PART 1

Transatlantic Security and Defense Cooperation in a Changing World

For more than 40 years, the transatlantic partnership and the defense cooperation at its core served U.S. and European security interests admirably. Through their cooperation in NATO, the two partners maintained peace and security in a Europe first divided, then increasingly united, free, and democratic. Throughout, this partnership endured political differences and periods of considerable friction. Yet, in times of crisis, the ties that bind have proven stronger than the forces of divisiveness. They are now fundamentally irreversible.

As the United States and Europe begin to confront the security challenges of the twenty-first century, they are once again at odds over security issues in and beyond Europe. Internal NATO relations, initially strengthened by the unity shown in the face of the terrorist attacks of September 11, 2001, on New York and Washington, D.C., are again beginning to fray. European views on issues of security policy, including the future directions to be pursued in the war on terrorism, differ from the prevailing view in Washington. This gap in vision between Europe and the United States, in turn, impacts unfavorably on the transatlantic defense industrial and technological relationship.

The gap in vision coincides with economic and technological developments that make this goal of closer cooperation on security matters more and more difficult to achieve—even as the same developments make the need for enhanced transatlantic defense industrial cooperation more imperative than ever. From an *economic* standpoint, the ever-closer integration between the two sides of the Atlantic, as evidenced by broad trends in foreign direct investment, trade, and mergers and acquisitions, translates into greater realignments within the defense industrial sector. From a *technological* point of view, the industrial and technology base meeting those defense needs is increasingly commercial and global in nature, making stronger defense industrial interdependence attractive, even inevitable.

At the same time, however, the United States has in recent years embarked on a radical reorganization and transformation of its military resources and capabilities, and at a speed and of a scope that current European defense budgets are in no position to match any time soon. As a result, Europe's technological ambitions remain subject to budgetary constraints that run counter to the continent's significant potential for innovation and its accessibility to high-quality engineering talent.

Thus, from a *strategic* point of view, these economic and technological developments tend to widen the divide in transatlantic attitudes about when and how to use military force in jointly led operations. At the same time, the need to close the military capability gap between the European NATO allies and the United States has become more, not less, pressing in the aftermath of the September 11 attacks. The dominant role of the United States in the Afghanistan campaign exposed the capabilities gap once again and underlined the need for improved interoperability, including the allocation of new funds to defense-oriented projects. If U.S. and European military forces in the future are to undertake joint military operations in, as well as beyond, Europe, defend against the proliferation of weapons of mass destruction (WMD) and the threat of ballistic and cruise missile attacks, and carry out effective counterterrorist operations, then a serious and committed approach toward solving all the above sources of tension can no longer be postponed.

Currently, conflicting impulses and pressures characterize the global environment for defense industrial cooperation. While differences over strategic vision and military roles could become a disincentive to closer transatlantic industrial ties, the forces of economic integration, the internationalization of business, and the commercialization of defense technologies are pushing the U.S. and European defense industries closer together. Which set of impulses and pressures will prevail in the end is uncertain but not irrelevant to concerned policy and industry leaders on both sides of the Atlantic.

A Changing Strategic Concept for Defense Cooperation

Throughout the Cold War, the United States and Europe shared a common strategic vision. Although the United States' global responsibilities necessarily focused on threats and potential missions outside the European theater, within Europe, U.S. and European military requirements were largely compatible, focused on deterring and defending against the Soviet Union and its Warsaw Pact allies.

With the end of the Cold War, the strategic vision and focus of U.S. and European military planners began to diverge, leaving the United States and its European allies with the difficult task of replacing the unified vision of NATO with an alternative focus for their joint defense efforts. The emergent differences in strategic vision have significant implications for transatlantic defense cooperation.

A Global U.S. Strategic Vision

As the security problems of Cold War Europe have faded from prominence, the U.S. strategic vision has become decidedly more global. Where once that vision focused on the defense of Europe, making the transatlantic relationship central to U.S. strategic thinking and military planning, today European security is less central.

With the Base Force (1991) and Bottom-Up Review (1993), the shift away from Europe became evident. The core force-planning algorithm for the Pentagon was no longer defending the Fulda Gap in Germany; it was the requirements of two major regional contingencies (MRCs) or major theater wars (MTWs), with the Persian Gulf and Korea as the context for force planning.[2]

Consistent with a global security mission, U.S. forces have been moving toward a high-intensity, forward-deployed expeditionary capability able to pursue the full spectrum of military operations.[3] The Gulf War in 1991, the crisis with North Korea in 1994, and the tensions in the Taiwan Strait in 1996 appeared to confirm the two-MRC scenario in geostrategic reality. U.S. military deployments in the 1990s were clearly expeditionary in character: Somalia, Rwanda, Haiti, and especially, the Balkans.

Despite the inertial weight of Cold War force planning in the Pentagon and the heavy investment in current-generation equipment, the U.S. military became substantially more mobile, agile, and flexible. Moreover, all of the armed services began to incorporate the technologies of modern warfare into their doctrine and operations: precision-guided munitions; sophisticated interoperable communications; satellite and UAV (unmanned aerial vehicle)-generated intelligence; data linkages; and the information systems that tie operations and equipment together.

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This trend in U.S. policy has become even more pronounced in the new Bush administration. The defense reviews conducted by the Pentagon during 2001 resulted in a Quadrennial Defense Review (QDR) that focused on dominant military capabilities that would be reinforced by a "transformation" in doctrine and technology and able to operate on a global basis.[4] Such military capabilities are to be developed in the context of a new National Security Strategy that is global in focus and which stresses the need to "be strong enough to dissuade potential adversaries from pursuing a military build-up in hopes of surpassing, or equaling, the power of the United States."[5]

An Evolving Strategic Vision of Europe

In contrast, the European strategic view has remained focused on the problems of post–Cold War Europe. Little or no attention was given to the Europeans' military role in security beyond the Persian Gulf region; even there, the European role in 1991 was secondary.[6] Over the last decade, while NATO Europe spent significant resources—60 percent of the U.S. total—on defense, European governments for the

2. See Secretary of Defense Les Aspin, *Report on the Bottom-Up Review* (Washington, D.C.: U.S. Department of Defense, October, 1993) and Secretary of Defense William S. Cohen, *Report of the Quadrennial Defense Review* (Washington, D.C.: U.S. Department of Defense, May 1997).

3. For documents on this evolving military vision, see Joint Chiefs of Staff, *Joint Vision 2010* (Washington, D.C.: U.S. Department of Defense, 1996) and Joint Chiefs of Staff, *Joint Vision 2020* (Washington, D.C.: U.S. Department of Defense, 2000).

4. See U.S. Department of Defense, *Quadrennial Defense Review Report* (Washington, D.C.: U.S. Department of Defense, September 2001).

5. Office of the President, *The National Security Strategy of the United States* (Washington, D.C.: The White House, September 2002), p. 30.

6. Transatlantic differences in strategic focus and the reluctance to assume new tasks beyond Europe's borders were particularly noticeable at the April 1999 NATO summit in Washington, where the Europeans resisted U.S. proposals to extend NATO's mission beyond the territory of members of the alliance.

most part did not buy technologically advanced or expeditionary capabilities. Although British and French defense planners, who envisioned missions beyond the NATO area, began a process of moving their forces in a more expeditionary direction, in general, British, French, and German forces have faced growing difficulties operating in coalition with the rapidly changing U.S. military.

New impetus for reform and transformation has come from the continuing process of European integration. With the entry into force of the Maastricht Treaty in 1993 and the Amsterdam Treaty in 1997, the European approach to defense changed fundamentally following the European decision to create a foreign and defense policy "pillar" for the European Union (EU).

This vision came closer to reality with the December 1998 Franco-British summit in St. Malo, France, where French president Jacques Chirac and British prime minister Tony Blair agreed on providing Europe with "the capacity for *autonomous* action, backed up by credible military forces, the means to decide to use them, and a readiness to do so, in order to respond to international crises [emphasis added]."[7] In this watershed document, Britain accepted the idea that the EU might decide on and execute autonomous defense actions outside the NATO framework. It was an equally significant step for France, representing a move away from the traditional French goal of retaining the capability to carry out military operations on a strictly national basis.

The 1999 air campaign in Kosovo underscored the growing capabilities gap between U.S. and European forces and galvanized the Europeans to action. At the June 1999 EU summit in Cologne and the subsequent Helsinki summit six months later, the members adopted the goal of developing the capacity for autonomous European military action and agreed to absorb the Western European Union (WEU) into the EU.

To underscore their commitment to a European military capability, the EU set "headline goals" calling for the creation by 2003 of a European rapid reaction force of up to 60,000 troops, designed to carry out the full range of "Petersberg tasks," rapidly deployable within 60 days, and sustainable for a year, with appropriate backup rotation capability.[8] The EU partners specifically agreed to "develop rapidly collective capability goals in the fields of command and control, intelligence, and strategic transport," and welcomed decisions some members had already made to coordinate early warning systems, open joint headquarters, reinforce the rapid reaction capabilities of existing forces, and prepare for a joint European air transport command.[9]

To guide and support the planned rapid reaction force, EU member states have also created a politico-military decisionmaking machinery in the Council of Ministers. EU defense ministers now meet regularly at 15, and three new bodies—a Political and Security Committee, a Military Committee, and a European Military Staff—have become operational, following also the appointment of former NATO

7. Joint Declaration, British-French summit, St. Malo, France, December 3–4, 1998.

8. The Petersberg tasks include humanitarian and rescue operations, peacekeeping tasks, and crisis management, including peacemaking.

9. Presidency Progress Report to the Helsinki European Council on Strengthening the Common European Policy on Security and Defence, December 10–11, 1999.

secretary general Javier Solana as the first high representative for the common foreign and security policy (CFSP).

The union's military role thus has begun to take on concrete form. The Political and Security Committee has developed a staff and has been actively engaged in shaping and implementing EU activities in Kosovo and Macedonia. The Military Committee, consisting of chiefs of staff of the EU militaries and supported by an active, multinational military staff headquartered in Brussels, has played an active role in shaping implementation of the headline goals. Two pledging conferences have been held since 2000, detailing the capabilities to be provided by the participating EU countries to meet those goals, highlighting both achievements and shortfalls.[10]

All these developments are still at an early stage and the risk of derailment or further delay is still present. Nonetheless, they point to new realities on the European continent that U.S. policymakers and industry leaders cannot ignore or dismiss easily.

Transatlantic Strategic Divergence?

The strategic changes of the past few years carry the potential for both greater transatlantic integration and greater separation. In terms of integration, the Europeans are making a targeted effort to develop capabilities that would improve interoperability with the U.S. military, especially when operating in peacekeeping and peacemaking missions in the European theater. The Europeans also have been careful to ensure close communication and agreement between the EU discussions and parallel NATO efforts.

On the other hand, the move toward a more autonomous EU military capability is accompanied by uncertainty about the missions for which that force should be prepared. It is far from clear that all Europeans have accepted the high-intensity missions for which the U.S. military is being designed; nor are Europeans united in accepting missions for their forces outside the European theater. The most recent U.S. proposal for the creation of a NATO rapid reaction force could have a significant impact on the future of intra-European and transatlantic security cooperation.[11] Even if the problems of institutional competition between NATO and the EU can be resolved, different security priorities could continue to obstruct progress toward achieving improved interoperability. These variant plans and military requirements could increasingly affect the ability of the United States and Europe to sustain interoperability, as well as the priority they assign to coalition war fighting.

The impact of September 11 on this strategic tension and on European perceptions of the United States in the long term is unclear. Both Europe and the United States share the concern about terrorism and WMD proliferation in the hands of potentially hostile states or terrorist organizations. Immediately following the Sep-

10. Statement on Improving European Military Capabilities, Brussels, November 19, 2001.

11. See comments by U.S. secretary of defense Donald Rumsfeld at the NATO defense ministers' meeting of September 24, 2002, in Warsaw, as well as the text of the final NATO communiqué issued at the NATO Prague summit on November 21–22, 2002.

tember 11 attacks, the NATO Council invoked Article 5 of the treaty for the first time in NATO history and dedicated much of its December 2001 meeting to discussion of common approaches to terrorism and the terrorist threat, perceived as a risk to all NATO countries.

At the same time, there is still some reluctance in Europe to develop a ballistic missile defense (BMD) system against such threats, even as the vocal opposition to U.S. withdrawal from the Anti-Ballistic Missile (ABM) Treaty has disappeared. Europeans are also uneasy about the next phase in the war against terrorism, including preparations for an imminent attack against Iraq and its impact on volatile regions, such as the Middle East.

In the end, the United States and Europe could draw complementary lessons regarding the long-term implications of the September 11 attacks, with U.S. planners concluding that alliance interoperability needs have diminished and Europeans determining that they no longer have a reliable partner in Washington. A sustained turn toward unilateral action by the United States could cause the Europeans to redirect their efforts toward creating an independent and separate European defense capability.

If unchecked, mutual disaffection, combined with unresolved transatlantic differences over policy, could have an important impact on future defense cooperation.

The political will to overcome emerging differences in strategic vision could also be weakened by transatlantic disputes in other areas and a dangerous drift toward mutual disaffection, which appeared suspended following the September 2001 attacks but has shown signs of gaining renewed strength. Doubts about the direction of U.S. policy and the wisdom of accepting U.S. leadership in regional conflicts or on urgent international security problems may be growing, reflecting differences not only over tactics but over the substance of policy as well. The perception of U.S. failure to abide by widely accepted international norms of behavior has further strengthened European disenchantment with the American model of leadership.

This growing disillusionment appears to be mutual. In the United States, European governments are criticized for failing to invest sufficiently in needed defense capabilities, thus limiting Europe's capacity to act as a reliable partner in military operations outside Europe. Commentators discern a lack of strategic vision and level charges of European fecklessness. Some perceive the estrangement as more fundamental in nature and caution against "pretense" regarding the root causes of transatlantic divergence, which are seen as reflecting a more fundamental divide in perspectives on the utility and morality of power.

If unchecked, mutual disaffection, combined with unresolved transatlantic differences over policy, could have an important impact on future defense cooperation. If transatlantic interoperability is no longer viewed as a priority—or even a necessity—in the United States, there will be less commitment to ensuring that technological capabilities are held in common across the Atlantic.

Conversely, if the Europeans shape a military capability that aims at different and more limited missions than the United States, they, too, will have fewer incentives to ensure that defense technology is shared across the Atlantic.

At the same time, while their perspectives and security policies may differ, the United States and Europe both have a substantial stake in continued transatlantic defense cooperation. Both partners will face the imperative of coalition warfare, tempering the risk of strategic divergence. The United States, though capable of undertaking independent military operations, desires the political legitimization that coalition partners can provide. Similarly, cash-strapped European governments will have little choice but to mount coordinated actions.

The transatlantic political and defense relationship, though now strained, has endured repeated cycles of tension and friction, owing to its shared interests and values, as well as political and economic commonalities. In the economic sphere, the pressures of globalization are bringing the two sides ever closer to each other, creating a thriving Euro-Atlantic economy that defense industries are eager to enter.

Defense Industrial Cooperation in a Global Economy

The transformation of the global security environment over the last decade has been accompanied by profound changes in the international economy, in the structure of the defense industry, and in the technological and defense industrial base.[12] This transformation is particularly pronounced in the transatlantic context.

Three factors related to globalization are likely to provide sustained impetus for enhanced transatlantic defense industrial cooperation: (1) the increasing integration of the European and U.S. economies; (2) the emergence of a defense technology market that is both global and more commercial in nature; and (3) the transatlantic and global integration of the defense industrial base and the concomitant restructuring of U.S. and European industry. Whether the potential benefits of globalization will be secured with regard to defense capabilities and industrial cooperation will depend on an additional economic factor: the relative levels of defense investment on the part of the United States and Europe.

The Emerging Euro-Atlantic Economy

Trends in foreign direct investment (FDI) across the Atlantic offer the most compelling evidence of the numerous opportunities offered by an expanding Euro-Atlantic economic space. European FDI in the United States has increased dramatically over the last decade, growing from roughly $247 billion in 1990 to nearly $900 billion in 2000. Over the same period, FDI in Europe from U.S. sources rose from $215 billion to nearly $650 billion at the end of the decade.[13] Measured as a percent of total U.S. outflows of capital, U.S. investment in Europe accounted for over 50 percent of U.S. FDI abroad.

12. See Office of the Under Secretary of Defense for Acquisition and Technology, *Final Report of the Defense Science Board Task Force on Globalization and Security* [Hicks report] (Washington, D.C.: Defense Science Board, December 1999).

13. All figures in this section rely on data from the UN, IMF, and U.S. Bureau of Economic Analysis.

Other indicators also point to stronger Euro-Atlantic economic ties. In 1990, the total value of cross-border mergers and acquisitions between the United States and Europe was $20.6 billion; 10 years later, in 2000, the total was $296 billion, nearly 15 times more. The number of U.S. and European workers employed by European or U.S. affiliates also rose during the decade, from 5.4 million in 1990 to 7.7 million in 2000. The value of total goods traded during the same period climbed from $207 billion to $388 billion.

These trends have given the Euro-Atlantic economy added weight in the broader global economy. The transatlantic economy also comprises a significant proportion of global trade volume. In 2000, the United States and Europe accounted for an estimated 40 percent of world gross domestic product (GDP), 33 percent of the world's exports, and a staggering 42 percent of world imports. U.S. and European purchases and sales associated with mergers and acquisitions represented the lion's share of global totals, reaching nearly 82 percent of global sales and 88 percent of world merger and acquisition purchases.

These trends point to a steady and growing interdependence that has long since become irreversible. U.S. and European defense industries, however, have been unable to fully participate in this process of economic integration, due to political, legal, and regulatory constraints. This lag will prevent the United States and Europe from completely exploiting the benefits of globalization for defense industrial cooperation—particularly as it relates to global technological trends vital to the future health of the U.S. and European defense industrial bases.

A Global Technology Market

The defense transformation envisioned by military planners on both sides of the Atlantic rests critically on the effective exploitation of technology. The military capabilities on display in the Kosovo air campaign and the Afghanistan operations underscored the military's dependency on new applications of defense technology: sophisticated command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR); data links; UAVs used in multiple modes; and precision-guided munitions. This package of technological capabilities will prove to be one of the great force multipliers of the twenty-first century; its impact on future military operations will only grow.

Increasingly, these capabilities are growing out of developments in the commercial markets for communications and information technologies—markets that are more and more global in nature.[14] The application of these commercial technologies to military requirements constitutes one of the most fundamental changes the defense industrial and technology base has ever experienced. In every advanced economy, the technology base is no longer composed largely of companies that provide technologies and equipment exclusively to the military as their primary business. The basic sources of transformational military technology in communications, information, and electronics are in firms that do only a small share of their total business in defense.

14. See *Final Report of the Defense Science Board Task Force on Globalization and Security.*

Europe and the United States are drawn together in this common technological market. The gap between them is not at the level of basic technologies; rather, it is at the level of integrating these technologies into suitable defense applications. The large U.S. investment on defense research and development (R&D) makes this integration possible; limited European R&D budgets and inadequate defense R&D cooperation make such integration more difficult. Moreover, until recently, Europe lacked large-scale system-integrating defense contractors, a trend that appears to have been reversed with the creation of large transnational European firms, such as the European Aeronautic Defence and Space Company (EADS), Thales, BAE SYSTEMS, and MBDA.[15]

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One example of Europe's capability as a large-scale systems integrator is found in its helicopter industry. Eurocopter (an EADS company composed of French and German elements) and AgustaWestland (a joint venture of Finmeccanica and Westland) are, respectively, number one in the world in number of helicopters sold and number one for total sales in 2001. Moreover, AgustaWestland recently signed an agreement with Lockheed Martin to develop a version of the EH101 to meet U.S. military requirements. Larger European defense integrators have the heft to exploit transatlantic R&D opportunities more competitively.

Further expansion of the emerging transatlantic defense technology market could entail benefits for both the United States and Europe. U.S. military capabilities could take advantage of technologies that are being developed in Europe, while the Europeans could achieve more effective technological pooling with U.S. defense capabilities, reinforcing progress toward coalition interoperability.

Success requires that both U.S. and European defense companies be aware of what is available from across the Atlantic—they need to look and listen. Fortunately, the imperatives of businesses are already at work at the subcontractor level, as evidenced by the large volume of transatlantic trade.[16] U.S. and European companies have also exported entire systems across the Atlantic, and additional systems are under active consideration today (e.g., 120mm rifled mortar, Starstreak, Global Hawk). European firms also possess a range of subsystems, technology, and industry expertise that could find homes within larger U.S. systems (e.g., microelectronic mechanical systems; decentralized data fusion; compact high-power radio-frequency sources for directed energy applications; wide-area tracking and surveillance algorithms; hypersonic missile technology; high-temperature, oxidation-resistant composite materials made of carbon-carbon or carbon fibers and ceramic matrix, or ceramic fibers and ceramic matrix; medium- to high-thrust

15. MBDA, the result of the merging of Matra BAe Dynamics, EADS-Aérospatiale-Matra Missiles, and Alenia Marconi Systems, is a pan-European defense company with a single, unified management and operating structure.

16. The beginnings of this transatlantic relationship already exist. Below the level of platform manufacturers, a transatlantic subcontractor component and supplier market of roughly $12 billion is already said to exist, roughly equal in magnitude in either direction. See International Institute for Strategic Studies (IISS), *The Military Balance, 1998–1999* (Oxford: Oxford University Press, 1999), p. 273.

rocket propulsion systems to include cryogenic engines and solid motors; optical modules for heads-up displays that support holographics; helmet-mounted displays for AH-1Z and UH-1Y helicopters, and the Prophet EW system). Achieving this goal, however, will be difficult without further progress in coordinating European R&D efforts and increased spending on defense R&D.

Absent such investment and coordination, both within and between Europe and the United States—not to mention continued impediments found in the U.S. system of export controls and technology transfer—the military technology gap across the Atlantic could grow to the point where it becomes unbridgeable. On the positive side, the benefits of enhanced coordination are clear to industry, as evidenced by trends over the last decade.

Defense Integration across the Atlantic

In response to global trends, defense industry has evolved significantly over the past decade. Driven by a shrinking defense market, government policies, and the technological changes described above, prime contractors on both sides of the Atlantic have undergone significant consolidation. In contrast to the Cold War era, industry today is more integrated into the global market and has been taking an increasingly independent course in determining its future shape.

European Defense Industrial Consolidation. Europe's defense industrial consolidation at the national level preceded consolidation in the United States. In the 1980s, the major European arms producers—the UK, France, Germany, and Italy—encouraged their defense contractors to consolidate nationally. The emergence of national "champions"—BAE SYSTEMS (formerly British Aerospace), Aérospatiale Matra (France), Finmeccanica (Italy), DASA (the DaimlerChrysler Aerospace subsidiary in Germany), as well as CASA (Construcciones Aeronáuticas SA in Spain), and Saab (Sweden)—facilitated the emergence of transnational firms in the European region. This transnational trend had precedents in the creation of trans-European joint ventures for civil air transport (Airbus), fighters (Eurofighter), helicopters (Eurocopter and Agusta Westland), missiles (Matra BAe Dynamics), and rockets (Ariane).

European defense contactors have gone further than any others in developing firms that conduct the full range of business activities across borders, but operations remain largely concentrated in Europe. EADS describes itself as "the world's first transnational aerospace company," and combines under one corporate entity the former national champion companies in Germany, France, and Spain. Thales (formerly Thomson-CSF) now has significant operations in France, the UK, and the Netherlands, with local companies (characterized as "multi-domestic") operating under a transnational corporate structure.

Gradually, this consolidated and increasingly privatized European industry is moving away from a "follower" position with respect to government policy. The consolidation of the European industry began as a government-sponsored effort, but governments across the EU are increasingly persuaded that national industries cannot survive, given limited budgets, and that the best consolidation will result from decisions made in private hands.

U.S. Defense Industrial Consolidation. In the United States, the Department of Defense (DOD) sent a clear message to the industry as early as 1993 that it should look to consolidation in the future. Four aerospace giants—Northrop Grumman, Lockheed Martin, Boeing, and Raytheon—emerged in short order. The aerospace/defense activities of more diversified companies, such as General Electric, Ford, Texas Instruments, and Hughes, were subsequently divested or merged largely into these four firms. The result of this consolidation trend has been the emergence of a handful of system integrators in the U.S. defense market.

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U.S. firms also have moved, albeit cautiously, to create closer ties with firms in Europe. Historically, U.S. firms have preferred to sell specific programs to European governments, either directly or in partnership with European counterparts. In recent years, however, there has been a change in U.S. corporate strategy. For U.S. defense contractors, there are clearly technological and business opportunities in Europe, which they would like to explore. Recognizing that traditional links to the European defense market are inadequate today to guarantee market access, U.S. firms have taken steps to cultivate new relationships and opportunities.

As a consequence, partnerships are beginning to develop. Raytheon and Thales have formed a joint venture in ground-to-air defense programs, with facilities both in Europe and the United States. Northrop Grumman and EADS have announced a strategic partnership, exploring a range of cooperative technology programs. Boeing has created a partnership with MBDA, the trans-European missile company jointly owned by BAE SYSTEMS, Finmeccanica, and EADS, and is exploring cooperative projects. General Dynamics has acquired land system manufacturing assets in Spain, while United Defense has purchased a significant part of Bofors in Sweden.

The significance of many of these industry decisions is twofold. First, they constitute a realization that equal partnerships and European market presence are becoming essential to doing business in Europe. They also have a different character from traditional defense business ties within Europe, where linkages among firms were generally tied to particular programs rather than areas of business.

Today, as the Thales-Raytheon joint venture suggests, the goal of some defense firms is to create a market capability that will allow them to exploit future program opportunities over the long term. Yet the attractiveness of the European market for U.S. industry is qualified by the flat character of European defense budgets and by U.S. industry concerns that, over time, European preference will enter into major system acquisition decisions and the award of R&D contracts by EU member countries. In this latter context, being in Europe may be viewed as different from being European.

For the new, consolidated European firms, as well as for smaller subcontractors, there are also strong motivations to seek transatlantic partnerships and direct foreign investment opportunities in the North American market. First, partnerships are a way to participate in the next generation of defense technologies, many of

which will emerge on the U.S. side, given the disparity in R&D budgets. Partnerships, however, might occasionally relegate the European member to the background, preventing him from developing a direct relationship with the DOD customer.

Second, European firms are seeking direct access to a U.S. defense market that is growing significantly faster than the European market. BAE SYSTEMS, for example, has made significant acquisitions in the United States, including the electronic warfare assets of Lockheed Martin, with an estimated 25 percent of its sales going to the Pentagon. Other European firms, such as Thales and EADS, hope joint ventures will lead to greater penetration into the U.S. market.

These economic and technological trends could have a positive effect on transatlantic defense cooperation, if the relevant acquisition and political decisionmakers on both sides of the Atlantic are willing to accept the reality and irreversibility of these trends. A consolidated and more competitive European defense industry would be a more attractive partner to U.S. companies than numerous, small, and inefficient European firms. Further, alliances, joint ventures, and teaming arrangements across the Atlantic would represent a natural evolution of current trends and entail significant advantages—both for industry and governments.[17]

The Defense Resource Gap

Despite significant progress toward the creation of a more closely interconnected defense technology market and industrial base, opportunities for future transatlantic cooperation will be limited, if the current divergence in U.S. and European defense resources is not reversed.

U.S. spending on defense, which began to rise in the second Clinton administration, now appears likely to climb steadily in the coming decade. Overall, the U.S. defense budget grew more than 6 percent in real terms from FY 2001 to FY 2002 and, setting aside supplemental funding for the war on terrorism following September 11, is proposed to grow another 11 percent in real terms in FY 2003. In addition to covering important personnel, readiness, and health care bills, future budget plans are focused on modernizing and transforming U.S. military technology. Procurement spending alone is slated to rise to nearly $100 billion by FY 2007.[18]

The Europeans will face a stiff uphill battle in seeking to match U.S. defense technology investment. The cost to acquire the next generation of C4ISR capabilities, for which they currently depend heavily on the United States, will be high.

17. In its July 2002 report, the European Advisory Group on Aerospace states: "Subcontracting and procurement, production, joint ventures and mergers across the Atlantic are natural developments in an industry serving global markets. It is expected and welcomed that such links will play an even bigger role in the future." See European Advisory Group on Aerospace, *STAR 21—Strategic Aerospace Review for the 21st Century: Creating a Coherent Market and Policy Framework for a Vital European Industry* (Brussels: European Commission, July 2002), <http://europa.eu.int/comm/enterprise/aerospace/index.htm>.

18. See chapter 9 ("Department of Defense"), in Office of Management and Budget, *Budget of the United States Government, Fiscal Year 2003* (Washington, D.C.: GPO, February 4, 2002).

European plans for improved logistics, sea and airlift, meaningful inventories of precision-guided munitions, all-weather/day-night aircraft, in-flight refueling, and search and rescue aircraft will add to the costs. Although the total price tag cannot be easily estimated, it would add billions annually to current defense budgets. Current European force planning, which includes significant acquisition of modernized hardware and conversion into professional forces in countries such as France and Italy, is already expensive. Transformation could prove to be unaffordable.

In the face of competing budgetary needs, uncertain economic growth prospects, and the fiscal constraints imposed by the economic and monetary union, European defense budgets will come under increased pressure over the next decade to meet this growing agenda of military requirements. Starting in the early 1990s, defense spending for NATO Europe has faced a constant decline (see appendix A).

The transatlantic spending gap is even greater with regard to R&D, which provides a predictor of future capabilities. In 2001, U.S. spending on defense R&D equaled nearly four times the size of total EU spending in the same area. With the exception of the UK, followed by France, both of which have consistently spent a higher percent of GDP on defense R&D than all other European NATO countries, overall R&D spending in Europe remains disconcertingly low (see appendix B).[19]

Compared to the nearly $50 billion a year dedicated to military R&D by the United States in FY 2002, the European NATO allies spend less than $12 billion. Moreover, the European R&D investment is duplicative, given the lack of systematic R&D coordination among the European allies.[20] One mitigating factor is European spending on commercial R&D, some of which has application to defense (for comparison, see appendix C).

These budgetary trends do not bode well for the future. While Britain and France have proposed slight defense budget rises for the next three to five years, Germany's fiscal condition shows no signs of a reversal in the medium term. Still, governments in all three countries have noted the inadequacy of defense budgets to fund current defense requirements, let alone any major new investment in defense transformation.[21]

Given these serious budgetary constraints, funding for the EU's military agenda, including the headline goals and the forces that support those goals, will prove scarce. Combined with rapid U.S. defense spending growth, continued fiscal disparities would reinforce the capabilities gap, further heightening transatlantic

19. EU spending on soft security issues is not reflected in these comparative figures.

20. The DOD spends nearly two-thirds of all the military R&D resources spent in the world. Barring a sharp turnaround in R&D investment elsewhere, this trend alone may ensure long-term U.S. technological superiority.

21. Early in his new mandate, French president Jacques Chirac announced his intention to significantly revise the 2003–2008 *loi de programmation*, the French defense ministry's five-year plan, while expressing the hope that other European partners would also start redressing shortcomings in their military capabilities. See the president's interview with journalists at the occasion of the July 14, 2002, celebrations, reproduced in "L'intégralité des propos du president de la République," *Le Monde*, July 16, 2002.

tensions. This, in turn, could reinforce the U.S. tendency to rely on forces intended to carry out global missions unilaterally, without relying on European support.

Transatlantic Convergence or Divergence?

The transatlantic partnership and the two critical institutions at its core—NATO and the EU—remain vital and necessary to the achievement of important objectives and security interests on both sides of the Atlantic. Political and security ties are reinforced by steadily growing economic integration that is creating a more unified Euro-Atlantic economy and a global transatlantic defense industrial base.

The risk of transatlantic divergence, however, cannot be dismissed. U.S. and European responses to the end of the Cold War and the global terrorist threat have led to a perceptible gap in strategic vision and future military planning. A sizeable gap in defense investment also exists, widening the disparity between European and U.S. military capabilities, and thus their ability to undertake joint military actions, whether in Europe or in other regional contingencies. Whether current trends will facilitate or obstruct future cooperation is uncertain. The outcome will depend in part on the impact of strategic, political, and economic changes on incentives to cooperate as well as on barriers to achieving greater defense industrial integration.