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Post-Cold War Trends in the European Defence Industry: Implications for Transatlantic Industrial Relations

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ABSTRACT *Since the end of the Cold War, Europe's defence industry continues to consolidate, and this process has resulted in significant restructuring across European borders. Having examined the post-Cold War changing economic and technological conditions in the armaments market, the article investigates how the interplay between the defence industries' strategies in facing this new environment and the EU initiatives in the security realm has transformed Europe's defence industrial base. The implications of these changes for transatlantic industrial relations are then analysed in the space sector. It is argued that the political economy of the transatlantic relationship has experienced a shift of relative market power away from the US towards Europe.*

KEY WORDS: defence industry, European security and defence policy, space, economic integration, transatlantic market

Introduction

This article examines how the post-Cold War changing political, economic and technological environment in Europe has transformed the structure of the European defence market and, subsequently, how this has affected the political economy of the transatlantic relationship. To do so, we first analyse the post-Cold War trends that acted as major drivers of the consolidation process: reduction of defence budgets; spiralling costs of weapons systems; the 'revolution in military affairs'; and the emergence of American industrial giants in the 1990s. We then illustrate how the interactions between the defence industries' response to these trends and the national and supranational political initiatives at the European level have changed the structure of Europe's defence industry from a large number of small, distinct contractors to a continent-wide industrial base dominated by a few major defence companies. Finally, we assess the extent to which the consolidation of the European space sector – where it has been the most far reaching – has influenced transatlantic industrial relations. It is argued that, within this sector, the post-Cold War consolidation process has produced two major European

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players – EADS Astrium and Thales Alenia Space – that have been able to gradually erode US pre-eminence in the market.

Post Cold-War Economic and Technological Environment

Before the fall of the Berlin Wall, the traditional model of a defence company was primarily a nationally based firm whose primary objective was to meet the requirements of national armed forces (O’Keefe, 1998). By completely changing conditions in the armaments market, the economic, financial and technological challenges of the post-Cold War era have radically transformed that model. These movements have gradually extended firms beyond borders, turning international cooperation into true transnational integration. The major trends in the post-Cold War defence markets can be traced as follows.

Reduced Defence Budgets

Since the end of the Cold War, the four countries which had traditionally had the major defence expenditures on the European continent – United Kingdom, France, Germany and Italy – have cut their defence budgets considerably. Comparison with the situation in the United States highlights the significance of European reductions: the Americans have also made a large cut in their defence expenditure, but it none the less remains very much higher than that of the Europeans. Furthermore, in the US a major increase in the military expenditure followed the 9/11 attacks (Guay, 2005). As Figure 1 shows, the same policy did not occur in the major European states.

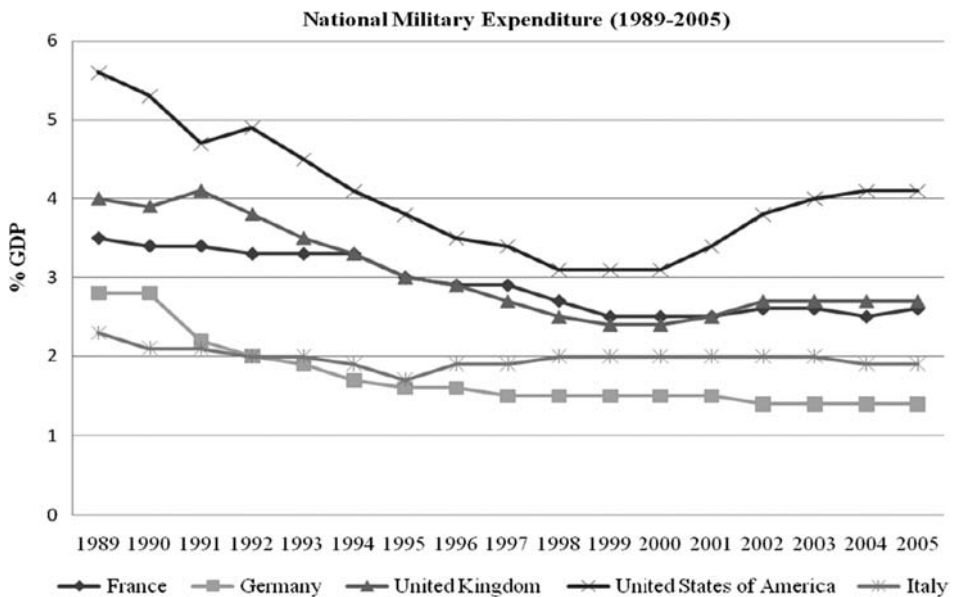


Figure 1. National military expenditure. *Source:* Stockholm International Peace Research Institute.

The reduction of the defence budgets of the traditionally major defence spenders in Europe, by contracting aggregate demand for the defence contractors, has provided a strong boost for industrial concentration (Kenny, 1999).

Spiralling Costs

Though the rise in the development costs of weapons systems that are ever more sophisticated and complex is not a new phenomenon – it goes back at least to the time of the arms race during the Cold War – it has continued despite the end of the bipolar confrontation. This competition not only for quantity but also quality, which involves a search for technological superiority, has led to a massive rise in the cost of programmes. These spiralling costs have been a major incentive towards consolidation given the necessity to reach a critical size to sustain these substantial financial investments (Laird, 1999).

Revolution in Military Affairs

Strategic thinking is today largely dominated by the ‘revolution in military affairs’ (RMA). The RMA – which can be defined as the application of modern information and communications technology to warfare – has had a deep impact on the defence industry (Grant, 1999; Murawiec, 1998). RMA-related systems are based on the combination of electronics, information and telecommunications. The most innovative contributions come from sectors on the periphery of the traditional defence industry, such as telecommunications, electronics, optronics and aerospace. It is the latter that have become the true strategic sectors and the heart of the modern armaments industry (Guay, 1998). It is in fact becoming increasingly difficult to define ‘defence industries’ *strictu sensu*. Technological and industrial trends are blurring the distinction between defence and other industries, such as electronics, information technology and space facilities. This is bound to “broaden the opportunity for linkages and alliances between defence and non-defence companies” and has therefore further increased the room for manoeuvre for consolidation. (Hayward, 1999, p. 10). This has further increased the room for manoeuvre for consolidation.

The New American Giants

Between 1993 and 1997, a wave of mergers and acquisitions in the United States produced aerospace and defence giants with turnovers several times greater than those of national champions in Europe. The US government, under the Clinton administration, paved the way for it in 1993 and subsequently actively promoted it by the non-application of the anti-trust law on the one hand and through financial help on the other (Scherpenberg, 1996). Up until the end of 1997, the administration subsidized seven consolidation arrangements to the value of \$1.5 billion, which represented more than half the restructuring costs incurred by the companies concerned. The administration brought an end to the restructuring process in 1998, when it announced its opposition to the merger of Lockheed Martin and Northrop Grumman, citing concerns about the consequences of such a deal for competition (Schmitt, 2001).

European Reactions

The interactions between the defence industry response to these trends (supply side) and the national and supranational political initiatives at the European level (demand side) have changed the structure of Europe's defence industry from a large number of small, distinct contractors (primarily for domestic, national supply) to a continent-wide industrial base dominated by three major defence companies.

Supply Side

The defence companies' strategies in facing these trends have been characterized by two fundamental features: concentration and internationalization.

In the post-Cold War period, the rate of concentration has increased significantly among Europe's largest defence companies.¹ Concentration has become an essential means of reducing duplication, pooling resources devoted to research and development and increasing market shares, and to reach a critical size to sustain the financial investment that is necessary in the modern defence industry (Schmitt, 2000). The process of increasing concentration through mergers and acquisitions happened at different speeds depending on the country and the sector. While it has hardly begun in land systems and naval shipbuilding, it is far advanced in aerospace and defence electronics (Pandraud, 1996). The strategies of consolidation have also differed across Europe, some being limited to the national defence infrastructure, others reaching major cross-border ties through transnational mergers.²

Internationalization inside Europe has been the other dominant element of its post-Cold War industrial transformation. The basic forms of internationalization have included gaining a foothold in other European countries by purchasing local companies, cooperating with consortiums in order to implement international programmes, and creating alliances to form European entities based on a structural programme. Because of its very specific nature and the many resultant political obstacles, internationalization of the defence industry in Europe had for long been limited to cooperation among national actors on specific programmes (Kopač, 2006). However, under the pressure of the post-Cold War changing environment, some of these projects have led to lasting alliances and transnational joint ventures across the continent.

Demand Side

On the demand side, the restructuring of Europe's defence industrial base has been encouraged by the political efforts to improve European armaments cooperation. After the collapse of the bipolar order, the fragmentary nature of the European defence market, consisting as it did of various national procurement processes, constituted a barrier to achieving the lengths of production runs and economies of scale that were requisite to render integration of the defence industry economically feasible (Keohane, 2002). In the early 1990s, efforts to create a single European armaments agency were not successful. Instead, with the goal of harmonizing arms procurement within Europe, an array of *ad hoc* arrangements has developed: the Conference of National Armaments Directors within the North Atlantic Treaty Organization; the Western European Armaments Group and the Western European Armaments Organization within the Western European Union; the Working Group on Armaments Policy (or POLARM) was established after the creation

of the ESDP; the Joint Armaments Co-operation Organization was created in 1996 by France, Germany, United Kingdom and Italy; and the 'Letter of Intent to Facilitate the Restructuring and Operation of the European Defence Industry' between the six major arms-producing countries.³ In 2003, the European Commission published the report *European Defence – Industrial and Market Issues: Towards an EU Defence Equipment Policy* which stressed the importance of creating a genuine European defence market and proposed several measures “to encourage industrial restructuring and consolidation” (European Commission, 2003a, p. 12).

This increased institutional cooperation and designing aimed at coordinating the demand side of Europe's defence market has resulted, in 2004, in the creation of the European Defence Agency (EDA).

The Role of the EDA

The Council of the European Union established the EDA 'to support the Member States and the Council in their effort to improve European defence capabilities in the field of crisis management and to sustain the European Security and Defence Policy'.⁴ Within that overall mission are four specific functions: developing defence capabilities; promoting defence research and technology; promoting armaments cooperation; creating a competitive European defence equipment market and strengthening the European defence, technological and industrial base. In 2006, the EDA Steering Board agreed a roadmap and a timetable to produce a comprehensive *Capability Development Plan* (EDA, 2006). Its aim is to help EU governments identify the key capability areas that they must work together to develop in order to meet existing security threats and to target possible areas for collaboration to deliver the necessary capabilities. The three areas most relevant for collaborative procurement are: (1) *Interoperability*, to be achieved through greater commonality of equipment and systems and shared capabilities; (2) *Rapid Acquisition*, in particular quicker exploitation of new technology; and (3) *Industrial Policy*, especially to increase investment, consolidate the European technological and industrial base, and to target the strategic industrial capacities that have to be preserved or developed.

Interestingly, the EDA has now been included in the Lisbon Treaty as a key institution in the Common Security and Defence Policy (CSDP). Its inclusion having been projected in the failed Constitutional Treaty, the new Treaty explicitly endorses the duties of the EDA, thereby giving it a solid legal basis and, since it makes no reference to the other EU agencies, affords to it an unusually high degree of importance (Sempere, 2008). The Agency's main tasks are detailed in section 1 of Article 28 D, which reads as follows:

Promote harmonization of operational needs and adoption of effective, compatible procurement methods; propose multilateral projects to fulfil the objectives in terms of military capabilities, ensure coordination of the programmes implemented by member states and management of specific cooperation programmes; support defence technology research, and coordinate and plan joint research activities and the study of technical solutions meeting future operational needs; contribute to identifying and, if necessary, implementing any useful measure for strengthening

the industrial and technological base of the defence sector and for improving the effectiveness of military expenditure.

The Treaty also assigns the Agency a significant role in matters relating to ‘permanent structured cooperation’, a modality of cooperation involving member states which seek to integrate their defence capabilities. Accordingly, with the recent ratification of the Lisbon Treaty, the role of the EDA will be increasingly pivotal for the future of the European defence industrial base.

The 1990s Consolidation Process

As a result of the post-Cold War trends in the defence sector, the interactions between supply and demand have led to a European industry structure with three dominant players overall and a number of relatively smaller players in particular segments. The big three are today BAE Systems, EADS (European Aeronautic Defence and Space Company) and THALES (formerly Thomson–CSF). Figure 2 illustrates the consolidation process in the European defence industry during the 1990s.⁵ Some of the relatively smaller players are Finmeccanica of Italy and Rolls-Royce of the United Kingdom.

The current state of the defence market in Europe has been described as a ‘European spaghetti bowl’ (Vlachos-Dengler, 2002). This label refers to the post-consolidation ownership structure of the European armaments industry, with innumerable cross-shareholdings, segments and programme-specific joint ventures, consortia and other legal arrangements. Despite this complex picture, the three big players constitute the poles around which most European defence activity revolves because they are involved in almost all major segments of the European defence market (Figure 3). Through these mergers and acquisitions, as Terrence Guay puts it, ‘the Europeans have formed defence titans that can finally match their U.S. counterparts’ (Guay, 2005, p. 6).

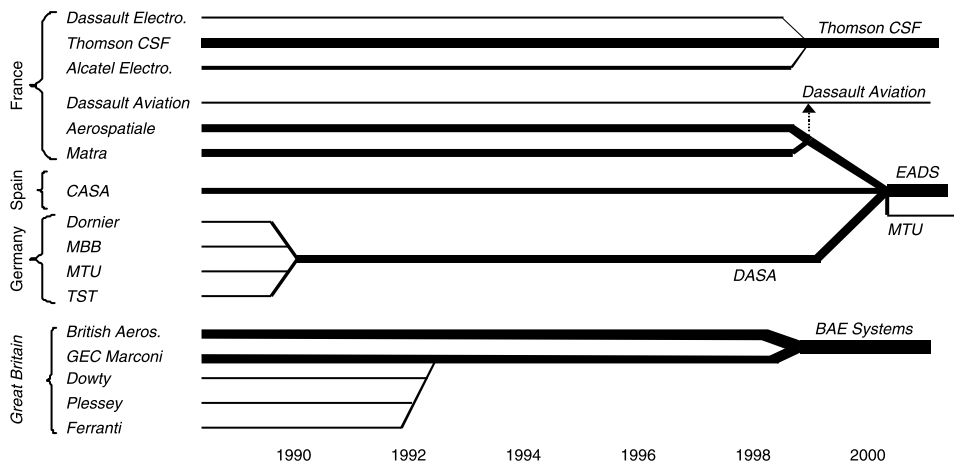


Figure 2. Consolidation of European industrial base. *Source:* Schmitt (2000).

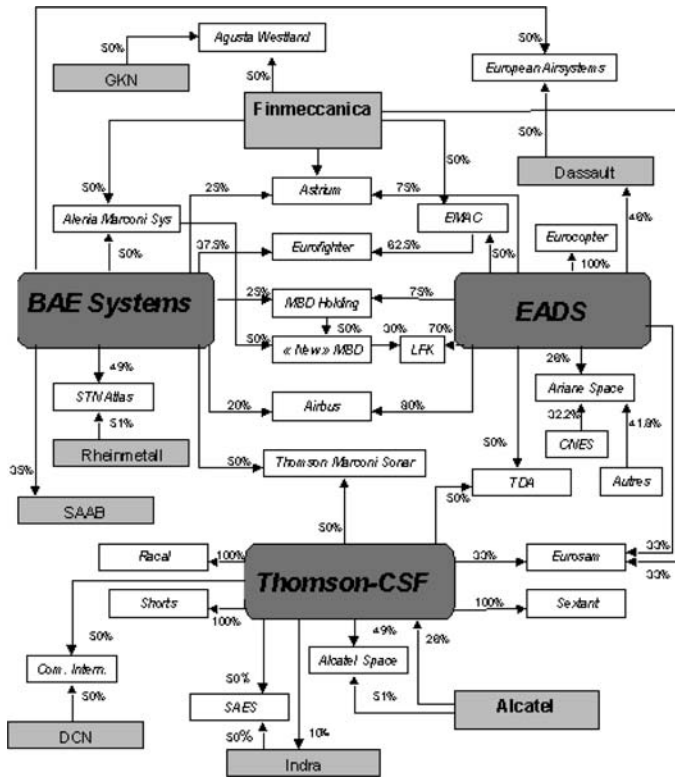


Figure 3. Ownership structure of European armaments industry. Source: Schmitt (2000).

The Space Sector and Transatlantic Industrial Relations

As previously mentioned, the consolidation process of Europe’s defence industry has proceeded at different speeds depending on the country and the sector. We shall here focus on the space sector – where the consolidation has been the most advanced – to assess how the interactions between the demand and the supply sides in Europe have influenced the political economy of the transatlantic relationship.

The Rise of a European Space Policy

On the demand side, the consolidation of Europe’s space industrial base has been spurred by the moves towards a supranational space policy in the last decade. Although the earliest calls for a European space policy date back to 1988 (European Commission, 1988), a significant first step was made in 2000, when the ‘Wise Men’s Group’ called for a much stronger link between the European Union and the European Space Agency (ESA) to help integrate a common European space policy (Bildt *et al.*, 2000).⁶ Greater momentum was reached with the White Paper process on European space policy, in 2003, which led to increased cooperation between the ESA and the European Commission (EC). This process was instrumental in bringing political and industrial stakeholders around the issue of how to increase the relevance of space in Europe (Mazurelle *et al.*, 2009). In 2007, the EC,

together with the Director General of the ESA, adopted the European Space Policy (ESP) which formalized the first European common space policy and highlighted the importance of the space sector as a strategic asset for the independence, security and prosperity of Europe. The document stresses that ‘the strong industrial base existing in Europe . . . must be maintained and/or reinforced if Europe is to exercise its freedom of initiative in the space sector’ (Bildt *et al.* 2004; European Commission, 2003b, pp. 12–13). As a consequence, the EC, the ESA and the EDA have been increasingly cooperating ‘to develop critical space technologies in Europe [in order] to ensure that Europe can rely on a technical and industrial capacity for accessing space’.⁷ The 2008 ‘Resolution on the European Space Policy’ of the European ‘Space Council’ is based on the ESP and confirms its most important points as common political and industrial aims.

Accordingly, a common space policy has gradually emerged at the supranational level and its institutionalization has gone hand in hand with calls for greater consolidation of Europe’s space industries.

Major Actors in the European Space Industry

On the supply side, the previously described post-Cold War trends, paralleled by the rise of a European space policy, have spurred a far-reaching consolidation of Europe’s space industry through joint ventures, mergers and acquisitions. This consolidation process has sharply reduced the number of players in the European space industry and has resulted in two dominant companies.

- EADS Astrium is the leader in the space market in both the commercial and military segments. Astrium is Europe’s largest space company in terms of sales and the third-largest operator in the global space segment behind Lockheed Martin and Boeing.⁸ It is today wholly owned by EADS.⁹
- Thales Alenia Space is a joint venture between Thales (67 per cent) and Finmeccanica (33 per cent). It was born after Thales bought the participation of Alcatel in the two joint ventures between Alcatel and Finmeccanica (Alcatel Alenia Space and Telespazio). Alcatel Alenia Space was established in 2005 by the merger of Alcatel Space and Alenia Spazio and was owned by Alcatel-Lucent (67 per cent) and Finmeccanica (33 per cent). Telespazio Holding was a merger of Finmeccanica and Alcatel businesses (Telespazio and Alcatel’s Space Services and Operations respectively). In 2006 Alcatel agreed to sell its share of Alcatel Alenia Space (and its 33 per cent share of Telespazio) to the Thales Group.

Changing Transatlantic Industrial Landscape

The consolidation of Europe’s space industry and the rise of these two dominant players have transformed the transatlantic industrial landscape. Although the US maintains a dominant position in the world defence market, Europe’s industrial base has gradually been able to erode that pre-eminence in the space sector in terms of market shares and satellite orders.

The 2001 European Commission report *Space Industry Developments* highlights the changing transatlantic distribution of orders in the space sector (European Commission, 2001). It shows the progress made by European industry in the late 1990s, when the bulk of the consolidation process was taking place, culminating in winning more and more orders

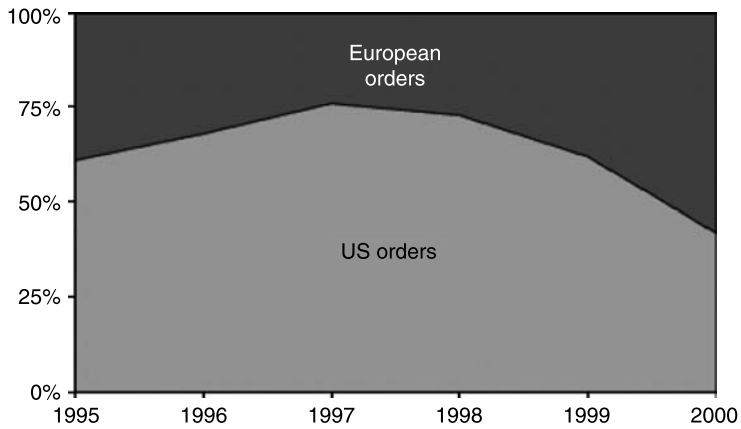


Figure 4. European vs. US orders in the space sector. Source: European Commission (2001).

than their US rivals (Figure 4). The transatlantic distribution of market shares of communication satellites follows a similar pattern (Figure 5). While US space companies experienced a substantial decline in global market shares during the 1990s, their European competitors expanded their position in the market. US market share dropped from 84 per cent in the mid 1990s, to 79 per cent at the end of the decade, to 65 per cent in the period 2000–2006. In the same periods, Europe’s share grew from 9 per cent to 11 per cent, and finally 23 per cent in 2002–2006 (US Department of Commerce, 2007). Similarly, in the segment of geosynchronous orbit (GEO) satellites, we see that, despite a continued US relative pre-eminence, the trend during the past two decades has been

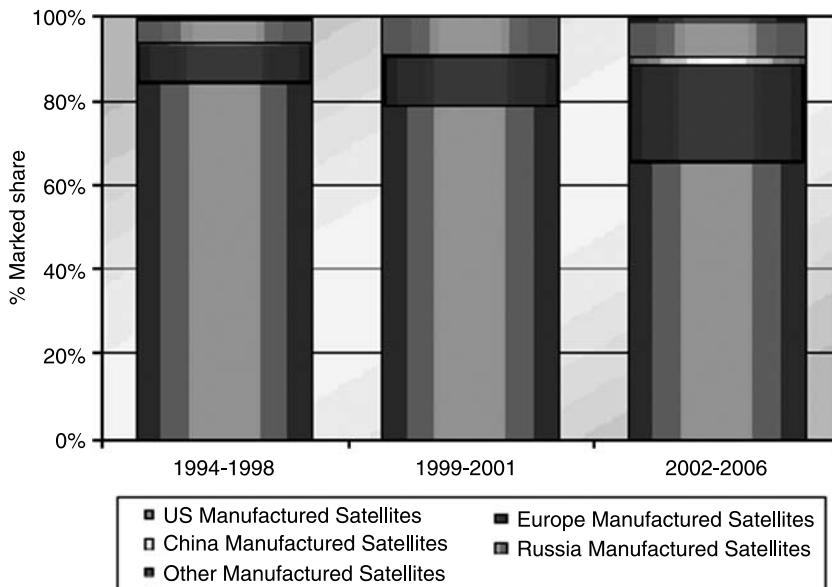


Figure 5. EU-US market shares. Source: US Department of Commerce (2007).

Table 1. Commercial GEO manufacturers, 1995–2006

| | Manufacturer | Market share 1995–1999 | Market share 2000–2006 |
|---------------|--------------------------|---------------------------|---------------------------|
| United States | Boeing Co. | 31% | 20% |
| | Lockheed Martin | 22% | 17% |
| | Space Systems/Loral | 14% | 17% |
| | Orbital Sciences Corp. | 1% | 4% |
| Europe | Alcatel Alenia Space | 11% | 16% |
| | EADS | 8% | 12% |
| Russia | NPO Pribladnoi Mekhaniki | 5% | 8% |
| India | ISRO | 1% | 1% |
| Total | | 94% | 96% |
| Total US | | 68% | 58% |
| Total Europe | | 19% | 28% |

Source: Institute for Defense Analysis (2007).

towards a gradual erosion of US market shares with a growing weight of its European competitors (Table 1).

These trends do not mean that Europe's space industry has the capacity yet to replace US companies' dominant position in the market, but rather that a redistribution of relative market power is taking place, with EADS Astrium and Thales Alenia Space becoming the two most significant competitors for American contractors (Aviation Week & Space Technology, 2006). As the Department of Commerce puts it, in the report *Defence Industrial Base Assessment: U.S. Space Industry*, 'the US industry now faces strong and growing competition, primarily from European firms, and is losing market share in allied countries' (US Department of Commerce, 2007, p. x). Similarly, a report from the Centre for International and Strategic Studies explains that the 'determined effort by European governments to become more competitive in the space market through mergers and collaboration has reduced US market share. Europe's effort to consolidate its space firms [made] them a more effective competitor with the US' (Lewis & Schlather, 2003, p. 4–5).

Conclusion

In the context of the economic and technological transformations of Europe's post-Cold War environment, the interplay between the defence industry response to these trends and the European political initiatives in the defence realm has transformed the structure of Europe's industrial base. The consolidation process of the 1990s has led to an increasingly robust and competitive defence market dominated by a few companies. In the space segment, where the consolidation has been the most far-reaching, the two major European players – EADS Astrium and Thales Alenia Space – have been able to gradually erode US pre-eminence. As a consequence, the political economy of the transatlantic relationship has been transformed and has experienced a shift of relative market power across the Atlantic towards Europe.

Notes

¹ See *Concentration in the Arms Industry*, Stockholm Institute for International Peace, available online at: http://www.sipri.org/research/armaments/production/researchissues/concentration_aprod.

- ² BAE Systems and EADS, for instance, have adopted different strategies of consolidation. BAE Systems is the result of the consolidation of much of the UK's national defence infrastructure into one company, without any major cross-border ties. EADS, on the other hand, was formed via a transnational 'merger of mergers' within similar sectors by the 'national champions' of individual countries (Callum & Guay, 2002).
- ³ Available online at: <http://www.sipri.org/contents/expcon/loisign.html>.
- ⁴ Available online at: <http://www.sipri.org/contents/expcon/loisign.html>.
- ⁵ For further details, see Appendices A and B.
- ⁶ The so-called 'Wise Men's Groups' was a committee set up to examine the organization of the public space sector in Europe and the role of ESA in that sector. Its members were: Carl Bildt, former Swedish prime minister and UN envoy to the Balkans; Jean Peyrelevade, president of Credit Lyonnais; and Lothar Späth, CEO of Jenoptik and former prime minister of the State Baden-Württemberg.
- ⁷ EC, ESA, EDA, Workshop on *Critical Space Technologies for European Strategic Non-Dependence*, Brussels, 9 September 2008, available online at: <http://www.eda.europa.eu/genericitem.aspx?id=413>.
- ⁸ <http://www.defence-data.com>.
- ⁹ In 2002, BAE Systems agreed to sell its 25 per cent stake in the Astrium satellite joint venture to EADS.

References

- Adams, G. *et al.* (1999) *Europe's Defence Industry: A Transatlantic Future?* (London: Centre for European Reform).
- Aviation Week & Space Technology (2006) *Aerospace Source Book 2006* (New York: Aviation Week & Space Technology).
- Bildt, C., Peyrelevade, J. & Späth, L. (2000) *Towards a space agency for the European Union*, Report for the Director-General of the European Space Agency, November.
- Bildt, C. *et al.* (2004) *Europe in Space* (London: Centre for European Reform).
- Callum, R. & Guay, T. (2002) The transformation and future prospects of Europe's defense industry, *International Affairs*, 78(4), pp. 757–776.
- European Commission (1988) *The European Community and space: a coherent approach*, Communication from the Commission to the Council and the European Parliament, COM(88) 417 final.
- European Commission (2001) *Space Industry Developments in 2000*, Report no. 150601, 15 June.
- European Commission (2003a) *European defence – industrial and market issues: towards an EU defence equipment policy*, COM (2003), 11 March.
- European Commission (2003b) *Green Paper: European space policy*, COM(2007) 212, 28 April.
- European Defence Agency (2006) *An initial long-term vision for European defence capability and capacity*, endorsed by the Steering Board, 3 October.
- Grant, C. (1999) Transatlantic alliances and the revolution in military affairs, in: G. Adams *et al.* (Ed.) *Europe's Defence Industry: A Transatlantic Future?* pp. 63–69 (London: Centre for European Reform).
- Guay, T. (1998) *At Arm's Length: The European Union and Europe's Defence Industry* (Houndmills, UK: Macmillan).
- Hayward, K. (1999) The globalisation of the defence business, in: G. Adams *et al.* (Ed.) *Europe's Defence Industry: A Transatlantic Future?* pp. 8–15 (London: Centre for European Reform).
- Institute for Defense Analysis (2007) *Export controls and the US defense industrial base*, January.
- Kenny, B. (1999) Change and crossborder activity in the European defence industry, *European Business Review*, 99(2), pp. 115–124.
- Keohane, D. (2002) *The EU and Armaments Co-operation* (London: Centre for European Reform).
- Kopač, E. (2006) Defense industry restructuring: trends in European and US defense companies, *Transition Studies Review*, 13(2), pp. 283–296.
- Laird, R. (1999) The inevitability of global defence industry alliances, in: G. Adams *et al.* (Ed.) *Europe's Defence Industry: A Transatlantic Future?* pp. 55–62 (London: Centre for European Reform).
- Lewis, J. & Schlather, E. (2003) *US Share of the Communications Satellite Market* (Centre for Strategic and International Studies), Washington DC.
- Mazuelle, F., Wouters, J. & Thiebaut, W. (2009) The evolution of European space governance: policy, legal and institutional implications, *International Organizations Law Review*, 6(1), pp. 155–189.
- Murawiec, L. (1998) La révolution dans les affaires militaires aux Etats-Unis: puissance de l'innovation, *Défense nationale*, July, 21(83), pp. 743–754.

- O'Keefe, S. (1998) *The Defence Industry in the Post-Cold War Era* (Pergamon), New York.
- Pandraud, R. (1996) *L'Europe et son industrie aérospatiale*, Report 3219, European Union Delegation, National Assembly, Paris.
- Scherpenberg, J. (1996) Transatlantic competition and the European defence industries – a new look at the trade-defence linkage, *ESAN-Projekt: Arms Production and Cooperation*, SWP-AP 2992, December.
- Schmitt, B. (2000) From Cooperation to integration: defence and aerospace industries in Europe, EU-ISS Chaillot Paper no. 40, July.
- Schmitt, B. (2001) Between cooperation and competition: the transatlantic defence market, EU-ISS Chaillot Papers no. 44, January.
- Sempere, C. (2008) The European Defence Agency in the wake of the Treaty of Lisbon, *Real Instituto Elcano*, ARI 33, 11 April.
- US Department of Commerce, Bureau of Industry and Security, Office of Technology Evaluation (2007) *Defence industrial base assessment: US space industry*, Final Report, August 31.
- Vlachos-Dengler, K. (2002) *From National Champions to European Heavyweights. The Development of European Defence Capabilities across Market Segments* (RAND Corporation), Santa-Monica, California.

Appendix B. Big Three Post-Cold War Consolidation

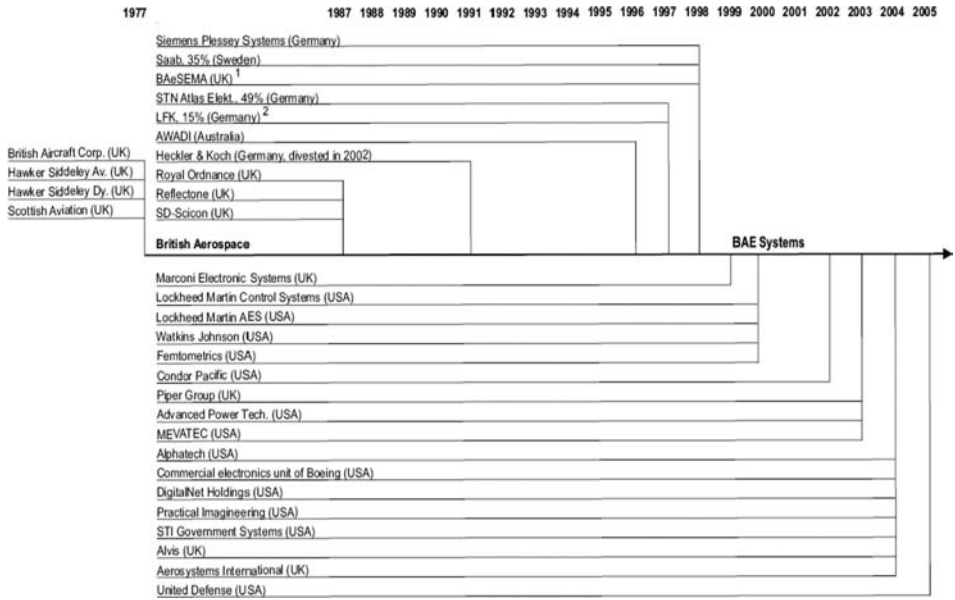


Figure A.2. Post-Cold War consolidation: BAE systems. Source: Stockholm Institute for International Peace.

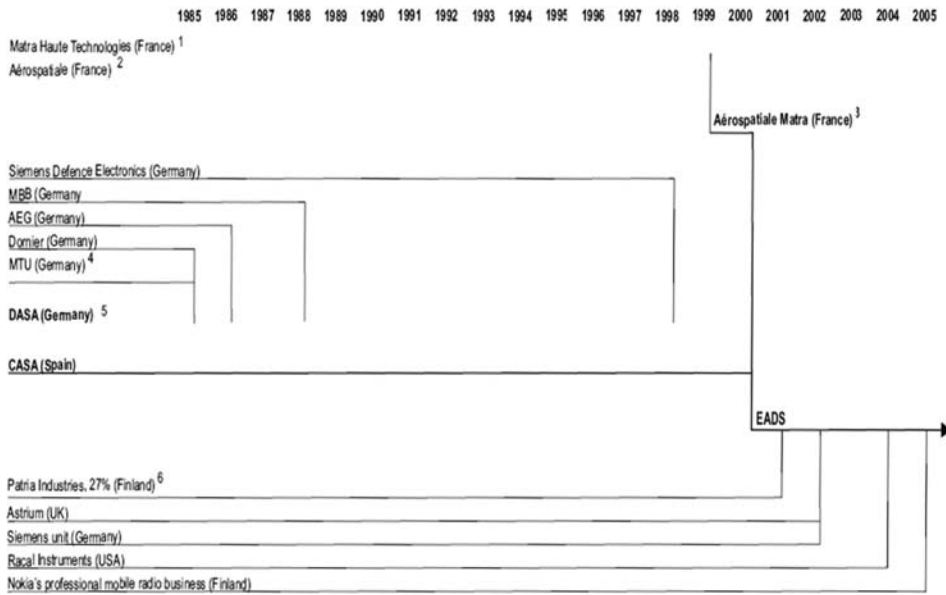


Figure A.3. Post-Cold War consolidation: EADS. Source: Stockholm Institute for International Peace.

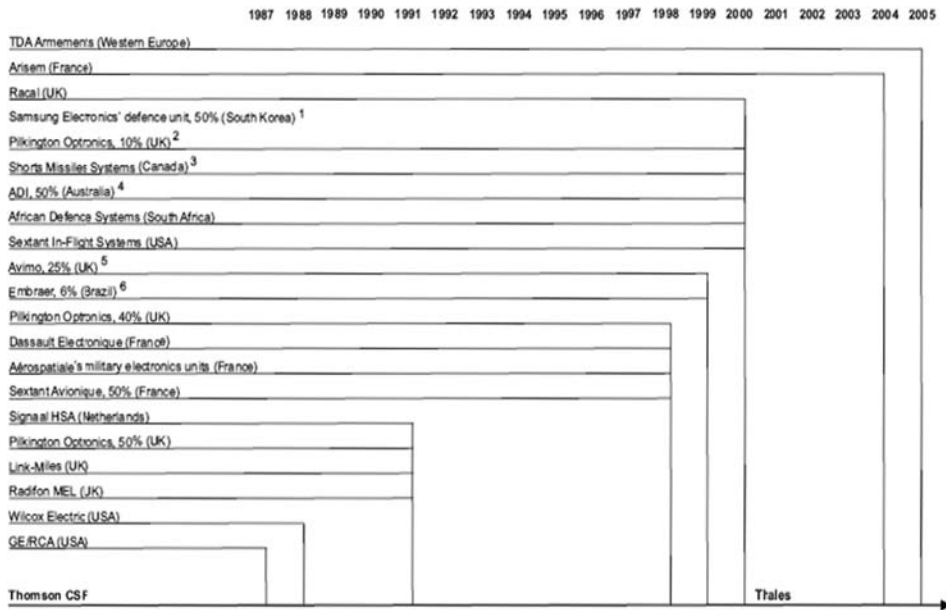


Figure A.4. Post-Cold War consolidation: Thales. Source: Stockholm Institute for International Peace.