douglas Dillon
Russell E. Dougherty
Gerald R. Ford
Alexander M. Haig, Jr.
Andrew Heiskell
Christian A. Herter, Jr.
Robert S. McNamara
Paul H. Nitze
Bernard W. Rogers
Edward L. Rowny
George M. Seignious, II
Raymond P. Shafer
George P. Shultz
William H. Webster
John C. Whitehead

**members of the Executive Committee*

THE ATLANTIC COUNCIL
OF THE UNITED STATES
Suite 1000, 910 17th Street, N.W.
Washington, D.C. 20006

ADDRESS CORRECTIONS REQUESTED

Non Profit Org.
U.S. POSTAGE
PAID
Washington, DC
Permit No. 8134