

# Globalization, Integration, and Europe's Defense Industry

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## **ABSTRACT**

This paper explains how Europe's defense industry has evolved from the end of the Cold War by transforming itself from a collection of nationally-oriented firms to one dominated by two giants. We argue that both globalization and integration are responsible for this development. After describing the evolution of this sector during the 1990s, we present four factors that played key roles. They are: developments within the United States (US) defense industry; the impact of technology and defense economics; general economic restructuring within the European Union (EU) coupled with a nascent defense industrial policy; and progress toward the creation of a European Security and Defense Policy (ESDP). One of the main implications of this paper is that the EU plays a key and under-appreciated economic and political role in the changes that take place within Europe's defense industry.

## INTRODUCTION

The main purpose of this paper is to explain the evolution of Europe's defense industry from the end of the Cold War to the present. In less than 12 years, this sector has transformed itself from a collection of medium-sized, nationally-oriented firms to one dominated by two giants, with several medium-sized firms closely linked to these leaders. How this has happened is an intriguing story of globalization and integration at the political and economic levels. After describing the evolution of this sector during the 1990s, we will argue that four factors played key roles. They are: developments within the United States (US) defense industry; the impact of technology and defense economics; general economic restructuring within the European Union (EU) coupled with a nascent defense industrial policy; and progress toward the creation of a European Security and Defense Policy (ESDP). The first two factors are by-products of globalization, while the second two are shaped by the forces of integration. One of the main implications of this paper is that the EU plays a key and under-appreciated economic and political role in the changes that take place within Europe's defense industry.

## EUROPE'S DEFENSE INDUSTRY IN THE 1990s

Europe's defense industry entered the 1990s as a collection of national defense industries. While the US defense industry was rapidly consolidating during the first half of the decade, most European firms continued to look inward. The "urge to merge" cross-border was hindered by three factors. The first was the reluctance (in some cases, hostility) to see a domestic company acquired by a foreign firm. This concern was most evident in the political realm, as national governments fretted about the loss of sovereignty (particularly the insecurity that armaments may not be readily available) and the political consequences of restructuring-induced job losses that

might accompany such an acquisition. However, executives were almost as resistant to industry-wide rationalization. Many feared the uncertainty that would follow mergers and acquisitions (M&A) in terms of their own position within new entities, but also with respect to the cozy relationships they had cultivated through the years for their own firms with their “home” defense ministry. Governments and defense firms held monopsonist and monopolist positions, respectively, in each country. The extent to which these links would be weakened by Europe-wide industrial restructuring was unclear. The status quo was the safest option for both government and business. Table 1 ranks the top ten European defense firms in 1996.<sup>1</sup>

By the mid-1990s, this situation became untenable. For reasons described below, European defense firms found themselves under political and economic pressure to consolidate. Since mid-1998, major changes have taken place. The first major consolidation occurred in the United Kingdom (UK) in January 1999, when GEC<sup>2</sup> agreed to sell its defense arm (Marconi Electronic Systems) to British Aerospace. The new entity was renamed BAE Systems. Until weeks before the GEC acquisition, the former British Aerospace had been actively engaged in talks with Dasa, the aerospace unit of Germany’s DaimlerChrysler, to create the first true pan-European aerospace company. The last minute decision by the British to opt for an internal merger angered not only the Germans, but also the French, who were expected to join the new pan-European entity. Many experts concluded that the British decision had delayed the creation of a unified European Aerospace and Defence Company indefinitely (*The Economist*, 1999b).

Yet, only nine months later, the European behemoth that many thought impossible without British participation was born. The first step, as in the UK, was national consolidation.

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<sup>1</sup> The rankings of European defense firms changed very little from year to year during the immediate post-Cold War period. It was in 1997 that major changes began to occur.

<sup>2</sup> GEC is a UK firm unrelated to the US General Electric.

As part of its privatization in June 1999, France's Aérospatiale fused with Matra to create an aerospace and defense electronics powerhouse. Four months later, this combined entity merged with Dasa to form European Aeronautic Defence & Space Co. (EADS). CASA, Spain's leading aerospace and defense firm, also merged into EADS. EADS has headquarters in both Paris and Munich, and is registered in the Netherlands for tax purposes.

Similar consolidation occurred in defense electronics. In October 1997, the French government announced that it would privatize Thomson-CSF, and bring Dassault Electronique, the space and defense electronics businesses of Alcatel, and the satellite businesses of Aérospatiale within the company. Thomson-CSF acquired Racal Electronics of the UK in June 2000 and, given its new global breadth, was renamed Thales. Two companies will soon account for Europe's helicopter business. One is Eurocopter – a division of EADS. The second was created in 2001 when Italy's Agusta (owned by Finmeccanica) merged with the UK's Westland (owned by GKN) to form the world's second-largest helicopter company (after Boeing). MBDA, the world's second-largest maker of missiles (behind Raytheon), was also formed this year by merging the missile interests of the French, British, and Italians.

Simultaneous to the rationalization and restructuring of individual European defense companies was the reorganization of Airbus. Formed in 1970 to counter the industry dominance of US aerospace companies (particularly Boeing), Airbus previously operated as a consortium under which the four partners (Aérospatiale, Dasa, British Aerospace, and CASA) kept ownership of their engineering and production assets. During the 1990s, calls for a reorganization of Airbus increased both among the consortium's partners, as well as by outsiders who argued that changing Airbus' legal corporate status would increase its competitiveness vis-à-vis Boeing. Airbus is now owned by EADS (80 percent) and BAE Systems (20 percent). In the first half of

2000, Airbus, now a division of EADS, accounted for 64 percent of EADS turnover and for 93 percent of operating profits (Done, 2001).<sup>3</sup>

As a result of these developments, two defense firms now dominate Europe: EADS and BAE Systems (see Table 2). As we have shown, however, the paths of these mergers represent two very different strategies of consolidation. Furthermore, initially these strategies (national consolidation and transnational mergers) were thought to be mutually exclusive, leaving the scholar, attempting to impose some order on the process after the fact, with a puzzle. The first strategy, epitomized by BAE Systems and Thales, was a consolidation of national defense production activity into one domestic firm. In this line of thinking, all of the major defense activities within a country should be consolidated domestically. This way, the newly merged entity would be in a stronger position to negotiate transnational ventures. The other strategy, leading to the creation of EADS and MBDA, was to pursue transnational mergers within similar sectors of the defense industry (aerospace, missiles, etc.) by the “national champions” of individual countries.

Why have both strategies seemingly succeeded? The best explanation is that the exigencies of the new defense market, inherently grasped by industry executives, had finally become impossible to ignore. EADS was driven not by national leaders, who had for years been preaching the importance of consolidation – sermons that inevitably came to naught over the political price of job losses. Rather, during the highly secret discussions that led to EADS, the executives involved made a conscious and calculated decision to keep their respective national leaders uninformed of the plans, until the advanced stage of the negotiation (Rossant, 2000). By

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<sup>3</sup> Airbus is not the only consortium that has been shaken by European industrial restructuring. Eurofighter is another. Eurofighter is owned by EADS (44 percent), BAE Systems (37 percent), and Italy’s Finmeccanica (19 percent).

such discretion, political meddling in what was essentially a business decision was kept to a minimum.

In the case of BAE Systems (which also owns a 35 percent interest in Saab – Sweden’s leading defense firm), what may at first glance look like a “national champion” instead may be a test case of a new breed of firm: a genuine Atlantic partnership between the United States and a defense company across the water (Squeo et al., 1999). A formal merger between BAE Systems and a US firm is likely years away, but British firms, especially the old British Aerospace, always enjoyed preferential access to US firms and technology. BAE Systems, however, is now large enough to be treated not as a little brother, but as a true partner. In fact, after a November 2000 acquisition of Lockheed Martin’s aerospace electronics division, by some measures BAE Systems became the largest defense company in the world (Nicoll, 2000a). The creation of EADS, far from isolating BAE Systems (Cowell, 1999), has to date spurred it to cement links westward, becoming almost as “multi-national” as EADS. In the case of both EADS and BAE Systems, the Europeans have formed defense titans that can finally match the heft and clout of their American cousins (*The Economist*, 1999a). This is ironic, since one of the major causes of the European consolidation was the bow wave emanating from the defense mergers on the other side of the Atlantic.

## GLOBALIZATION

### *The US Defense Industry*

When viewed as a global industry, the pacesetter in armaments production is the US. Seven of the top ten defense companies in the world are based in the US (see Table 3). Historically, the engine of growth for the US defense industry was strong domestic demand, aided by the

fortuitous advent of the Cold War. Times were especially strong from the late 1970s (the “Reagan buildup” was actually started by Jimmy Carter) through the late 1980s. For this decade, it seemed like no expense would be spared in America’s quest for greater quantities of munitions. By the early 1990s, however, the tide had turned.

In part, the defense companies were victims of their own success. As the costs of weapons soared and capabilities improved, it is likely that even without the compounding factor of the Cold War’s resolution, some defense industry restructuring would have occurred in the United States. But as the defense budget was slashed in search of a “peace dividend,” the US defense industry realized that the halcyon days of the Reagan buildup were over. Military spending declined from \$357 billion in 1990 to \$260 billion in 1999, with the steepest decline coming in the first half of the 1990s (figures in 1995 dollars, SIPRI, 2000, p .272). Prodded by then Secretary of Defense Les Aspin’s “last supper”<sup>4</sup> in 1993, the industry hastened to adjust. Layoffs by firms such as Northrop, Hughes, Lockheed, General Dynamics, Litton Industries, and TRW marked a spate of “downsizings” and acquisitions (Matthews, 1992), culminating in the mergers of Lockheed and Martin Marietta, Boeing and McDonnell Douglas, and Raytheon and Hughes. Nowhere was this industry rationalization more apparent than in the military aerospace sector. Whereas in 1987, the United States had seven major producers of military fighters or bombers,<sup>5</sup> today, it has two behemoths, Lockheed Martin and Boeing, and a smaller firm fighting to survive: Northrop Grumman.

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<sup>4</sup> Secretary Aspin and Deputy Secretary William Perry invited a dozen defense industry executives to dinner in the Pentagon. Aspin told the assembled group that there was twice the number of people at dinner than the government wanted in five year’s time, and warned that the Department of Defense was ready to see some firms exit the market. The implied threat, “combine or die,” along with a policy of government subsidies covering some merger-related costs, helped to speed rationalization of the US defense industry. See Augustine, 1997 and Dowdy, 1997.

<sup>5</sup>Lockheed, Martin Marietta, General Dynamics, Boeing, McDonnell Douglas, Northrop and Grumman.

In the United States, defense firms faced dwindling demand via a logical market reaction, consolidation, which was long delayed across the water. Yet, as the Europeans struggle to catch up, the story of the US minnow, Northrop Grumman, caught between the sharks of Lockheed and Boeing is informative, and may tell a cautionary tale to other (particularly European) governments singing the belated praises of consolidation-induced efficiencies.

Originally, had consolidation been pursued to its logical conclusion in the United States, Northrop would have been absorbed by one of the two behemoths. In fact, Lockheed Martin made a play for Northrop in 1997, and it was widely assumed that the US government would approve the merger, it being the last logical step from the “last supper” four years before.

With one acquisition following another, however, those in both the defense and justice departments had become increasingly worried about the lack of competition in the defense marketplace (Ricks and Cole, 1998). Abruptly in 1998, the US government announced that it would oppose the merger. Asked whether the US government’s position on mergers had changed, then Secretary of Defense William Cohen said the policy was the “...same policy that has existed before... To the extent that companies can merge and consolidate without hurting competition in the defense industry, the Defense Department would support that.” He added, however, “When you get fewer and fewer players in the industry, then you get greater scrutiny” (Ricks, 1998).

The question that was being asked, implicitly, in the halls of Justice and at the Pentagon, was whether defense consolidation had reached its “optimum level of efficiency.” In theory, there exists an optimum point at which the marginal benefits of consolidation just outweigh the marginal costs of limited competition. In practice, to judge whether the entire defense sector had reached this point may be impossible, but the officials who judged the Lockheed



Martin/Northrop marriage clearly felt that further consolidation might bring negative consequences to a sector that already had precious few suppliers. In the European rush for consolidation, the bulk of which transpired after the failed Lockheed Martin/Northrop merger, to what extent officials in London, Paris, Berlin, and Brussels are eyeing an “optimum level of efficiency” remains unclear.

In calculating the theoretical efficiency level, how one defines the size of the market is of critical importance. While leery of more domestic mergers, some defense officials (in both governments and industry) have been quietly floating the idea of an Atlantic partnership (Squeo and Cole, 1999; Ricks, Squeo et al., 1999). As discussed above, BAE Systems remains a prime candidate for an inter-continental merger, although the minnow, Northrop Grumman, is also known to be on the menu of some European firms in an acquiring mode. Such an Atlantic merger would need to have Congressional approval, and also would have to ensure the safety of key US technologies. Nevertheless, by expanding the theoretical market, you simultaneously expand the number of possible competitors, allowing firms to wring more savings out of consolidation, while still allowing the benefits of competition. The dream of an “Atlantic defense firm,” with the British as the primary partner, is the defense industry vision of at least one prominent industry insider (Becker, 2000). The main point of this section, though, is that events in the US defense industry played a key role in prompting European firms to restructure in a similar fashion.

### *Technology and Defense Economics*

The 1991 Gulf War and 1999 bombing of Kosovo clearly illustrated the technological superiority of the weapons used by US military forces. These conflicts proved that elaborate Command, Control, Communications, Computers, and Intelligence (C<sup>4</sup>I) systems are devastating force

multipliers in combat situations. While the bang may be greater, however, the buck is increasing disproportionately. The average price of fighters worldwide increased 10,000% in constant U.S. dollars from 1945 to 1985. More recently, the real price of tactical combat aircraft has been growing at 10% per year. The only way to recover these costs is to lengthen production runs (Callum, 1998b), and this is best done by consolidating several small companies into a very few large ones.

The Gulf War and the Kosovo bombing also illustrate another trend, this one at cross-purposes to lengthening production runs: the paucity of opportunities to use cutting-edge weaponry. The threats of the Cold War are gone, and today's defense planners are kept awake not by trying to defend the Fulda Gap, but by keeping phantom biological terrorists at bay. The real lesson of Kosovo may not have been how far Europe had fallen behind the United States in precision death gadgets, but the economic and strategic folly of fighting ethnic cleansers with high technology. The damage in Kosovo was done, for the most part, by groups of marauders with decidedly low-tech weapons. To counter that threat, the United States relied on "smart bombs" costing \$1 million each (Schmitt, 1999). The economics of using million dollar weapons to hit thousand dollar targets is questionable, to say the least. Granted, part of the rationale was to limit "collateral damage," but the other half of the equation was that to justify supply, in this age you must create demand. Even with the manufactured opportunities of Kosovo, demand for new weapons will never reach Cold War levels. Coupled with the high cost of new munitions, needing longer production runs, the economic logic of defense consolidation becomes clear.

With a need for long runs of weapons, but a difficulty justifying those runs based on domestic defense concerns, a natural reaction is to make more than necessary and sell the excess on the export market. During the Cold War, with demand seemingly infinite, this strategy often

paid healthy dividends for European countries (notably France and the UK) that wanted to support a robust defense infrastructure without relying solely on domestic consumption. With worldwide demand for arms plummeting, however, the export market has become both crowded and severely competitive, with many new entrants pushing costs down and making consolidation amongst producers almost a necessity (Callum, 1998a; 1998b; Schneider, 2000).

In this emerging milieu, European firms suffer several handicaps. Deutch, Kanter, and Scowcroft (1999) contend that US defense companies have benefited from generous government support, and are now preeminent in developing and integrating C<sup>4</sup>I systems. European industry is relatively weaker because fewer resources have been devoted to developing C<sup>4</sup>I, and there has been little in the way of pooling resources by national governments for even C<sup>4</sup>I research and development (R&D). To compound the problem, many C<sup>4</sup>I technologies are based on advances in commercial information technologies, such as communications, computers, and software. In these areas US firms have a considerable advantage over European companies.

Nevertheless, the formation of BAE Systems and EADS are positive harbingers for the future health of the European industry. Partly by stealth (as described above in the formation of EADS), the political opposition to consolidation has been overcome. It was not just stealth tactics that convinced European politicians to countenance consolidation, but stealth technology as well. While the strategy they were used to further may have been fatally flawed, the performance of American weapons in Kosovo served as yet another sign of just how far behind Europe had fallen in weapons development. While European leaders engaged in the same hand wringing after the Gulf War, this time, there is evidence that Europe will at least attempt to close the resource gap that exists between US and European defense expenditures (Gordon, 2000; Yost, 2000). BAE Systems and EADS, which like their US brethren have solid beachheads in

both the defense and commercial worlds, should be able to find and exploit “next generation” defense technologies, and help ensure that Europe does not fall behind again.

## INTEGRATION

### *European Economic Restructuring*

By treaty, the EU’s explicit role in defense industrial policy is restricted. Article 223 of the Rome Treaty (Article 296 in the Amsterdam Treaty) allows any member state to “take such measures as it considers necessary for the protection of the essential interests of its security which are connected with the production of or trade in arms, munitions, and war material.” Despite the article’s subsequent clause that “such measures shall not adversely affect the conditions of competition in the common market regarding products which are not intended for specifically military purposes,” the EU’s more integrative bodies (Commission and Parliament) and member states have been unable to persuade the intergovernmentalists (the Council, and in particular the UK and France) to allow the defense industry to be governed by EU regulations that apply to virtually every other economic sector.

As a result, during the first half of the 1990s, the EU developed an “arm’s length” defense industrial policy (Guay, 1998). In actuality, it was more a collection of adhoc policies administered by several Directorates-Generale (DGs) within the Commission. For example, the EU was forced to identify “dual-use” goods for international trade purposes and create a list of permitted or proscribed destination countries. A regime governing the control of exports of dual-use goods and technology was established in 1994 and revised in 2000. The EU’s competition powers have empowered the Commission to vet mergers among European firms engaged in weapons production activities, although some countries have exercised their right to exclude the

defense business of merging companies from the Commission's review. The EU's Framework programs support R&D in information technology, industrial materials, and telecommunications – all of which have civilian as well as military applications. A Commission Green Paper (Commission, 1996a) on public procurement estimates that around one third of defense spending is already covered by the EU's public procurement directives. The EU, through its structural funds for regions in need of economic development, developed the Perifra and, later, Konver programs to accelerate the diversification of economic activities in regions heavily dependent on the defense sector.<sup>6</sup> Finally, in June 1998, EU member states adopted a voluntary code of conduct on arms exports. While the code commits governments in principle to consult each other when considering whether to grant export licenses to countries that have been denied them by other member states on human rights grounds, it is not legally binding. Thus, by mid-1998, the EU had a loose collection of policies regulating various aspects of Europe's defense firms, but (unlike the US) no comprehensive policy that would guide or even assist the restructuring of this industry.

One of this paper's authors interviewed officials from various DGs in 1994, and found that there was significant support within the Commission and Parliament for a more explicit EU defense industrial policy (Guay, 1998). Indeed, within three years, the Commission published *The Challenges Facing the European Defence-related Industry* (1996b), *Implementing European Union Strategy on Defence-related Industries* (1997a), and *Draft Action Plan for the Defence-Related Industry* (1997b). The last of these describes fourteen areas in which immediate EU action is deemed necessary, including the standardization of defense equipment and national export policies, the incorporation of the defense industry sector into the EU's competition policy and state aid regulations, and cooperation in armaments R&D and procurement. Although Morth

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<sup>6</sup> Konver, which replaced Perifra, ended in 1999.

(2000) proposes that the Commission's approach to these documents was shaped by competition between market and defense "frames" of relevant DGs, the more important point is that the Commission was actively seeking to bring the defense industry within the general purview of the EU and the single market program.

More broadly, by the late 1990s, European governments, in general, were pursuing policies of economic liberalization. The adoption of a more "anglo-saxon" mindset was largely a response to the apparently unbounding success of the US economy. What Europe needed, many critics contended, was to become more like the United States, and the policy prescriptions were privatization, deregulation, and liberalization. By the late 1990s, privatization of state-owned companies in France was moving more quickly under the Socialist Jospin government than it had under the country's more conservative predecessors, and Italy's IRI developed plans to sell off parts of its empire. While France attracted much attention for the enactment of a law limiting the workweek to 35 hours, most countries (including France, Spain, and the Netherlands) were passing laws promoting labor flexibility. In addition, the implementation of a common currency represented a kind of culmination of the economic renewal that the 1985 Single European Act (SEA) was designed to stimulate. In fact, Mathiopoulos and Gyarmati (1999) argue that the arrival of the euro, and confidence in the success of a common currency, is a major reason why Europeans became more receptive to the idea of further integration in defense. Restructuring of the defense sector in the late 1990s, therefore, must be understood in this broader context.

#### *European Security and Defense Policy (ESDP)*

While EU economic policies have undoubtedly had some effect on the operations of European defense companies, it would be difficult to make the claim that these policies played the decisive

role in the restructuring of this sector over the past three years. Instead, we need to look at political changes within the EU, particularly recent moves toward a common defense policy.

While EU members have debated the merits of cooperation in the foreign, security, and defense policy areas since the 1950s, it wasn't until the 1990 Maastricht Treaty that they took a step that garnered real attention from the world (and academic) community. The Common Foreign and Security Policy (CFSP) formed the second of the three pillars supporting the newly-created EU. While hopes were high that CFSP would give the EU more international political influence to match its economic weight, CFSP came under severe criticism by the mid-1990s for the EU's seeming inability to end the violence in the Balkans. The transformation of CFSP into an EU defense policy, a goal of several members during Maastricht (particularly France), seemed most unlikely by the time the Dayton peace accords were signed in December 1995. Still, the 1997 Amsterdam Treaty sought to develop a common EU defense policy and a European security and defense identity (ESDI). Specifically, the Amsterdam Treaty defined the EU's common defense policy to include "humanitarian and rescue tasks, peacekeeping tasks and tasks of combat forces in crisis management, including peacemaking" – the so-called "Petersberg tasks" outlined by the Western European Union (WEU) in 1992.

It is an irony that the UK played a pivotal role in this area when the Blair government expressed an openness to European cooperation in defense policy. Reaching agreement first with the French in the December 1998 St. Malo declaration, the UK became the key member state in advancing the EU's steps in defense. Among other things, the declaration stated that the EU: "must have the capacity for autonomous action, backed up by credible military forces"; "must be given appropriate structures and a capacity for analysis of situations, sources of intelligence and a capability for relevant strategic planning"; and "will also need to have recourse to suitable

military means” (Joint Declaration on European Defence, 1998). That the UK would accept that a credible ESDP is conceptually compatible with a strengthened NATO alliance is indeed a “revolution in military affairs” (Howorth, 2000).

The St. Malo declaration came just one month after the first-ever meeting of EU defense ministers, and six months before the European Council endorsed the Franco-British approach at Cologne. An Italian-British summit in July 1999 and then preparations for a follow-up Franco-British meeting in December set the stage for the December Helsinki European Council, which committed the EU to “develop an autonomous capacity to take decisions and, where NATO as a whole is not engaged, to launch and conduct EU-led military operations”, as well as a timetable for the creation of a rapid reaction force (Helsinki European Council, para. 27, 1999). As Clarke (2000) notes, “[w]ithin little more than a year Britain and France had consciously – and with some vigorous and sensitive diplomacy – manufactured a sea change in the tides of alliance politics” (p.733).

A year later, at the Nice summit, EU members pledged 100,000 troops, 400 aircraft, and 100 ships to form a 60,000-strong rapid reaction force, which could be sent to deal with regional conflicts or humanitarian crises. While cautious to present this force as something less than the establishment of a European army, so as not to rattle NATO supporters, this does represent a huge step for the EU down the path of a common defense policy – one that raises concerns about an absence of a common European strategic vision among member states (Heisbourg, 2000). However, the industrial dimension of an EU rapid reaction force also raises concerns, especially since the capability to send up to 60,000 troops anywhere in the world at 60 days’ notice and sustain them for a year would place considerable strains on the military equipment and infrastructure of participating EU countries (Nicoll, 2001b). Nonetheless, the skepticism directed



toward CFSP in the mid-1990s had given way to a major EU policy initiative in defense by early 2001. Europe's defense industry was a major beneficiary of this development, as economic restructuring was encouraged by political leaders who held a new vision of European defense.

## EUROPE'S DEFENSE INDUSTRY IN THE 21<sup>ST</sup> CENTURY

To summarize, we argue that globalization and integration are responsible for the restructuring of Europe's defense industry. Timing is key to understanding this. Given its dispersion among several countries, it was unlikely that Europe's defense industry would undertake much serious reorganization before the US sector did. The experience of the Gulf War and, more significantly, the bombing of Kosovo added urgency to the restructuring if Europe was to have any hope of closing the defense technology gap with the US. The St. Malo and Helsinki declarations provided the political support for private sector reorganizations. For instance, it is unlikely that the French government would have acquiesced to a merger between Aérospatiale and Dasa much before 1999. Lastly, the success of the SEA, the common currency program, and the EU's negotiating power in trade policy make it increasingly anachronistic to keep the defense sector "at arm's length" from the institution. By the late 1990s, these factors came together and help to explain how and why Europe's defense industry restructured in the way that it did.

So what happens next? We propose four issues, themselves components of globalization and integration, that will play a key role in determining where Europe's defense industry goes from here. The first relates to the EU. The EU, or at least key components of it, continues to wrestle with a defense industrial policy. Devising such a policy looks more likely now than at any time in the institution's history. However, several major obstacles remain. The first is the power imbalance within the EU. The Commission began the 1990s viewed as a leader (Nugent,

1995) and “policy-entrepreneur” (Sandholtz and Zysman, 1989), but ended the decade in disgrace when the commissioners resigned *en masse* under Jacques Santer. The Parliament, while seeing its powers gradually increased with the Maastricht and Amsterdam Treaties, remains the weakest of the three institutions in the foreign policy area. Thus, while the Parliament resolution on the Commission communication *Implementing European Union Strategy on Defence-Related Industries* (European Parliament, 1999) would like to make it clearer that European armaments policy, “an essential element in the gradual development of a common defence policy, is linked to both the CFSP and Community policies, in particular on industry, trade, customs, the regions, competition, innovation and research” (Amendment 7), the Council continues to be the decision center for the shape and timetable of an EU defense dimension.

One result of this resistance to bring the defense sector within the single market program is the awkwardness that the competition commission faces in vetting mergers of European and US defense firms. Because the British and French governments invoked Article 223, the EU was not allowed to review the defense implications of the British Aerospace-GEC, GEC-VSEL, or Aérospatiale-SNPE mergers. However, the EU raised the ire of government and industry officials in the United States when it required Boeing to modify its merger with McDonnell-Douglas. Currently, there is speculation that Brussels will require General Electric to make some aerospace-related disposals as a condition for approval of the US company’s acquisition of Honeywell (Edgecliffe-Johnson and Hill, 2001). With only slight exaggeration, the EU seems to have more influence over defense industry mergers in the United States than those in Europe.

This does not mean, however, that the Commission has abandoned defense industrial policy to member states. On the contrary, the last few years has seen a revival of Commission interest in this area. For example, Erkki Liikanen (2000), European Commissioner for Enterprise

and Information Society. boldly claimed that “[t]he task of the European Commission is to ensure the existence of the conditions necessary for the competitiveness of all Community industries. As this activity falls under the Union’s First Pillar, this clearly allows us to develop proposals designed to enhance the competitiveness of the European defence industry.” In January 2001 the Commission asked senior aerospace industry executives to prepare a report detailing an R&D strategy that would place European industry in a dominant global position within 20 years. *European Aeronautics: A Vision for 2020* (Commission, 2001) acknowledges the synergies between civil and military aeronautics, and calls for increased EU financial support for R&D to offset the decline in defense spending by member states. Competition among the EU’s institutions to shape defense industrial policy will continue and, in all likelihood, intensify.

The second issue concerns the relative influence of government and business in shaping the evolution of the defense sector. Today, defense industry restructuring is largely a private sector concern, with less of a direct role for national governments than existed a decade ago. As Schmitt (2000) put it, “What is novel about this...movement towards greater Europeanisation of defence matters is undoubtedly the reversal of roles: it is no longer governments that are steering European cooperation on armaments but industry itself that is moving ahead of political constraints and adapting them, precipitating change and now acting as a driving force in the implementation of a common defence” (p. v).

This does not mean, though, that European governments cannot work together on defense industrial issues on an adhoc basis. One of the more promising developments in recent years is the Letter of Intent (1998), or LOI, and the follow-up Framework Agreement (2000) signed by the defense ministers of the EU’s six largest arms-producing countries: France, Germany, Italy, Spain, Sweden, and the UK. The LOI and Framework Agreement were the product of concern

that Europe's defense industry was too fragmented, and that Europe's defense ministries would find themselves under increasing pressure to buy from US weapons producers. While it may yet be too much to claim, as Nones (2000) does, that the LOI "was definitely the event destined to have the greatest potential impact on the European defence market" (p. 28), the initiative does cover all the major aspects of the military market: procurement security, export procedures, protection of classified information, R&D, exchange of technical information, standardization of military requirements, and legal relations. Industry executives are in general agreement that Europe needs more cooperation in defense. The Society of British Aerospace Companies has called for a common European defense procurement policy to aid industry rationalization, albeit one that does not foster a "fortress Europe" mentality that would aggravate US-Europe relations (Nicoll, 1998).

Governments also play a key role in defense spending. Industry restructuring and ESDP are likely to do little to close the "NATO-EU capabilities gap" unless national governments increase their defense budgets, which were slashed during the 1990s as part of the post-Cold War "peace dividend" and drive to achieve the budgetary stipulations of EMU (Heisbourg, 2000; Yost, 2000). The 15 current EU members spent a combined \$219 billion on military expenditures in 1990, which dropped to \$186 billion in 1999 (figures in 1995 dollars, SIPRI, 2000, pp. 273-4). Aggregate numbers conceal the fact that military spending dropped 30 percent in Germany, 24 percent in the UK and 10 percent in France over this time period.

Member states have begun to take the actions necessary for a serious ESDP. Eight of the 11 EU members of NATO have told the alliance that they plan to increase defense spending in 2001 in real terms, though the extra will be small, and France and Germany are not among them (*Economist*, 2001). Multinational cooperation has begun in key equipment purchases, particularly

the Airbus A400M transport aircraft and the multi-role armored vehicle (MRAV). Cooperation in weapons procurement will be a key test for the successful fusion of ESDP and defense industry consolidation. In September 1998, France, the UK, Germany, and Italy signed an agreement giving a legal identity to the Joint European Armaments Organizations (commonly known by its French acronym – OCCAR). European defense ministries, particularly the UK's, have often been tempted to buy American rather than European. The UK's May 2000 decisions to buy the European Meteor missile (rather than Raytheon's AMRAAM) and Airbus A-400M military transport plane (rather than the C-130J from Lockheed or C-17 from Boeing), despite the fact that the Meteor is not yet being produced and the A-400M is still in development stage, can be interpreted as a sign that the country is serious about European defense collaboration (Howorth, 2000; Nones, 2000).

Unfortunately, previous efforts to institutionalize (or at least coordinate) defense procurement have yielded a litany of acronyms, but few tangible accomplishments. The WEU's Western European Armaments Group (WEAG), itself a successor to the Independent European Programme Group (IEPG) formed in 1976 by European members of NATO, set up the Western European Armaments Organisation (WEAO), a likely forerunner of a future European Armaments Agency (EAA), in 1996 to manage defense research projects, procure contracts, and provide the WEAG with research and technological support. Discussions on integrating the WEAG and WEAO, as well as OCCAR, into existing EU structures must be seen in the context of the EU Commission taking on greater initiative in the armaments field (Nones, 2000).

Third, restructuring will continue to be influenced by technology. Change has been most rapid in the aerospace and electronics sector, as seen in the British Aerospace-GEC linkup or the formation of EADS. However, very little has transpired in land or naval systems (Nicoll, 2001a).

Europe's naval shipyards are almost entirely national. The UK land industry is divided between Alvis (part of Roll-Royce) and Royal Ordnance (a division of BAE Systems). In Germany, it is split between two family-dominated companies: Krauss Maffei Wegmann and Rheinmetall. State-owned Giat dominates land armaments in France. Andersson (2001) contends that aerospace and land armaments have followed different paths for economic and political reasons. Rapidly increasing R&D costs and shorter production runs made cross-border cooperation in the aerospace sector a financial imperative in the 1960s, and intergovernmental programs structured the sector in the following decades. More modest increases in R&D costs, relatively longer production runs, and little competition from civilian markets meant that the land armaments sector has only recently come under pressure to restructure. Since land and naval systems are essentially "old-economy" structures whose value is increasingly determined by the "new-economy" electronics installed within them, there is a commercial logic for large defense electronics companies to make acquisitions in these sectors. EADS is now interested in playing such a role (Nicoll, 2001a).

Fourth, since the political economy of transatlantic relations is characterized by competition as well as cooperation (Guay, 1999), the United States will play a fundamental role in determining the success – perhaps even the survival – of Europe's defense industrial base. On an economic level, the US defense industry has probably consolidated as much as it can domestically. A next step would be transatlantic ventures. While Europe may be ripe for some additional restructuring, particularly in land and naval systems, the regional consolidation path followed to date is not without its critics. Deutch, Kanter, and Scowcroft (1999), Grant (1999), and Sapolsky and Gholz (1998) argue that building transatlantic partnerships is preferable to the formation of European defense giants, because European firms would become more likely to

participate in US defense projects, and because it would reduce the likelihood of developing a “fortress Europe,” whereby European defense ministries would procure few (if any) US-manufactured weapons systems. Sapolsky and Gholz (1999) contend that the wave of mergers in the US has failed to reduce excess production capacity, and that lobbying savvy deserves more credit for the industry’s success in the post-Cold War period than corporate restructuring. Such arguments for transatlantic ventures, however, hinge on the willingness of the United States to permit European acquisitions of US defense firms. There is little evidence of this openness yet.

At the political level of transatlantic relations, there is a need to reconsider the relationships between institutions (particularly the EU, WEU, and NATO), and then to equip them with the means to undertake policies appropriate for the evolution of Europe’s defense industry (Andréani, 2000). For example, while EU members have pledged to develop a rapid reaction force, how that institution would undertake a military operation is not yet clear. One scenario would be for the EU to call on the WEU to perform the actual mission, with the WEU obtaining permission from NATO to use that organization’s military equipment and infrastructure. However, the fact that EU, WEU, and NATO membership varies is problematic. One likely scenario is to abolish the WEU and split its functions between the EU and NATO (Schake, Bloch-Lainé and Grant, 1999). More fundamentally, is the need to persuade US officials, particularly in the new Bush administration, that an EU defense policy will not undermine NATO or US interests in Europe. Indications to date suggest that this will be no easy task.

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**Table 1: Top Ten European Companies (1996)<sup>7</sup>**

European Rank	World Rank	Company	Country	1995 Rank (World)	1996 Defense Revenue*	1996 Total Revenue	1996 Net Income	Percent of Revenue From Defense
1	3	British Aerospace plc	U.K.	3	14,300	26,800	1,350	53.4
2	6	General Electric Co. plc <sup>†</sup>	U.K.	9	6,056	18,938	1,201	32.0
3	8	Thomson Group	France	8	4,433	6,931	142	64.0
4	10	Lagardere Group	France	12	3,830	11,060	202	34.6
5	13	Daimler-Benz Aerospace AG	Germany	13	3,224	8,403	773	38.4
6	14	Direction des Constructions Navales	France	14	3,045	3,045	-16	100.0
7	17	Alcatel-Alsthom S.A.	France	63	2,286	30,977	516	7.4
8	19	Aerospatiale	France	16	2,237	9,727	155	23.0
9	20	Rolls-Royce plc	U.K.	27	2,059	6,864	-47	30.0
10	24	GKN	U.K.	33	1,632	5,669	388	28.8

\* In millions of 1996 U.S. dollars.

† Profit before taxes.

<sup>7</sup> Table is derived from the Defense News 1997 "Top 100 Table," which was accessed on 10 November 1997 at <http://www.defensenews.com/top100/top100a.htm>, but which is no longer available online.

**Table 2: Top Ten European Defense Companies (1999)<sup>8</sup>**

European Rank	World Rank	Company	Country	1998 Rank (World)	1999 Defense Revenue*	1999 Total Revenue	1999 Net Income	Percent of Revenue From Defense
1	3	BAE SYSTEMS <sup>‡</sup>	U.K.	4	15,200	19,400	491	78.4
2	6	EADS <sup>‡</sup>	France	NR	6,065	33,167	NA	18.30
3	8	Thomson-CSF (now Thales)	France	7	3,618	6,560	261	55.2
4	17	GKN Group <sup>~</sup>	U.K.	35	1,749	6,999	NA	25.0
5	18	Rolls-Royce plc <sup>ˆ</sup>	U.K.	16	1,726	7,196	546	24.0
6	19	Direction des Constructions Navales	France	17	1,611	1,727	NA	93.3
7	22	Saab Group <sup>‡</sup>	Sweden	47	1,475	2,202	92	67.0
8	25	Rheinmetall Group	Germany	15	1,271	4,299	-18	29.6
9	28	Finmeccanica	Italy	25	1,218	5,696	118	21.4
10	33	Dassault Aviation S.A.	France	19	884	2,761	378	32.0

\* In millions of current U.S. dollars.

<sup>‡</sup> Pro forma results.

<sup>ˆ</sup> Net income is reported as operating income.

<sup>~</sup> Total revenue before tax.

<sup>8</sup> Table is derived from Defense News "2000 Top 100," which can be accessed (alas, only if you have a Defense News subscription) at, [http://www.defensenews.com/current/forecasts/dn\\_top100.html](http://www.defensenews.com/current/forecasts/dn_top100.html).

**Table 3: Top Ten Defense Companies, Worldwide (1999)<sup>9</sup>**

Rank	Company	Country	1998 Rank	1999 Defense Revenue*	1999 Total Revenue	1999 Net Income	Percent of Revenue From Defense
1	Lockheed Martin Corp. <sup>†</sup>	U.S.	1	\$17,800	\$25,500	\$382	69.8
2	Boeing Co. <sup>†</sup>	U.S.	2	16,250	58,000	1,120	28.0
3	BAE SYSTEMS <sup>‡</sup>	U.K.	4	15,200	19,400	491	78.4
4	Raytheon Co.	U.S.	3	14,489	19,841	404	73.0
5	General Dynamics Corp.	U.S.	8	8,950	8,950	715	100.0
6	EADS <sup>‡</sup>	France	NR	6,065	33,167	NA	18.30
7	Northrop Grumman Corp.	U.S.	6	6,000	8,995	467	66.7
8	Thomson-CSF (now Thales)	France	7	3,618	6,560	261	55.2
9	TRW Inc.	U.S.	13	3,360	16,969	469	19.8
10	United Technologies Corp.	U.S.	10	3,300	24,100	1,500	13.7

\* In millions of current U.S. dollars.

<sup>†</sup> Defense analysts' estimate.

<sup>‡</sup> Pro forma results.

\* Net income is reported as operating income.

<sup>9</sup> Table is derived from Defense News "2000 Top 100," which can be accessed (alas, only if you have a Defense News subscription) at, [http://www.defensenews.com/current/forecasts/dn\\_top100.html](http://www.defensenews.com/current/forecasts/dn_top100.html).

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