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The Nature and Impacts of Barriers to Trade with the United States for European Defence Industries

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Final report

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Preface

This report is the final report provided by DECISION and U.S.-CREST under the statement of work of the study on the nature and impacts of barriers to trade with the United States for European defence industries, No ENTR 08 /040 – DG Enterprise and Industry, Aerospace Industries, GMES, Security & Defence.

As a starting point for this study, U.S.-CREST established a concept paper used as a questionnaire (see Annex 1) to conduct a large number of interviews, primarily in the U. S. The list of interviews is provided in Annex 2 of the report. A very wide range of individuals and organizations have been interviewed during the course of this study, with backgrounds in the U.S. government (Department of Defense, Department of Commerce , and Department of State), Congress, industry, local analysts or the think tank community.

In addition to conducting interviews, the study team has analyzed the available news, surveys, reports, databanks and other relevant studies which are related to the subject. The choice of most relevant data has been vetted against U.S and European available data.

The study is divided in five parts.

The first part is an introduction which sets the scene and the rationale for the study in a context of globalization of defence trade.

The second part provides an analysis of the data over the past five years and of the state of the defence trade balance between the U.S. and Europe. The study looked at the trade flow of defence goods across the Atlantic and at European ownership of U.S. defence companies.

The third part consists of an analysis of the nature of barriers and/or obstacles to trade in the U.S. for European defence companies, be they political, legislative or cultural. Special emphasis has been placed on technology controls with the objective of providing an assessment of U.S. policy, regulation and practices in the domain.

The fourth part of the study analyses the comparative merits of strategies and models used by European defence industries to compete in the U.S. defence market and their impact on the EDTIB (European Defence Technology and Industrial Base).

The fifth and final part of the study formulates suggestions and recommendations to move towards a more level playing field between the U.S. and Europe.

The study focuses mainly on five European countries (France, Germany, Italy, the Netherlands and the United Kingdom) which are representative of the new trends over the past five years in terms of European defence exports to the U.S. and defence investment in the U.S. It also focuses on five main European defence companies, BAE Systems, EADS, Finmeccanica, Thales, TRS (Thales Raytheon Systems) which are the most representative of the strategies analyzed in part 4.

Executive Summary

America enjoys a consolidated, dominant position on the world defence market which is coherent with the huge government investments made in the U.S. defence technological and industrial base.

With only 2% of the national defence procurement budget directed to foreign suppliers, the American market for weapon systems can be considered as mainly a domestic market. In comparison around 12% of the European defence procurement budget is directed to U.S. suppliers.

On average, over the past twenty years, invariably, about one third of U.S. defence exports have gone to Europe and one half of U.S. defence imports have come from Europe. But the ratio of U.S. imports from Europe versus U.S. exports to Europe, which was traditionally between 1 to 3 and 1 to 4, has shrunk dramatically over the past 5 years to the value of 1 to 2, while during the same period of time the total volume of transatlantic defence trade flow has increased by more than 60 % although it remains very modest in absolute terms.

In particular, European defence exports to the U.S. have doubled over the past five years to reach \$2.2 billion in 2008, probably due to the recent surge in defence equipment spending in America. This trend is dominated by the UK, whose defence exports to the U.S. have tripled over the same period and who now accounts for more than 50 % of all European exports to the U.S.

In contrast, European defence imports from America have increased at a lower rate and only since 2007. This trend is dominated by Poland and the UK who each account for 25% of all European imports from the U.S.

At the same time the footprint of the European defence industry in America owning 100% of a U.S. subsidiary has also increased significantly and is now generating business revenues which exceed \$20 billion. In this area again the UK industry accounts for most of these investments, with the noticeable exception of Italian industry which recently entered this market as a major player when Finmeccanica bought DRS Technologies. BAE Systems Inc is now an American giant, generating business worth some 10 B\$ with the DoD.

There are many barriers and obstacles for European defence industry to trade with the U.S given that the U.S. defence market is highly regulated. They can be cultural, political or legislative. But European industry has adapted its strategy accordingly and is becoming more and more familiar with the very specific behaviour of the DoD as a customer as well as with the very specific nature of the U.S. defence market, which induces any foreign industry seeking to grow its business in America to become part of the USDTIB.

Consequently, the different models followed by the European industry to address the U.S. defence market can have positive, neutral or negative impacts on the EDTIB depending on the criteria used to analyze them: financial or technical impact; constraints on operational sovereignty or technological sovereignty; system integrator or platform provider capability;

sub-system or equipment supplier capability, etc. Among all the strategies and impacts on the EDTIB described in the report, it is worth pointing out that first, only the BAE model, which consists in buying American entities and conducting business from the U.S. as an American company with a high level of independence from the European headquarter, has offered a sustainable business model. Second, the European defence technological base, on which the European industrial base ultimately relies, cannot be sustained by any of these models and can only advance in sophistication with indigenous European governmental investments.

Both the industrial strategies and their impact on the EDTIB are mainly driven by the fact that, in any transatlantic defence trade relationship, technology can mainly travel one way from Europe to the U.S., due to the nature of the U.S. technology control regime which remains the principal inhibitor of a greater transatlantic flow of defence goods in both directions. In practice, and whatever its legal obligation may be, European industry trading defence goods with the U.S. would comply with ITAR regulation and with the spirit of ITAR regulation. As a consequence, any time European industry sells defence technology to the U.S., this technology becomes de facto subject to the U.S. technology control regime. The same is of course true of European defence investments in the U.S.

Another consequence of the way that the U.S. export control regime is implemented towards Europe is that the USDTIB and the EDTIB do not appear to be really linked. Moreover, the separation wall between them which traditionally was in the middle of the Atlantic is now moving to the middle of the English Channel, as the British DTIB increasingly becomes intertwined with the USDTIB.

It is therefore paramount first, that Europe acquires the best possible understanding of the history and trends of the U.S. technology control regime and second, that recommendations to increase the flow of European defence goods address this issue.

Until now, the U.S. administration has shown signs of interest in the EDTIB which has a role to play in the U.S. defence industrial policy. More specifically, (1) European investments in the U.S. defence market have proven to be welcome, (2) European industry can offer alternative competitive solutions to the U.S. military especially with technology derived from the commercial sector and (3) the European defence industry can potentially allow the DoD to tap into a broader range of prime contractors to stimulate innovation and competition.

But the European defence industry cannot really address the U.S. defence market in a sustainable manner from its European base. The current industrial strategies and models for European penetration into the U.S. defence market are flawed as none help to develop the European defence technological base.

Nevertheless both European defence exports to the U.S. and the European footprint in America have grown significantly over the past few years and so have the frictions related to the day to day operations of the corresponding business. The lack of harmonization of technology control policies and practices between the United States and Europe has left these companies in a situation in which they are burdened with costly and often unpredictable licensing requirements. In particular, European companies selling to the

United States are unable to accurately foresee whether they will be able to leverage their technological investment and to re-export goods and technologies used to fulfil U.S. contracts.

In order to ease these tensions the main recommendation would be to provide European industry the visibility and predictability it requires to develop transatlantic defence trade by establishing a Transatlantic General Licence based on principles similar to those of the European general licence introduced by the ICT Directive. The Transatlantic General Licence would thus be negotiated in principle between the European Commission and the United States. It would then provide a framework for potential negotiation between each member state and the United States to determine the precise scope of technologies that would be covered under the licence.

To achieve this goal Europe should establish a balanced neutral platform for negotiation with the U.S. on the issue of export control in which the merits of European technology control systems could be put forward, paving the way for confidence building measures towards a kind of grand bargain on “technology sharing boundaries”, approved community of certified companies and harmonization of certification criteria for general licences between Europe and America.

These transatlantic general licences would encourage transatlantic defence trade at large, while increasing the competitiveness of the European defence industry in the U.S. market. They would afford the EDTIB a greater visibility and predictability with regards to the U.S. export control regime, which is the main inhibitor to transatlantic defence trade. Indeed, such a general license would remove many of the uncertainties regarding re-exportation permits and security of supply chains. In turn, this would make it easier for European companies to bid on U.S. contracts, encourage European technological investments in the U.S., and relieve some concerns regarding European technological autonomy. As a result, it would be a boost to European industry irrespective of the strategy they choose to address the U.S. market.

One particularly important result of these Transatlantic General Licenses is that by establishing clear, harmonized rules between the European and U.S. compliance regimes, they would afford both the European and U.S. industry the visibility and predictability to anticipate with confidence their commitments and obligations towards the appropriate technology control regime. In so doing, this would be a strong stimulus to the transatlantic defence trade, in both directions.

A common goal of the U.S. and EU could be to improve predictability, transparency and efficiency for industry and governments in the export control regimes across the Atlantic. This should stem from recognition at the political level that there is a mutual benefit in linking rather than opposing the European and U.S. defence industrial bases in order to strengthen defence cooperation at-large, in the face of growing common international threats. This is particularly relevant as European involvement in active theatres, such as Afghanistan, is a subject of great interest.

The necessary political momentum in the U.S. would have to come from the Undersecretary of State for Arms control and International Security. In Europe, it would ideally involve equivalent institutions, such as the Secretary General of the Council and high representative of EU foreign policy in Europe. These authorities would have to establish a clear framework and mandate for negotiation.

Such a mandate should include goals and timelines for the harmonization of licensing procedures and criteria for the establishment of certified communities, as well as the drawing of technology-sharing boundaries defining the scope of technologies suitable for transfer between Europe and U.S. and for retransfer to third countries. Such negotiations would ideally be continued, at a technical level, by an interagency working group with representatives from the Departments of State, Defense, and Commerce and the National Security Council on the American side, and by the Commission, supported by the European Defence Agency on the European side. The Commission's negotiations could capitalize on intra-community work already performed in the areas of the EU munitions list, the EU code of conduct, and the EU framework for cooperation in defence.

Once the Commission and the United States have agreed to a framework, each member state could work with the United States to compile a specific list of technologies suitable for transfer between the two countries and for retransfer to third countries.

On a broad political level, the U.S. administration is likely to have three points of specific concern regarding the transatlantic defence trade relationship: one is staying within the current legislative export control framework, the second is ensuring end-user identification and verification, and the third is maintaining control over re-transfer of technologies to China.

Finally, it is important to note that there is an historic opportunity for harmonization of export control regimes across the Atlantic given the attention being paid to the issue on both sides of the Atlantic. On the European side, the Commission has issued the ICT Directive and member states are working to establish their compliance regimes accordingly. In the United States, there is a push coming from as high as the White House to reassess and review the U.S. control regime, as well as a keen interest in the new European compliance regime.

1st PART – Introduction

Context of the study

As stated in the European Commission's Communication on a Strategy for a Stronger and more Competitive European Defence Industry adopted on 5 December 2007, the defence trade relationship between the United States and Europe is very unbalanced.

This situation is inherited from the Cold War era when the European defence industrial and technological base was largely considered inadequate and technologically behind times by the U.S. For decades Europeans produced their own heavy land equipment and ships, while, despite the efforts of a very limited number of European nations, the U.S. produced and sold most of the sophisticated equipment, such as aircraft and missiles, used by European militaries. Even if many U.S. defence programs had industrial and technological partners in Europe, they were designed in the United States. Globally, traffic in defence platforms was largely one way: the Europeans bought and the Americans sold. Since then the defence market and the role of industry and technology in nations' defence postures have changed dramatically both in America and Europe. There has been a shift of focus in defence acquisition spending from traditional platforms to complex defence systems based on communications, information and electronics technology. Defence investments do not drive the main technology innovations any longer and technology is increasingly available worldwide.

Consequently, the shape of the U.S. industry today is largely the result of the last phase of consolidation which dates back to before the latest Iraqi war, at a time of declining U.S. acquisition budgets and a substantial excess capacity.

Facing similar challenges, the European industry also consolidated at the trans-European level, both to survive and in order to compete and cooperate with large firms emerging in the United States.

Meanwhile the barriers to trade with the United States for European defence industries have always been considerable. They are numerous and powerful, as can be expected, given that overcoming them means gaining access to the largest and one of the most regulated defence markets in the world. The political, economic, cultural, technological and operational natures of these barriers have evolved over time and can be seen according to circumstances both as causes or consequences of the U.S. policy regarding the global transatlantic defence challenge.

Consequently the European defence industries have been very innovative and persistent in their attempt to acquire a significant share of the U.S. market, which proves the ever growing strategic importance of this market for them. Many different business models serving different objectives have been experimented with relative successes and setbacks.

Despite these efforts undertaken by the European industries, the transatlantic defence trade still remains grossly in favour of the United States but this imbalance in market share is not greater than the imbalance in defence spending and investment between the U.S. and Europe.

As part of the development of a more efficient and healthier European Defence and Technological Industrial Base (E.D.T.I.B.), the European Commission is seeking to promote a more level playing field with the U.S.

In order to do so it is necessary to clearly identify and possibly anticipate the nature and impact of barriers to trade with the United States for European defence industries, as proposed in the present study.

Setting the scene

Globalization

In the context of open European markets and a globalized world economy, the defence sector is still unique to some extent in the sense that international regimes clearly tend to limit proliferation of weapons and of corresponding know-how rather than push for the widest possible exchanges and business flows.

Nevertheless, defence business is subject to common constraints and challenges which have been created by the internationalization of economies and industry alliances especially between Europe and the United States. Defence industry in Europe and in the United States is now largely private and owned by multinational interests. Also, sound efficient business practices call for international cooperative work and foreign supply when possible. Finally, defence business cannot be independent from other truly global industrial sectors such as aeronautics or electronics which are in a competitive global context, constantly searching for lower production costs, better margins, as well as foreign and domestic investors and partners.

Offsets have become a common practice for U.S. and European defence exports and have contributed to the development of technology relevant to the defence sector in many countries in the world. Offsets also play a direct role, which will be analysed, in the transatlantic defence trade.

Moreover the evolution of procurement processes across the Atlantic have reduced the number of potential providers and the defence industry naturally tends to try to leverage its investment and to increase its margin by addressing its client base to more than one government. Cross-border financial agreements and traditional industrial agreements have flourished as a way of adapting to a new context in which governments buy more and more services as opposed to traditional equipment.

The defence sector can no longer prosper in a bubble and is impacted by globalization on two fronts: the technology front and the investment front. A quick look at the U.S. and European defence industry landscape and defence equipment shows an ever growing common technology supply and multiple transatlantic investments. In short, even the United States, which enjoys the highest defence investment in the world and whose market is still

mainly a home market, has seen a surge in import of technology. It is not likely that the U.S. would totally reverse this trend to acquire its technology base by relying exclusively on domestic businesses. It would be too costly from a financial and commercial standpoint, let alone the political consequences.

Therefore the trend for transatlantic defence business is likely to increase and the European Commission should promote rules and regulations across the Atlantic to allow for a fair and balanced trade relationship with the U.S. while nurturing a competitive E.D.T.I.B.

The U.S. defence market and trade with the E.U.

Because the U.S. defence market is by far the biggest in the world, it is of strategic importance to European defence industries not only in terms of business opportunities but also in terms of technology trends and standards. The American and European defence industries are naturally both potential competitors and partners both at home and overseas. They also face a new growing competition from countries such as Russia and China on export markets in the Middle East and Asia.

Statistics on trade flows in defence goods between the U.S. and European markets are often subject to controversy and the study will identify and analyse the different types of exports under which these transfers are executed: cooperative programs, N.A.T.O. (North Atlantic Treaty Organisation) programs, government agreements such as Foreign Military Sales, business to business such as direct commercial sales, offsets. The study will consider statistics on sales that require an export license or a government authorization.

The trends by industry sector will be studied from the early 1990's to the foreseeable future. More specifically, analysis of E.U. exports to the U.S. will detail the type of goods that are concerned and the type of contractual arrangements and accompanying limitations that was agreed to.

For the main European defence industries present in the U.S., the study will compare this flow of defence goods to the business generated by their U.S. subsidiaries.

The study will analyse the U.S. interpretation and point of view regarding these statistics coming from the U.S. government (Department of State, Department of Defense and Department of Commerce), think tanks such as C.S.I.S. (Center for Strategic and International Studies), and industries. It will then confront it with the data coming from the European Union and briefly analyze the likely discrepancies.

Identifying barriers to trade

Barriers to trade affecting access to the U.S. market are numerous and diverse in nature. They can be direct or indirect, political, cultural, economic, technological or military. They are the result of a constant struggle among various stakeholders (Congress, the White House, the Department of Commerce, the Department of State, the Department of Defense, U.S. industries...) with different perspectives that evolve over time.

The study will start by identifying the legislative measures governing access to the U.S. market and will explain the policy behind them. It will then illustrate not only how and why

these measures are in place but also how they are used and implemented, bringing a practitioner's expertise to the analysis.

The study will also point out some of the other main indirect barriers stemming from operational military constraints or broader defence and security policy considerations such as transatlantic coalition warfare or export control policy.

In order to fully understand the causes and consequences of these barriers it is imperative to appreciate the role and relative authorities of the various U.S. stakeholders that deal with export controls. The study will explain the role and authority of the following:

- Congress and its relevant committees (see chapter on methodology below)
- Department of Commerce and its Bureau of Industry and Security and more specifically the Office of Strategic Industries and Economic Security
- Department of Defense and the diverging perspectives and sometimes conflicting interests regarding these issues among the office of the Under Secretary for Acquisition, Technology and Logistics (which includes the office of Defense Industrial Policy), the Services (Army, Navy, Air Force, Marine Corps), the office of the Under Secretary for Policy which includes DTSA (Defense Technology Security Administration) and DSCA (Defense Security Cooperation Agency)
- Department of State and the DDTC (Directorate of Defense Trade Control)
- U.S. industry associations in the defence, aeronautics and electronics sectors: NDIA (National Defence Industrial Association) and AIA (Aeronautics Industry Association).

The study will point out the main evolutions of U.S. policy in protecting and opening its defence market since the end of the 1990s and will identify future trends. It will analyse the connection with U.S. policy in the following domains:

- export control policy and ITAR (International Traffic in Arms Regulations) regulation
- policy towards NATO and security cooperation policy with European allies
- measures to promote U.S. defence exports.

The general U.S. policy to maintain a technological advantage relative to the rest of the world will be analyzed in practical terms and its implementation towards Europe will be outlined.

The study will analyze the pragmatic U.S. approach and, for example, the way that an organization such as the C.F.I.U.S. (Committee on Foreign Investment in the U.S) are implemented. C.F.I.U.S. is a typical example of unclear regulation where rules and criteria to determine how the committee functions or how the threat to national security is evaluated are not clearly defined, thus leaving leeway to an ad hoc pragmatic approach from the U.S. standpoint. Despite this, things have functioned well, as CFIUS does not appear to be a barrier to European investments in the United States.

Specific attention will also be given to U.S. defence policy towards China and Russia as part of explanations regarding potential indirect barriers to EU/U.S. defence trade.

The study will also draw a comparison with measures governing access to the fragmented E.U. defence market with a focus on the five largest European exporters of defence goods to the U.S. (France, Germany, Italy, the Netherlands and the U.K). It will also provide the European Commission with insights into the dominant U.S. perceptions of the European defence market.

2nd PART – Transatlantic Defence Trade Balance

Defence trade flow and trends

The available defence trade data is noticeably incomplete and subject to all kinds of interpretation.

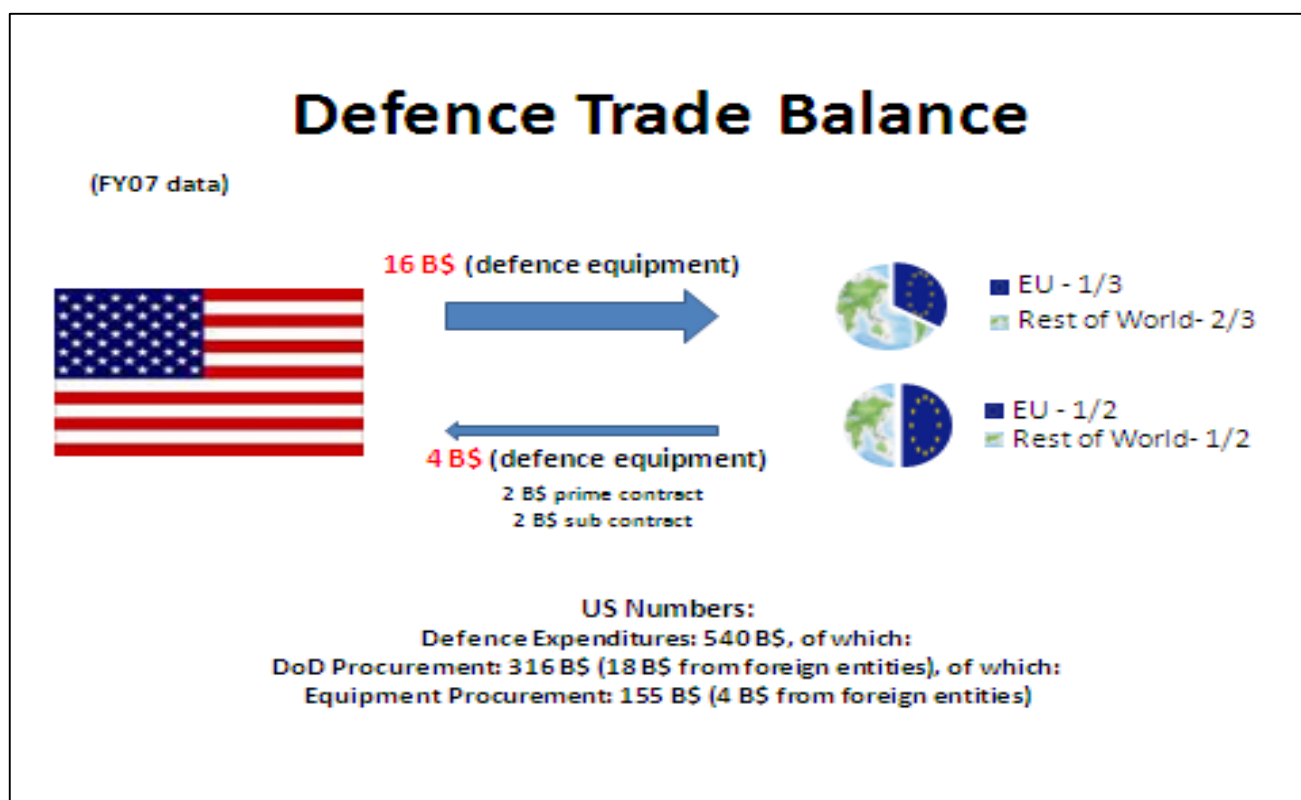
Some mandatory public official reports are provided to Congress on a yearly basis by DoD on defence purchases from foreign entities and by the Congressional Research Service (CRS) on U.S. arms sales all over the world.

This data, which are the most commonly used as references in the public literature, include not only military hardware but also subsistence, fuel, construction, services and other miscellaneous items that are for use outside the U.S. They also only take into account sales executed under government to government agreements (FMS: Foreign Military Sales) and largely ignore direct commercial sales, especially at the sub-system levels.

According to U.S. sources it is estimated that DoD procurement actions recorded by the Pentagon during FY (Fiscal Year) 2007 totalled approximately 316 B\$. Of that amount, approximately 18.6 B\$, 5.9%, was expended on purchases from foreign entities. The vast majority of these purchases are coming from petroleum (5 B\$), construction (1.2 B\$), general supplies (9.2 B\$), services (1.2 B\$) and all other general subsistence / clothing / equipment / medical supplies, etc (0.8 B\$) to U.S. troops overseas.

Defence equipment, which is the focus of this study, represents only 10% of the U.S. purchases from foreign entities, around 2 B\$, and only refers to major systems and prime contracts.

Chart 1 - U.S. defence trade balance with the rest of the world



The amount of defence equipment bought by DoD from foreign entities and recorded as major systems or prime contracts can be categorized as follows:

Table 1 - FY 2007 Prime Contract Awards to Foreign Entities

DoD claimant program	Th \$	Sub-total	%	Sub-total
Vehicles – Combat	449,733	652,708	24.2	35
Vehicles – Non Combat	202,975		10.8	
Air Frames & Spares	202,749	376,909	11.3	20.7
Aircraft Engines & Spares	51,792		2.8	
Other Aircraft Equipment	122,368		6.6	

Electronics & Com Equipment	302,109	302,109	16	16
Ammunition	219,503	219,503	11.4	11.4
Ships	190,492	190,492	10.3	10.3
Weapons	106,130	106,130	5.6	5.6
Missile & Space Systems	18,997	18,997	1	1
TOTAL	Approximately 2,000,000		100	

Source: DoD report to Congress on DoD purchases from foreign entities

A quick analysis at the prime contract level shows that ground vehicles and aerospace sector accounts for more than 76% of the DoD purchases from foreign entities worldwide in 2007.

To complete the analysis, more representative data of the defence equipment trade flows can be found from the U.S. International Trade Commission (USITC). Their data relate to actual customs operations. They record and aggregate whatever is labelled as defence product from the U.S. customs. Still, some caveats have to be taken into account: (1) the data could exclude some components (such as landing gears for example) which could be destined to be mounted on military aircraft and which could in fact be registered as commercial aerospace components by the U.S. customs – (2) the data could include military equipment from a third party if they transit through either the U.S. to be exported to Europe or Europe to be exported to the U.S.

Despite these caveats these data are considered, for the purpose of the study, as the most characteristic of the flow of defence products that cross the Atlantic. To sustain this assertion, the USITC data have been vetted against available European data and the details of the comparison together with the justification for using USITC data as a reference are detailed in the chapter below on “Data sources”.

Table 2 below presents the global flow of defence exports and imports from and to the U.S. with the rest of the world.

Table 2 - U.S. global exports and imports of defence products worldwide

Defence goods – (th \$)	2004	2005	2006	2007	2008
U.S. exports	11,362,820	12,378,256	16,119,232	16,183,715	16,122,268
U.S. exports (B\$) (Aerospace [Min-Max])	[4-8*]	[5- 10*]	[8-13]	[8-13*]	[8 – 13*]
U.S. imports	2,096,159	2,568,097	2,884,718	3,879,924	4,325,384
U.S. imports (Aerospace)	1,213,102	1,610,780	1,548,523	1,879,175	2,046,919
Ratio export/import	5.4	4.8	5.6	4.2	3.7

Sources: USITC Database (International Trade Commission)

Not surprisingly, this data, which is also captured in chart 1 above, indicates a very dominant position of the U.S. in the world defence business in general. In 2007, with a consolidated defence budget of around 530 B\$ and a budget dedicated to military equipment (procurement plus RDTE (Research, Development, Test and Evaluation)) of around 170 B\$, the U.S. accounted for roughly one half of the world in the following domains:

- Half of the world defence expenditures
- Half of the world procurement of weapons systems
- Half of the world exports of defence systems. (N.B: if one excludes markets that are off limits to the U.S. and addressed by countries such as Russia, and concentrates on markets where Europe and the U.S. are potentially competitors, the U.S. portion of the world defence exports should be more towards 60%)

Data from table 2 shows that the U.S. import, in dollar value, a very small percentage, (2% or 4 B\$) of their expenditures on military equipment (170 B\$ in 2007, 200 B\$ in 2008). Out of this 2 %, about one half (2 B\$) comes from prime contracts awarded to foreign entities and the other half (2 B\$) comes from purchases of sub -systems and parts. Globally, the U.S. weapon systems market is essentially a home market .

The U.S also sells significantly more than they buy. In dollar amounts the U.S. sell around 8% of what they spend in defence equipment (as opposed to 2 % for imports). The exports/imports ratio with the rest of the world has been around 1 to 4 or 1 to 5 over the past five years.

It is quite noticeable that the military aerospace market is dominant with respect to both U.S. defence imports and exports. Data coming from the U.S. customs clearly identify “military

* Source: Aerospace Industries Association

aircraft and parts” as items which account for around 50% - 60% of all U.S. defence imports. The data is less clear as far as exports are concerned. The Aerospace Industries Association of America (AIA) claims that exports of military aerospace products account for about 80% of all of the U.S. military exports, but the study could not totally verify this claim. For the purpose of the study, minimum amounts corresponding to conservative interpretation of the U.S. customs data have also been indicated to evaluate the portion of aerospace products in U.S. defence exports.

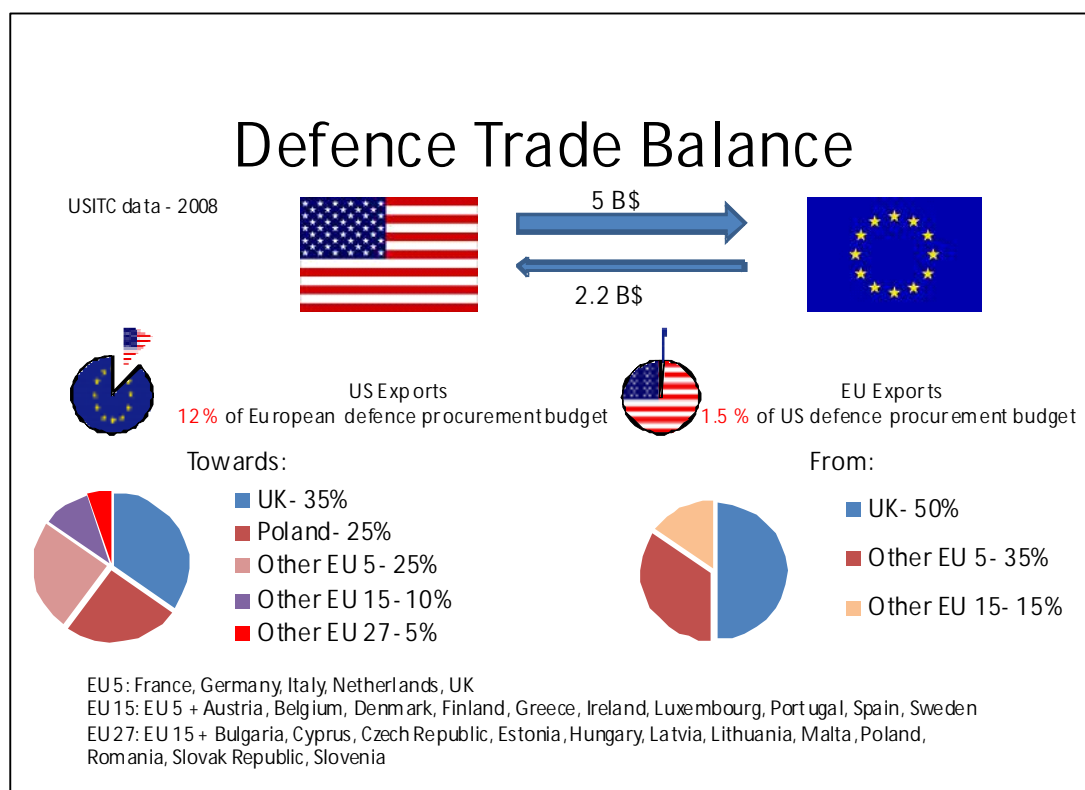
Chart 2 below presents the trend described above.

Chart 2 – U.S defence trade balance with the rest of the world



U.S. and Europe

Chart 3 – U.S. defence trade balance with Europe



Defence trade between the U.S. and Europe is quite specific because Europe enjoys a highly sophisticated defence industry and is the largest competitor to the U.S. in most of the third country markets.

Also, significant imbalance exists between the U.S. and Europe in terms of defence expenditures. According to data published by EDA (European Defence Agency), in 2007 the U.S. spent 2.2 times more than Europe in defence. As a percentage of GDP, the gap is even wider: 4.5 % for the U.S. and 1.7% for Europe. This disparity exists even though the government expenditure is globally significantly higher in the Europe than in the U.S., emphasizing the relative low priority given to defence expenditures in Europe.

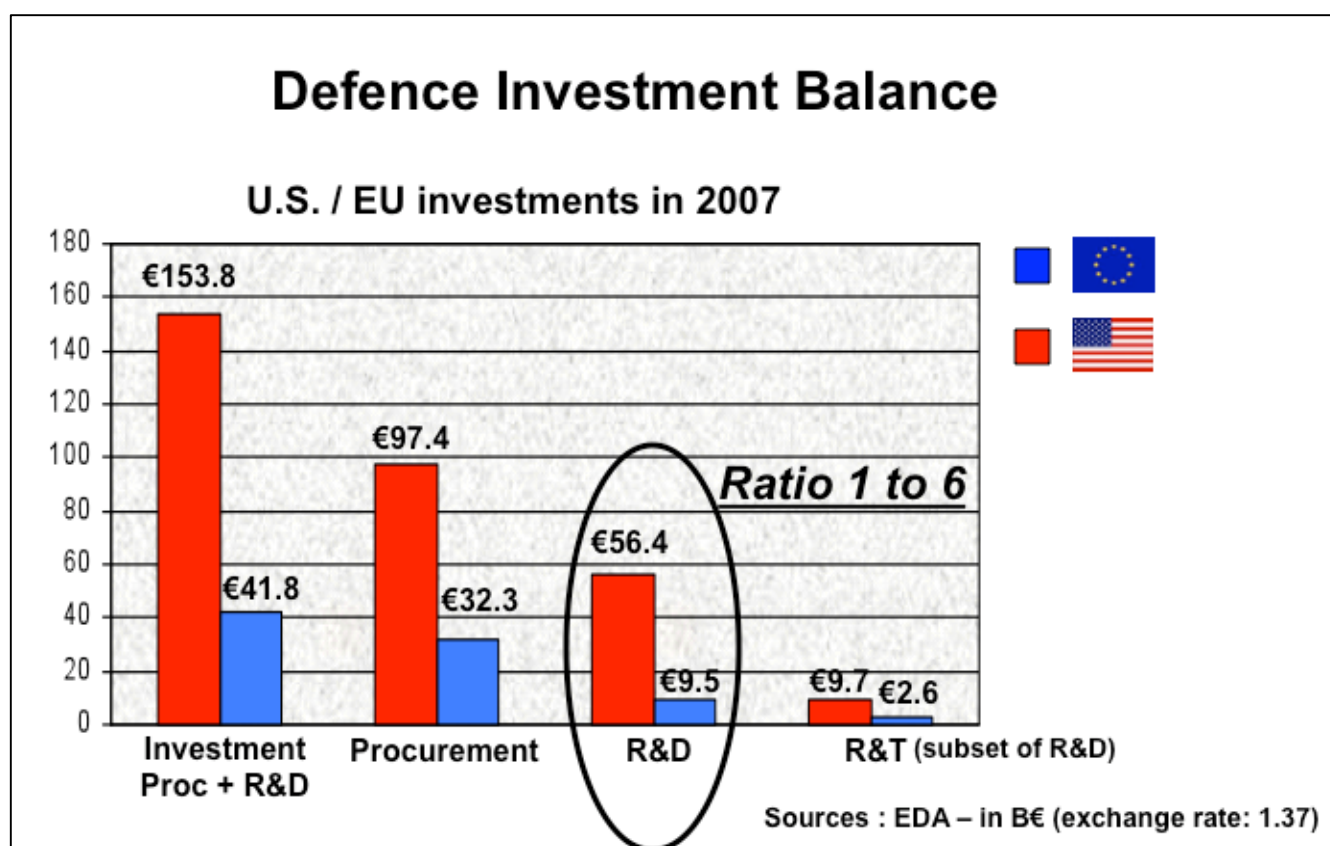
The disparity between the U.S. and Europe is even higher regarding investment in defence equipment.

A significant gap exists between the U.S. and Europe when it comes to R&D and R&T investments. The ratio in R&D is 1 to 6. This should logically provide U.S. industry with a significant advantage in weapons design and production and also in defence exports to Europe as compared to imports from Europe.

Table 3 - Defence equipment in volume of money – 2007

Billions of Euros	Procurement	R & D	R & T (subset of R & D)	Total (Defence equipment)
U.S.	97.4	56.4	9.7	153.9
Europe	32.3	9.5	2.61	41.8
Ratio	1 to 3	1 to 6	1 to 4	1 to 4

Source: EDA (European Defence Agency) (average Euro/Dollar exchange rate: 1 .37)



The following data, collected from 2004 to 2008, sheds more light on the specifics of the U.S defence trade balance with Europe. The data comes from the U.S. International Trade Commission and is related to records from U.S. customs.

Table 4 - U.S. Defence trade balance with EU

Defence goods – (th \$)		2004	2005	2006	2007	2008
EU 15	U.S. exports	3,635,340	2,747,966	2,945,546	3,798,724	3,776,655
	U.S. imports	978,286	1,415,967	1,489,460	1,879,507	2,170,908
EU 5	U.S. imports	833,644	1,161,152	1,159,068	1,565,149	1,871,564
UK	U.S. imports	409,612	527,301	638,970	966,808	1,139,127
EU 27	U.S. exports	3,667,415	2,806,703	3,512,924	5,069,415	5,048,254
	U.S. imports	1,000,109	1,443,284	1,516,750	1,914,872	2,212,733
Poland	U.S. exports	-	-	531,375	1,210,428	1,234,967

Sources: USITC Database (International Trade Commission)

EU 5: France, Germany, Italy, Netherlands, UK

EU 15: EU 5 + Austria, Belgium, Denmark, Finland, Greece, Ireland, Luxembourg, Portugal, Spain, Sweden

EU 27: EU 15 + Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovak Republic, Slovenia

Table 5 – Ratios U.S. exports / imports

Ratios U.S. exports/imports	2004	2005	2006	2007	2008
EU 15	3.7	1.9	2	2	1.8
EU 27	3.7	2	2.3	2.6	2.3
Worldwide	5.4	4.8	5.6	4.2	3.7

A comparison with table 2 on U.S. global exports and imports of defence goods worldwide leads to consider the portion that corresponds to the percentage European exports and imports.

Table 6 - Percentage of Europe in the U.S. defence exports/imports

		2004	2005	2006	2007	2008
EU 15	% of U.S. exports	32	22.2	18.3	23.5	23
	% of U.S. imports	46.6	55	51.7	48	50
EU 27	% of U.S. exports	32.3	22.6	21.7	31	31
	% of U.S. imports	47.6	56	52.7	49	51

On average, over the past five years, about 1/3 of U.S. defence exports have gone to Europe and 1/2 of U.S. defence imports have come from Europe. Further research, which is not documented with data in this report, shows that these statistics have been more or less constant over the past 20 years.

On one hand there is absolutely no evolution of the position of Europe as a whole relative to the rest of the world in terms of percentage of U.S. defence exports and imports but on the other hand, positions by individual nations and by specific groups of nations within Europe have evolved significantly.

EU 15 or EU 27 account for roughly the same percentage of U.S. imports, indicating that the European nations exporting defence goods to the U.S. are among the EU 15. A closer analysis shows that EU 5 accounts for about 85 % of U.S. defence imports from Europe. Among the EU 5, the U.K is very specific and alone accounts for 50 % (around 1.14 B\$ in 2008) of all U.S. defence imports from Europe. Compared to the other EU 5 nations, this amount of UK defence exports to the U.S. is 4.4 times greater than Germany, 5.7 times greater than France, 7 times greater than Italy and almost 10 times greater than the Netherlands.

When looking at U.S. exports to Europe, the picture is quite different. EU 15 only accounts for 20% of the U.S. exports worldwide as opposed to EU 27 which accounts for 30%. In dollar value, the U.S. defence exports to EU 15 has remained flat over the past 5 years but U.S. exports to EU 27 have increased by 70% over the same period of time with a jump in 2007. A closer analysis shows that U.S. exports to Poland have jumped in 2007 to over 1 B\$. Poland on its own now accounts for around 25 % of all U.S. defence exports to Europe (due to the sale of F-16 aircrafts).

Analysis of tables 4 and 5 on the U.S. defence trade balance with the EU globally shows an imbalance in favour of the U.S. which is less than what is usually affirmed by most analysts. The ratio is about 1 to 2 between the U.S. and EU 15 and about double, 1 to 4 between the U.S and EU 27.

In contrast, even though the ratio of U.S. imports over exports with Europe has shrunk in dollar value over the years, the imbalance in terms of percentage of procurement budget remains very high: about 12 % of European defence procurement budget is directed to U.S. suppliers against 1.5 % of U.S. procurement budget directed to European suppliers.

Between the U.S. and EU 15 the trend shows a significant increase of European exports to the U.S., which have doubled in the past five years from 1 B\$ to 2 B\$, and a stagnation of U.S. exports to EU 15, which have essentially remained flat in dollar value over the same period of time. The doubling of European exports to the U.S. is clearly driven by the EU 5 nations with an overwhelmingly dominant position by the UK. British defence exports have almost tripled from 409 M\$ in 2004 to 1,140 M\$ in 2008.

Contrary to the other EU 5 nations, Germany's defence exports to the U.S. have not really increased over the past five years although they still are, at around 250 M\$ in 2008, the second largest of European nations in dollar value. France's exports have increased by 60 %, from 127 M\$ in 2004 to 200 M\$ in 2008. Italy's exports have increased 4 fold from 37 M\$ in 2004 to 158 M\$ in 2008. Finally the Netherlands' exports have doubled from 64 M\$ in 2004 to 120 M\$ in 2008.

This trend of significant increase of European defence exports to the U.S. is tempered by the evolution of the euro/dollar exchange rate and the weakening of the dollar against the euro which impact is difficult to identify because it could have had two opposite effects. On one hand it certainly inflated the dollar value of European exports to the U.S. in recent years and contributed to the observed increase of U.S. imports from Europe but on the other hand it made European products more expensive and therefore more difficult to export and probably contributed to slow the U.S. imports from Europe. But in any case this trend was most certainly sustained by bigger drivers such as the phenomenal increase of the DoD budget and the inflation of the U.S. military's urgent needs in defence equipment.

Overall the nature of European defence exports to the U.S. is more driven by commercial opportunities stemming from industry initiatives than by very specific technologies. As the table entitled "contents of trade flows between the U.S. and Europe" shows below (p.30), there is no clear pattern in the types of products exported from the EU to the US. This list is evidence of the opportunistic nature of EU exports. They are dominated by defence technology derived from commercial application such as aeronautical equipment in areas that are not too sensitive. As a result of screening the U.S. defence market, European industry has identified niches in which its products were available at a better price than the U.S. industry offer. Land forces and aeronautical equipment constitute the bulk of the European defence exports to the U.S. In contrast, U.S. exports to the EU 15 have remained flat and U.S. exports to the EU 27 have increased by 70 %. This trend shows that the European nations who sell to the U.S. are different from those who buy from the U.S. When it comes to European defence imports from the U.S., Poland clearly drives the trend by accounting for 55% of all European defence imports from the U.S.

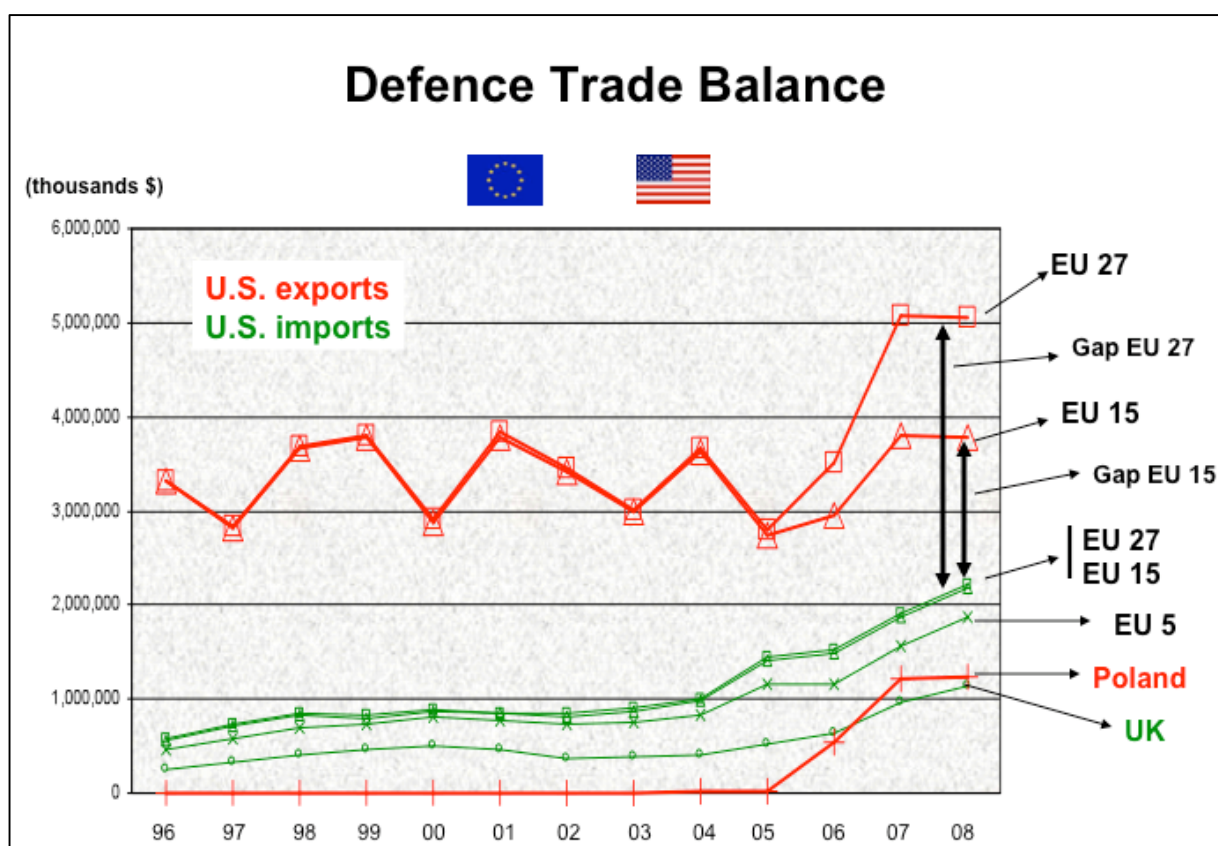
Aerospace products represent a dominant portion of U.S. defence imports from Europe: 60% of U.S. imports from the UK, 75% for France, 80% for Italy, 50% for the Netherlands,

with the noticeable exception for Germany. Since aerospace drives the increase of European defence exports to the U.S, the study has selected this sector to illustrate some of the analysis in the report.

Finally, the imbalance in defence trade between the U.S. and Europe is estimated at around 1 to 2. It is roughly the same as the imbalance in global defence expenditures between the U.S. and Europe (1 to 2.2) but not nearly as big as the imbalance in defence procurement and especially in Research and Development (1 to 6) which could have a greater effect on the competitiveness of the defence industry on both sides of the Atlantic.

Overall, this imbalance in defence trade was far greater (between 1 to 3 and 1 to 4) during the period 1990 to 2004. It has clearly decreased to the level of 1 to 2 since 2005 and is even lower among the European nations who have the strongest defence industrial bases. The extraordinary increase in European defence exports to the U.S driven by nations such as the UK has been somehow compensated by recent increase of U.S. defence exports to Europe driven by different European nations such as Poland.

Chart 4 – U.S defence trade balance trend with Europe



The following two charts (charts 5 & 6) illustrate the trends of U.S. defence balance trade with the group of five larger European exporters of defence goods to the U.S. These charts

demonstrate the dominant position of the UK compare to all the other European nations both in terms of exports and imports to and from the U.S.

Chart 5 – U.S defence exports to EU 5

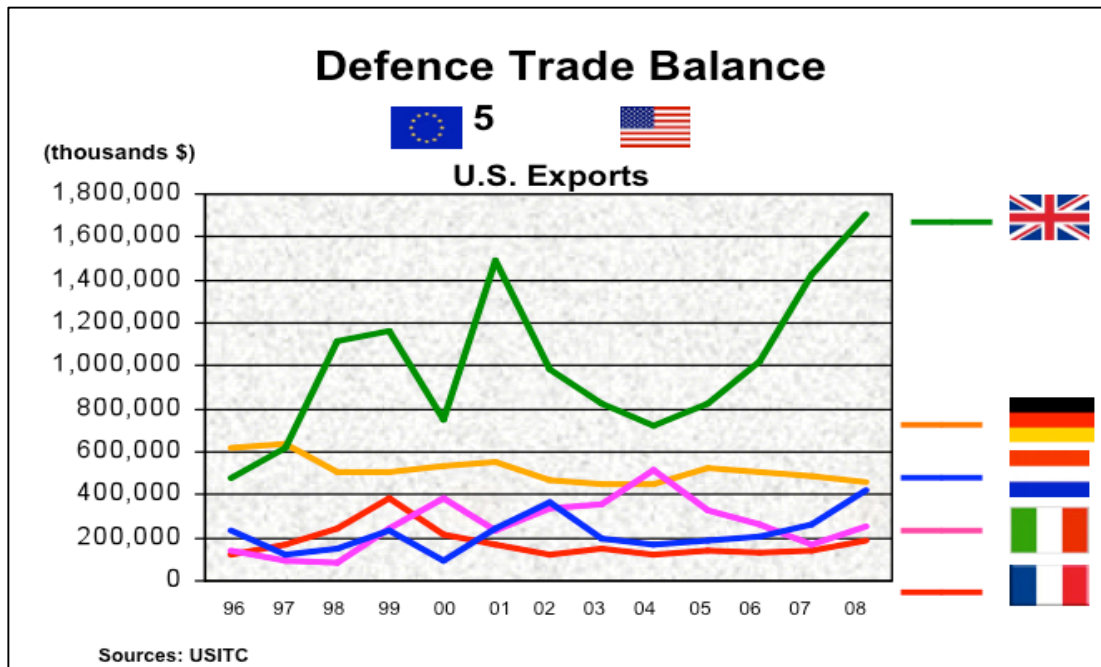
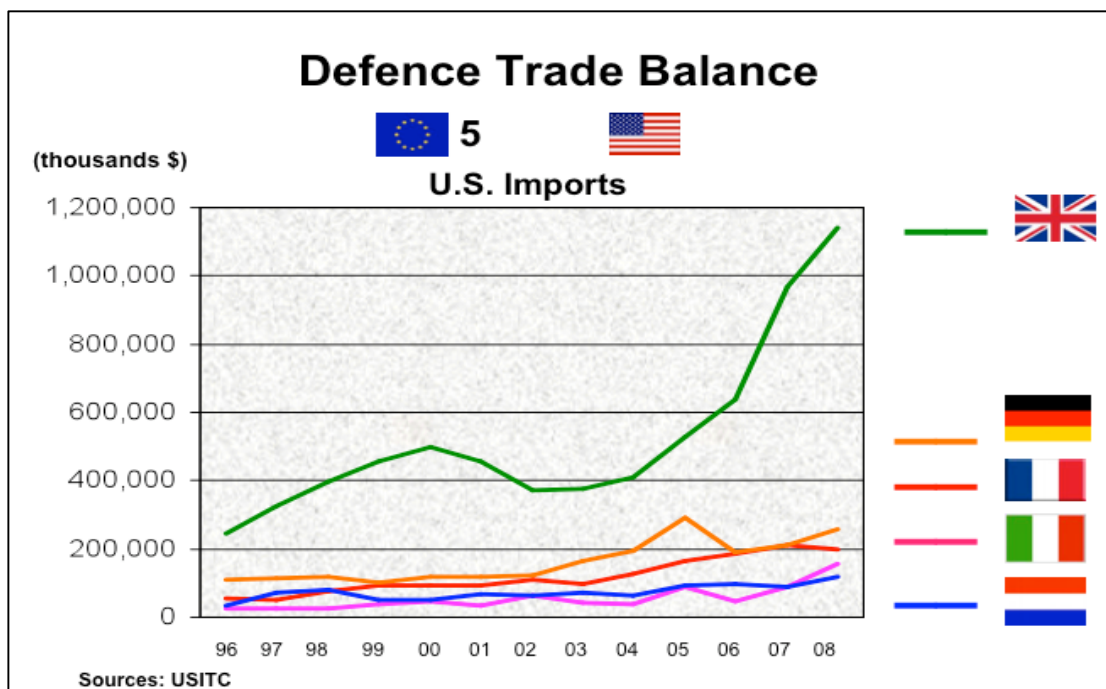


Chart 6 – U.S defence imports from EU 5



The details for the each of the five nations are presented below.

United Kingdom:

The ratio of U.S. exports to imports from the UK is about 1.5 and is characterized by a very big increase in both exports and imports during the past 4 years indicating the dynamism of the U.S. / UK defence trade relationship. Both countries have been heavily involved in coalition operations both in Iraq and Afghanistan. These operations have generated a rapid need in urgent requirements to equip their armed forces with products coming from both the UK and the U.S.

Germany:

The ratio of U.S. exports to imports from Germany has been slowly diminishing over the years and seems to be stabilizing at around 1.7 while indicating a slow decline in the overall level of defence trade between the two countries. Germany remains the second European exporter of defence goods to the U.S but at a level which is 4 times lower than the UK

France:

France sells to the U.S. just about as much as it buys from the U.S but at an annual level of around 200 Million dollars which is 9 times lower than the UK. France's defence exports to the U.S. have quadrupled over the past 12 years and doubled over the past 5 years but starting from an extremely low level.

Italy:

The ratio of U.S. exports to imports from Italy is extremely variable and depends on major Italian purchases of U.S. defence goods which are cyclical. This ratio went from 10 in 2005 to 1.6 in 2008. The level of exports and imports in 2008 for Italy was comparable to the one of France but Italy is traditionally a buyer of U.S. defence equipment.

The Netherlands:

The ratio of U.S. exports to imports from the Netherlands is almost 4 and indicates a very low and stable level of Dutch defence exports to the U.S and a rapidly increasing Dutch imports of U.S. defence equipment.

Chart 7 – U.S. / UK defence trade balance

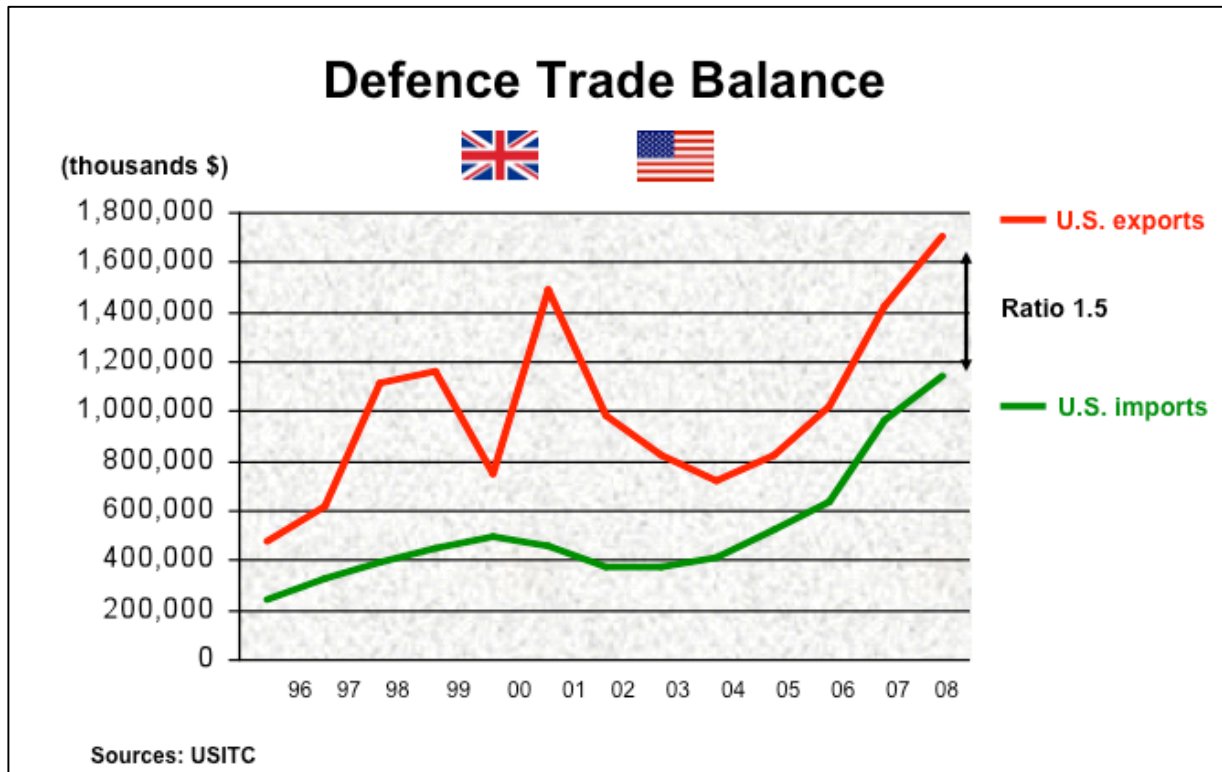


Chart 8 – U.S. / Germany defence trade balance

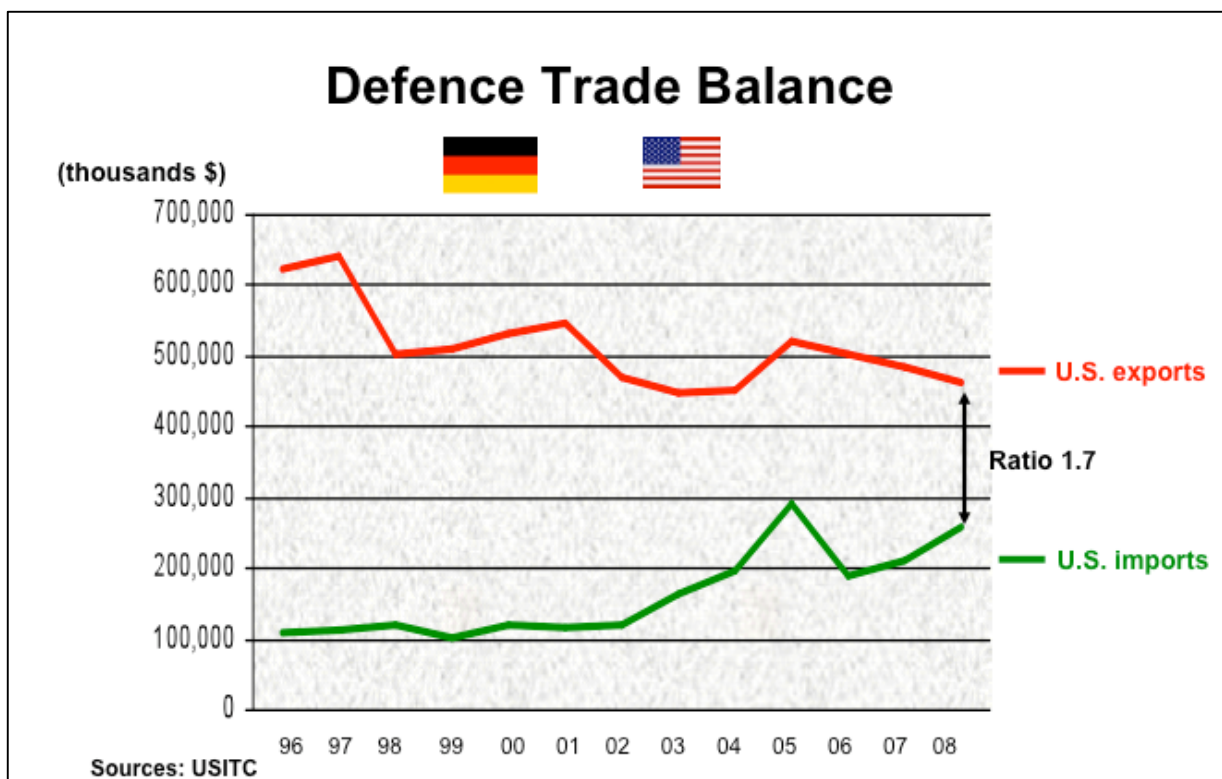


Chart 9 – U.S. / French defence trade balance

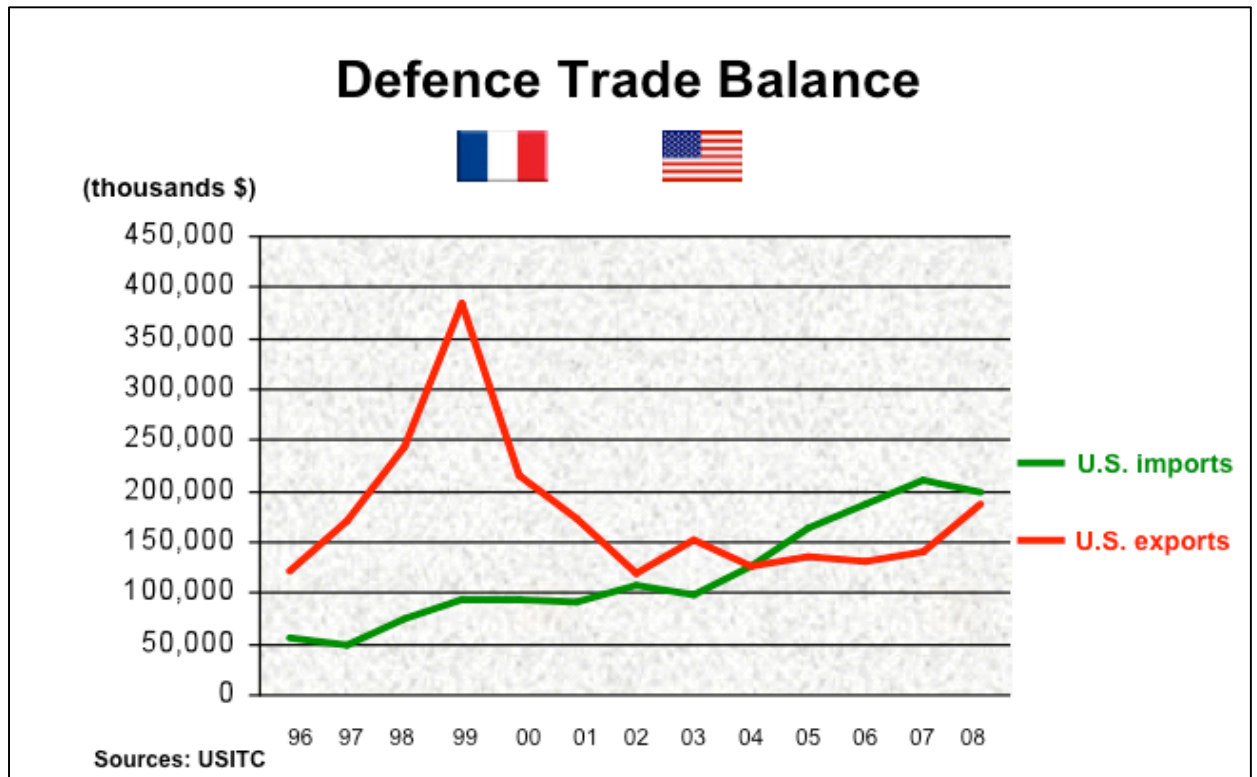


Chart 10 – U.S. / Italy defence trade balance

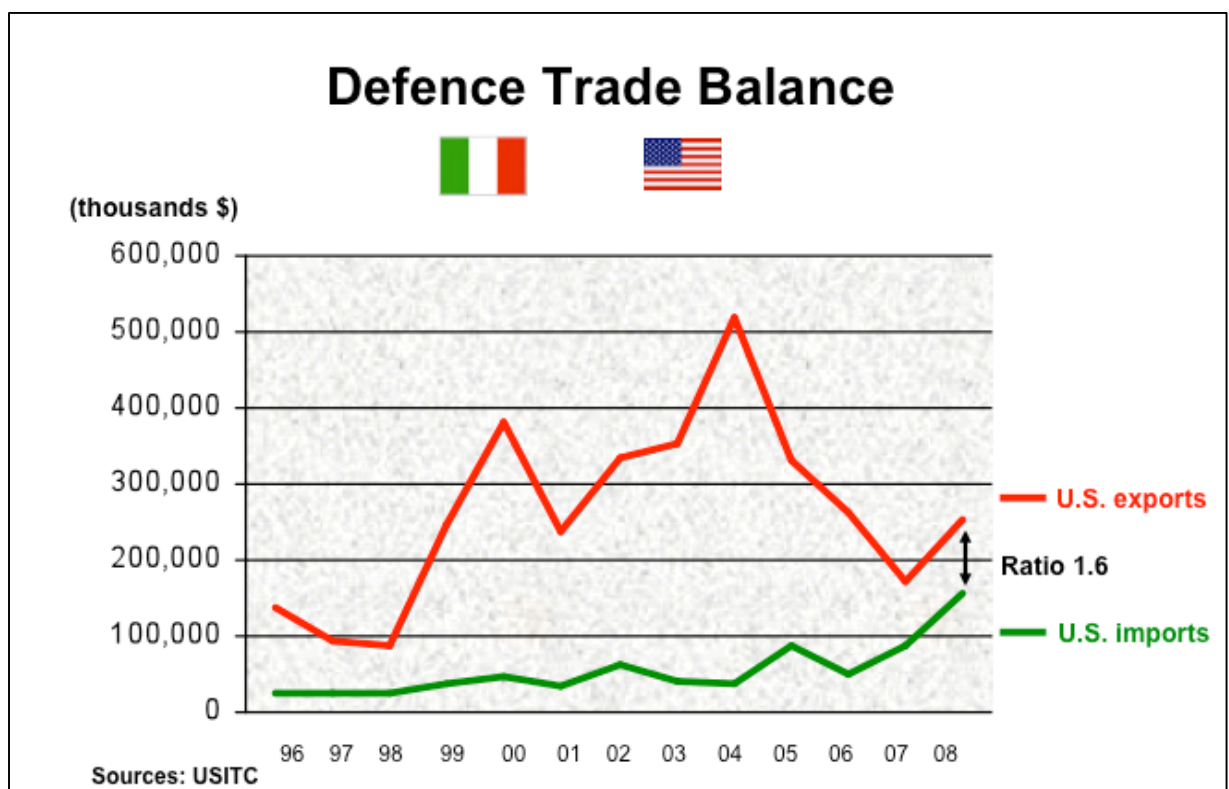
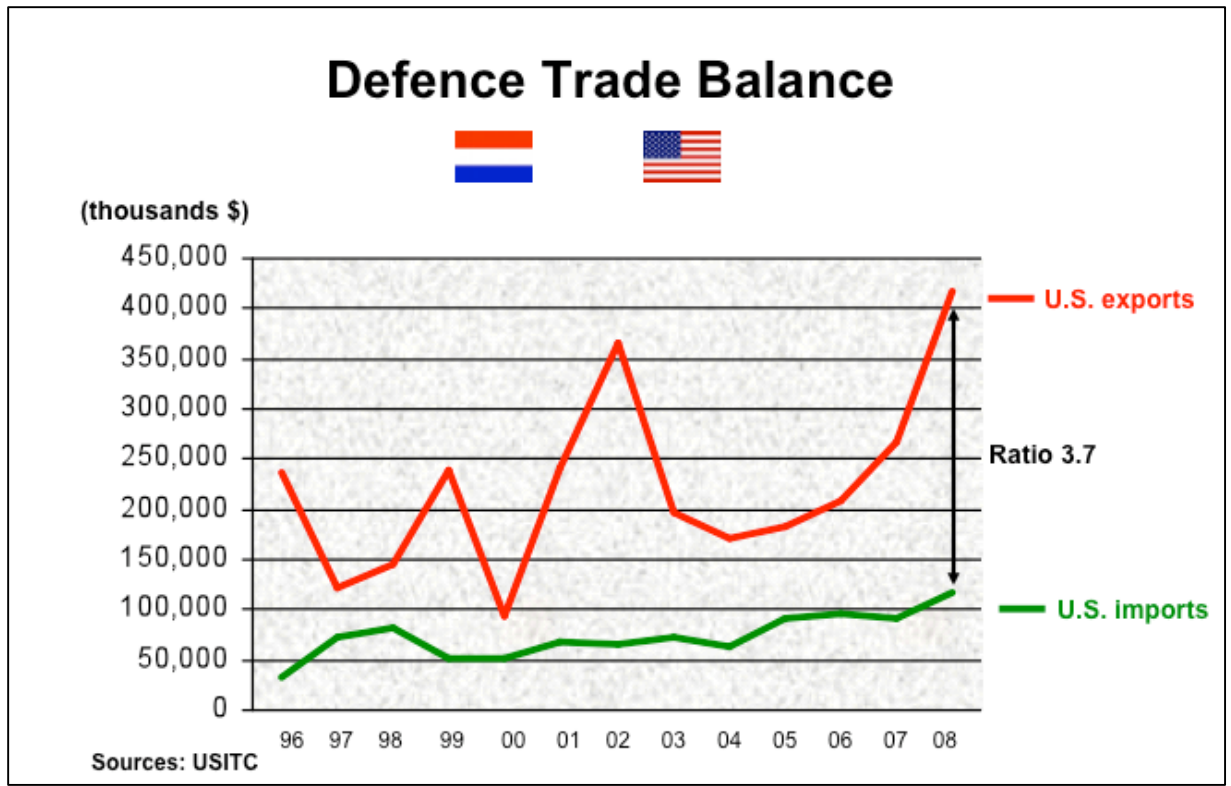


Chart 11 – U.S. / NL defence trade balance



Relative shares of imports

The following graphic shows in relative terms:

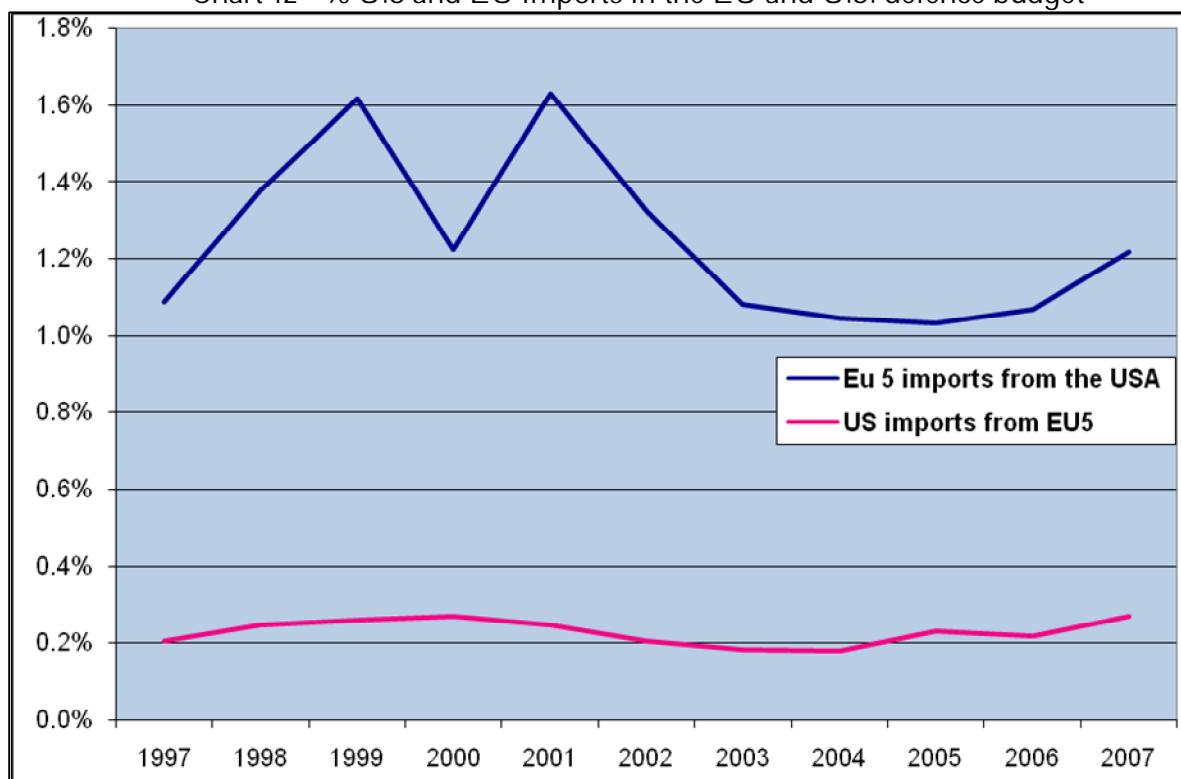
- Imports of the 5 European countries from the USA / global military expenditure of the EU5 ;
- Imports of the USA from the EU5 / global military expenditure of the USA.

Data used in the graphic are the following ones:

- For the imports, the data source is the one which is previously used in the report;
- For global military expenditure, the data source is SIPRI.

In relative terms, the share of imports from the EU5 into the global U.S. military budget appears to be extremely low.

Chart 12 - % U.S and EU imports in the EU and U.S. defence budget



Contents of defence trade flows between U.S. and Europe

The nature and content of trade flows has been assessed from the extensive qualitative data of SIPRI. These data trace the history of trade between these countries.

Data about U.S. imports from the EU5 are as follows below (Transfers of major conventional weapons: sorted by supplier. Deals with deliveries or orders made between 1997 and 2008).

Note: The No. delivered/produced and the Year(s) of deliveries columns refer to all deliveries since the beginning of the contract. Deals in which the recipient was involved in the production of the weapon system are listed separately. The Comments column includes publicly reported information on the value of the deal. Information on the sources and methods used in the collection of the data, and explanations of the conventions, abbreviations and acronyms, can be found at URL <<http://armstrade.sipri.org/>>. The SIPRI Arms Transfers Database is continuously updated as new information becomes available.

Source: SIPRI Arms Transfers Database

Information generated: 18 May 2009

Transatlantic defence trade balance

Supplier/ recipient (R) or licensor (L)	No. ordered	Weapon designation	Weapon description	Year of order/ license	Year(s) of deliveries	No. delivered/ produced	Comments
France							
R: USA	(69)	MO-120-RT-61 120mm	Mortar	2004	2005-2008	(69)	'EFSS' programme
L:	48	PC-2.5	Diesel engine (SH)	(1981)	1985-1998	48	For 8 Whidbey Island and 4 Harpers Ferry AALS produced in USA
	40	PC-2.5	Diesel engine (SH)	(1996)	2006-2008	16	For 8 San Antonio AALS produced in USA
	(252)	FLASH	Dipping sonar	2002	2002-2008	(22)	AQS-22 ALFS version; for 252 MH-60R ASW helicopters produced in USA
Germany (FRG)							
R: USA	1	Boeing-707	Transport aircraft	(1998)	1999	1	Ex-FRG; Boeing-707-307C version; modified in USA to E-8C J-STARS AEW&C aircraft
	6	TRS-3D	Air/sea surv radar	2004	2006-2008	(3)	For 1 Freedom (LCS Flight-0) frigate and 4 Legend (NSC) OPV produced in USA and 1 land-based site; TRS-3D/16 version
L:	(322)	BK-117/EC-145	Helicopter	2006	2006-2008	(52)	\$3 b 'LUH' programme (incl 20 yrs support); EC-145 version; US designation UH-72A Lakota
Italy							
R: USA	8	A-109K	Light helicopter	2000	2000-2001	8	Lease (worth \$17 m for first 4); for coast guard 'Airborne Use of Force' anti-narcotics operations; A-109E Power version; US designation MH-68A Sting Ray
	2	A-109K	Light helicopter	2003	2004	(2)	Lease; for coast guard 'Airborne Use of Force' anti-narcotics operations; A-109E Power version; US designation MH-68A Sting Ray
	78	C-27J Spartan	Transport aircraft	2007	2008	(5)	\$2 b 'JCA' (formerly 'FCA' or 'C-XX') programme; up to 129 more planned; delivery 2008-2012
L:	12	Osprey	Minehunter	1986	1993-1999	12	Plans for more cancelled
UK							
R: USA	1	Pegasus One	Transport ship	2003	2003	1	Second-hand; 1-year lease; US designation TSV-SCBT or Arrowhead Class
	4	MT-30	Gas turbine (SH)	2004	2008	2	For 2 LCS frigates produced in USA

Transatlantic defence trade balance

	17	Seaspray	MP aircraft radar	2005	2007-2008	(7)	Seaspray-7500E version; for modernization of 17 Coast Guard HC-130H MP aircraft; delivery 2007-2009
	4	MT-30	Gas turbine (SH)	2007			For 2 Zumwalt (DDG-1000 or DDX) destroyers produced in USA
L:	(223)	Hawk-60	Trainer/combat ac	1981	1990-2008	(212)	'VTXTS' or 'T-45TS' programme; T-45A and T-45C Goshawk version; last delivery 2009
	(50)	MSTAR	Ground surv radar	(1992)	1993-1998	(50)	
	1	Cyclone	Patrol craft	1997	2000	1	Deal worth \$23 m
	8	UFH/M-777 155mm	Towed gun	1997	2000-2001	(8)	US designation XM-777 and M-777; prior to licensed production
	711	UFH/M-777 155mm	Towed gun	(2000)	2002-2008	(528)	US designation M-777; delivery 2002-2010

- Data about EU5 imports from the U.S. are collected in Annex 8.

The issue of technological dependency of Europe, which could explain the volume of European imports from the USA, is worth being highlighted more specifically. To illustrate this point, the following list of major “technological” weapons has been extracted from the EU5 list of imports from the USA (period 1997 -2008):

Table 7 – Major weapon systems sold to Europe by the U.S.

Weapons	Countries	Comments on dependency
Aircraft: Tanker transport KC	France, Italy	This dependence does not exist anymore
Aircraft: Hawkeye	France	Very limited market access (for carrier aircraft), could not justify a specific development
Laser guided bomb : Paveway,	France, Netherlands, U-K,	Cannot be today considered as a technological dependence
Guided bomb JDAM	Germany	Technological dependence: GPS
Anti-tank missile Maverick	France, Netherlands, U-K, Italy	Cannot be today considered as a technological dependence
Training Aircraft Skyhawk	France	Very limited market access (for carrier aircraft)
BVRAM, anti-radars missiles	Germany,	There is no technological dependence
Aircraft transport C130	Italy, Netherlands, UK	There is no technological dependence
F16	Italy, Netherlands (modernization)	Political choice
Pod Lantirn	Netherlands	Consequence of the acquisition of F16 fighters. Cannot be today considered as a technological dependence
Transport helicopter Chinook	Netherlands, U-K	Absence of offer of European heavy helicopters. Cannot be today considered as a technological dependence
Combat helicopter Apache	U-K, Netherlands	Product available and in operational service well before the Tiger.
Cruise missile Tomahawk	U-K	This technological dependence does not exist anymore
Transport aircraft C-17	U-K	Absence of offer of European large transport aircraft. There is no technological dependence.

Combat Aircraft JSF	U-K, Italy, Netherlands	Absence of offer of European short take-off combat aircraft. There is no technological dependence
UAV	Italy, Germany, U-K	Technological delay

This sample of data points out that only a very limited number of European imports of U.S. defence equipment are due to a specific European technological dependence from the U.S. However, these equipment took advantage in a recent past of the technological advance of the USA, this advance allowed these materials to penetrate the European markets at a time when there were no or very limited equivalent products available in Europe for various reasons, the main one being the absence of previous European requirement for these products on a large scale.

This U.S. success in the penetration of the European market entails a presence and an installed base which has been proven difficult to compete with. The sale of U.S. platforms also entails the sale of equipment, weapons and spare parts certified for these platforms.

In certain areas, Europe has not developed a competitive line of products to compete with the U.S. offers for two main reasons:

- First when the European market seems too limited to justify a specific European development of a line of products. This is particularly true for carrier-based aircraft (EC2, JSF F35 B), large transport aircrafts and large transport helicopters, ballistic missiles purchased by the United Kingdom, etc...;
- Second when the current technology gap would require important European investments to speed up some developments. Such is the case for European programs which are still in the development stage when the equivalent U.S. products are already operational, i.e. the UAVs (Unmanned Air Vehicles).

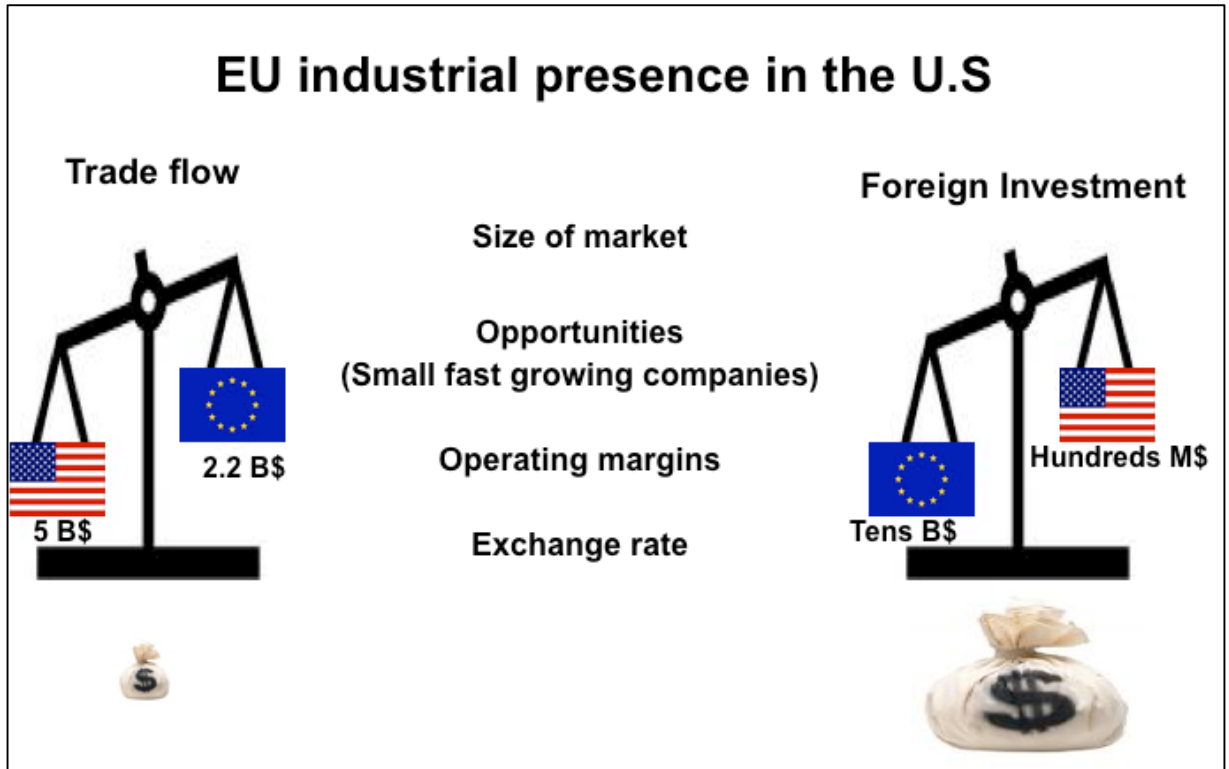
Finally, we must emphasize two important caveats to this data:

- SIPRI's lists do not reveal the technological or operational advance of the U.S. equipment in a number of areas: data link, transmission, etc. These areas are all the more important that they are the basis for interoperability with U.S. forces.
- SIPRI's lists are an image of the past. Their analysis cannot fully serve as a basis for the analysis of technological lag. This delay should be assessed on programs in development. In addition, an aircraft like the F22, which enters service in the U.S. armed forces, will not be proposed at this time for export. From this point of view, the European R&D aims in a number of areas more to bridge the gap vis-à-vis of the American programs already in operation.

In conclusion, if the SIPRI's lists reflect the technological gap or at least the U.S. domination, they cannot place the European offer in comparison to the best U.S. technological offer.

European Industrial Presence in the U.S.

Chart 13 – U.S./EU crossed investments in defence



The data on defence trade flows which has been analyzed above does not take into account business generated in the U.S. by European defence companies who own subsidiaries in the U.S. While the huge size of the U.S. defence procurement market tends to favour the U.S. in the balance trade flow, it has an opposite effect on transatlantic investment as it tends to favour foreign investment in the U.S. market.

Several factors have encouraged ever growing European investments in the U.S.

First, the size of the U.S. defence procurement market compared to the European one (or European ones) makes it attractive for European companies to acquire even relatively small U.S. companies; the reverse is not true for U.S. companies in a somehow still fractured European defence procurement market. Therefore, there are potentially more attractive and easier targets in the U.S. for European companies than in Europe for American ones.

Second, relatively smaller U.S. companies have greater potential than European ones do. When considering the 50 fastest growing companies in the world, as determined by Defense News, 31 are in the U.S. and only 10 are in Europe. Moreover of these 10 European companies, most of them (6) are among the 100 largest in the world, whereas among these 31 American companies only 11 are among the 100 largest. This fact means that most of the fastest growing companies in America are small companies which are potential, reasonable

and available targets for European primes. By contrast there are fewer good opportunities for acquisition in Europe for American primes, since the European fastest companies are large companies. Moreover, most of European defence industries are already part of a network of joint ventures which makes acquisition more complicated.

Third, the exchange rate euro/dollar has played in favour of investment to produce in dollars.

As a consequence a significant number of European companies have acquired more and more smallish American companies over the past few years, with British industry leading the charge. European companies have been involved in most of the cases reviewed by the Committee on Foreign Investments in the United States (CFIUS). In 2007, CFIUS cleared the way for at least 14 cases involving critical defence technology for a total value of 55 B\$.

The table below shows the acquisitions of U.S. defence companies by European companies from 2005 to 2008. The European companies are divided in 5 categories: BAE systems - the group of 5 major UK players in the domain (Rolls Royce, Cobham, GNK, QinetiQ and Meggitt) - the rest of UK companies – Finmeccanica – rest of European companies (a handful of Dutch, French and Italian companies).

Table 8 – European acquisitions of U.S. defence industry

(millions of \$)	2005	2006	2007	2008	Total
BAE Systems	4,192	0	4,532	450	9,174
Rolls Royce – Cobham – GNK – QinetiQ - Meggitt	599	144	2,063	1,210	4,016
Rest of the UK industry	325	421	1,138	1,447	3,331
All of UK industry	5,116	565	7,733	3,107	16,521
% of all transactions	81 %	35 %	99 %	41 %	71 %
Finmeccanica	0	0	0	3,940	3,940
Rest of European industry (FR, NL, IT)	1,162	1,040	42	590	2,834
Total	6,278	1,605	7,775	7,637	23,295

Source: DACIS (Defense/Aerospace Competitive Intelligence Service)

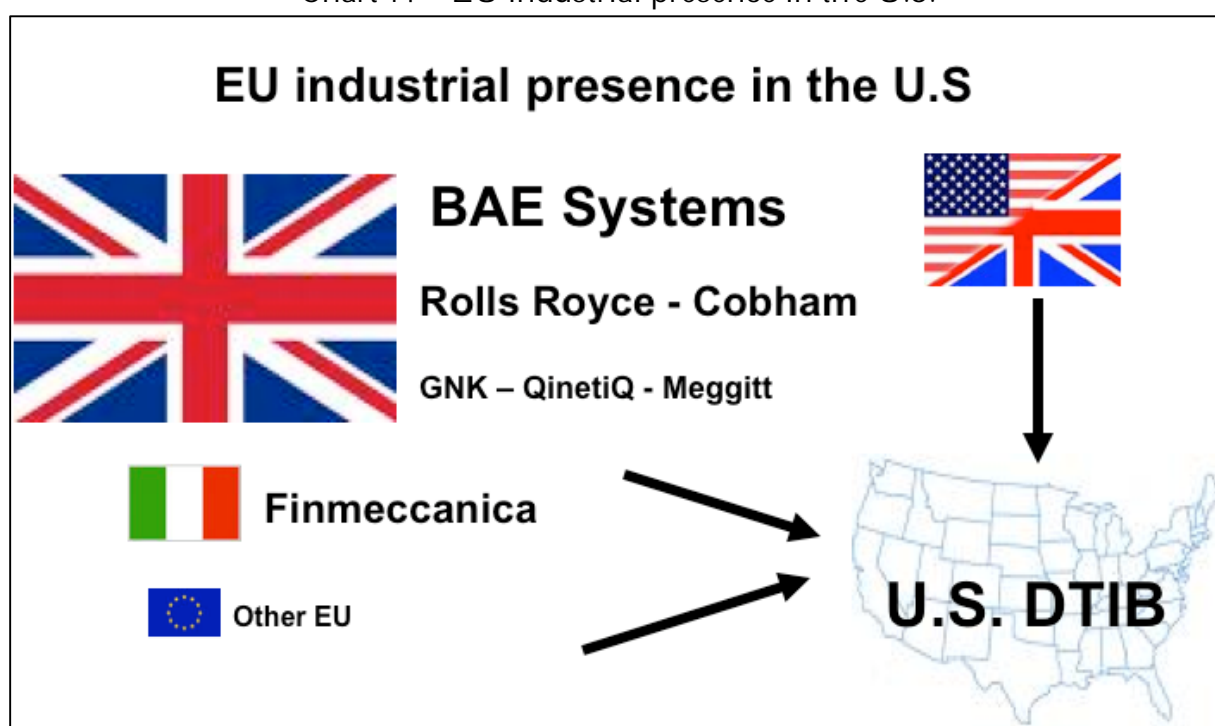
Figures in table 8 show that British companies are well ahead of all other European or world investors in the domain.

Largely thanks to its success in America, BAE Systems has become a giant worth 20 B\$ and is today the 5th largest defence contractor in the U.S. It has become a fully recognized prime contractor in the U.S. and enjoyed a dominant position in land forces equipment.

Other UK companies such as Rolls Royce and Cobham are becoming very visible and others such as GNK, QinetiQ and Meggitt are following in their footsteps.

The UK industry is not only dominant in terms of dollar amount but also in terms of number of transaction. In 2008, 23 acquisitions of U.S. defence companies by European industry were carried out and 18 of them (or 78 %) were from the UK industry. In 2007, 12 acquisitions of U.S. defence companies by European industry were carried out and 11 of them (or 92 %) were from the UK industry. In 2006, 6 acquisitions of U.S. defence companies by European industry were carried out and 5 of them (or 83 %) were from the UK industry. In 2005, 9 acquisitions of U.S. defence companies by European industry were carried out and 7 of them (or 77 %) were from the UK industry.

Chart 14 – EU industrial presence in the U.S.



The data also shows an increasing number of transactions in 2008 with 11 deals below the 100 M\$ threshold in 2008, 4 deals between 250 and 100 M\$, 6 deals between 500 and 250 M\$ and finally the Finmeccanica deal evaluated at 3.9 B\$.

Investing in the U.S. defence market has become a priority for an increasing number of British defence industries at every level, big and small.

Italian companies have also made tremendous advances in the domain, cumulating with the 4 B\$ purchase of DRS technologies by Finmeccanica.

Other major European defence companies such as EADS or Thales have not yet made any major purchases in the defence sector in the U.S. but have facilities in the U.S. that were acquired a long time ago or which operate mainly in the security and commercial sector. The EADS helicopter plant in Texas is one example. .

During the past two years U.S. defence companies have become very expensive and the latest acquisitions by European companies have been considered financially risky in an environment of economic downturn.

Even with a relatively modest presence in the U.S, the amount of business generated by U.S. subsidiaries owned by European primes is far greater than the European defence exports to the U.S. We are talking a few tens of billions of dollars in the first instance and only 2 B\$ in the latter one.

The data in this particular instance speaks for itself: as a European industry, the best way and arguably the only sustainable model to do business with DoD is not to export European products to the U.S. but to set up U.S. subsidiaries and to operate from the U.S. as part of the U.S. D.T.I.B. Part 3 and part 4 of the study will explore the structural reasons behind this fact.

Overall, with the exception of the recent DRS purchase by Finmeccanica, three trends are worth noticing.

First, there has been a flurry of European investments during the past two years despite the fact that: (1) U.S. defence companies became very expensive to buy and (2) the financial crisis would favour caution with investments.

Second, this is almost exclusively a British trend both in dollar value and number of transaction with the noticeable exception of the 2008 Finmeccanica deal.

Lastly, another interesting observation is that most of the financial growth that occurred among European defence industry over the past 5 years was triggered by their operations in the U.S. and came from their increased share of the U.S. market.

The variation of the stock value over the past 5 years for the major UK defence companies is as followed: BAE Systems - + 72 % / Cobham - + 33 % / Rolls Royce - + 51 %. According to these financial criteria, these companies are performing much better than the rest of the European defence industry.

This type of performance is characteristic of companies dealing with the DoD. The U.S. industry dedicated only to DoD business also performed very well (Lockheed Martin: + 65% - Raytheon: + 46 %), as opposed to companies which also have a commercial activity (Boeing: - 1.4 %).

Data sources

The choice of data sources used to illustrate the trends in transatlantic defence trade has been the subject of special attention. Three types of sources appeared to be available:

1 - Data from each of the five European countries (EU5) the study focused on

These five countries only provide part of the data regarding their defence imports and exports towards the United States. The export figures are available in most of the countries but not the imports. For France and the United Kingdom the situation is as follows :

France	The annual report from the French MoD to the French Parliament only mentions exports. The latest report is dated from 2007 (with figures for the year 2006). The figures are published by country (see attached 6.1 Annex). Data on defence articles coming from the French customs are not published.
United-Kingdom	Data published by DASA only covers one broad category "NATO Countries and Other Europe" and does not identify and single out the U.S. An extract is given in Annex 6.2.

It should be noted that data from different countries are not homogeneous and significant disparities can be noticed among them.

Moreover, data are not published by EU member states, therefore they are no longer available at Eurostat.

2 - Data from Council's COARM

The COARM (Conventional Arms Export) publishes in the Official Journal of the European Union data about arm exports of EU countries. The last edition (which deals with data of the year 2007) was released on the November 22, 2008 and is downloadable through the following link :

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:300:0001:0374:EN:PDF>

In this document, exports of the European Union are broken down by destination country. Regarding the U.S., the indications are for all segments (ML1 to ML 22) and are the following ones :

Value of arms exports in Euros (if available) : 529 211 809

Value of licences issued in Euros: 3 399 886 212

The first of these figures is to bridge to the 2 Billion dollars noted by the U.S. administration

(and indicated in this report). Nevertheless, it appears 3 times lower, a difference that can be explained by the fact that:

- European accounting (export licence) and U.S. accounting (customs) can have different equipment typology ;
- The line « Value of arms exports in Euros » is not exhaustive because some European countries do not fill in this line.

The total « Value of licences » seems more exhaustive with an amount of 3.4 Billion Euros. Nonetheless, this total fits with the amount of export licences, and therefore is closer to the amount orders than the amount of turnover.

Moreover, trade flow figures from the U.S. to the EU are not mentioned, which is logical since the COARM deals with the control of exports, not the control of imports.

Table E of the report list the internet addresses of member states' national websites for national reports on arms exports.

3 – SIPRI (Stockholm International Peace Research Institute)

SIPRI's data clearly demonstrate the benefit of coming from a single source. These data only cover the transfers of major conventional weapons and are incomplete by definition.

They have been used to study the content of the transatlantic defence trade flows.

They are also characteristics of trends in transatlantic defence trade and have been used to validate the USITC data (see below) which have been selected as the main reference for the study.

4 – USITC (U.S International Trade Commission)

These data are originated by the U.S. customs which identify and aggregate any defence products going through the U.S. customs. It is very likely that most of the U.S. defence exports will be identified because of stringent requirements for an export license for any U.S. products with a potential for defence applications. They might also under estimate the U.S. defence imports since in some instances some aerospace equipment such as landing gears or others might be registered as commercial aviation equipment even if they are destined to military aircrafts.

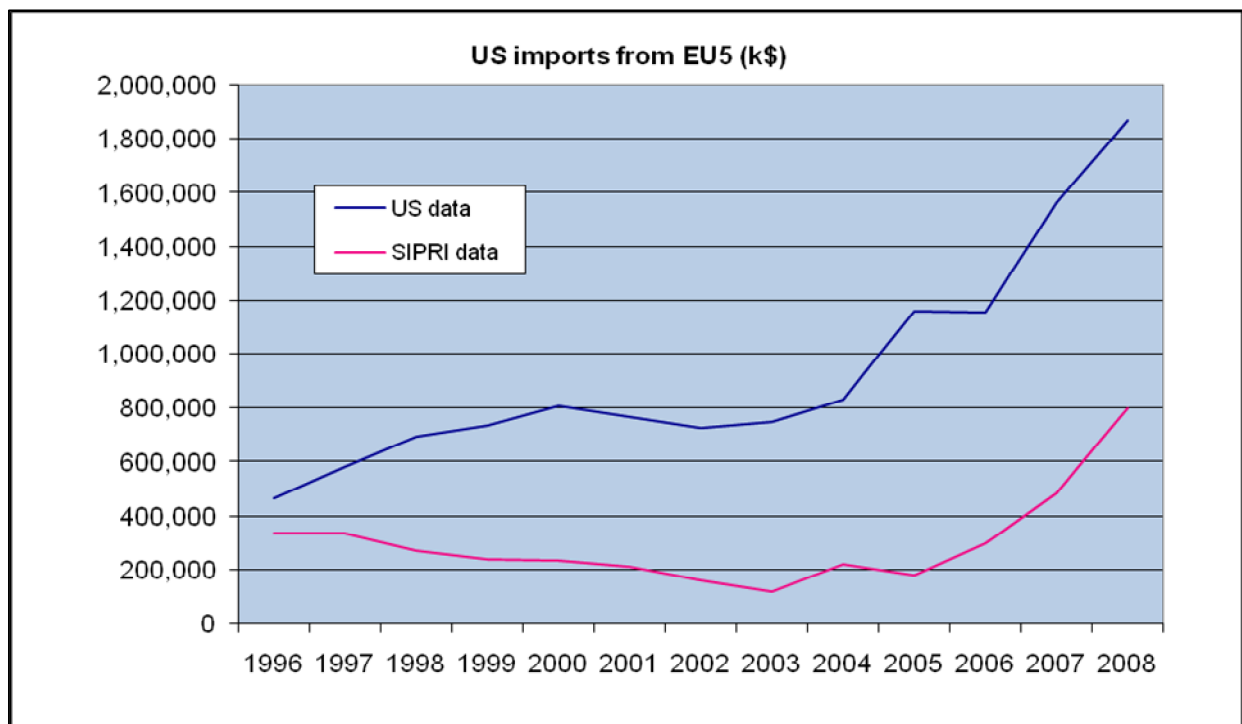
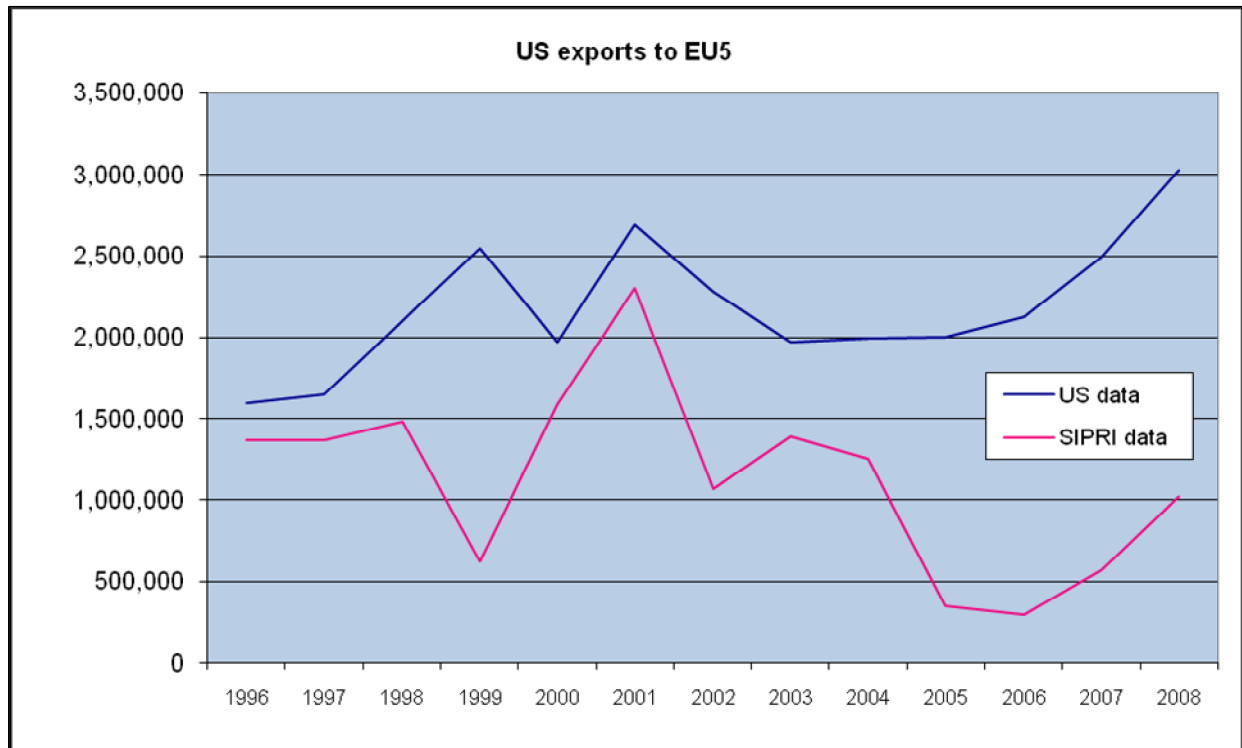
In any case these data coming from a single source have the unique benefit of being the most complete available data, consistent over the years, and representative of the trends in transatlantic defence trade.

The charts below demonstrate the consistency and validate the USITC data with SIPRI data.

The trends demonstrate by the two sets of data are similar and the level registered by SIPRI is lower by definition than the one provided by USITC.

There is no European equivalent to the USITC data.

Charts 15 & 16 – Comparison of USITC and SIPRI data

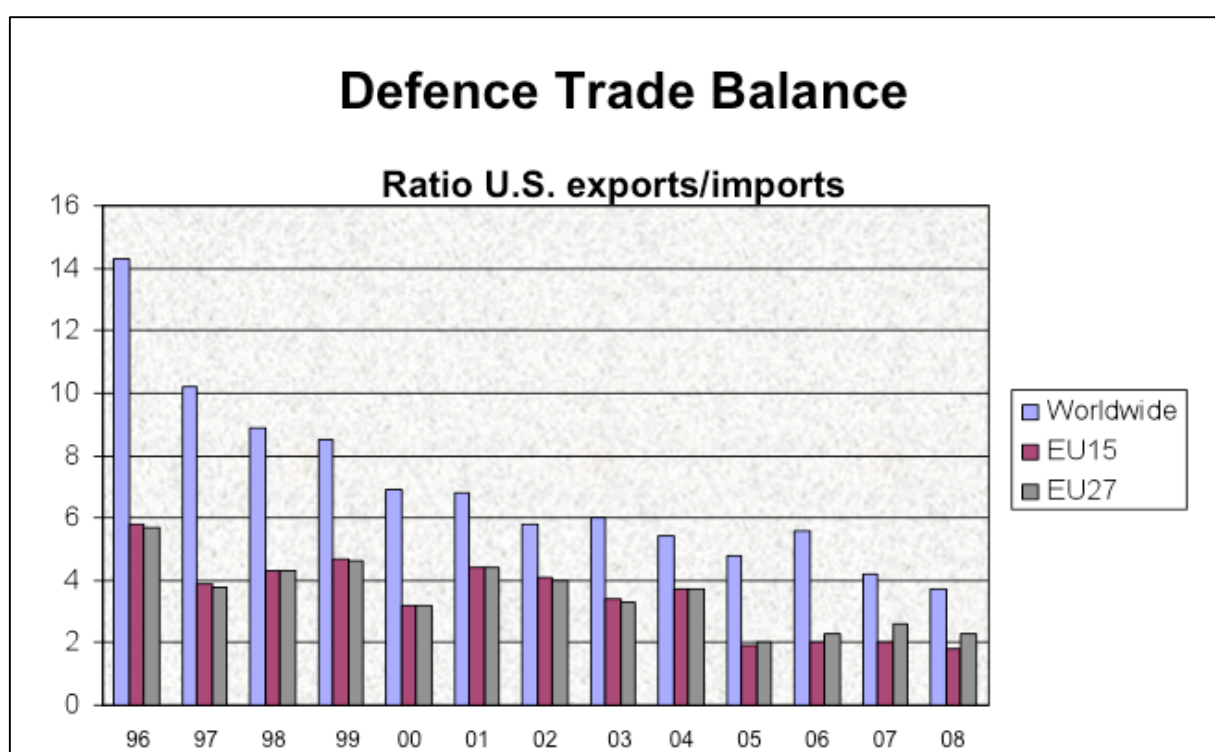


Overall conclusion

Trends in transatlantic defence trade can be identified as follows

First, in absolute terms and in dollar value, the U.S. defence exports to Europe have been relatively constant over the past 12 years whereas the U.S. defence imports from Europe have dramatically increased over the same period of time, bearing in mind that these U.S. imports from Europe were extremely low twelve years ago. As a consequence the ratio of U.S. imports to U.S. exports with Europe have shrunk from 1 to 6 in 1996 to 1 to 2 in 2008, as illustrated in the chart below.

Chart 17 – Ratio U.S. imports to U.S. exports



Second, at the same time and in relative terms, the paradox related to the trend above is that only around 1 % of the U.S. defence procurement budget is directed to European suppliers whereas around 12 % of the European defence procurement budget is directed to American suppliers. As a consequence transatlantic defence trade is a marginal phenomenon with regards to the U.S. procurement budgets and the U.S. defence market can be considered as essentially a home market. But it is not negligible with regards to the European defence procurement budget.

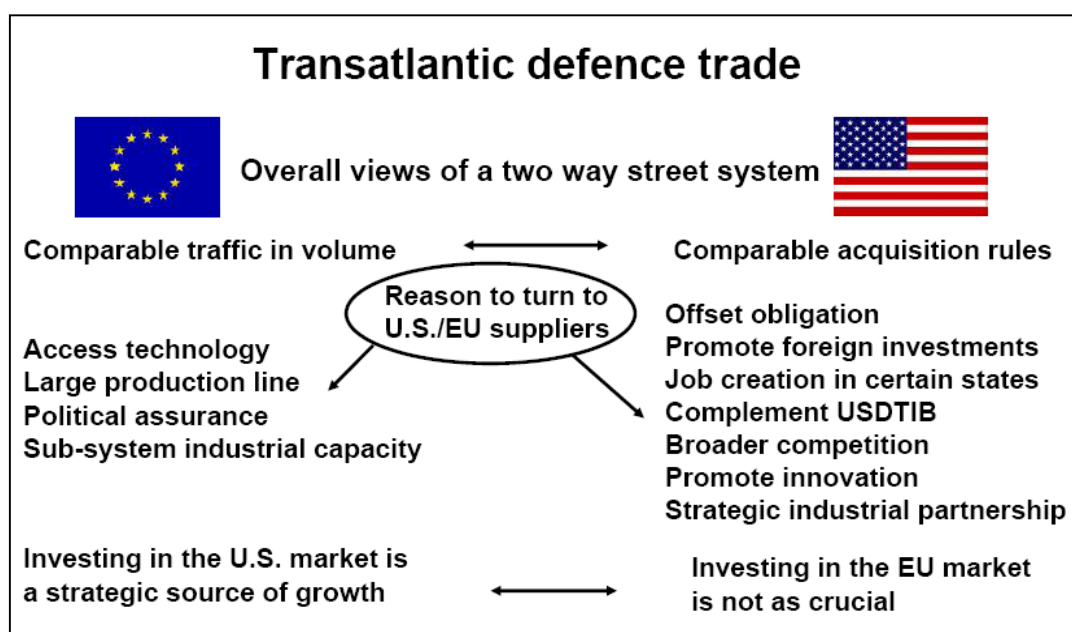
Third, business generated by the sale of European defence products, which are exported to the U.S., is marginal compared to the defence business generated in the U.S. by the American subsidiaries owned by European defence companies.

Fourth, the imbalance in the transatlantic flow of defence goods is in favour of the U.S. whereas the imbalance in the transatlantic industrial crossed defence investments is in favour of Europe.

Fifth, every aspect of the transatlantic defence trade (be it European exports of defence products to the U.S. or European industrial presence in the U.S.) is dominated by the UK which accounts for 50 % of all European exports and for most of the European investment in the U.S. defence market. As a consequence whatever future regulations will hold, a lot more is at stake for the UK than for any other member state of the EU. For the UK the U.S. defence market has become the primary market for exports and industrial investments.

Sixth, there are two overall different views of the two way street system that transatlantic defence trade should represent: Europe sees it as a comparable traffic in volume and the U.S. sees it as comparable acquisition rules. The U.S. perspective of a level playing field is one where all competitor states have regulation comparable to the U.S.'s, which is deemed to be the "Gold standard," so as not to put U.S. companies at a disadvantage relative to foreign competitors.. This is illustrated in chart 18 below.

Chart 18 – Two way street system



Seventh, addressing the U.S. defence market has become a strategic issue of major importance for the European defence industry whereas the reverse is not as evident.

Eighth, despite a lack of European investments in R&D (when compared to the U.S.) the European exports to the U.S. have dramatically increased over the past few years. One can speculate that it is due to the recent exponential growth of U.S. budget dedicated to defence equipment and urgent requirements for deployed troops in Iraq and Afghanistan, when, at the same time, the European budgets were stagnant. European defence industry became

particularly hungry for a growing U.S. market in which there were plenty of opportunities for sales. It is interesting to observe that the UK imports from the U.S. have also dramatically increased to meet urgent requirements for British troops who also were deployed in Iraq and Afghanistan.

Ninth, the reasons for the U.S. to turn to European suppliers and for Europe to turn to U.S. suppliers are presented in chart 18 above and should remain the same in the future. On the one hand, no new major developments should affect the U.S. exports to Europe. On the other hand many new factors could compromise the growth of European defence exports to the U.S. that we have witnessed over the past few years, among them:

- The exponential growth of U.S. budget dedicated to defence equipment and urgent requirements is likely to stop
- The global economic downturn is likely to trigger more protectionist initiatives

As a consequence, most of the European companies that have been very successful in the recent years in exporting defence products to the U.S. believe they are now reaching the limits of this strategy. With the procurement budget stagnating or decreasing, the DoD is likely to turn less and less towards foreign sources and to favour the indigenous industrial base. Consequently the European defence industry believes it will enter a period of flat growth on the U.S. market unless it acquires U.S. defence companies and become part of the American industrial base.

Finally, a program such as JSF (Joint Strike Fighter) could upset the transatlantic defence trade balance in the future and fundamentally change the scale of the current data. If this program is successful, there should first be an increase of U.S. imports of sub-systems and components from Europe to feed the aircraft assembly lines in the U.S. But during the production phase the sales of the finished aircrafts to the European nations participating in the program should tilt the balance in favour of the U.S. by a huge margin.

Overall, transatlantic defence trade remains very weak. It is almost negligible from the U.S. industry standpoint, though not from the EU industry standpoint: the U.S. exports to Europe represent around 6 % of the American defence procurement budget and the U.S. imports from Europe represent only 1 to 1.5 % of the same budget. It can be considered almost non-existent when compared to the transatlantic civil aerospace business. In any case the importance of the transatlantic defence relationship from the political standpoint does not reflect at all the level of transatlantic defence trade. The potential for growth of the transatlantic defence trade is present but speculations on such a marginal phenomenon are not easy to make.

3rd part – Barriers versus Obstacles

Nature and context of the U.S. defence market

During the Cold war era the European defence industrial and technological base was largely considered by the U.S. to be inadequate and technologically behind times. For decades Europeans produced their own heavy land equipment and ships while, despite the efforts of a very limited number of European nations, the U.S. produced and sold most of the sophisticated and battle-proven equipment, such as aircraft and missiles, used by European militaries. Even if many U.S. defence programs had industrial and technological partners in Europe, they were designed in America. Globally, traffic in defence platforms was largely one way: the European bought what the American sold.

Since then, the defence market and the role of industry and technology in nations' defence postures have changed dramatically both in America and Europe. There has been a shift of focus in defence acquisition spending from traditional platforms to complex defence systems based on communications, information and electronics technology. Defence investments do not drive the entire technology innovations anymore and a greater part of technology is increasingly available worldwide.

As a result, following U.S. industry's footsteps, European industry also consolidated at the trans-European level, both to survive in a narrow home market and in order to compete and cooperate with large firms emerging in the U.S.

As evidenced by the data analyzed in Part 1, Europe's defence exports to the US have recently increased. This increase is the result of successful consolidation of the European industry, which has allowed the emergence of European companies large enough to both compete and cooperate with US industry.

Before addressing the issue of what can be considered barriers or inherent obstacles depending on the side of the Atlantic people are looking at the situation from, it seems worth considering the different nature of the U.S. and European defence procurement markets and the fundamental differences that sustain them.

The U.S. remains, for the foreseeable future, the most powerful military entity and the first producer of military technologies. Investment trends worldwide show that not only will the U.S. maintain this position but that it will likely consolidate it. There is no question that the military might and the most advanced military technology are and will be American. The debate is more about the limit of the military might and how critical specific military technologies are for future defence capabilities. In short, the U.S. defence market is large enough not only to sustain its DTIB and the national prime contractors but also to promote an extension of the national DTIB and to seek foreign technology and investments.

By contrast the European defence market is not only significantly smaller but it is also still fragmented in several national defence markets, each of them struggling to sustain their

national DTIB and prime contractors. Moreover, each of the European national defence markets has different objectives and perspectives according to the size of their DTIB. Nations such as the UK and France, which have several potential national prime contractors, are faced with the challenge of sustaining their national capability at the prime contractor level or of making choices in a constrained environment. Nations such as the Netherlands with a strong DTIB but only at the sub-system level have to call upon foreign prime contractors to meet their defence needs and would naturally try to develop their technological niches in return. Finally, nations with very limited DTIB and ambitions in the domain are faced with the challenge of taking advantage of political opportunities when equipping their armed forces. These realities underline the potential value of a consolidated trans-European DTIB.

This imbalance in spending in defence technology coupled with some specifics of the U.S. defence market has many consequences, illustrated in chart 19 below.

Chart 19 – Nature of the U.S. defence market



First, European defence products are generally not likely to match DoD needs and requirements. The DoD has much more money compared to the European MoDs and defence industries traditionally operate with a higher margin in the U.S. than in Europe. As a result, DoD can build virtually whatever it wants and can be very specific in its requirements. The U.S. and European approaches are very different when it comes to the relationship

between defence industry and the military. In Europe industry tends to take more initiative to develop and build solutions that it would then market to different countries. In the U.S., the customer is usually more demanding, does not easily accept compromises with requirements and procures equipment according to a very specific logic.

Second, Europe could be in danger, in the future, of producing equipment which will not match the technological sophistication of the U.S. Today approximately 4% of R&T (Research & Technology) money in the U.S. is military as opposed to 80% in 1955, but this 4% is considered absolutely crucial by the U.S. defence industry for most military applications. In contrast, European strategy has been to devote fewer resources to defence-specific R&T and instead leverage innovations in commercial technology for military purposes. N.B: The study could not commit the necessary resources to go more in depth and challenge this claim which, if verified, could have far reaching consequences on the future of transatlantic coalitions, of the European political willingness to continue investing in an E.D.T.I.B. Moreover the ratio of Research and Development spending between the U.S and Europe is 1 to 6, meaning that it is a lot easier in the U.S. than in Europe to find investments to turn a technology into a dominant weapon system on the world market.

Third, European companies can find their place in a U.S defence industrial policy. From a U.S. standpoint the latest U.S. defence industrial consolidation was somehow detrimental because it was conducted without any rationalization. Out of the entire defence spectrum, only the missile sector was subject to rationalization. Due to the support needed by industry from Congress the same number of industrial plants were kept open across the 50 states. Moreover, the resulting shape of the U.S. industry which endures today is largely the result of this consolidation phase which dates back to before the latest war in Iraq, at a time of declining U.S. acquisition budgets. As a result, U.S. industry saw the number of prime contractors reduced from 10 to 5 (Boeing, Lockheed Martin, Northrop Grumman, Raytheon and General Dynamics), and possibly 3. Such a reduction became ill-suited to the rebound in defence spending during the Bush administration, leading to a shortage in the number of prime contractors. These companies have also to a certain degree become sometimes too big, slow and reluctant to make strategic investments, especially in new technology. They would rather turn to the DoD for R&D investment than invest in it themselves. The way the U.S. model works is that DoD makes technology investments in small companies and the major U.S. primes then buy the most promising companies to acquire their technology. In contrast, most of the European prime defence contractors focus on developing better commercial technology that can sometimes be applied to defence equipment. Such is the case for light and medium helicopters where the commercial market is dominated by European industry, which is now moving to part of the military market.

European defence industry can fit in the U.S. defence industrial policy to create some instability and some competition and to improve the pool of potential primes with BAE Systems, EADS, Finmeccanica and Thales or to steer innovation whenever commercial technology is applicable to defence application. Such is the case when the U.S. has created a monopoly in a specific sector such as the aircraft business or when U.S. industry has lived

too comfortably with the defence business and has lost its best ability to innovate such as the helicopter or shipbuilding industry.

Fourth, the entry ticket to the U.S. defence market is very high. The U.S. defence market is naturally highly regulated: there are thousands of procurement agencies across the country and across the different services (Army, Navy, Air Force, Marine Corps). The strategy of defence companies in the U.S. has to be addressed at the scale of a continent with close oversight by a Congress representing 50 different states. Thorough understanding of the U.S. procurement systems and of the customers' behaviour requires a long learning curve. Putting in place the proper TAAs (Technical Assistance Agreements) between European and U.S. industries requires European companies not only to be educated on the process but also to educate their U.S. partners on the importance of the process. Although difficult to quantify, more and more communications, conferences, calls for tenders, contracts are classified and for U.S. eyes only. As a consequence for European companies, more and more business development has to be done from the U.S. and not from Europe and setting up a SSA (Special Security Arrangement) is becoming more and more of a requirement. All this raises the cost of doing business in the U.S. and is detrimental to the newcomers and to smaller companies.

Fifth, market forces favour assembly lines in the U.S. For any given contract, the quantities of equipment produced for American needs are generally far greater than those produced for European needs. An example of this disparity in production can be illustrated by comparing production levels of U.S. combat aircraft. They range in the mid-hundreds in Europe but in the thousands in the U.S. In Europe: Tornado (about 1,000 delivered) – Mirage 2000 (about 620 delivered) – Rafale (it is anticipated that around 150 will be built) – JAS 39 Gripen (around 200 built) – Eurofighter (between 500 and 700 expected to be built). In the U.S.: F-15 A-D & E (over 1,500 built) – F-16 (around 4,500 built) – F/A-18 A-D (1,500 built) -- F-35 (over 5,000 expected to be built). Various warships and armoured vehicles are even more nationally focused thus resulting in even more disparity of scales between the U.S. and Europe. As a consequence it is quite easy for the U.S. to demand assembly lines in the U.S., not only for political reasons but also for industrial ones.

Sixth, many European nations with limited operational or technological sovereignty would naturally favour arming their armed forces with weapons systems that are in the U.S. inventory. They see an advantage in being sure that parts and upgrades come from a large and tested line of production. They also see a form of political reassurance, because in case of critical tensions and threats to their national security they are likely to find themselves (historically and in the future) allied with or rescued by U.S. forces.

Barriers: Myth and Reality

Barriers on national defence markets are universal and foreign discrimination is obviously natural due to the political nature of the market. National security is involved and as a

consequence foreign involvement and foreign investment in defence is controlled by any country in America or in Europe. Moreover, on both sides of the Atlantic politicians have a strong tendency to favour jobs creation at home as a benefit of spending tax payers' money on defence equipment.

But in America this phenomenon is amplified and more visible because Congress is in the business of micromanaging defence programs and their industrial consequences. The U.S. federal system nurtures fierce competition for defence industrial activities among the 50 states and some 455 districts. Any defence contractor operating in the U.S. needs congressional support to secure funding for their programs. DoD also needs to justify spending large amounts of money on defence programs and part of the justification is job creation at the state level. This can be a double edged sword for European defence industry trying to address the DoD market. On one hand, Congress can easily be convinced to oppose the DoD's awarding defence contracts to foreign entities in order to protect jobs at home, but on the other hand, Congress could also be supportive if the contract award to a European entity would translate in creating industrial activity in some of the states where it is much needed.

For the very same reason, European industry is inclined to set up assembly lines in the U.S. when they win DoD contracts even if it is not a direct requirement from the customer, knowing that this is a way to obtain some degree of crucial support from Congress.

The first criterion when addressing the subject of barriers to trade with the U.S. is in reference to the Buy American provision. It is firmly part of the U.S. legislation and therefore can be considered as a political irritant to the U.S.'s allies and trade partners. But in practice the DoD has the power to waive this provision for its defence transactions with all the countries that have a reciprocal procurement MOU (Memorandum of Understanding) with the U.S. All of the European exporters of defence goods to the U.S. have this type of agreement in place. Other legislation is in place to protect U.S. home producers, such as the Berry Amendment for textile, but their effect as a barrier to trade defence products with the U.S. is in fact minimal. The Buy American provision has been part of the U.S. legislation since the period of the last depression and would be extremely difficult to remove from the political standpoint. This type of legislation does not seem to be open to negotiation with Europe. The only thing the U.S. administration can negotiate however are measures, such as waivers, to mitigate the effect of the legislation.

Within Congress, the House of Representatives is more protectionist than the Senate. Protectionist initiatives and measures are very often proposed by the House Armed Services Committee in the building of the yearly Defense Authorization Act. The experience of the past 10 years has shown that these initiatives are systematically opposed by the administration on the basis that altering the flow of defence goods and technology from Europe to the United States would ultimately compromise the safety and performance of the U.S. armed forces. Experience has shown that eventually these initiatives are mitigated by the Senate and eventually defeated in the final versions of the bills.

A renewed burst of protectionist tendency from Congress is likely in times of economic downturn and soaring unemployment rate but there is absolutely no sign today that the U.S. administration would fuel or give in to such a movement. All indications are pointing to the opposite direction where the U.S. administration would fight against it. The status quo is all the more plausible that European technology and European investments in the U.S. represent today a significant portion of the USDTIB.

Cultural barriers are also certainly something to keep in mind. Even if the perception that only U.S. technology is worth considering is losing ground, it still takes a lot of effort from the U.S. program managers to look for foreign sources in the U.S. acquisition systems. These initiatives carry in themselves a lot of complications: there is an element of risk related to security policies and a fear of losing some control over a supplier who is not domestic, in an acquisition system which is extremely cumbersome, procedural and risk averse.

The main incentives to look for foreign sources come most of the time from the U.S. industry rather than the U.S. administration, U.S. industry being motivated by market and financial objectives or offset obligations to seek partnership with European companies.

Another element that can be seen as discriminatory towards European companies is the clearly stated U.S. policy of technology dominance over the rest of the world, including their European allies. In certain areas of military technology such as radar technology, U.S. policy consists in maintaining a hedge towards Europe and as a consequence these technologies are excluded from any kind of European involvement. As the gap in military technology investments between the U.S. and Europe widens, this trend could increase in the future. As far as this policy is concerned America makes a self determination of the critical domain in which it wishes to maintain a hedge and is not particularly open to dialogue with Europe.

Eventually, the biggest inhibitors of a larger flow of European defence technology coming to the U.S. are technology control policy (technology sharing and export licences) and security policy. Often mistaken for one another the two notions, though linked, are quite different.

Security policy affects transatlantic trade flow when the U.S. makes a determination that sharing data in a specific technology area with Europe would be counter to its national security interest. This could be for military operational reasons or for industrial reasons and involve most of the time issues that are considered very sensitive and highly classified.

Restrictions due to U.S. security policy do not apply the same to all European nations. They are graded according to nations who are considered very likely to fight alongside the U.S., countries who might fight and countries who are not likely to fight. To this end the UK enjoys a preferential treatment but still suffers some type of limitations.

As a consequence engaging a transatlantic dialogue in the domain could prove quite a challenge to say the least.

Technology control policy affects transatlantic trade flow because of the barrier and limitation it represents for European industry to access U.S. calls for tenders and to form

partnerships or share technology with U.S. industry and because of the added uncertainty it presents when conducting business both in terms of supply line security and re-export ability, let alone the delays incurred with obtaining licences.

The U.S. technology control regime is described in details in Part 3 – bis on this report, including an impact on the different models established by European industry to compete in the United States. ITAR regulation is very broad in terms of technology and information which is covered, and it is also open to interpretation under the sole and absolute responsibility of the State Department. As a consequence it offers very little visibility to industry and it induces extreme caution on the part of U.S. industry. It also induces caution and great concern on the part of the European industry because it is based on the fundamental principle that the U.S. seeks from Europe (and other foreign entities) an enforcement of U.S. regulation to protect American information and technology.

This constraint has several consequences for trade with the US and cooperation with US industry, especially with regards to commingled technology (mixed technology from Europe and US).

ITAR regulation is a significant impediment to European industry wishing to address the U.S. market, irrespective of the model they adopt. Obtaining licences costs companies time and resources but the main impediment is the lack of visibility as to the re-exportability of their goods and technologies.

This problem starts with U.S. calls for tender, which most of the time require foreign participants to be licensed. Then, any European company considering a partnership with a U.S. firm needs to obtain a Technical Assistance Agreement (TAA), allowing the two companies to trade information about ITAR protected technologies. This step can be particularly complicated, given that a TAA must be obtained before the two companies start any discussions and therefore clearly ascertain which technologies they wish to discuss. Once a partnership is established, the cooperative process is further encumbered by the need to obtain data and to transfer critical data.

The current implementation of the ITAR regime also denies companies the required visibility regarding re-exportability of goods or technologies sold in the U.S. market. As a result, many companies are forced to adopt a worst-case scenario, assuming that they will not obtain re-export licenses, which decreases their willingness to do business and in turn the overall transatlantic defence trade. Indeed companies are driven to consider that their goods and technologies are for one of two blocs, the U.S. or the rest of the world.

In theory, as long as European defence items are designed on European technology only and don't contain ITAR controlled items, the European producers of these defence items are free to export them to the U.S. and to other third countries, subject only to the export control regulations of the European exporting country. Only those items exported to the US are controlled under ITAR after entering the U.S., as are technical data (e.g. integration, use, and maintenance data which attend the exported items). From a strict legal standpoint, it can be argued that the European data sets and items are not ITAR controlled.

In practice, however, this scenario almost never emerges and European defence items sold to the U.S. come fully ITAR-controlled, for both U.S. and European items and data-sets. What happens is that European defence items sold to the U.S are modified according to U.S. - specifications, e.g. according to a DoD RFP or in the frame of cooperation with U.S. - industry and therefore fall under ITAR, as modified hardware or commingled technology. As a result, the theoretical case presented above is largely irrelevant to practice.

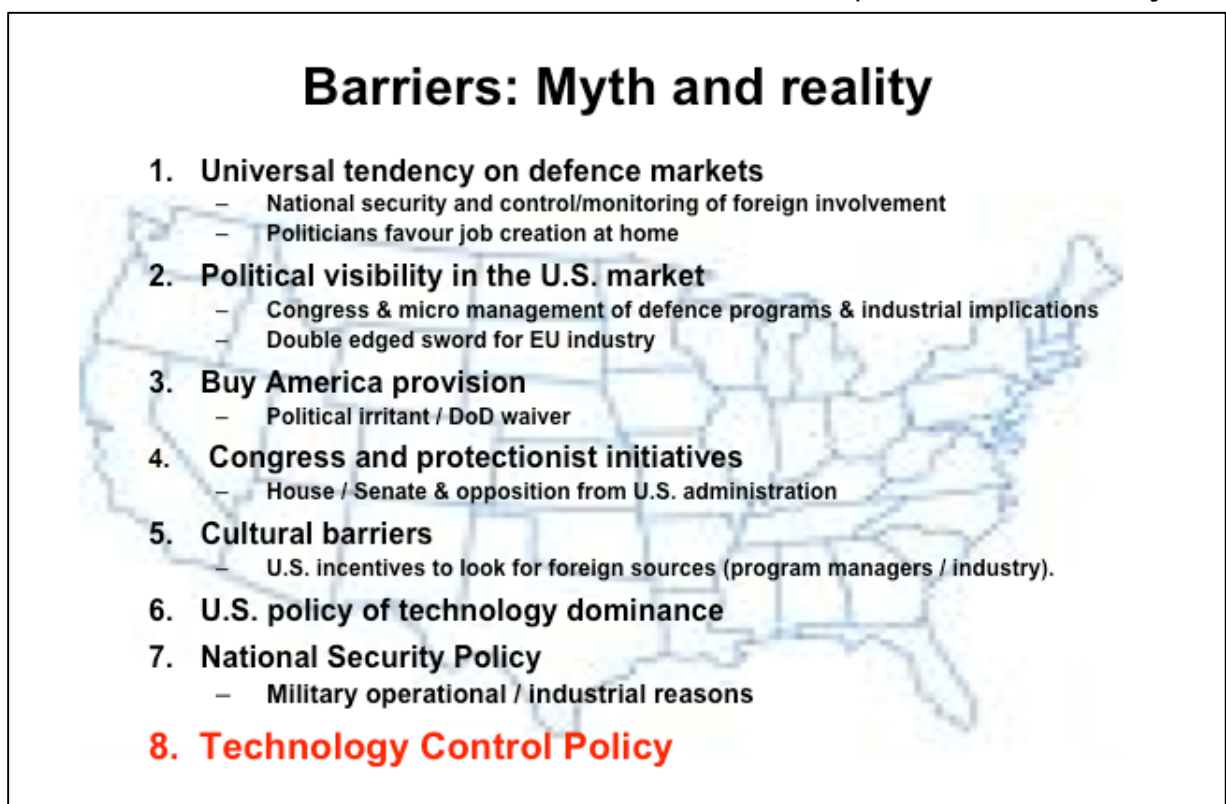
This situation is further exacerbated by the lack of harmonization of technology control policies and practices between the United States and Europe. Because of the strategic importance of the U.S. market, European defence companies, fearful of running awry of U.S. technology control policy, prefer to err on the side of excessive caution regarding the real constraints of the U.S. compliance regime.

European industry must be aware of this risk and the consequences of commingled technology to protect use of its technology according to European regulations, especially as the U.S. tends to demand that any European defence industry seeking to do business with the DoD apply U.S. rules and regulations wherever it conducts any business.

As things currently stand, without any kind of harmonization between the U.S and European compliance regimes, ITAR causes great hardship on subcontractors who need to remain competitive with their American counterparts while bearing the cost of an expensive and unpredictable licensing regime. It also forces companies with prime contractor capabilities to make strategic decisions regarding the U.S. market, either investing in it fully, to the point of becoming part of the USDTIB, or approaching it with extreme caution in order to retain technological independence.

Overall the list of identified barriers can be presented in chart 20.

Chart 20 – List of barriers to trade with the U.S. for European defence industry



N.B:

As detailed above, most of the identified barriers fall largely outside the scope of possible EU influence because they find their sources in the American internal political debates on defence and security. Therefore there is little that Europe can efficiently address and negotiate with the U.S. apart from technology control policy.

Technology control policy stands out for many reasons. First it impacts both the U.S. and European industry without clear boundaries between what is most beneficial for one or another. Second it is considered by the European defence industry as the first inhibitor to a greater transatlantic defence trade flow. Third Europe, as a producer of military technology, also contributes to the efficiency of a global transatlantic technology control system among friendly and allied nations. As a consequence there is a natural margin of negotiation between the U.S. and Europe in this domain. Not surprisingly, the issue has been at the heart of the U.S. / UK defence trade relations for the past few years.

Finally, technology control policy is critical given the growing trend of direct European investments in the USDTIB. As they currently exist, U.S. control policies lead to the absorption of the EDTIB into USDTIB. In order to mitigate this effect, European firms investing in the USDTIB would need to be able to identify from the outset exactly which products and technologies the US would deem re-exportable and which it would not. This would minimize the absorption effect by affording the EDTIB greater clarity and visibility in evaluating the consequence of US control policies on specific products and technologies.

The U.S. technology control system has been the object of an extensive study developed in part 3 Bis of this report in order to provide the Commission with the best possible understanding of the origin and the construct of the U.S system and how it is likely to evolve in the near future.

Even if Europe and the U.S. converge in principle on the need to regulate the defence business and to protect sensitive technology from falling into the wrong hands, the ITAR legislation is specific with regards to the way it is implemented and to the technology spectrum it covers. For example any space application is considered a defence application according to the U.S. laws and regulations which is not the case for the European regulatory regimes.

The consequences of technology control policy on transatlantic defence trade are paramount. American and European industry cannot even talk to each other to explore market opportunities without a license and this process is too cumbersome to be compatible with business cycles.

The U.S. ITAR is certainly a source of major frustration for the European defence industry, but certainly part of the problem is that very few people understand ITAR and there is a need to educate both the European industry and European administration on the necessary step to be taken to make the system work; i.e. the TAA process has to be built into any new programs as part of Request for Proposals (RFP) in which you need to include a technology control management plan, etc...It can become all the more confusing that some U.S. companies tend to claim ITAR to retain information in order to fence off potential competitor and cover IPR (Intellectual Property Rights) with ITAR issues. But in this type of context an educated administration can intervene.

The European industry would also be hesitant to bring technology to the U. S. because of the risk of losing control over it if it is modified or commingled with ITAR -controlled US technology.

Overall, Europe and America are looking at the transatlantic defence trade as a two way street system from a different perspective.

Europe tends to regard it as meaning that the traffic in both directions should be comparable in volume. For Europe, reasons to turn to American suppliers are the following: accesses to U.S. technology; take advantage of large production lines; political defence assurance; develop technology and industrial activity at sub -system levels in exchange for U.S. primes contractors to enter the European market. Moreover investing in the U.S. defence market is a strategic source of growth for the European defence industry.

The U.S. tends to regard it as meaning that acquisition rules should be comparable across the Atlantic. For America, the reasons to turn to European suppliers are the following: promote foreign investments and job creation in certain states; complement their DTIB and open up competition more broadly; take advantage marginally of specific technology often derived from the commercial sector; share costs of U.S. weapon systems; strategic partnership initiatives from U.S. industry. Moreover for U.S. defence industry the European defence market is not nearly as strategically crucial as the U.S. defence market is for the European industry.

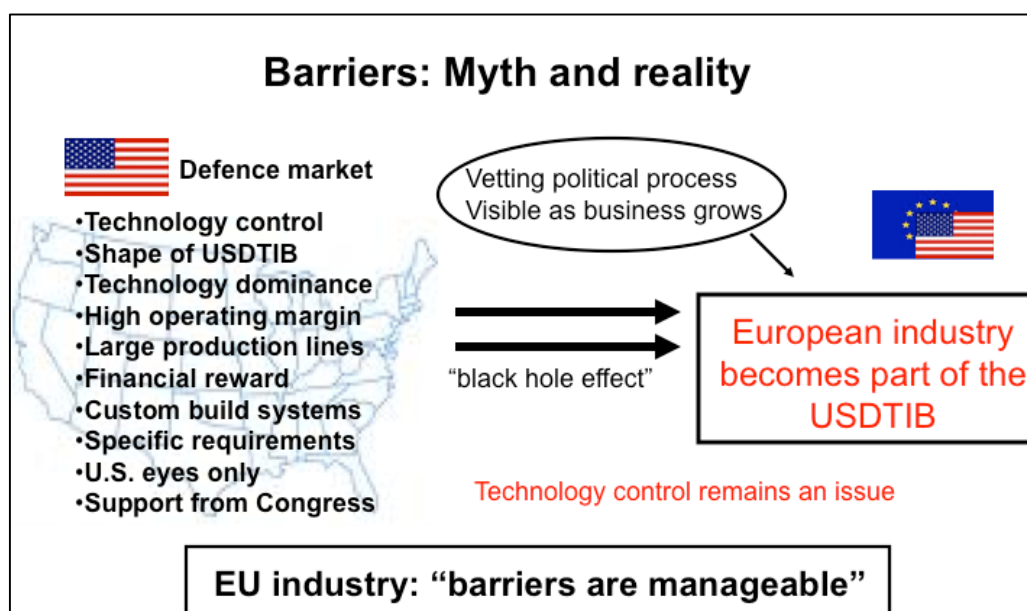
Finally, all the specifics and regulations of the U.S. defence market combined and listed below....:

- regulation on technology control
- shape of the national industrial base
- technology dominance
- high margins
- large production lines
- potential financial reward
- custom-built systems to fit specific DoD requirements
- specific requirements
- need to create jobs in the U.S. to gain support from Congress

..... operate in the fashion of a “black hole effect” and are very conducive for any European industry seeking to do business with DoD to become part of the U.S. DTIB.

This is illustrated in chart 21 below.

Chart 21 – “black hole effect”



Such a business process goes through a vetting process which is heavily politically charged and all the more visible as the corresponding business grows.

From the European industrial standpoint, all the barriers and obstacles to trade with the U.S. are manageable under certain conditions described hereafter in Part 4 of the report with a special emphasis on the technology control issue.

Not surprisingly, this issue has been at the centre of the US/UK trade relationship for the past two years.

Interestingly enough, the U.S. technology control regime, sometimes criticized in Europe as a tool of industrial policy used to protect American industry at home and to give it an advantage on the export market, appears to be a double edge sword.

It is true that it can offer a degree of protection to part of the U.S. defence industry, but it also triggers clearly adverse effects on the health of other sectors of U.S. industry such as space and electronics. More and more industry and governments outside the United States are increasingly concerned about non sensitive American technology that falls under ITAR. More often than not, a non U.S. entity might go out of its way to avoid using American technology when it is not indispensable simply to avoid a costly and cumbersome ITAR process.

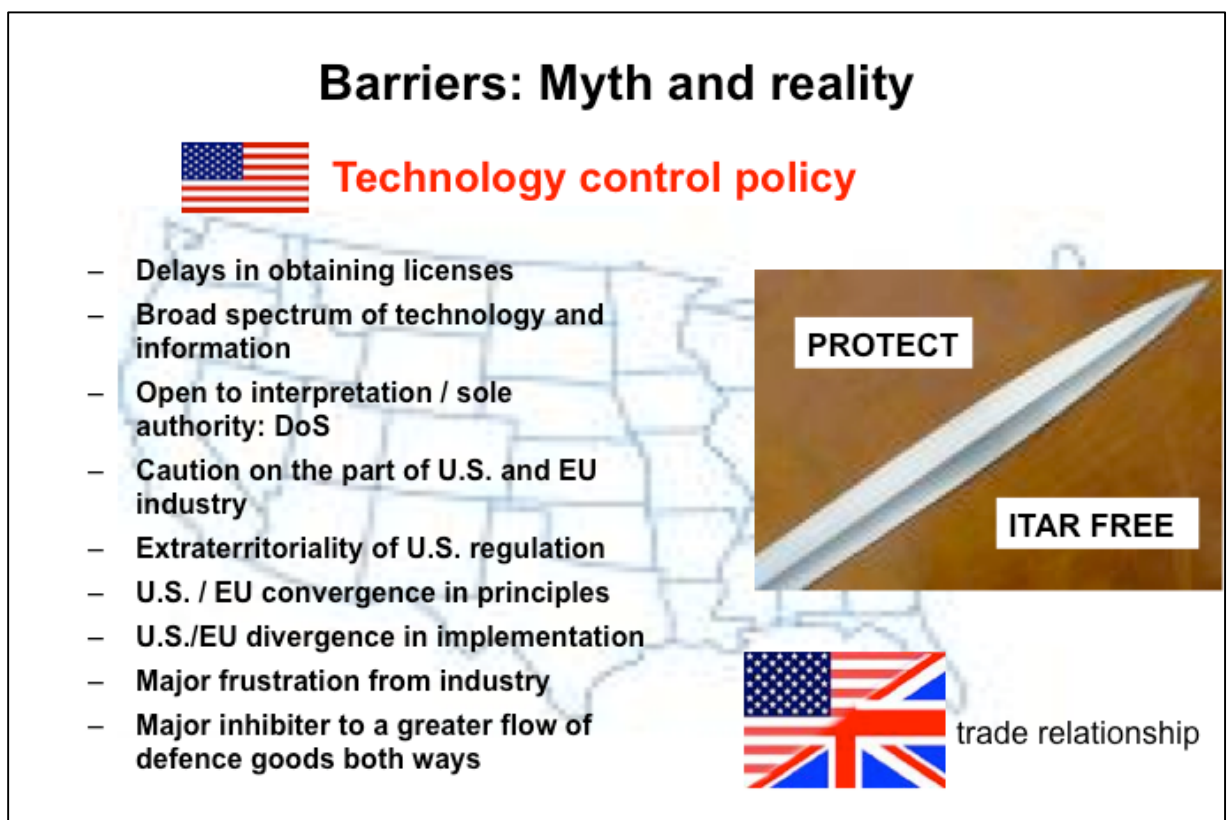
As a consequence the U.S. administration appears to be very concerned with what is referred to as “ITAR free” initiatives that have been expressed here and there in Europe. In practice

there is not such a thing as an ITAR-free strategy at the pan-European level or at a specific nation level in Europe. European entities avoiding American technology because of the ITAR process are not making a political statement but are simply motivated by logical business practices on a case by case basis.

The ITAR-free logic first appeared a few years ago in the space area where ITAR applies even to civil space applications, making the U.S. regulation extremely conservative and a lot broader than any European regulations. The concept was turned into a kind of buzz word and used for a political purpose. But overall, not using American technology is not going against any kind of law and regulation. Moreover it would not be reasonable to believe that Europe has the capacity or the political will and objective to replace American technology to a significant extent.

This is illustrated in chart 22.

Chart 22 – U.S. technology control policy



3rd PART BIS – The U.S. Export Control Regime

Charts 23 and 24 – U.S export control regime

The U.S Export Control regime

1. **A call for change**
 - High risk program
 2. **Coalition for Security and Competitiveness**
 - Health of U.S. industry / ability to build coalition
 - Predictability / transparency / efficiency
 - Bundling – leverage trusted communities & certified compliance processes
 - Consultations with allies: consistency / compatibility of national systems
 3. **January 08 Presidential Directive**
 - Shorten mean time delay to process licenses: 60 days
 - Commodity jurisdiction dispute process
 - VEU program
 - Reviews of USML & CCL
 4. **“Beyond Fortress America” - (NAS)**
 - Total revamping of the U.S. system (Presumption of acceptance except in compelling cases)
 - Coordinating centre at NSC level
 5. **Political Resistance to Change**
 - No wholesale reform without political initiative of epic proportion
 - Congress is conservative
 - Sole purview of DoS
-
6. **A new approach within the same regime**
 - Control end items VS technology that can enhance foreign military capability
 - Inertial standby equipment / night vision equipment
 7. **Disappointing outcome of the reform initiatives**
 - Licenses (DoC: 19000 / MT: 24 days – DoS: 80000 (+40%/year) / MT: 60 days)
 - Certified standard equipment for civil aviation
 - Licenses fees
 8. **Compliance regime**
 - Measurement of efficiency (civil / criminal cases)
 - Staff (16-8) – Whistle blowers / voluntary disclosures (900 cases)
 9. **The UK-U.S. Treaty**
 - Pending ratification (2 years) – Business / interoperability
 - Administration / Congress
 - Principles: ITAR/UK classified – approved community – type of technology
 - Wall between U.S & EU: from the Atlantic to the English Channel
 10. **China**
 - U.S. schizophrenia
 - Hot sensitive politically charged issue to remain (end of VEU program)

A Call for Change

There is a growing internal recognition in the U.S that the U.S export control regime does not address the economic and political changes of the last 10 to 20 years. Most analysts believe and argue that the U.S defence and aerospace industry is losing market share worldwide because of the way the U.S has implemented the ITAR since 9/11. They would argue that it is clearly the case for the space industry and it is becoming the case for the electronics industry in particular and all the other sectors in general.

Again, reflecting the U.S conventional wisdom, both the underlying policy and the processes regarding the export control regime are in disarray. The very balance between protecting sensitive technology and promoting legitimate commerce is often judged to be out of kilter.

On the process front, the latest audits from the GAO (Government Accountability Office) repeatedly pointed out serious flaws in the DDTC (Directorate of Defence Trade Control) organization. This office has been considered to be very far from meeting its objectives in terms of processing licences. Among other flaws, in most of the cases investigated, it looked like there is very little or no memory at all of the license cases that have been processed (no record of what has been licensed and why it has been licensed) and therefore, more often than not, every case appears like a new case and the same type of time consuming reviews are repeated over and over again.

The rules are judged far too complicated most of the time nobody knows why items are controlled and some items are both on the Commerce Control List (CCL) and on the U.S. Munitions List (USML).

Recent hearings at the House (Subcommittee on Government Management) called for a total reassessment of the U.S. export control regime in line with the emerging threat that the U.S. is facing. It was pointed out that the global policy framework should be subject to review, considering that both the Export Administration Regulations EAR and the Arms Export Control Act (AECA) are coming from a very different political environment and are outdated.

Overall the export control regime is now, since January 07, among the high risk series classification of programs which are considered broken and in need of total strategic reassessment under the jurisdiction of the Comptroller General.

The initiative conducted by Aerospace Industries Association of America (AIA) and called "coalition for security and competitiveness" has had the most significant real impact on a call for change.

Coalition for Security and Competitiveness

The AIA put together a coalition of multiple industry and trade associations to call for a modernization of the export controls on both the dual use items and the munitions list items.

This coalition for security and competitiveness published a report in 2007 with a series of concrete recommendations to make the export control system more efficient, predictable and transparent.

The most significant recommendations for modernizing export controls on dual use items were:

- Create a license exception for the transfer of controlled items within companies
- Certify foreign end-users with strong compliance programs for favourable treatment
- Enhance the Commerce Department's role in the "commodity jurisdiction" process for determining whether or not dual-use products should be treated as defence products and subject to State Department licensing.

The most significant recommendations for modernizing export controls on munitions list items were:

- State strategic policy principles for defence and technology trade and cooperation
- Appoint a senior director at NSC (National Security Council) responsible for defence trade, export policy and technology cooperation
- Re-program funds to the DDTC to add a sufficient number of officers for agreements, licences and commodity jurisdiction evaluations
- Ensure accurate interpretation and consistent use of ITAR that govern the commodity jurisdiction process and keep items (particularly FAA-certified equipment) on the CCL until after a final commodity jurisdiction determination is made
- Establish a quarterly interagency appeals process at the political appointee level for decisions on critical jurisdiction and licensing applications

These recommendations show that the concern of the U.S defence and aerospace industry is driven by a wish to raise the issue of export control at the political level with regards to trade and cooperation interests and to give more power to the DoC in the commodity jurisdiction process. It also points out the lack of efficiency from the DDTC.

Finally, U.S. industry promotes a revision of the "re-export" controls to what it considers would level the playing field for U.S. companies vis -à-vis foreign competitors.

This report coming from the U.S. business community was well received overall and has had a real impact on the administration. It is still widely considered as a good reference to consider any type of reform.

It was echoed by a presidential directive in 2008 (see below).

During the 2008 Presidential campaign, the AIA publicly and actively encouraged the candidates to endorse 10 specific issues among which come in first priority: "modernize the nation's export control system to build interoperability, capability, and defence cooperation with friends and allies".

Interestingly enough the argument put forward to promote reform of the export control regime is not directly related to the health of the industrial base but to the ability of

the United States to build coalition with allied countries . This was the reason given by Congress to shed a positive light on the U.S./U.K treaty on defence trade. Congress acknowledged that it had no specific interest in promoting defence trade but its first and foremost concern was the ability of British troops to operate safely alongside American armed forces in Iraq and Afghanistan.

In the point paper describing this specific issue, AIA naturally introduces the notion of industrial competitiveness and recognizes the improvements outlined in the January 08 presidential directives (see below) as positive moves which should introduce reasonable timelines to issue licences and mechanisms to resolve interagency policy disputes quickly and consistently and as something which should be implemented fully and sustained by future administration.

At the same time AIA recognizes that additional steps are needed to modernize the U.S. export control regime – to increase predictability, transparency and efficiency.

The main recommendations that AIA would like the next administration to endorse, apart from the general idea of affirming support for a rigorous, predictable, efficient , and transparent export control system that safeguards critical technologies, promotes collaboration with allied countries and promote U.S. competitiveness. They are:

- Develop new management models that move away from license approvals on a transaction-by-transaction basis and toward an approach that leverages trusted communities and certified compliance processes, particularly in support of critical U.S. defence and security programs that call for close collaboration with allied nations
- Undertake regular consultations with key foreign allies and partners to develop greater consistency and compatibility among national export control systems.

The AIA is pushing a kind of international agenda and should be open to a dialogue with its European counterparts to identify potential transatlantic convergence of interest in the domain.

But one has to keep in mind that the dominant sentiment of the U.S. aerospace and defence industry today is that the U.S export control regime is a sort of train wreck which is going nowhere for the U.S. industry and which works to the advantage of the European industry on export markets.

January 08 Presidential Directive

In January 2008, the Bush administration announced a series of steps to improve the export control system with the general goal to make it more predictable and faster.

It stops very far from being a wholesale reform but sets out some goals within the current regime, such as a mean time delay of 60 days to process licences for the State Department or the principles of a Validated End User (VAE) program for the Commerce Department.

The directive looks in many ways as a direct response to some of the recommendations and concerns coming from the industry association.

As far as defence trade policies are concerned:

- It mandates the commitment of additional financial and other resources in order to expedite the processing of export license applications for items controlled by the USML. More precisely, the guidelines require a decision by the U.S. Government on defence trade export license applications within 60 days (absent a strong reason such as requirement for Congressional notification). This would represent a significant improvement in the number of export license applications pending with the Department of State.
- It addresses the Commodity Jurisdiction process by creating a formal interagency dispute mechanism to allow for timely resolution of licensing jurisdiction issues involving the Department of Commerce and State. The NSC (National Security Council) will also undertake a review to make sure the Commodity Jurisdiction process is timely and efficient.
- It calls for improving procedures for conducting export enforcement investigations which are largely considered inefficient today.

As far as dual use export control policies are concerned:

- It focuses on foreign end users of U.S. high technology products by facilitating trade to reliable foreign customers, while denying access to sensitive technologies to any foreign party acting contrary to U.S. national security and foreign policy interests. The first category will be registered in the VEU (Validated End User) program and the latter in the Entity List. Both the VEU program and the Entity List are updated by the Department of Commerce.
- It recognizes the challenge posed to the U.S. technological and economic competitiveness and calls for a regular process for systematic review of the CCL, revised controls on intra-company transfers, revised controls on encryption products, and a review of re-export controls.

Some change in appearance had been witnessed at the Department of Commerce which had published a list of entities on the VEU program. This program was put in place in theory to allow U.S. industry to export high technology products to China and five Chinese organizations have been registered in the program. The other visible change is the publication by the Department of Commerce of lists of foreign entities or list of items for which there would be a presumption of denial.

Changes at DDTC are far more difficult to materialize but the entire management team has been changed and significant improvements have been achieved in terms of delays for license applications.

Latest Initiative: “Beyond Fortress America”

In early 2009, the National Academy of Sciences (NAS) published a report urging the Obama administration to change or scrap many cold-war-era regulations on high-tech exports and on immigration by foreign scientists and engineers. The report and some of its most notorious champions such as Brent Scowcroft, a former national security adviser, argue that ITAR as it is today does very little for national security while significantly hampering economic growth and innovation.

According to the study, current export controls delay maintenance of military equipment, discourage foreign defence entities from purchasing U.S. equipment, and provide a roadmap for foreign competitors. Additionally, the “deemed export controls” that govern the transfer of dual-use technology or knowledge to foreign nationals within the U.S. have made U.S. laboratories and universities less attractive to foreign researchers and have helped drive innovation overseas.

The study goes as far as promoting a switch of paradigm and would argue that the government should assume that technology is eligible for export unless shown to be a danger, rather than requiring would-be exporters to prove the opposite.

Finally the study makes a series of recommendations, the most significant being:

- Restructure the export-control process to advance economic competitiveness as well as national security, allowing “openness and engagement to prevail unless a compelling case can be made for restrictions”
- Require controls to be reassessed on a yearly basis
- Establish two new entities at the level of the National Security Council: one to assess controls and set the policy (Coordinating Center for Export Controls) and one to decide disputes about export limits (Export License Appeals Panel).

In theory these types of recommendations could come from presidential executive order and could be the first steps that would eventually require legislative reform.

Although it is too soon to say for sure, chances are that the suggested approach is somewhat idealistic and the study would join the increasing number of reports calling for change without too much effect.

Political Resistance to Change

Despite all the criticisms coming from all across the board, everyone agrees that it would take an initiative of epic proportion at the highest level coming from a strong and powerful administration to engage in large scale reform. It would probably require a very sophisticated interagency process coordinated at the level of the National Security Council and it is not likely to be at the top of the agenda of the new administration.

It would also more than likely face a strong resistance from part of Congress. Traditionally the House of Representatives' Committee on Foreign Affairs and Senate's Committee on Foreign Relations have been very conservative on the issue. They represent the political current still not convinced at all that a wholesale reform is either necessary or advisable. Their views are that there is no tangible proof that the system causes significant damage to the business competitiveness. The different cases presented so far to them by industry associations and lobbyists are considered anecdotal in their views. They are also convinced that the Armed Export Control law is a workable law which overall meets the objectives to protect business interest while protecting national security. Some topics need to be revisited such as approval of dual nationals but no profound reform or change of laws would be wise. To this effect the House has offered a series of changes to the draft legislation of the FY09 defence authorization law in line with the spirit of the January 08 presidential directive.

Whether law makers are focusing on ITAR or not, another factor to consider is a kind of renewed atmosphere of trade war floating above Capitol Hill in the context of a global economic downturn which would strengthen protectionist and "Buy American" attitudes. It is globally a bipartisan attitude, the Republicans seeing it through the angle of national security and the Democrats posing as champions of job protection while wanting to appear strong on national security.

The tanker issue with the strong involvement of the former Congress is one of the most striking illustrations of this atmosphere.

Moreover the administration is concentrating its effort on promoting the treaty with the UK and Australia and has very little political leeway to consider any other kind of change in the export control regime. Even the US/UK and US/Australia treaties have not yet been ratified by the Senate, a process rife with uncertainties.

Export control regime (from the USML standpoint) is the sole purview of the DoS which views with scepticism the different initiatives calling for reform and coming from elements within the DoD or from industry. The priority for DoS is to preserve and strengthen a regime under which industry is accountable to the U.S. laws.

Another factor that would strengthen a U.S. attitude towards more control is the very negative appreciation of ITAR free items developed overseas by Europeans. The U.S is particularly concerned on how Europe is replicating U.S capabilities and producing redundant technologies because of ITAR. The so called "ITAR free" items are a major source of concern and especially in two technological domains: night vision equipment and space. Though, as we have said, Europe does not have the capacity to significantly replace American technology, the concern in the US is that these "ITAR free" products are harmful to the USDTIB from a business standpoint. Of particular concern is the willingness of third countries to purchase "ITAR free" products over less-expensive, and sometimes better performing, ITAR controlled technologies, in order to avoid costs and risks attached to dealing with compliance to US regulation.

A New Approach within the Same Regime

There is a trend to start departing from controlling the end items and to move to start controlling technologies. It is based on reevaluating the real purpose of export control regime which is to control military capabilities. It is a foreign policy assessment as well as a national security assessment of what military capabilities can be provided globally. It is also based on the recognition that it is technology that drives the military capability. The question would then become not so much to evaluate whether an item is more for military use or dual use but more to see if a certain technology could enhance the military capability of a foreign nation as an end user. The discriminating factor then would be that if a technology can have a military application, then it should be controlled.

As an example, the Wassenaar regime still works on the old basic assumption that divides items between dual use and military use. The spirit of the Missile Technology Control Regime would be more in line with this new approach where, technology controls are put in place above certain thresholds of performance.

As a test case, two areas are already treated in this manner by the U.S administration: inertial standby equipment and night vision equipment. In these instances some gyroscopes would be controlled as a technology on their own; embedded in a navigation system inside a commercial aircraft, they would become control free because the item then would not have any military use. Likewise focal plane arrays could be controlled; embedded in an IR camera with specific process and performance; they would become control free as they could no longer constitute a military technology.

Disappointing Outcome from the Reform Initiatives

The tangible results of the reform initiatives are very meagre when compared to the expectations. The only concrete improvement, which is nevertheless critical, resides in the time delay to process licences applications. It has been reduced both at the DoC and at the DoS. DoC processes around 19 000 license applications a year (this number is not increasing at the moment) with a mean time of 24 days. DoS processes 80 000 license applications a year (this number is to increase to around 111 000 in the next year or two) with a mean time of 60 days and argues that it has significantly reduced this average time during the past few months, as reported by DDTC. Significant progress has also been achieved in the aerospace domain, which is the leading sector in terms of U.S. exports and one of the few where the trade balance has always been positive for the U.S. Certified standard equipment for civil aviation will be considered dual use and therefore on the CCL, with the exception of some of the technology concerning the hot parts of jet engines which are clearly SME (Significant Military Equipment). This provision has been in the Federal Register for several months and will be implemented once a long lasting dispute between DoS and DoC on the interpretation of "standard" equipment is resolved.

All the other signs are not pointing towards improvement. The trend is clearly going towards more and more caution under the influence of the military as opposed to promoting business. The ratification of the treaty with the UK and Australia has still yet to be considered by Congress, some two years after it was signed by the U.S. administration. This is not a good sign.

Among the reforms that were not called for, is the new fees regime for license application. It will be divided in three categories: (category 1) flat fee of \$2.250 for 70% of industry registered with DDTC; (category 2) flat fee of \$2.750 for 20% of industry registered with DDTC and; (category 3) flat fee of \$2.750 plus a fee of \$250 per license application. This last category applies to industry which has a large volume of applications with the DoS. For some of them, the annual cost has been evaluated at \$600 000. This new regime of fees should generate an annual income of 22 M\$ for the DoS, allowing it to employ more people and provide better service. This emphasizes the trend towards an extended control of technology.

The administration seems to be divided. The DoS is clearly moving towards more control and an ever growing control regime and the DoD is torn between preserving the health of its industrial base and meeting the concerns of the military commanders who, through DTSA, argue that export controls help them retain a competitive advantage in their military operations.

The Compliance Regime

The compliance/enforcement part of technology control is considered front and centre in the U.S. regime. It is seen by the U.S. administration as very specific compared to all the other regimes in Europe which are considered much too lenient towards industry. The efficiency and value of the U.S. technology control regime is clearly measured today by its compliance program.

Therefore, some of the reform initiatives are perceived by the DoS to be lobbying initiatives by industry and sometimes supported by the DoD, whereas the core issue is the liability of industry towards U.S. laws and regulations.

This willingness to preserve strict accountability of industry should increase in the near term. This is the main reason why the U.S. administration is very reluctant to talk about any kind of certification process within industry despite what some law firms have been trying to promote in the past.

The compliance program of the DoS is staffed by only 16 people and 8 of them are dedicated to the "enforcement" program.

There are two kinds of possible prosecutions: criminal case and civil case. The difference is that in the criminal case, one needs to prove intent to violate the law. The vast majority of current cases are civil cases. In these civil cases, the company is liable most of the time but the responsibility could fall on individuals in charge of compliance regimes inside a

company. It is clearly the responsibility of each company to put in place a compliance process to insure that no mistake is made.

The U.S. compliance regime relies on the “voluntary disclosure” program which allows for an attenuation of sanctions. Statistically, around 50% of the cases are generated by whistle blowers within the companies and another 50 % are voluntary initiatives coming from companies.

This “voluntary disclosure” program partly relies on a degree of cooperation between industry and the administration. From the administration's standpoint, this program should not discourage industry to come forwards. This having been said, audits are conducted by the administration within companies on an ad hoc basis and outside a precisely defined regulatory framework.

DoS processes around 900 cases of voluntary disclosures a year; this number has more than doubled over the past four years. DoS can retain revenues coming from the fees in order to finance its own compliance operations.

It is clearly in this domain of compliance that the reputation of non U.S. industry is to be built to generate confidence. The US Congress tends to have a negative attitude towards Europe and is strongly inclined to grant preference to US industry. It is challenging for a European industry to promote its record in the domain without a coordinated initiative or cooperation from the administration of its country of origin.

The question of compliance and liability towards U.S. law remains a sticky issue with regards to the ratification of the UK and Australia treaties (maybe more so with the UK than with Australia).

The UK-U.S. Treaty

Some two years after the signature of the treaty by the U.S. administration, its possible ratification is still to be reviewed by Congress.

The basic justification for the treaty, expressed by the administration to Congress, is not so much the development of a better transatlantic defence business framework but interoperability between British and U.S. troops engaged in a given theatre of operations.

The outcome regarding ratification is still fragile. A majority of experts believe that the very special relationship between the UK and the U.S in defence will be a positive deciding factor but some members of the administration and Congress are still very concerned about diluting the liability of industry with regards to U.S. laws. Congress could express serious doubts about the ability of British authorities to enforce a strong compliance regime on its own industry. The efficiency of the current British compliance regime is often questioned by the U.S. administration. Overall, the outlook regarding the treaties is grim.

Moreover, the form of this treaty is very unusual. In previous instances the administration would submit a treaty to the Congress that would contain details regarding implementation.

In this treaty the administration is offering broad principles and leaves a number of implementation details to the responsibility of the administration. In principle, Congress is rather adverse to the idea of surrendering control of the implementation plan and giving too much power to the administration. Some influential senators have already expressed serious concerns.

Another specific element that is not in favour of a quick ratification is the fact that the U.S. industry cannot be very pushy. On one hand, U.S. industry officially supports the idea of the treaty partly because the UK government wants it badly but on the other hand using the treaty as a new framework to transfer technology could be seen as an additional risk to manage. Industry would much rather use the classical license process which protects them against any error of interpretation. This treaty covers new grounds by definition and is complex (only applies to certain technology, for certain programs to an "approved community", ...), which leaves some room for interpretation when determining whether it should be used to waive the license process, hence exposing industry to possible recrimination from DoS. In the case of Canada, experience has shown that the special exemption regime is seldom used and industry prefers to stick to the traditional license process which is safe and familiar to the U.S. administration.

Finally, the UK could face a challenge attracting enough attention on the issue from Congress in the midst of a global economic and financial crisis in addition to conducting two wars. It could also be argued that the British military troops have by now found solutions to safely work with U.S. forces and as time goes by the argument for the urgent need of the treaty is growing thinner.

In practice, the terms of the treaty allow for a license waiver for certain technologies and therefore an absence of liability towards ITAR regulation. It is based on the following principles: (1) turning the ITAR information into UK classified information – (2) definition of an identified community of entities ("approved community") that are allowed to receive technology as end users - (3) definition of an identified list of technologies concerned with the license waiver.

This treaty which circumvents license requirements has proven to be very controversial and difficult to ratify even with the UK, which enjoys a special relation with the U.S. and which is considered the closest ally of America in Europe. If it is ratified, the U.S. administration will enter a phase of monitoring to evaluate its benefits and its implementation is likely to be closely watched by its opponents who could use any weakness as a reason to strengthen the current control regime.

As a consequence, it is expected that the U.S. will wait for a long period of evaluation of practical implementation of this treaty before considering extending the same type of treaty to other countries. No other European nation would have enough experience of sharing sensitive information with the U.S. or would have enough political influence in Washington to be realistically considered for a similar treaty in the foreseeable future.

In a way, the ratification of such a treaty could sanctify the U.S. export control regime as it is today and postpone any prospect of future reforms. It would be hard to imagine that the U.S. administration would work on two fronts: (1) make the treaty, which represents a solution to the problems posed by the current regime, work, and (2) implement global reform that would be aimed at addressing problems posed by the current regime.

Finally, this treaty could also be a kind of double edged sword if it is ratified and if it works well. It could create a level of comfort for the U.S. industry to work with the “approved” community that could provide this “approved community” with a competitive advantage relative to the rest of the defence community outside the UK and in Europe, therefore moving the wall caused by ITAR regulation from the middle of the Atlantic where it is today to the middle of the Channel. This could create a new challenge to the management of the technological base of European defence industry, which has a UK component.

Another way to look at it is that it would represent an almost natural recognition of the reality of transatlantic defence trade today in which the UK on its own accounts for around 50% of the European defence exports to the U.S and the quasi totality of European investments in the U.S. defence market.

On the upside, it could create real positive off spins. Whether it is ratified or not, its principles could be applied and the ground work made by the UK could be used to identify an “approved” community and a realm of technologies that could be quickly licensed, project by project (such as JSF).

Ratified or not, the UK has gained a lot of experience and has greatly improved the license process with the U.S. Moreover the British administration’s support to this treaty at the highest political level has never withered.

China

American attitudes towards China can be characterized as politically charged, very emotional and by some measures schizophrenic. In diplomatic terms it can be said that U.S policy towards China has been quite consistent in general terms and very changeable in domain.

The sensitivity towards China on Capitol Hill is not likely to change any time soon. The Tiananmen Square restriction and embargo on military equipment are there to stay and there is not a glimmer of hope for a change with Congress.

One of the main U.S. priorities on the U.S./Europe relations agenda will likely be to convince the European Union not to lift its embargo on military equipment towards China.

China is also perceived as the main economic competitor and the most relevant military competitor to the U.S. A clear priority of the DoD is to retain a military competitive advantage over China and one of the main areas in which such an advantage should be retained is space.

The U.S. administration considers that there is a very important difference between Americans and Europeans with regards to the Chinese threat: “the U.S military contingency plans are directed towards containing Chinese influence but the European military does not prepare itself to confront the Chinese military power under any circumstances”.

China is clearly the reason why the U.S. export control regime on space technology has so many unintended adverse effects on the U.S. space industry. Ideally there would be a consensus to keep the current regime intact towards China and change it for the rest of the world, therefore controlling the “who” rather than the “what”. But such a reform is not easy to implement because it would affect the foundation and undo the logic sustaining the U.S export control system.

The other side of the schizophrenic attitude is due to the fact that China is the 3rd largest economic partner of the United States.

U.S. high end technology exports to China increase at an average rate of around 40% every year. Outside the “Beltway” and all over America the entire U.S. technology industry could not care less about the ITAR regulations, as long as they do not wish to do business with DoD. The simple reality is that any U.S. company who does not care too much to sell to the Pentagon produces ITAR free technology on an enormous scale to export to China. Most of this industry would avoid contracts with the DoD for a share of the Chinese market. In fact most analysts believe that the U.S technology industry has passed this stage and now produces ITAR free technology in China.

The DoC had taken a number of initiatives in theory to facilitate exporting dual use technology to China. The VAE (Validated End Users) was clearly aimed at China and was supposed to serve this purpose. In practice, five Chinese companies were approved under this program providing they maintain comprehensive compliance programs and agree to allow on-site reviews and audits. They are Applied Materials China (a subsidiary of U.S.-based Applied Materials), Boeing-Hercel-AVIC (joint venture), National Semiconductor, Semiconductor Manufacturing International and Shanghai Hua Hong NEC. A closer look shows that they all are Chinese subsidiaries of U.S. companies or controlled by U.S and Chinese interests. They all manufacture items in China that are destined to U.S. prime contractors, in the electronic market for four of them, and in the aeronautical market for one of them. The VEU program is not significant in terms of allowing U.S. technology to be exported to China but provides a comfort level of interaction between the U.S. primes and their Chinese subsidiaries.

Very quickly, the program has attracted criticism in the U.S, the latest coming from GAO. Broadly speaking, the U.S. considers that China is not keeping up with its part of the bargain which was to allow proper in-site audits. Therefore it is likely that the VEU program will soon be terminated.

To establish guidelines and safeguards for U.S. exporters, the DoC has published a list of 20 technologies concerning 31 items for which there would be a presumption of denial to export to China. It is worth noting that the list went down from 41 to 31 because 10 of the

considered sensitive technologies were also considered readily available from European competitors.

It is quite plausible to think that eventually politics will meet economic reality. There is going to be a strong political rhetoric against China which to a certain extent will be noises around a trend which will see U.S. technology exports to China increasing except in a number of specific domains such as space.

Conclusion

Chart 25 – Conclusion on the U.S. export control regime

The U.S Export Control regime

11. Conclusion

- **Tipping point has not been reached**
 - **Ever growing list of controlled technologies**
 - **No major loss of export markets**
 - **Commercial research**
 - **Mulling of U.S. industry**
- **U.S. administration priority: UK & Australia treaties**
- **Changes on USML / Space: not likely soon**
- **Congress reforms**
 - **License processing time**
 - **Bundling of licenses**
 - **Dual national issues**
- **EU ITAR free initiatives**
- **Divides the USDTIB and the EUDTIB**

Although unanimously criticized, the tipping point to change the actual trend of an ever growing list of controlled technologies has probably not been reached in the U.S. The signs to look for in the U.S. to reach such a tipping point could be among the following: (1) major losses of defence export contracts – (2) U.S. industry massively moving commercial research overseas – (3) definite clear position from the U.S. defence industry that the system is actually affecting their bottom line.

The next pressing issue will be the possible ratification of the treaties with the UK and with Australia, an outcome that seems increasingly unlikely.

In terms of internal U.S. reform, a number of analysts express optimism about the prospect of moving the commercial space sector back to a dual use regime, especially at a time when the top tier of the U.S. administration seems to be already educated on the subject and convinced of the value of such a reform. But the authors of this study would temper this optimism with the consideration that the China issue is so politically charged that the reform initiatives face political deadlock and the necessary consensus building to initiate a reform is still in its very early stage of development.

The House of Representatives has proposed a reform in this respect, the Foreign Relations Authorization Act for 2010. The proposed language would authorize the President "to remove satellites and related components from the United States Munitions List," thereby moving them back to a dual use regime. However, the bill provides an exception "with respect to any satellite or related component that may, directly or indirectly, be transferred to, or launched into outer space by, the People's Republic of China." This language is very restrictive and quite vague. It remains to be seen what the Senate will do with this language.

Finally, in August 09 the Obama administration has launched a new review of the entire U.S. export control system calling for change to a system considered outdated. Although it is too soon to tell how far this initiative will go, the message coming from the White House is that business cannot carry on as usual and that the current system hurts the interest of U.S. industry. However, no specifics have been spelled out yet.

With involvement at the cabinet secretary level this political will to reform in the U.S. which happens as a new compliance regime is being established in Europe creates an historic opportunity for dialogue and cooperation between the U.S and Europe.

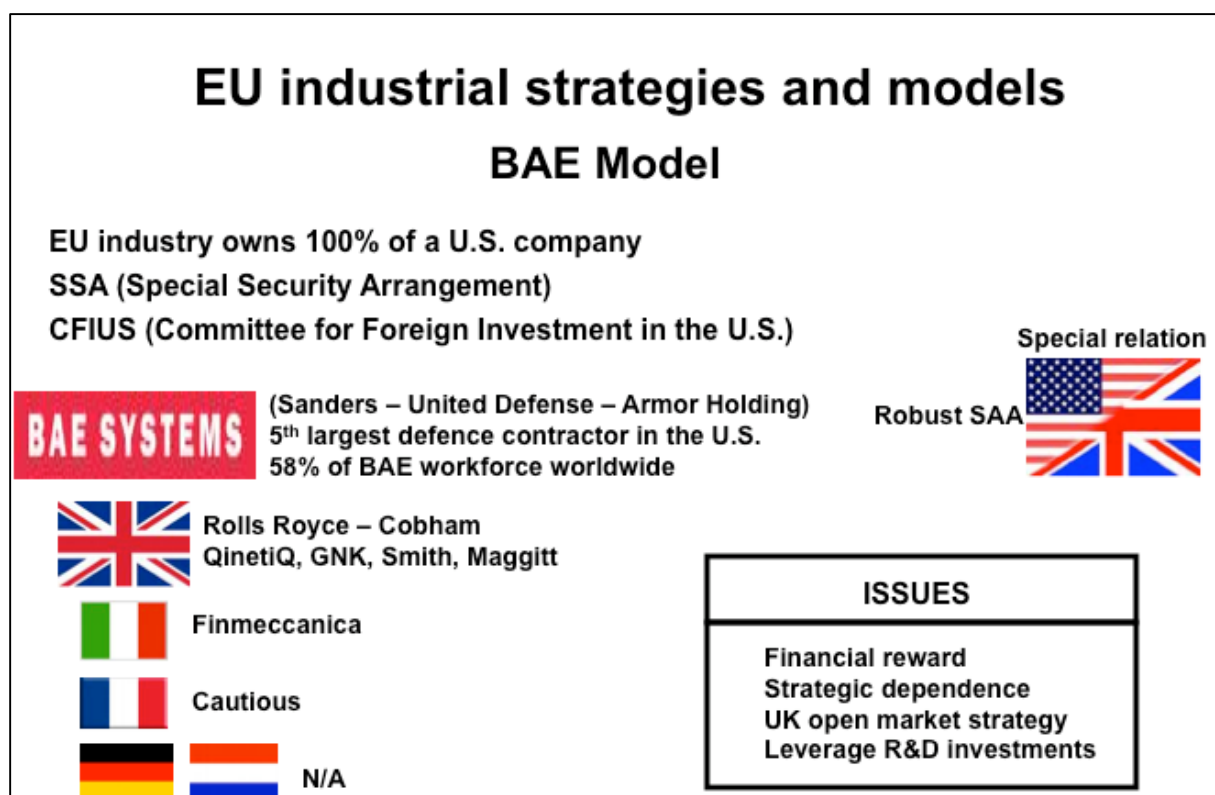
Seizing such an opportunity to harmonize the U.S. and European technology control regimes is all the more important that the way ITAR is implemented today remains the largest inhibitor of transatlantic defence trade and heavily weighs on and influence the strategies used by European defence industry to address the U.S market. These industrial strategies are analysed in the following part of the report.

4th PART – European Strategies and Models

Attracted by high operating margins and a growing market, the European defence industry has been keen to develop strategies and models to address the U.S. defence market. These strategies are largely shaped by ITAR and the limitations it imposes.

This has been the case in particular for the British industry, whose investments have created new major players on the U.S. market, and more recently for the Italian industry, which has made tremendous strides in a very short period of time.

BAE Systems Model



This model consists of European industry buying smaller American companies and maintaining a financial relationship with their subsidiaries. The European mother company owns in this case 100% of the American subsidiary.

Operating the subsidiary requires putting in place either a proxy board or a Special Security Arrangement (SSA). The purpose of the SSA is twofold: ensuring that U.S. controlled information is protected and does not go back freely to other branches of the corporate and protecting the financial and strategy autonomy of the subsidiaries from the European corporate.

Each acquisition goes through a political vetting process as foreign investments in defence are controlled in America. The Committee for Foreign Investments in the United States (CFIUS) is an interagency committee authorized to review transactions that could result in control of U.S. business by a foreign entity (called "covered transactions") in order to evaluate consequences on the national security of the United States. CFIUS regulations have been revised in November 2008 and guidance on national security considerations was published in December 2008 (See Annex 3).

CFIUS is chaired by the Treasury Department. The other Departments that are members of CFIUS are: Justice, Homeland Security, Commerce, Defence, State, and Energy. The U.S. Trade Representative and the Office of Science & Technology Policy are also members.

From 2005 through 2007, it is estimated that CFIUS reviewed less than 10% of all foreign acquisitions of business in the U.S.

The system is based on voluntary notices to CFIUS by parties to transactions who believe that national security could be concerned, this being clearly the case for defence acquisitions. When in doubt, parties can exercise the option to consult with CFIUS prior to a formal filing.

The recently published guidance is very general and applies to the process. It does not set rules, nor discourage or encourage certain types of investment. As a result, each case is specific and the final decision is largely political.

CFIUS reviewed around 150 cases in 2007, involving almost 200 B\$ in purchases of American companies, most of them by European investors. It is estimated that 15 cases, being worth around 5 B\$, involved companies with critical defence technology.

The standard period for a case review, once it has been filed, is 30 days, which is rarely an impediment for a European company competing for an acquisition with a U.S. investor. But in case of "special concern" there is another 45 day period of audits which could be damaging to seal a deal. Experience has shown that the vast majority of cases are approved.

Data analyzed in part 1 of the study showed that these subsidiaries make major direct sales to the DoD as prime contractors or to other U.S. prime contractors. They repatriate in turn part or all of the profits to their home country.

BAE clearly leads the way in this area and represents a unique experience in terms of size and length of time on the U.S. market. BAE's growth in the U.S. changed its scale when it acquired Sanders some 10 years ago. This was a major acquisition in terms of size (a few B\$) but also because Sanders develops some very sensitive technology for U.S. defence systems. More recently BAE bought United Defence in 2005 and Armor Holding in 2007; both acquisitions were worth around 4 B\$. BAE has not bought anything significant for the past two years since U.S. defence companies have become very expensive and are now facing an economic downturn, which in the defence sector is not yet as severe as in other areas of the economy. To date BAE claims that all of its acquisitions have been a commercial success. BAE has grown both internally and externally into the 5th largest defence contractor in the U.S. (behind Lockheed, Boeing, Northrop Grumman and Raytheon and before General Dynamics) and into the largest contractor in land systems in the U.S., in the UK and in the world. BAE Systems Inc. sales are now culminating at 20 B\$ in America and represent 58% of the BAE workforce worldwide.

BAE Systems has built the confidence of the U.S. government over the past 20 years, due mainly to the strong and special relationship between the U.S. and UK and the longstanding culture of exchange of very sensitive and classified information between the two countries.

Today BAE Systems Inc has a very robust SSA in place which allows it to operate without a proxy board across the entire spectrum of its activity. Also BAE never had to experience the extra 45 day review for any of its acquisitions.

Consequently, BAE is extremely conscious of the American security rules and regulations and as an example was very prompt at making a public statement about not doing business with China when prohibited by U.S. regulations.

Another UK company, Rolls Royce, is aggressively following this model of investment in the U.S. and a third one, Cobham, which specializes in aeronautical equipment, is starting to operate well above the radar screen. Many others, QinetiQ, GKN, Smith or Meggitt are also following the same model at a lower level.

The British industry plays in a league of its own in this model of investment but the Italian industry has made spectacular progress lately.

On a smaller scale, Italian defence companies such as Beretta have established U.S. entities to sell on the U.S. market for quite some time now. In late 2008, Finmeccanica, the Italian major defence company worth 15 B euro, made a very strong move on the U.S. market when it acquired DRS technologies, one of the big American defence electronics companies, in a transaction valued over 5 B\$.

Finmeccanica traditionally found its growth outside Italy, first in the UK where it acquired a helicopter business and now in America.

Apparently a portion of DRS sensitive activity would have to operate under a proxy board, suggesting that the SSA put in place by Finmeccanica is not yet as robust as the one which BAE enjoys.

Other major European defence and aeronautical companies such as EADS or Thales have certainly announced intentions of moving into the U.S. market on a large scale but have come short of materializing major acquisitions. Both publicly announced that they came close but missed opportunities recently, one of these opportunities being DRS.

Impact on the EDTIB

This model does not directly contribute to the EDTIB since technology essentially travels one way, from Europe to the U.S., and most of the business is done in the U.S. But if nothing else it provides significant revenues to European industry and the money can in turn be converted into investments in technology in Europe.

This model makes the EDTIB more competitive but does little to directly increase its competence or to make it more capability-driven.

Another criticism regarding the EDTIB could be that this model creates a form of strategic dependency towards the major customer which could become, in the case of BAE, the U.S. government instead of the home government.

UK officials interviewed at the British Embassy in Washington D.C clearly stated the UK government's point of view regarding this model which is that it has made BAE globally more profitable, confident, and competitive. It clearly provided a broader outreach for the company and a source of business growth which is difficult to find outside the U.S.

The UK also acknowledges the potential drawbacks of such a model, but considers that it is overall very positive for the UK defence industry.

First there is a danger to see BAE becoming in a sense more American than British because its main customer is the DoD. This is in most part mitigated by the shareholding structure.

Second the UK loses control of the British technology which goes to the U.S. because it becomes ITAR controlled. This is partly mitigated by a policy of open UK market to U.S. industry in order to allow for a degree of technology transfer from the U.S. to the UK. The idea is that a larger footprint of U.S. companies in the UK has made it easier for the UK in particular to share technology with the U.S. Industry has an ability to make the system work which is often more direct and efficient than governmental efforts.

Nonetheless, the constraints of the current U.S. export control regime in this model are real. In particular, uncertainty regarding re-export licences limits the investments that European mother companies are willing to devote to their American subsidiaries. These concerns are most apparent in French attitudes. Indeed, France is concerned that the current regime compromises French technological autonomy. This constraint could be greatly alleviated by affording companies the ability to know which of their products or technologies would be

re-exportable and which would not. This increased predictability would encourage greater European investments into U.S. subsidiaries and improve the outlook for companies following the "BAE Systems" model.

Overall the UK is engaged in a model which is considered globally positive. The loss of control of UK technology in the U.S. is counterbalanced not only by substantial revenues but also by investments from U.S. companies in Europe which in turn brings some new technology.

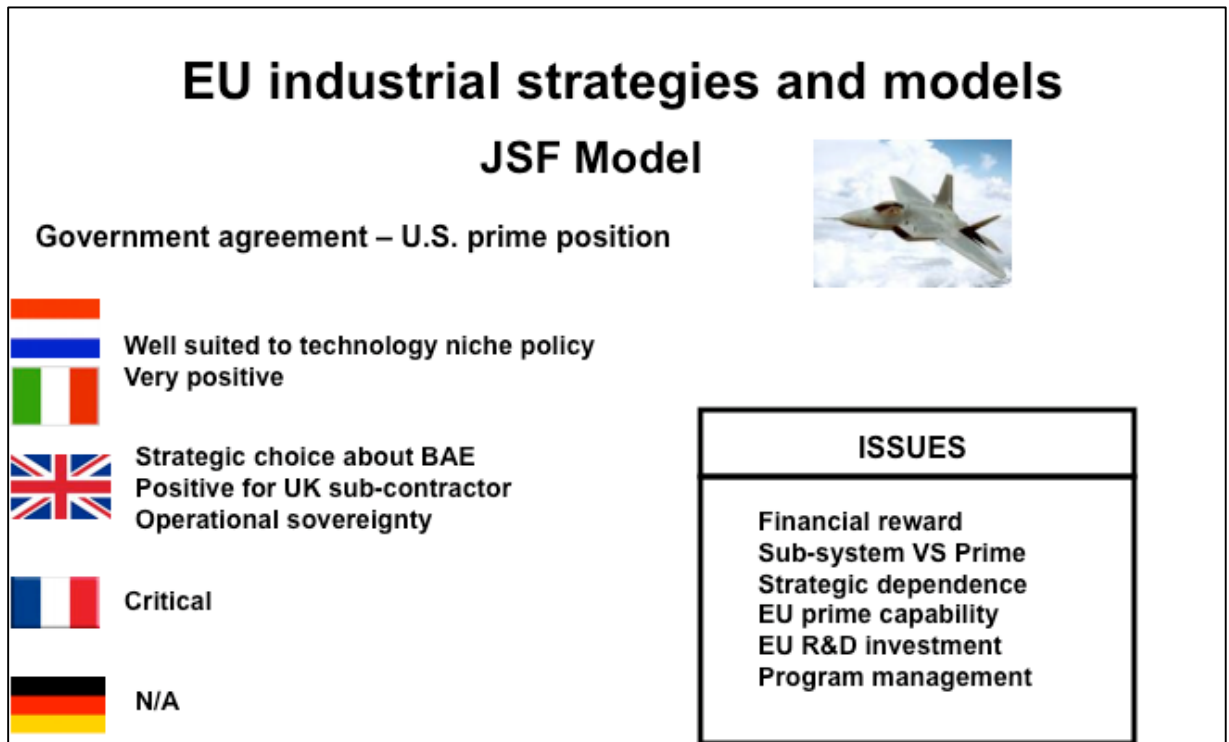
On a smaller scale, the same principles apply to Italy whose home market is obviously too small to allow the type of growth experienced by Finmeccanica. Although it may be a bit too soon to say, at least from the Italian government standpoint, Finmeccanica investments in the U.S. are considered a success story. They promote exchanges, expanded profits and develop expertise even if technology does not go back to Europe. More exchanges among engineers are taking place and more business opportunities are being created. Still, contrary to the UK, Italy sees limitations for Finmeccanica to become prime contractors in the U.S. in the same way as U.S. industry can be prime contractors in Europe.

The French based European industry still bears the scars from its very bad experience in the late 80's early 90's when U.S. companies were quickly depleted of most of their business with the U.S. government after they were bought. As a consequence the French administration is more in an observer position and would be wary of seeing European companies that are successful in the U.S. investing more there than in Europe.

The main criticism of the model concerns restrictions in technology return for the European investments. It is in fact very difficult to get any kind of leverage on the European R&D investments made in the U.S. market but relatively easy to obtain a return on development expenses. But it can be argued that profits resulting from European investments in the U.S. can potentially be repatriated and fund technological development in Europe.

Finally both German and Dutch industries are not directly concerned by major investments in the defence market. They are more geared towards the car, bank or insurance sectors.

JSF Model



This model involves developing a program, under the auspices of an agreement among governments, in which the U.S. is a dominant partner. The JSF program sets the trend for the next generation of fighter aircrafts in Europe, the U.S. and possibly a good part of world.

The prime contractor is American (Lockheed Martin for JSF) and other nations participate under different statuses according to the level of financial and technical involvement. The production line is in America. The most critical part of the system remains American and other partners have different access in the system at lower levels and can take the lead in some sub-systems. There is no “juste retour” clause in place and all the contracts are open to competition among all participating nations.

Impact on the EDTIB

This model generates a high level of U.S. defence imports from Europe and can be best suited for European nations who do not have national prime contractors or do not care too much about technology dependence.

This is typically the case of a nation such as the Netherlands who has a niche policy and depends on the rest of Europe or on the U.S. for some of the technology and to integrate major weapons systems on platforms. As a consequence the Netherlands is enthusiastic

about the JSF model. It allows Dutch suppliers to take part in the development of a major weapon system and to promote their capability to major U.S. companies, thereby generating other business opportunities. To answer the calls for tender in the JSF program, Dutch companies had to provide unique and competitive products and the Dutch government seems to be very satisfied of the outcome of the competitions so far. Stark and other Dutch companies have had significant successes. The Netherlands have invested around 800 M\$ so far in the development phase of JSF and are expecting around 10 fold in return in the form of business for Dutch companies. The JSF experience has boosted the Dutch industrial base by giving it exposure to business opportunities it would have never had otherwise.

From the operational standpoint the Dutch Air Force has a tradition of flying American fighter aircrafts and has already based a lot of its training in cooperation with the U.S.

The same analysis goes for Italy who considers that there was no other European alternative to JSF and that the JSF experience is very positive. Italy has invested around 1 B\$ in the program and expects a lot more in return in terms of business activity for Italian industry. Italy would like to challenge the principle of one unique production line for such a large quantity of aircraft (between 5,000 and 6,000) and promotes the idea of a "final assembly check" line in Italy which would provide an alternative expertise for maintenance and some assembly work to address local markets in Europe and the vicinity.

For other nations such as the UK or France who had already invested in other fighter aircraft programs with their industry as prime contractors, participating in the JSF program requires compromises of strategic importance.

The UK participation in the JSF program as a major partner started with the a premise of major strategic importance for the British defence industrial base which is to assume that BAE would likely never again be the prime contractor for a major fighter program in the future, although this view is questioned by industry. But the current Typhoon program is seen as overly complicated and costly because of the traditional model of cooperation based on "juste retour" which duplicates industrial capabilities. Overall the UK has already spent 2 billion BP in the program and is ready to commit another 600 MBP in the evaluation phase and the investment has to be proven worth it. The UK industry has been fairly successful in its bid and the UK government seems to be quite satisfied with the return on investment both in terms of the value and of the technological content of the contracts won by the UK industry. It considers that the return would not have been better on a European program such as Typhoon and that it made the UK industry more competitive. Obviously BAE did not do as well on the JSF program as the rest of the UK aerospace industry, having had to sacrifice its capability to be a prime contractor.

Another advantage of the JSF model is that participation is not predicated on orders as it is in the Typhoon program where the UK finds itself in a position to be committed to buy hundreds of aircrafts that do not necessarily fit its requirements as was anticipated a few years ago at the beginning of the program. In the case of the JSF, participants can start with small orders and adapt in the future according to their means and needs.

The real issue for the UK is access to information to certify the aircraft operations. The UK dominant concept is operational sovereignty meaning that the UK military needs to be certain it can certify a weapon system for various missions and that it can execute, change and modify missions. There has been one case in the past where the UK never flew helicopters bought in the U.S. because they could not have access to information allowing satisfactory certification. In the case of JSF the question is not so much about access to source codes than it is about access to the information necessary to make sure that pilots can execute all the envisioned missions and can understand the limitations of the weapon system. One of the difficulties is that it is impossible to completely define what you need in terms of access to information before the actual operational phase of the program has occurred. But the UK considers that the U.S. government and industry understand this constraint and that the risk is mitigated.

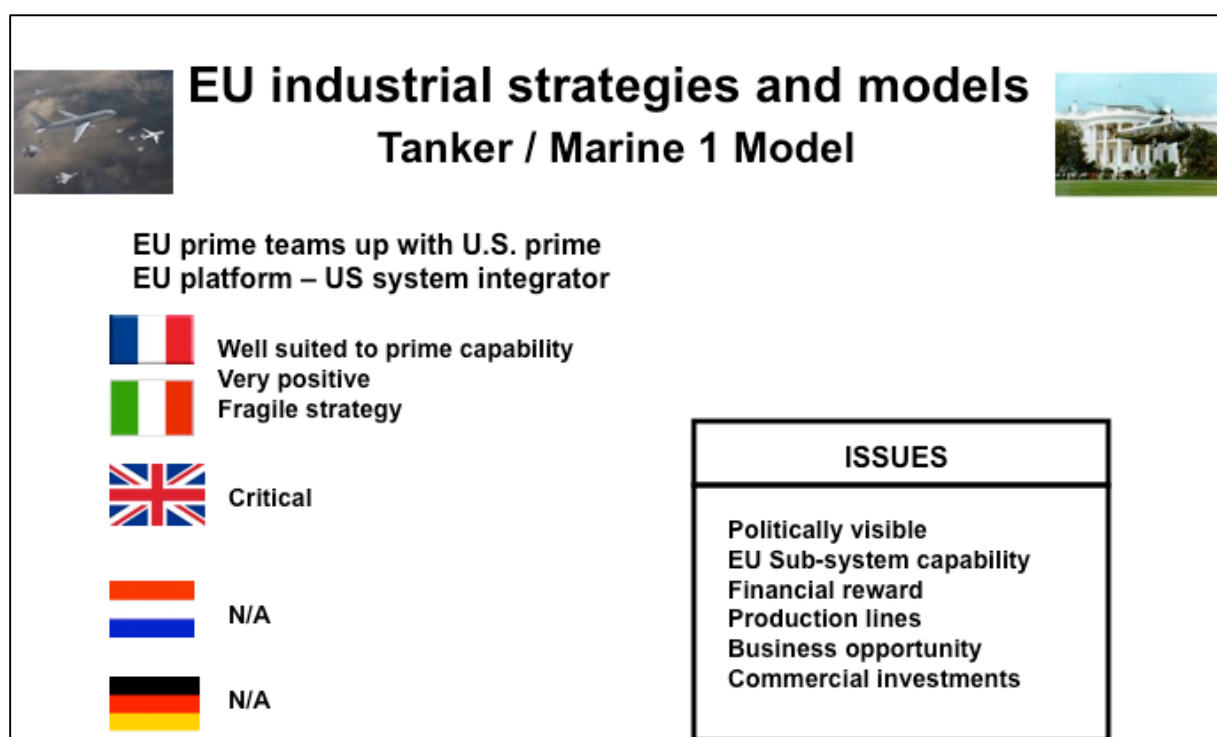
However, the JSF model can be seen as detrimental to developing prime contractor and systems integrators capabilities in the EDTIB. Money invested by European nations in this type of program does very little to nurture and support this fundamental aspect of the current EDTIB. As a result, a major European industrial nation in defence and aeronautics such as France together with the French based defence system and combat aircraft integrators are very critical of this model. They point out that it certainly weakens and could jeopardize the European capability to develop military combat aircraft in the future. They argue that the current European R&D investments in JSF actually feed the American competition in the combat aircraft systems, at a time when the imbalance in R&D spending between the U.S. and Europe is so significant (1 to 6).

Finally, this model does not concern a nation such as Germany who does not participate and does not support any clear strategy post Eurofighter program. Germany is generally more in favour of more balanced joint programs between the U.S. and European partners such as the AGS (Air Ground Surveillance system) or MEADS (Medium Extended Air Defence System) programs which are managed by a NATO agency.

Overall this model makes the EDTIB related to European suppliers of aerospace components and sub-systems more competitive, competent and capability driven but this positive trend is clearly performed to the detriment of the EDTIB related to prime contractors of military fighter aircrafts. For suppliers of components and sub-systems, the JSF model provides the opportunity to tap into a large market and to drive innovation through cooperation. However, since ITAR applies to all components of an American-led system like JSF, they force EDTIB prime contractors to make important strategic compromises, as participation in these programs forces them to surrender their status as prime contractors. The impact of ITAR is strong given that any European technology used on a JSF-type project is subject to U.S. approval for any further uses. The JSF model is viewed in the United States as the way to bring foreign technological developments into the fold of a U.S. controlled platform, guaranteeing American primacy in the fighter market for the next 15-20 years.

The type of international cooperation required by JSF -type endeavours quickly runs into conflict with ITAR. US export controls create friction among participants, by complicating the transmission of critical data necessary to ensure that all the parts properly fit together. In order to address this issue, it is necessary to clearly establish what information can or cannot be shared among participants. In addition, in order to reduce the extent of technology transfer from Europe to the US in this type of project, it should be clearly defined whether or not technologies or products developed will be re-exportable or not.

Tanker / Marine 1 Model



In this model, a major European industry teams up with a U.S. partner to bid for a major U.S. program. The European partner brings a platform and allows the U.S. partner to enter a new market for him as a prime contractor. The U.S. partner is the system integrator and protects all the sensitive technology involved in the program. In the case of the tanker program, EADS brought an Airbus platform and teamed up with Northrop Grumman against Boeing. In the case of the Marine 1 presidential helicopter Finmeccanica (Alenia) brought an Augusta Westland helicopter platform and teamed with Lockheed Martin to bid against Boeing.

Production lines are established in the U.S.

These programs are very visible American programs with major European technology contribution. As a consequence, they are politically fragile and they have already proven to

be difficult to implement in a more systematic manner and as an efficient European strategy to address the U.S. market.

Lockheed Martin and Finmeccanica won the Marine 1 program whose development has always been under heavy criticism for cost overrun and poor technical management on the part of Lockheed and was recently cancelled. The program includes a very limited number of helicopters (22) at a very high price (500 M\$ a piece). It is under very tight scrutiny and there are already talks of restructuring and possible cancellation. The real prize for industry in this domain is the combat search and rescue helicopter program which could lead to some real economies of scale. This program was won by Boeing two years ago but GAO declared the process flawed and it is still under dispute.

Northrop Grumman and EADS were selected by the Air Force but the decision was eventually overturned following heavy political pressure from Congress and an alleged lack of transparency from the part of the Air Force in the selection process. The competition is supposed to be reopened. This program is considered too visible by a number of analysts and decisions could be tainted by the never ending WTO disputes between the U.S. and Europe on alleged subsidies to Airbus and Boeing.

Impact on the EDTIB

In contrast with the JSF model, this model does not involve any direct European government investments and does very little to the EDTIB at the sub-system level. It mainly concerns major European platform providers and technology which is mainly derived from the commercial sector. The U.S. partner who is the prime contractor adapts and transforms the European platform into a military system.

It can even be argued that European industry at the sub-system level have a better chance to compete by teaming with a U.S. competitor, simply because the U.S.-European team is keen to promote their bid as an American product and does not wish to overly inflate the European part of the system beyond the major contribution which is the platform.

It brings revenues and business opportunities to the European platform providers who in return invest in setting up production lines in the U.S. As a consequence, it creates jobs in the U.S. and production/assembly facilities in the dollar zone. Considering the dollar/euro exchange rate, these production/assembly facilities could even be more competitive than the actual European ones.

Some European governments and labour associations have expressed concerns about the danger of job delocalization from Europe to America but industry rejects this claim arguing that the American business comes as extra opportunities they would not have had otherwise.

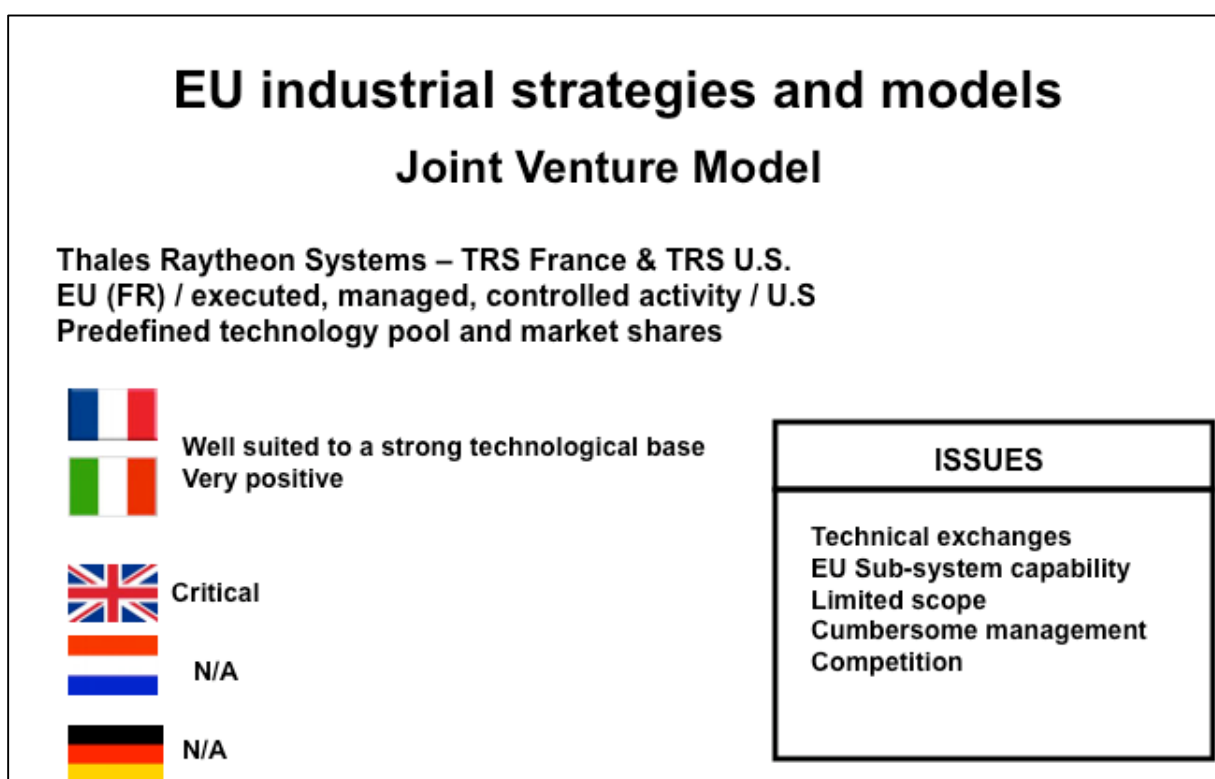
Currently, only two nations, France and Italy, use this business development model.

Overall this model offers the flip side to the JSF model, it potentially makes the EDTIB related to European prime contractors and platform suppliers more competitive, competent

and capability driven but this positive trend is clearly performed to the detriment of the EDTIB related to suppliers of aerospace components and sub-systems.

In this model, ITAR poses the same types of challenges as it does in the JSF model, by restricting the flow of information between US and European partners and by limiting the ability to predict which products and technologies will be re-exportable. In addition, transatlantic partners face great difficulties bidding for U.S. government contracts. Indeed, in order to formulate a proposal, companies first need to obtain a Technical Assistance Agreement, in order to discuss ITAR-protected technologies. This process is complicated and cumbersome.

Joint Venture Model



The only standing large scale joint venture model in the defence sector has been put in place by Raytheon and Thales, TRS (Thales Raytheon System). The model creates two companies: TRS U.S. and TRS France.

The U.S. market is handled by TRS U.S. and the French market by TRS France. The products and technology that fall under the JV activity together with the shares of the different world markets are clearly set and defined. Activity in the U.S. is U.S. executed,

managed and controlled and the same goes for activity in France. Consequently, the joint venture's business development model is pre-defined and somewhat static.

The JV has a good practice of TAAs, some of which have been in place for over ten years with no major obstacles having appeared. It is considered a financial success.

Other joint ventures between the U.S. and Europe are put in place on a smaller scale and only apply to a specific product. Alenia did it to produce C-27 cargo aircraft in the U.S.

Impact on the EDTIB

Technical exchanges between the U.S. and Europe under the JV model are very limited. The U.S. party in the JV does not share technology developed with U.S. government money and the same principle applies to the French party in the JV. The JV can only share technology that is internally financed.

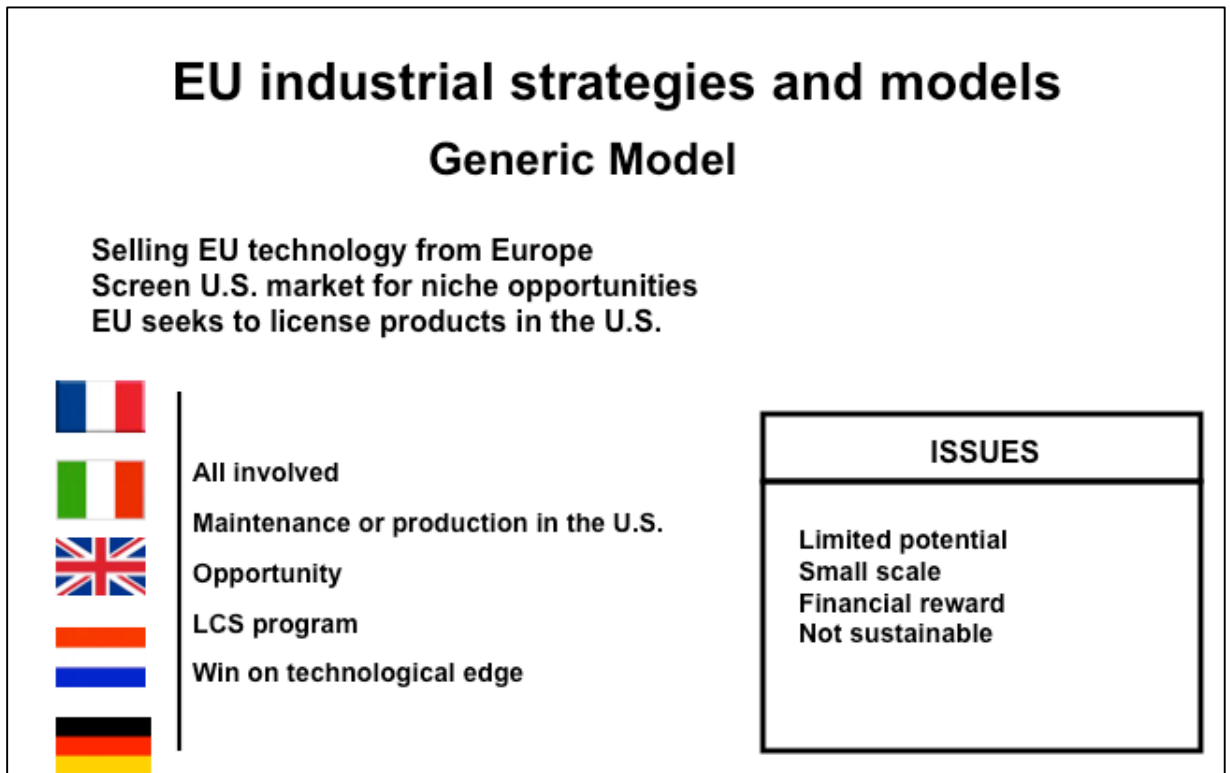
The model can strengthen business opportunities for the European party based on its technological base. It also promotes exchange among engineers and commercial teams across the Atlantic.

In the case of TRS, Thales considers that the JV is a commercial success. Another example of successful transatlantic JV is the one between General Electric and Safran to develop and sell CFM-56 jet engines.

On the downside, the JV is by definition limited in scope, very cumbersome and some critics go so far as to consider that the pre-agreed industrial arrangements stifle competition.

Nations such as France and Italy generally have a positive opinion of the model but the UK is quite adverse to the principle of JV as a business development model.

Generic Model



The generic most commonly used model by the European defence industry to address the U.S. market resembles the tanker model but on a much smaller and less politically visible scale.

Clearly the model which consists of selling directly from Europe to the U.S. has a very limited potential. One can be lucky but it is not a solid model for business development. In practice the minute the DoD acquires a European defence product, at the minimum maintenance has to be established in the U.S. if the quantities involved are modest and production has to be established in the U.S. if the quantities involved are significant.

Short of becoming American, European industry proceeds by opportunity in the U.S. defence market. It has to screen the vast U.S. market in their field of expertise and identify the rare areas in which the U.S. government has not invested significantly more than Europe. The general commonly accepted rule is that European products do not win on price but on their technological edge. If successful, the European industry then seeks to license its technology to U.S. industrial partners and keeps a close record of jobs created in the U.S. thanks to their technology. This niche approach worked in the case of the LCS (Littoral Combat Ship) when the U.S. Navy requirements moved away from the exclusively huge ships to size of ships and type of missions that were traditionally more European. As a consequence, a number of European technologies were already available and suited to the program.

Overall, the generic model has its limits and successful European industry on the U.S. defence market almost naturally move towards acquiring American companies to insure sustainable growth.

Conclusion & Impact on the EDTIB

The table below summarizes the impact on the EDTIB of the different models used by European defence industry to address the U.S. market. These impacts have been graded from very negative to very positive on the prime contractors' base or the equipment suppliers' base, on financial and technical grounds and on the ground of European autonomy of its industrial and technological base.

The relative merits of the different models are based on the outcomes of the many interviews conducted for this study with European industry or government representatives. Certain outcomes coming from representatives of different European nations can be sometimes contradictory.

Table 7 – Impact of European Defence Trade with the U.S. on EDTIB

Models / Impact	System Integrator Prime contractor		Sub-system Equipment supplier		EU autonomy
	Financial	Technical	Financial	Technical	
BAE model	++	0 / -	++	0 / -	0 / -
JSF model	--	--	++	0 / +	--
Tanker model	+ 0 / + (NB: only applies to platform providers)		-	-	+
JV model	+	0 / +	+	0 / +	+
Generic model	+	0	+	0	+

++: very positive / +: positive / 0: neutral / -: negative / --: very negative.

First, it is worth noticing that none of the models used by European defence industry to address the U.S. defence market have a very positive impact on the European defence technological base. The fundamental reason behind this is related to the fact that in any transatlantic industrial dealing, technology can only travel one way, from Europe to U.S.,

before it gets under the control of the U.S regulation which prevent it to be exported again even to its place of origin.

In other words, whatever the model, the possibilities for European defence industry to leverage its technical investments in the U.S. market are extremely limited.

Therefore the development of a strong and competitive European defence technological base has to be supported by European investments in research and technology.

This is all the most crucial for the future of European military capability that the European defence industrial base eventually relies on the domestic technological base.

Second, out of all the models, only the BAE model appears to have a very positive impact on the financial health of the European industrial base both for prime contractors and equipment suppliers, without any other major undisputed negative consequences. Even if it does not develop the European defence technological base, it does not prevent it in principle.

Moreover this model has proven to be the only one capable of generating a considerable and sustainable level of business.

It is largely dominated by British industry which in the case of BAE systems enjoys a very robust special security arrangement with the U.S. government allowing it to operate without a proxy board and therefore to be in a position to mitigate risks attached to the programmes developments performed by the company.

The main draw back of this model resides in a loss of sovereignty from the European headquarters which could result in industrial strategic decisions on investment more geared towards to U.S. defence market than the European defence market. The UK clearly considers that such a draw back can be mitigated and expresses very different concerns on the issue than other European member states such as France.

Third, the JSF model clearly presents some very negative impacts on the European defence industrial base at the prime contractor level and weakens European autonomy in the strategic area of combat aircraft.

Moreover such a model prevents a much needed consolidation of the European market in the domain and precludes any prospect of European cooperation. The model also benefits from rare and precious European R & D investments in combat aircrafts by placing them under the regulatory scope of ITAR and therefore subjecting their use to American approval. As a result European R&D money invested in this area does not directly benefit the EDTIB.

Fourth, the tanker model is very limited in scope and only potentially addresses European platforms providers.

Moreover it has proven to be a very fragile model and the two early European breakthroughs have been cancelled.

Fifth, the joint venture model and the generic model are quite limited in scope and do not offer a sustainable business development model.

In all of these models, the way ITAR is implemented poses a very real challenge, by restricting the flow of information between US and European partners. The absence of harmonization between the U.S. and European technology control regimes induces constraints at all levels and across models. It limits the ability of European industry to bid on RFPs and makes cooperation with a US partner difficult and cumbersome by requiring a TAA to even formulate a proposal. It also introduces delays, as a result of the need to apply for license. In addition, it deprives European companies of the ability to predict whether they will be able to obtain re-exportation licences for technologies and products used. This in turn limits European investments in the United States, as the returns on these investments are difficult to estimate.

As things currently stand, whether selling goods and technologies to the U.S. or investing in the U.S., European companies have adopted the strategy of subjecting themselves entirely to the U.S. technology control regime. This is a result of the lack of visibility and harmonization that exists in such matters between the U.S. and Europe. This issue is a strong impediment to the transatlantic defence trade across all models used by European industry.

Eventually, such a lack of coordination between Europe and the U.S on export control regimes is the fundamental impediment to linking the USDTIB and the EDTIB and encouraging transatlantic trade of defence goods in both directions, for the mutual benefit of Europe and the United States.

5th PART – Recommendations

The recommendations are in line with the European Commission's goal, stated in its communication, to move towards a more level playing field between the U.S. and Europe in the area of defence trade while promoting a strong and competitive EDTIB.

They represent the author's independent advice and have taken into account positions expressed by the European defence industry and also what the study has estimated as plausible positions from the U.S.

With this goal in mind, Europe should establish a neutral platform to negotiate with the U.S. and address all the barriers to trade with the U.S. for European defence industry.

Overall context

Establishing such an efficient neutral platform for negotiation between Europe and the U.S. must take into account the following:

- The defence trade relationship between America and Europe is structurally imbalanced when considering the different natures and sizes of investment in the two markets.
- The overall level of transatlantic defence trade is extremely low in two respects. First, the defence trade represents a very small fraction of the overall transatlantic trade and is much smaller than other technology related sectors such as civil aerospace. Second, the amount of defence goods traded across the Atlantic is very small compared to the size of procurement budgets, especially that of the United States.
- Transatlantic defence trade in terms of exports and imports of defence goods impact more than 10 % of the European procurement budget and only a little over 1 % of the U.S. defence procurement budget.
- The European defence market is still fragmented when compared to the U.S. defence market. Moreover different member states have different opinions on criteria for a strong and healthy EDTIB. As a consequence a European position will be all the more heard and considered that the European defence market will be more consolidated.
- Talking to corresponding entities in terms of power and responsibility across the Atlantic could be a challenge. Europe would have to coordinate a position between entities which have still separate and distinct power to regulate, to buy or to define requirements for defence markets. Having a single European interlocutor would greatly help in establishing a transatlantic dialogue.
- European defence industry will in any case turn to the U.S. market as a source of strategic growth and is likely to aggressively make strategic decisions that could

impact the EDTIB in order to be in a position to address the U.S. market. European defence industry is likely to invest not only to pursue business opportunities in the U.S. but also to be compliant with the U.S. export control regulation (ITAR) for conducting business in America as well as with the rest of the world. For most European defence companies, the latter investment is growing as the cost of being compliant with the U.S. ITAR regulation is rapidly increasing and is now in many instances equivalent to the cost of managing human resources in each company, according to interviewed industry officials. In this domain, the UK industry has invested a lot more than any other European defence industry and whatever is negotiated between Europe and the U.S. is likely to impact first and foremost the already established U.S./UK defence trade relationship.

- There is clearly a national preference in the U.S. defence market which is officially stated in the U.S. law (Buy American types of legislation) or unspoken as part of the U.S. defence culture and way of doing business. The situation in Europe is not as clear and various member states or European corporations have different opinions on the viability of introducing a similar approach in Europe.
- Transatlantic defence trade will not significantly improve the European defence technological base which can only be developed in the long term with European investments in research and technology.
- European industry can acquire 100 % of a U.S. defence company and the reverse is true. But the U.S. regulation is such that the American subsidiary of a European defence company enjoys total strategic autonomy from Europe and truly remains part of the U.S. DTIB. The UK industry is so far the only one which can avoid proxy boards to manage sensitive defence business in the U.S. This does not change the fact the UK subsidiaries are completely integrated in the U.S. DTIB but it allows UK industry to better mitigate risks attached to doing defence business in the U.S.

First Recommendation: European R&T investments

As a consequence the first recommendation would be to work at the European level to increase the positive impact of the current defence R&T investments in the European defence technological base. Short of increasing these budgets which would obviously be the preferred option, there is still room for a better rationalization of the R&T investments in a fragmented European defence market in order to strengthen the European defence technological base. As the situation currently stands and outside any policy consideration, European scientists often prefer cooperating with their American counterparts than with fellow Europeans, feeling that they can get more out of their research funding across the Atlantic.

A number of initiatives at the European level are already underway and should be strengthened and encouraged such as the "Joint Investments Programs" related to defence

R&T and coordinated by EDA (European Defence Agency) or the European Framework Cooperation program related to defence and civil technology.

Another supplementary avenue would be to increase genuinely co-operative projects between the U.S. and Europe, especially in projects managed by the European Defence Agency (EDA). The objective, which could apply to projects such as a new generation of heavy lift helicopters, would be to generate substantive economies of scale across the Atlantic in R & T investments and improve interoperability. However, it is important to recognize that these transatlantic cooperative projects are difficult to put in place.

Moreover a European strengthening of its defence technological base would provide Europe with the best leverage in negotiations with the U.S. to regarding the transatlantic defence trade. After all, any industrial base eventually relies on a technological base.

Second Recommendation: Addressing Barriers to Trade

The second set of recommendation would apply to a constructive dialogue with the U.S. to address the many barriers identified in part 3 of the study and work with the U.S. towards measures that can be taken to facilitate and improve transatlantic flow of defence goods.

Table 8 below recapitulates these barriers and introduces corresponding recommendations for steps to be taken at the European level to address these barriers.

Table 8 – Barriers and European actions

Barriers	Suggested European actions
1- Universal tendency to favour defence jobs at home	<p>Communicate and interact with the U.S. Congress to emphasize benefits of European defence investments in America on job creations and benefits of access to European technology to better equip the U.S. forces.</p> <p>This type of communication towards the appropriate staffers and commissions is already established by some member states and industries.</p> <p>The idea would be to lobby the U.S. Congress to adopt a less anti-European stand, especially in the defence sector.</p>
2 – Political visibility and protectionist initiatives from the U.S. Congress	<ul style="list-style-type: none"> • Same as above towards U.S. congress • Put in place a consultation committee with the U.S. administration to monitor and discuss the impacts of protectionist initiatives from Congress at an early stage in order to be proactive and cooperate when possible with the U.S.

	administration to offer other alternatives
3 – Buy American provision	<ul style="list-style-type: none"> • Communicate and interact with the U.S. Congress to emphasize the adverse impacts of such legislation on the transatlantic defence trade and on military cooperation between Europe and U.S. to protect and defend European and American defence and security common interests in the world • Put in place a consultation committee with the U.S. administration to monitor and discuss the adverse impact of this type of legislation and facilitate waiver procedures to circumvent it.
4 – Cultural barriers	Implement outreach initiative towards the U.S. military to expose the benefits of European defence technology to defence equipment both in the U.S. and in Europe.
5 – U.S. policy of technology dominance	Identify critical defence technology areas in which it is the U.S. policy to maintain an edge with Europe in order to steer European investments in R & T towards those areas.
6 – National Security Policy	Draw lessons learned at the European level on consequences of the U.S. national security policy on the EDTIB
7 – Technology control policy	Engage the U.S. on the subject in order to build confidence in each other's technology control systems and to provide the best possible visibility to industry (see development below)

When considering the list of recommendations, one has to acknowledge that the European leverage on transatlantic dialogue and negotiation is somehow limited as far as the first 7 barriers listed above are concerned. They would mainly consist in looking for possible common interests between the European and U.S. administrations to counter or contain a very likely rise of protectionism tendencies at a time of economic downturn and flattening (or decrease) of defence procurement budgets.

But the study recommendation would be to limit the investment of European political capital in these areas.

In contrast the technology control policy issue could be addressed with a lot more leverage from the European side and could capitalise on the dialogue and directives already engaged both internally at the European level and between the U.S. and UK.

Main Recommendation: Transatlantic General Licences

Technology control policy should be considered a priority in a transatlantic dialogue on defence trade for many reasons.

First it is considered by industry on both sides of the Atlantic as the main inhibitor to a greater flow of European defence goods to the U.S. and of American defence goods to Europe.

The lack of harmonization between European and American technology control policies and practices is a major handicap to the defence trade, whatever business model is considered. In addition to the time and resources spent obtaining the multitude of necessary licences, this situation deprives European defence companies of the predictability and visibility they require to invest and sell in the U.S. market. As things currently stand, as a result of this lack of harmonization, European companies present in the U.S. market have adopted a policy of complying completely with U.S. regulation, even in situations where this is not necessary de jure.

Second, reforms of export and technology control systems are well underway in Europe and are initiated once again in the U.S with the objective of making the systems more predictable, transparent and efficient. In addition, the value of the transatlantic defence relationship is currently highlighted by discussions regarding cooperation in active theatres such as Afghanistan.

Consequently both the U.S. and Europe who are the main producers of advanced defence technologies in the world should have a vested interest in taking measures to introduce a degree of linkage between their respective technology control systems in order to increase predictability, transparency and efficiency across the Atlantic.

So far very little has been tried and accomplished at the Europe / U.S. level and the U.S. export control on the one hand and the European control systems on the other hand are designed and implemented largely independently from one another.

This goes counter to the global efficiency of each system whose common goal is to prevent military technology from falling into wrong and unauthorized hands.

Moreover it creates an atmosphere of mistrust which allows for a range of misunderstandings on both side of the Atlantic.

Third, the new ICT Directive provides Europe with a real leverage towards the U.S. The New ICT Directive coupled with the directive on European defence and security procurement and its security of supply proviso is worrying to US industry, which fears it may be used to exclude it from European RFPs. This American concern provides important

leverage for transatlantic negotiation, which is all the more important now, as ICT implementation details are being put in place.

As a consequence the main recommendation of the study would be to move towards the establishment of transatlantic general licences for transfers to certified companies with the objective of promoting a greater predictability, transparency and efficiency of a transatlantic defence trade control regulatory framework.

Rationale for European industrial strategies

This would improve the transatlantic defence trade whatever the model used, by providing European industry an easier access to the US market as well as greater visibility and predictability regarding the consequences of US export control regulations on European products and technologies.

For the BAE Systems model, this would allow the European mother company greater visibility in determining whether or not technologies and products transferred to the US subsidiary would be able to obtain re-export licences. In particular this would address French industry concerns regarding loss of technological autonomy.

For the JSF model and the JV model, such a system would allow for greater communication between transatlantic partners.

For the Tanker Model and the Generic Model, it would also allow companies a much easier time bidding for U.S. contracts by accelerating TAA processes.

The Transatlantic General Licence would harmonize the technology control policies and practices across the Atlantic. By setting up a trusted community of certified companies based on lists of qualifying technologies and qualifying countries for re-export, it would afford European companies greater predictability and visibility to invest and sell in the U.S. These companies would gain a clear and precise understanding of their requirements under U.S. regulations. This would modify their current behaviour which is to assume that all goods and technologies sold in the U.S. as well as R&T investments in the U.S. are subject to unpredictable U.S. control. By harmonizing export control policies and clarifying industry's requirements at the intersection of U.S. and European regulation, the Transatlantic General License would favour all business models individual companies elect to espouse.

In so doing, a Transatlantic General Licenses would considerably expand the defence trade in both directions between the U.S. and the EU.

Rationale for a strong and competitive EDTIB

Although there is not one unified definition among the member states of what constitutes a strong and competitive EDTIB with regards to transatlantic defence trade, transatlantic general licences would address the three main sensitivities identified by the study.

With regards to a UK-type perspective, which foregoes technological autonomy and seeks to participate in the US market through direct investments, these licences would allow far greater ease in communications among European mother companies and their American subsidiaries.

With regards to a French-type perspective, which is focused on a policy of retaining sovereignty over European technology, these licences offer far greater visibility and predictability in evaluating the consequence of US export controls on European technologies.

With regards to other EU perspectives, such as Italian -type or Dutch-type perspectives, which have a more opportunistic approach to the US market as niche sub -contractors, the licences offer an easier and less cumbersome access to the US market as well as to cooperation with US industry.

Implementation: Establishing a EU / U.S. dialogue

The broad outline for implementing this recommendation would have two steps. First the U.S. administration and the European Commission would negotiate general principles and a framework which would provide a base for these licenses. Then, the U.S. and each member state would have the opportunity to adapt from this base a list of technologies that can be shared and re-export destinations eligible within a bilateral agreement.

An analogy can be drawn between these Transatlantic General Licenses and the principle of the U.S.-UK treaty to be ratified. It would be similar in the sense that the core of the technical agreement on a list of technologies and eligible re-export destinations would remain. But it would be fundamentally different in the sense that the treaty would create an exception in U.S. law by providing a license waiver and therefore establishing a new and specific regime for technology control under the treaty. The Transatlantic General License does not. Rather, it represents a list of technologies that are pre-approved for transfer between the U.S. and a given EU member state. An export license will still be required, but industry can work under the assumption that licenses will be readily available. Since the Transatlantic General Licenses do not involve any changes with regards to the U.S. or European regulatory and legal frameworks they do not incur any additional risks for industry on both side of the Atlantic. In addition, because the Transatlantic General Licences would be negotiated at the Commission and at the member state level, they would work in tandem with the new ICT Directive.

To implement this recommendation, a step by step approach would ideally be recommended with various levels of authority.

At a political level there is definitely a need to provide new guidelines and momentum. Such an initiative should stem from a European and American recognition that defence trade is one essential component of a strong transatlantic defence and security cooperation policy.

On one hand U.S. and Europe national security interest requires a strong and competitive defence industrial base both in the U.S. and in Europe. On the other hand U.S. and Europe are allied and share many common defence and security challenges. Consequently the overarching transatlantic political objective should be to consider that the U.S. and European DTIB should grow and prosper alongside each other as opposed to against one another.

Therefore a political incentive to push for a specific transatlantic technology control regulatory framework would be to promote a better integration of the U.S. and European defence industrial bases which remain today essentially separated.

From the U.S. side these types of discussions should be held at the level of the Undersecretary of State for Arms Control and International Security who clearly holds political authority on this issue.

From the European side the natural counterpart would be the High Representative of the EU for Foreign Affairs and Security Policy who now, following the ratification of the Lisbon Treaty, represents both the Council and the European Commission.

At a more technical level, an approach could start with dialogue and communication around the recent Intra Community Transfer Directive (ICT) and progressively moving towards confidence building measures and eventually harmonizing licensing procedures between government and industry and between governments across the Atlantic.

Incremental progress could be accomplished by using some of the principles that sustained the construct of the U.S./UK treaty in the domain, not necessarily with the goal of circumventing the licensing process but with the objective of identifying a means and conditions under which a process for global licences and general licences could be established between the U.S. and Europe.

For example the U.S. ITAR procedures obey to procedures that are completely standard and are mainly designed to address worst case scenarios such as North Korea or Iran. It could be argued that imports and exports to and from Europe who is a close ally to the U.S. should carry a minimum level of risks and therefore should be treated according to specific procedures.

At this stage a dialogue between Europe and the U.S. has first to be put in place with the following guidance and principles.

The various components of a dialogue would have to include the concepts of technology sharing, approved community, definition of end-users and compliance processes that would apply to global and general licences. In any case, providing better visibility and predictability to industry on regulations and their implementation at the transatlantic level is a key element to sustain a healthy ED TIB.

Implementation: Content

On the technology front the idea would be to pave a way forward with a kind of grand bargain on “technology sharing boundaries” between Europe and America.

These types of initiatives are already occurring at various stages of development and along the following different separate paths: within the U.S., within Europe and between the U.S. and UK.

Within the U.S. there is a new effort underway to take another shot at defining a list of truly critical technologies. Many similar attempts have failed in the past and it is too soon to speculate on the possible outcome of this one. But it has been initiated with a wide spread recognition that business could not be conducted as usual and that the list of critical technologies should be reviewed according to adequate criteria, among which is the availability of the technology on the world market.

Within Europe all the member states will issue licences referring to a common list of critical technologies and the current tangle of national lists is due to be removed sooner or later.

Between the U.S. and UK lists of technologies that could be shared, agreed programs and agreed end users have been established to define the implementation conditions of the possible future treaty.

In practice this idea would consist in bringing a degree of harmonization to the above initiatives and in establishing a regime in which several layers of technology are agreed upon on both side of the Atlantic: (1) technology that will be kept at national levels (it would be the prerogative of each nation to share or not this technology with nations of their choice including the U.S.) – (2) technology that will be kept at the U.S. and EU level – (3) technology that can only be shared between the U.S. and Europe – (4) technology that can be open to the world. Progress of a transatlantic dialogue in this area would contribute to easing frictions related to transatlantic defence trade.

In details this would consist in setting up a list of technologies with different levels of sensitivity on both sides of the Atlantic and engage a process of harmonization across the Atlantic.

Within Europe the R&T program, managed by the EDA, in which the member states have agreed 22 priority areas could offer a starting point for a European position. The license could cover both components among European companies and their U.S. subsidiaries, as well as products and technologies among different companies on both sides of the Atlantic.

On the approved community front, the recent ICT introduces the notion of “certified company” that could be adapted and extended under certain conditions at a transatlantic level.

Although a transatlantic certification process might be difficult to introduce and therefore could only be a long term objective, use ful downgraded versions could be considered.

This would imply a number of confidence building measures among governments in each other's compliance regimes with industry. It would also imply an education program on export control in Europe towards the U.S. industry involved in transatlantic defence trade.

Eventually a kind of approved process to verify reliability of companies wishing to benefit from general licences would have to be agreed upon on both sides of the Atlantic. Sound internal control programmes within industry to manage the transfer and export of defence equipment should be one of the criteria.

On the licensing procedures front, many technical details would have to be discussed but Europe could promote the principle of accepting a minimum risks assessment when dealing with European companies that have a compliance programme which is monitored by European governments.

The issue is not so much the licence process delays between the U.S. and Europe. Almost all the licences to Europe are granted by the U.S. administration and the processing time on average has been significantly reduced to around two weeks in the past few months.

The challenge is broader and pertains to the notion of general licensing valid within the European Union among a trusted community.

There is at present no regulatory simplification supporting the development of transatlantic defence trade and the idea would be to introduce a tailor-made instrument adapted to the particular nature and sensitivity of transatlantic technology transfer.

This could take the form of global and general licence in areas where the U.S. and Europe have agreed that they would authorise the circulation of defence articles across the Atlantic.

Following the principles contained in the ICT and applied at a transatlantic level, the main purpose of such transatlantic general licences would be to allow European and U.S. companies to compete for a tender launched in the U.S. and in Europe while guaranteeing its customer security of supplier when the tendered equipment is covered by a general licence.

This would result in considerably less discrimination on both sides of the Atlantic boosting transatlantic defence trade. It would also address the issue of security of supply which is pointed out in the European Defence procurement Directive, providing Europe with a leverage for negotiation with the U.S.

Other issues, more detailed and limited in scope, could be negotiated. For example, some markets such as civil aviation which require free trade and components and systems certified in Europe for civil aviation could be exempted from ITAR controls.

Many other specific procedures could be proposed to the U.S. at a European level as a basis for negotiation to facilitate the licensing process across the Atlantic. In order to do so, the European Commission should formally engage the European defence and aeronautic industry to identify, select and prioritise such procedures which must be drawn from the European industry daily experience in dealing with ITAR.

Implementation: A 3-step approach

As a first proposal and after consultation with European defence industry, the study would lay out the following incremental three steps approach for Europe to offer topics of negotiation to the U.S.:

1 – Initial steps for very short term limited fixes intended to offer relatively quick and easy wins.

Quick wins	Rationale
ITAR "NATO exemption" to include prime contractors and significant military equipment (SME)	<p>At present ITAR allows the re-export of foreign products with embedded ITAR components to governments of NATO member states as well as Australia and Japan.</p> <p>The EDIB and the intra European defence business would generally benefit if this exemption were extended to prime contractors from NATO member states and would cover the highly sophisticated defence equipment and sub-systems (which are labelled SME) traditionally procured by European countries.</p> <p>In practice the U.S apply this procedure which could be faster and provide more certainty if it were formally part of ITAR</p>
Licence exemption for re-transfer to the U.S. government and U.S. industry	<p>At present if a defence equipment developed in Europe with ITAR components whose licence has been granted by the U.S. and was originally foreseen for a third party country, were to be in fact deliver to the U.S. military due to a change in production schedule, this would require a new licence.</p> <p>It does not appear necessary to obtain a licence from the U.S. to re-transfer ITAR components to their place of origin.</p> <p>The proposed licence exemption should facilitate transatlantic defence trade and be of common interest to both the U.S. en Europe</p>
Enforcement of licence exemption for re-transfer of technical data to the country of origin, on the	<p>ITAR section 125.4 (b) (7) already stipulates that technical data being returned to the original source of import is an export which is exempt from licensing requirements.</p> <p>In transatlantic cooperative programs, industries share</p>

condition that no substantial modification was added	<p>technical data in documents that can be accessed by all partners.</p> <p>In practice, when the document repository is located in the U.S., U.S. companies fear to apply the ITAR 125.4 (b) (7) exemption even when the document has been subject to non substantive changes.</p> <p>The idea would be to clarify that, changes in formatting, editorial comments or other changes which do not add to the technical content, do not remove the document from the exemption.</p>
No licence amendments in cases of industrial re-organization among identical shareholders	<p>At present if two subsidiaries of a same company from two different EU member states merge the entire re-export applications have to be filed again. The new licences would be valid for the same people at the same locations with the same owners as before but only with a different company name.</p> <p>A change of name of a European company would trigger the same procedure.</p> <p>The proposal would be to avoid a new licence process in the two instances above, saving time and money across the Atlantic</p>
Global project licences for cooperative programs among European governments	<p>ITAR section 126.14 (a) (3) already allows for Global Project Authorisations to registered U.S. exporters in case of government to government cooperation projects involving the U.S. government.</p> <p>The proposal would be to extend this opportunity in case of government to government cooperative programs in Europe (such as A400M or Eurofighter) which involve major U.S. supplies.</p> <p>The European consignees, the customers and the end users would have to be defined. The European prime contractor would be held responsible for the terms and conditions.</p> <p>This would benefit the U.S by facilitating the export of U.S. components in European programs and Europe by facilitating the processing of U.S licences in European programs.</p>
Establish a global license for platforms, which would	Currently, if a given platform, say an airplane, needs a re-export license, individual licences need to be obtained for

include different imbedded ITAR components	each ITAR-restricted component imbedded in it. The idea here would be to have one single global license for all the imbedded ITAR components in the airplane.
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N.B: The study believes that these suggested quick wins should not require a change in the U.S. current legislative export control framework. Should not it be the case, it would be wise not to press the issue and to concentrate on the ultimate goal of establishing a process for transatlantic general licences.

2 – Acknowledging the ICT

The implementation of the ICT directive will introduce a major improvement of predictability, transparency and efficiency for export control in Europe.

Europe should communicate to the U.S. on the consequences and opportunities that the ICT offers for a new transatlantic partnership.

The European “certified community” will be in a position to offer a stronger guarantee of compliance with European export control laws. It will obey common standard and be under special control of its export control authorities.

Recognizing the contribution that Europe can bring to a better transatlantic control of defence technology, Europe could engage the U.S in discussing the merits of harmonized transatlantic standards with the objective to establish a special relationship based on increased trust and confidence in each other’s procedures.

3 – Moving towards the transatlantic “grand bargain” described above on technology sharing, approved community and global licensing across the Atlantic.

Moving forward with these recommendations would require negotiations at technical level based on a mandate negotiated at a political one.

The study suggests that the European Commission in charge of ICT implementation would be the appropriate entity to lead and coordinate the technical aspect of the negotiation.

The Commission could rely on support and expertise that have been developed to elaborate the EU munitions list, the EU code of conduct, and the ICT Directive.

In particular, the Commission could interact with the COARM group where EU member states discuss and agree on their export control policy and which also bears the responsibility of the “Code of Conduct on Arms Trade”. Consequently, the 6 COARM members of the LOI states, which represent the vast majority of the European defence industry, could set up a task force and a mandate under a chairmanship to be defined in collaboration with the European Commission.

The Commission could also call on the expertise of EDA which could provide technical support in the following areas:

- dialogue with EU defence industry

- coordinated approach with the EU framework cooperation in defence at large and especially in technology sharing

From the U.S. side a recommended format would one similar to the interagency working group on offsets which has proven to be efficient in dialoguing with Europe. An interagency working group with representatives from the Department of Defense, the Department of Commerce and the State Department would be an ideal format.

The form and mandate for negotiation would have to be agreed upon at the political level suggested above at the level of the Undersecretary of State for Arms Control and International Security in the U.S. and the High Representative of the EU Foreign Affairs and Security Policy in Europe.

Finally, the most common concerns and questions heard from the U.S. administration towards any type of cooperation with Europe on technology transfer policy and general licences principles are the following.

First what happens in case of wrong doing and non-compliance of a European company using U.S. technology? What is the European law enforcement process in such a case?

Second, who deals with compliance? How are the retransfer guarantees provided and what process is put in place to track where the technology is actually going after export licences are granted?

Third the U.S fears it might loose its ability to apply sanctions (forbidding a third party to have access to U.S. technology). The U.S. sees a divide with Europe in the way sanctions are applied. In the U.S. all licences would be revoked with total retroactive effect when sanctions are applied. The U.S. tends to believe that European companies could still be honouring contracts signed prior to the date of the sanctions.

Forth some foreign policy issues could be a real divide between the U.S. and Europe such as the application of the Oslo treaty against land mines or different assessment, perception and analysis of threats with issues related to China or the Middle East.

Europe will have to address these concerns when engaging in talks with America. From the American standpoint these concerns derive from the fact that first the U.S. law demands identification and verification of end users and second most of the determinations in the U.S. to decide whether a technology should be controlled or not come down to the question of retransfer to China.

The last fundamental recommendation would be to work within the existing regulatory framework of the current U.S. export control system and to avoid whenever it is possible any type of arrangement with the U.S. that would require a change in the U.S. laws. This would require the involvement of the U.S. Congress which would most certainly oppose any change.

Glossary

AECA	<i>Arms Export Control Act</i>
AIA	<i>Aerospace Industries Association of America</i>
CCL	<i>Commerce Control List</i>
CFIUS	<i>Committee on Foreign Investments in the United States</i>
DDTC	<i>Directorate of Defence and Trade Control</i>
DoC	<i>Department of Commerce</i>
DoD	<i>Department of Defence</i>
DoS	<i>Department of State</i>
DTIB	<i>Defence Technological and Industrial Base</i>
DTSA	<i>Defence Technology Security Agency</i>
EAR	<i>Export administration Regulations</i>
JSF	<i>Joint Strike Fighter</i>
GAO	<i>Government Accountability Office</i>
ITAR	<i>International Traffic in Arms Regulations</i>
MOU	<i>Memorandum Of Understanding</i>
NSC	<i>National Security Council</i>
R & D	<i>Research and Development</i>
R & T	<i>Research and Technology</i>
RFP	<i>Request for Proposal</i>
SSA	<i>Special Security Agreement</i>
TAA	<i>Technical Assistance Agreement</i>
USML	<i>United States Military List</i>
VEU	<i>Validated End User</i>

ANNEX 1 - CONCEPT PAPER

December 2008

U.S.-CREST Study Program on Transatlantic Defense Trade

Towards a harmonized transatlantic approach to defense trade and the making of a transatlantic defense, technological and industrial base

Part 1

Promoting better Euro -Atlantic understanding of the nature and impact of bridges and barriers to trade with the United States for European defense industries

Introduction

In the context of open transatlantic markets and a globalized world economy, the defense sector is still unique to some extent in the sense that international regimes clearly tend to limit proliferation of weapons and corresponding know-how rather than push for the widest possible exchanges and business flows.

Nevertheless, defense business is subject to common constraints and challenges which have been created by the internationalization of economies and industry alliances especially between Europe and the United States. Defense industry in Europe and in the United States is now largely private and owned by multinational interests. Also sound efficient business practices call for international cooperative work and foreign supply when possible. Finally defense business cannot be totally independent from other truly global industrial sectors such as aeronautics or electronics which are in a competitive global context, constantly searching for lower production costs, better margins, as well as foreign and domestic investors and partners.

Modern procurement processes across the Atlantic have reduced the number of potential providers and the defense industry naturally tends to try to leverage its investment and to increase its margin by addressing its client base to more than one government. Cross-border financial agreements and

traditional industrial agreements have flourished as a way of adapting to a new context in which governments are seeking to buy more and more services as opposed to traditional equipment.

The defense sector can no longer prosper in a bubble and is impacted by globalization on at least two fronts: the technology front and the investment front. A quick look at the U.S. and European defense industry landscape and defense equipment shows an ever growing common technology supply and multiple transatlantic investments. Even the United States who, as a nation, enjoys the highest defense investment in the world, could not afford to sustain its technology base by relying exclusively on domestic business. Let alone the sensitive political aspect of the issue, it is simply impossible both from a financial and commercial standpoint.

Therefore the trend for transatlantic defense business is likely to increase and U.S.-CREST believes that it would be mutually beneficial for the United States and Europe to harmonize their approach to defense trade in order to nurture a healthy transatlantic defense and technical industrial base.

U.S.-CREST's approach is rooted in the recognition that transatlantic harmonization of policies contributes to the global efficiency of defense trade.

Project Objectives

Prior to proposing any kind of transatlantic approach and analyzing political convergences and divergences, U.S.-CREST believes that there is a need both in Europe and in the United States to acquire a better knowledge and visibility of one another's policies and practices in the domain. Therefore, U.S.-CREST's goal is to conduct a three part study to explore how to move towards a more harmonized transatlantic approach to defense trade.

U.S.-CREST is currently undertaking the first part of this study sponsored by the European Commission, which addresses specific aspects of rules and regulation related to defense trade in the U.S. with the objective of increasing mutual understanding on both sides of the Atlantic and promoting best practices in the domain. It is described in further detail below.

The second stage of the study, to begin at a later date, would offer a thorough analysis of European rules, regulations and practices to interested parties in the U.S.

The ultimate goal and third stage of the U.S.-CREST initiative would be to study in detail how a harmonized approach to defense trade between the United States and Europe would contribute to the overall health and efficiency of a transatlantic defense and technology industrial base.

Methodology

Part 1 of the study dedicated to "the nature and impact of bridges and barriers to trade in the U.S. for European defense industries" will be conducted over the course of nine months, beginning in January 2009. Findings will be based on research and interviews, with an emphasis on first-hand sources and a practitioner's viewpoint and expertise.

U.S.-CREST believes that the added value of this study resides in the depth of its approach and in the close attention that will be paid to the details of issues which are usually addressed only in high-level terms.

The specific domains below, related to U.S legislative measures and practices governing access to the U.S. market have been chosen because they are both of central importance to U.S policy and are subject to regular changes in requirements. As a result they reflect the depth of challenges for transatlantic mutual understanding.

Outline and specific domains

- U.S. statistics on transatlantic defense trade and specific trends
- U.S. technology control regime and consequences for transatlantic defense trade
- Transatlantic security agenda and the role of NATO
- Measures to promote U.S. defense export
- Buy American and related bilateral defense trade agreements between the U.S and European countries (impact of bilateral MoUs on reciprocal defense trade, impact of bilateral DoPs)
- C.F.I.U.S (role and actions)
- Dominant U.S perceptions of the European defense market
- Dominant U.S. perception of European defense industries accessing the U.S. defense market
- Factors that could impact the transatlantic defense trade: technological gap, national defense budgets, consolidation of industries, competition from third countries, energy prices, euro/dollar exchange rate, role and importance of transatlantic coalition warfare, U.S and Europe relationship with third countries such as China, Russia and India, global financial crisis and cost of defense procurement,.....

ANNEX 2 - LIST OF INTERVIEWS

- Think tanks: NDU – CSIS - IDA – Atlantic Council
- Independent analysts
- OSD/ DUSD/Industrial Policy
- DoC/BIS (Policy/Licensing/ Directors / Compliance / CJ)
- GAO
- Analysis of CSIS event, all day on May 15th
- China Commission
- Embassies : France / Germany / Italy / NL /U.K
- SASC (Senate Armed Services Committee)
- DoS / ODTC (Policy / Directors / Compliance / CJ / Licensing))
- Renaissance group
- DoD / (DTSA, A,T&L, ONA, Services)
- AiA (Director for International Affairs)
- ASD
- DMAG
- DTAG (Defense Trade Advisory Group)
- Dassault Aviation
- EADS NA
- BAE Systems Inc
- Thales NA
- TRS France
- European Defence Agency
- European Commission
- Finmeccanica
- SBAC (Society of British Aerospace Companies)
- GIFAS (French Aerospace Industries Association)
- MBDA

ANNEX 3 – CFIUS: Guidance on National Security

(see next page)



CFIUS Reform: Guidance on National Security Considerations

The U.S. Treasury Department, as chair of the Committee on Foreign Investment in the United States (CFIUS), and as required by the Foreign Investment & National Security Act of 2007, has issued guidance on the types of transactions that CFIUS has reviewed and that have presented national security considerations. The guidance also provides insight into how CFIUS identifies the national security effects of covered transactions.

Explains the relevance of national security considerations in the context of CFIUS reviews:

- *CFIUS's purpose:* Identify and address national security risk posed by covered transactions
- *National security risk:* Risk is a function of the interaction between threat and vulnerability, in light of the potential consequences of that interaction for U.S. national security
- *National security considerations:* Considerations are facts and circumstances, with respect to a covered transaction, that have potential national security implications.
- *Relevance of national security considerations:* CFIUS analyzes all national security considerations to assess whether a covered transaction poses national security risk. Transactions that present such considerations do not necessarily pose national security risk

Illustrates the types of transactions that have presented national security considerations:

- *Illustrative, not comprehensive:* Emphasizes that CFIUS considers all relevant facts and circumstances in each case, regardless of industry. Within the following two major categories, the guidance provides illustrations, not a comprehensive description:
 - *Nature of the U.S. business:* For example, national security considerations have been presented because the U.S. business has government contracts, has operations relevant to U.S. national security, or deals in certain advanced technologies or goods and services controlled for export
 - *Identity of the foreign person:* For example, national security considerations have been presented because of the track record of the foreign person acquiring control of the U.S. business, or the non-proliferation record of the person's country of origin
- *Foreign government control:* Constitutes a national security consideration, but the guidance addresses circumstances that may lessen its significance in a transaction
- *Corporate reorganizations:* Raise national security considerations only in exceptional cases

Clarifies the purpose of the guidance:

- CFIUS administers a voluntary notice system. Covered transactions reviewed by CFIUS receive a safe harbor from subsequent review. CFIUS may unilaterally review any covered transaction that does not have safe harbor, but it focuses solely on national security concerns
- The guidance does not set rules, nor discourage or encourage certain types of investment

For a link to the guidance, as well as additional information on CFIUS, please consult <http://www.treas.gov/offices/international-affairs/cfius/>.

12/01/2008

ANNEX 4 - JANUARY 08 PRESIDENTIAL DIRECTIVE

Statement on U.S. Export Control Reform Directives

The President signed today a package of directives that will ensure the United States' export control policies and practices support the National Security Strategy of 2006, while facilitating the United States' continued international economic and technological leadership. These new directives will advance a more efficient and transparent export licensing process and enhance dispute resolution mechanisms. They will also help ensure proper levels of control for continued U.S. economic competitiveness and innovation while protecting national security. The Directives are intended to clarify and strengthen the ability of the U.S. Government to monitor and deny U.S. controlled goods, services or technologies to a potential enemy.

The United States continues to face unprecedented security challenges, including terrorist threats from the proliferation of weapons of mass destruction and advanced conventional weapons to unstable regions of the world. The United States also faces economic challenges from the increasing worldwide diffusion of high technology and global markets. As a result, the Administration will continue to ensure that our export control system is focused to meet these challenges.

President Issues Export Controls Directive to Reform U.S. Defense Trade Policies and Practices

President Bush issued an Export Control Directive today that will ensure that U.S. defense trade policies and practices better support the National Security Strategy of the United States. The package of reforms required under this directive will improve the manner in which the U.S. Department of State licenses the export of defense equipment, services and technical data, enabling the U.S. Government to respond more expeditiously to the military equipment needs of our friends, allies, and particularly our coalition partners.

The Export Control Directive mandates the commitment of additional financial and other resources, as well as procedural reforms that will expedite the processing of export license applications for items controlled by the U.S. Munitions List. Although license processing times will be reduced as a result of this directive, the Administration is committed to ensuring that existing measures to prevent the diversion of such items to unauthorized recipients remain strong and effective.

The specific actions directed by the President include:

More Effective U.S. Export Licensing

- Additional financial resources and intelligence support will be made available for the timely adjudication of defense trade licences.

- Guidelines will be issued that require a decision by the U.S. Government on defense trade export license applications within 60 days, absent a strong reason for additional time, such as a requirement for Congressional notification. Initial efforts in this regard have resulted in a nearly 50 percent reduction since April 2007 in the number of export license applications pending with the Department of State.
- The electronic licensing system will be upgraded to permit the submission of all types of defense trade licences and to enable all agencies to access the same electronic information.
- The Secretary of State will update U.S. controls on exports involving dual and third country nationals from NATO and other allied countries.

A More Efficient Dispute Resolution Mechanism

- A formal interagency dispute mechanism will be created to allow for timely resolution of licensing jurisdiction issues involving the Departments of State and Commerce under the Commodity Jurisdiction (CJ) process. The National Security Council will also undertake a review to make sure the CJ process is efficient and timely.

Enhanced Enforcement

- A multi-agency working group will be established to improve procedures for conducting export enforcement investigations.

The directive reflects consensus recommendations from the National Security Council and the Departments of State and Defense. The Bush Administration is committed to working closely with U.S. industry to implement these reforms.

Dual-Use Export Control Initiative

President George W. Bush announced on January 22, 2008 a series of steps the Administration will take to ensure that dual-use export control policies and practices support the National Security Strategy while facilitating U.S. economic and technological leadership. The United States faces unprecedented security challenges from threats of terrorism to proliferation of weapons of mass destruction and advanced conventional weapons to instability in a number of regions in the world. The United States also faces unprecedented economic challenges from the increasing worldwide diffusion of high technology and global markets. The United States must, therefore, ensure that the dual-use export control system is precisely focused to meet those challenges. To enhance the focus of the dual-use export control system, the President has directed steps be taken on the following:

Foreign End-Users: To adapt to the changing threat environment and the globalization of technology and markets, the dual-use export control system will increasingly focus on foreign end-users of U.S. high technology products. This focus will facilitate trade to reliable foreign

customers, while denying access to sensitive technologies to proliferators, international terrorists, and other foreign parties acting contrary to U.S. national security and foreign policy interests.

The focus on foreign end-users includes the Validated End User (VEU) program for reliable foreign companies and imposing additional scrutiny of exports to foreign parties with a record of activities contrary to U.S. foreign policy and national security interests through expansion of the Department of Commerce's Entity List.

U.S. Competitiveness: Technological and economic competitiveness are key to the U.S.'s long-term national security. As such, the United States needs to ensure that export controls are constantly reassessed to ensure that the most sensitive items are controlled to sustain U.S. economic competitiveness and innovation.

The focus on U.S. competitiveness includes developing a regular process for systematic review of the list of controlled dual-use items (the Commerce Control List), revised controls on intra-company transfers, revised controls on encryption products, and a review of reexport controls.

Transparency: U.S. exporters need sufficient information to support U.S. security and competitiveness goals.

The focus on transparency includes publication of advisory opinions on the Department of Commerce's website, as well as lists of foreign parties warranting higher scrutiny.

These areas of focus are consistent with the recommendations made by a number of industry groups. The Administration is committed to working closely with industry to implement these reforms to ensure that dual-use exports are controlled to address emerging security threats while maintaining the economic competitiveness of the United States.

The Administration also continues to strongly support reauthorization of the Export Administration Act with updated penalties and enhanced law enforcement authority to ensure U.S. dual-use export control policies can be vigorously enforced.

(White House Press Release)

ANNEX 5 - COALITION FOR SECURITY AND COMPETITIVENESS

Recommendations for Modernizing Export Controls on Munitions List Items

Executive Summary

The United States currently faces unprecedented threats to its security both at home and abroad. In confronting these threats, we must be able to exploit the full advantage we derive from our economic strength and technological prowess. To that end, the U.S. export control system must be modernized so that it is better able to respond quickly and effectively to evolving security threats, and promote our nation's continued economic and technological leadership. The Coalition for Security and Competitiveness, representing multiple industry and trade associations, is committed to working with the Executive Branch and Congress in a cooperative spirit to accomplish these important goals.

To modernize the system and make it more efficient, predictable and transparent, the Coalition has developed the following eleven recommendations on export controls for munitions list items.

- State strategic policy principles for defense and technology trade and cooperation
- Appoint a senior director at the NSC responsible for defense trade, export policy and technology cooperation
- Create a presidential advisory body on defense trade and security cooperation
- Re-program funds for the Directorate of Defense Trade Controls (DDTC) to add a sufficient number of officers for agreements, licences and commodity jurisdiction evaluations
- Ensure accurate interpretation and consistent use of International Traffic in Arms Regulations (ITAR) that govern the commodity jurisdiction process
- Keep items, particularly FAA -certified equipment, on the Commerce Control List (CCL) until after a final commodity jurisdiction determination is made
- Implement more efficient, effective, and transparent licensing procedures and technology disclosure review processes
- Establish a quarterly interagency appeals process (at the political appointee level) for decisions on critical jurisdiction and licensing applications
- Provide industry "intent to deny" and "intent to Return Without Action" feedback before such decisions are finalized
- Accelerate implementation of a more robust electronic system for processing and tracking license applications, including licences that require congressional notification

Recommendations for Modernizing Export Controls on Dual -Use Items

Executive Summary

The United States currently faces unprecedented threats to its security both at home and abroad. In confronting these threats, we must be able to exploit the full advantage we derive from our economic strength and technological prowess. To that end, the U.S. export control system must be modernized so that it is better able to respond quickly and effectively to evolving security threats, and promote our nation's continued economic and technological leadership. The Coalition for Security and Competitiveness, representing multiple industry and trade associations, is committed to working with the Executive Branch and Congress in a cooperative spirit to accomplish these important goals.

To modernize the system and make it more efficient, predictable and transparent, the Coalition has developed the following eight recommendations on export controls for dual -use items:

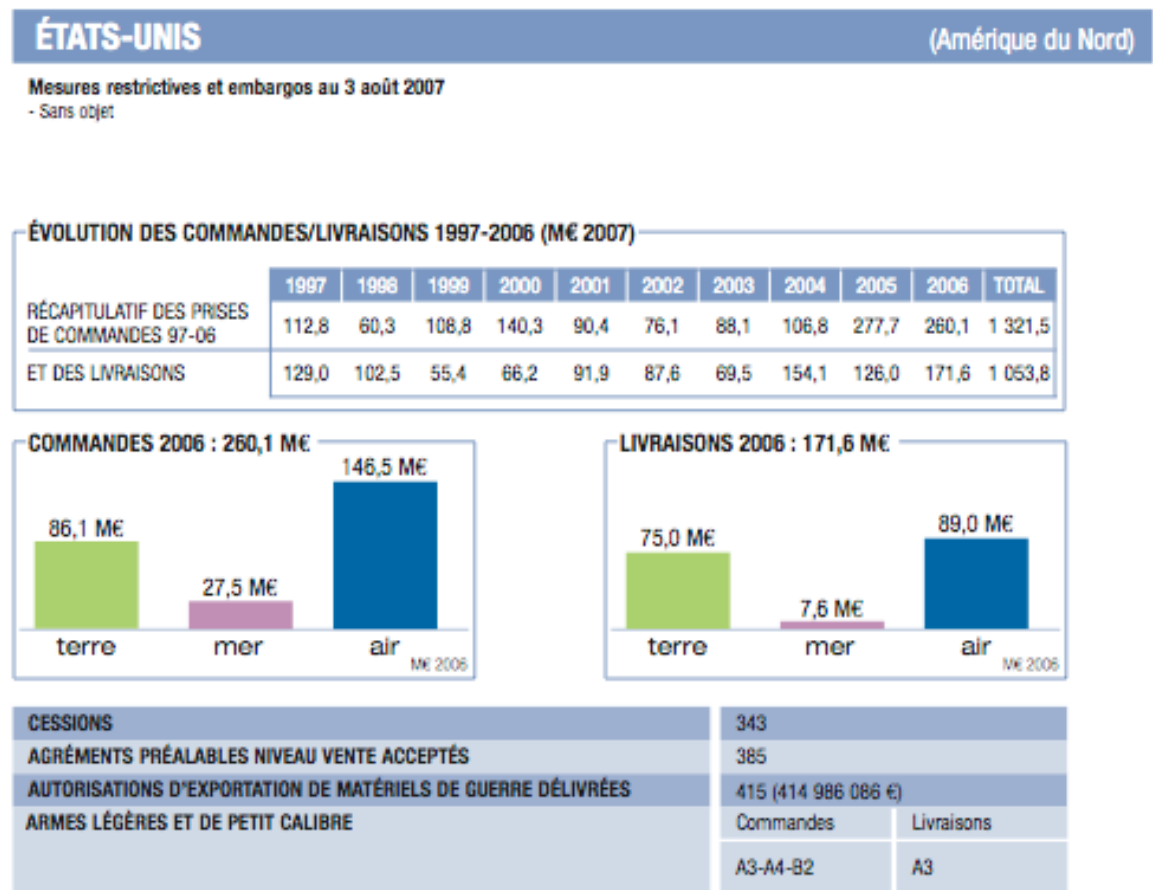
- Create a license exception for the transfer of controlled items within companies
- Certify foreign end -users with strong compliance programs for favorable treatment
- Enhance procedural transparency in the licensing process to help companies comply
- Enhance the Commerce Department's role in the "commodity jurisdiction" process for determining whether or not dual -use products should be treated as defense products and subject to State Department licensing
- Streamline the current complex controls on products with encryption features
- Ensure timely updates of the Commerce Control List (CCL) to reflect market availability
- Expand factors used to determine "foreign availability" of controlled items
- Revise the "re-export" controls to level the playing field for U.S. companies vis -à-vis foreign competitors.

ANNEX 6 – Data sources

ANNEX 6.1 – Data sources France

Extract from the report to the French Parliament (Table of export to the USA)

Source : French Ministry of Defence/Délégation Générale pour l' Armement (DGA)



ANNEX 6.2 –Data sources U-K

MoD/DASA provides data only for the “NATO and Other Europe” group.

UK Defense Statistic 2008 (source DASA Analytical Services and Advice) table 1,13

source DASA MoD

Table 1.13 Estimated Imports & Exports of Defence Equipment (Goods)

This table presents data on the value of defence equipment imports and exports. This information is broken down by commodity grouping and broad geographic region. Data are based on HM Revenue & Customs information relating to defence equipment reported to UK Customs. Defence equipment is identified by an agreed set of tariff codes intended to capture movements of military equipment. Over the period covered by the table, changes have been made to the list of 'identified' defence equipment by, for example, the removal of two HM Customs codes for aerospace from 1997. Further details are given in *Defence Statistics Bulletin No.4* and in the National Statistics Quality Review on Trade Statistics. For progress relating to improvements to the quality of defence trade statistics, please refer to the notes at the start of this section on Trade. These estimates have been subject to a variety of revisions and methodological updates in recent years including changes to the internationally agreed tariff codes used for recording goods exports. These changes are described in *DASA Defence Statistics Bulletin No.8*.

The data in this table are outside the scope of National Statistics because they do not meet all of the high professional quality assurance standards set out in the National Statistics Code of Practice.

		Current Prices (£ million)							
		1997	2001	2002	2003	2004	2005	2006	2007
Imports from									
	NATO Countries and Other Europe	1 087	1 718	1 371	566	576	581	904	638
Exports to									
	NATO Countries and Other Europe	1 034	969	609	467	801	832	914	764

ANNEX 7 – Bibliographical review

Title	Description
Report to the French Parliament regarding French exports	France. November 2007
CSIS Center for Strategic & International Studies - The future of the transatlantic defense community (J-P Béchat, Félix G. Rohatyn, John J. Hamre and Simon Serfaty)	USA. January 2003. This study recommended action agenda includes the following key points: <ul style="list-style-type: none"> - Getting better value for money, but also providing more money for greater value; - Promoting a level playing field; - Avoiding fortresses and realigning policies; - Increasing transparency and mutual understanding on mergers, foreign investment, and industrial security; - Pressing for changes in regulations and processes governing technology transfers and other corporate ventures.
CSIS Center for Strategic & International Studies - U.S.-UK Nuclear cooperation after 50 years	USA. July 2008 The contributors were asked to recount how the U.S.-UK nuclear relationship flourished despite obstacles as the halt in the scientific cooperation that had spurred the Manhattan Project; the Suez crisis; and sharp disagreements over scientific, political, and technical issues. They were also asked to look to the future of this unparalleled transatlantic relationship
United States barriers to trade and investment report for 2007	European Commission April 2008 This document covers all flows between Europe and the USA but see § 5.6 Public procurement and § Government procurement
Trade Barriers in U.S. Defense Market	White Paper drafted by the European Defense Industries Group EDIG June 2000

ANNEX 8 – EU5 Imports from U.S.

Transfers of major conventional weapons: sorted by supplier. Deals with deliveries or orders made for year range 1997 to 2008

Note: The No. delivered/produced and the Year(s) of delivery columns refer to all deliveries since the beginning of the contract. Deals in which the recipient was involved in the production of the weapon system are listed separately. The “Comments” column includes publicly reported information on the value of the deal. Information on the sources and methods used in the collection of the data, and explanations of the conventions, abbreviations and acronyms, can be found at URL <<http://armstrade.sipri.org/>>. The SIPRI Arms Transfers Database is continuously updated as new information becomes available.

Source: SIPRI Arms Transfers Database

Information generated: 18 May 2009

Supplier/ recipient (R) or licensor (L)	No. ordered	Weapon designation	Weapon description	Year of order/ licence	Year(s) of deliveries	No. delivered/ produced	Comments
USA							
R: France	3	KC-135 Stratotanker	Tanker/transport ac	1994	1997-1998	(3)	Ex-US; deal worth \$220 m; modernized to KC-135FR before delivery; no. delivered could be 4
	2	E-2C Hawkeye	AEW&C aircraft	1995	1998-1999	2	\$894 m deal incl 1 ordered in 1999 (\$440 m offsets incl French production of components)
	500	Paveway	Guided bomb	1995	1995-1998	(500)	Paveway-2 version
	14	CT-7	Turboprop	1996	1998-2000	14	For 7 CN-235 transport aircraft from Spain; CT-7-9C3 version
	500	E-9	Diesel engine (AV)	(1996)	1998-2003	(500)	For modernization of AMX-30B2 tanks, 54 AMX-30CET AEV and GCT self-propelled guns
	1	E-2C Hawkeye	AEW&C aircraft	1999	2004	1	Part of \$894 m deal (\$440 m offsets incl French production of components)
	(5000)	Paveway	Guided bomb	1999	2000-2001	(5000)	\$100 m deal; Paveway-2 and Paveway-3 version
	4	LM-2500	Gas turbine (SH)	(2000)	2008	2	For 2 Horizon (Forbin) destroyers produced in France; from Italian production line
	4	CT-7	Turboprop	2001	2002	4	For 2 CN-235 transport aircraft from Spain; CT-7-9C3 version
	6	CT-7	Turboprop	2002	2003	6	For 3 CN-235 transport aircraft from Spain; CT-7-9C3 version
	2	A-4M Skyhawk-2	FGA aircraft	2003	2003-2004	2	Second-hand; leased by civilian company target towing for French navy; A-4N version

Germany (FRG)	(230)	AGM-114K HELLFIRE	Anti-tank missile	2007			For Tiger combat helicopter; delivery from 2011
	5	Cougar	APC/ISV	2008	2008	5	\$3.5 m deal; Buffalo version
	(1000)	Paveway	Guided bomb	2008			\$22 m deal; Paveway-2 version; delivery 2010-2015
	96	AIM-120A AMRAAM	BVRAAM	1991	1995-1998	96	\$54 m deal; for F-4F combat aircraft
	(78)	AGM-88 HARM	Anti-radar missile	(1995)	1998-1999	(78)	AGM-88B version
	320	AIM-120B AMRAAM	BVRAAM	1995	1999-2001	(320)	\$170 m deal; for F-4F combat aircraft
	3	Learjet-31	Light transport ac	(1996)	1997	3	Owned and operated by civilian company for target towing and EW training for FRG armed forces
	21	Roland	Mobile SAM system	1998	1998	21	Ex-US (originally owned by US but manned by FRG); shelter-based version
	3	LM-2500	Gas turbine (SH)	(1999)	2004-2005	3	For 3 Sachsen (F-124/Type-124) frigates produced in FRG
	250	AGM-88 HARM	Anti-radar missile	(2000)	2001-2002	(250)	Deal worth \$50 m; AGM-88C version
Italy	108	RIM-66M Standard-2	SAM	2001	2003-2005	(108)	For Sachsen (F-124/Type-124) frigates; SM-2 Block-3A version
	(72)	MIM-104 PAC-3	SAM	(2006)	2008	(32)	
	..	JDAM	Guided bomb	2008			LJDAM (GBU-54) version; delivery from 2009
	42	AGM-65 Maverick	ASM	1994	1996-1997	(42)	\$25 m deal; AGM-65F version; for AV-8B+ combat aircraft
	33	AIM-120A AMRAAM	BVRAAM	1994	1996-1997	(33)	Deal worth \$23 m; for AV-8B+ combat aircraft
	233	AIM-120B AMRAAM	BVRAAM	1997	2000-2003	(233)	Deal worth \$116 m; for AV-8B+ combat aircraft
	6	C-130J-30 Hercules	Transport aircraft	1997	2002-2003	(6)	
	12	C-130J Hercules-2	Transport aircraft	1997	2000-2001	12	
	(10)	HELRAS DS-100	Dipping sonar	1999	2002-2004	(10)	For 8 EH-101 ASW helicopters produced in Italy; probably from FRG production line
	9	LVTP-7A1/AAV-7A1	APC	1999	2002	(9)	Ex-US; part of \$90 m deal; modernized in Italy with US kits
	25	VTA-903	Diesel engine (AV)	1999	2000-2002	(25)	Part of \$90 m deal; for modernization of 25 LVTP-7/AAV-7 APC to LVTP-7A1/AAV-7A1 RAM/RS
	4	C-130J-30 Hercules	Transport aircraft	2000	2004-2005	(4)	
	(50)	FIM-92 Stinger	Portable SAM	2000	2002	(50)	Probably \$10 m deal; possibly for A-129 helicopters; status uncertain
	34	F-16(ADF)	FGA aircraft	2001	2003-2004	(34)	Ex-US; \$760 m 'Peace Ceasar' lease (for total of 45000 flying hours) until Eurofighter enters service in 2010; F-16A Block-15ADF version; incl 4 F-16B version; modernized before delivery; 4 more delivered for spares only
	(200)	FIM-92 Stinger	Portable SAM	2001	2003-2004	(200)	Part of \$89 m deal (for 1007 missiles for Greece, Italy and UK)
	900	JDAM	Guided bomb	(2001)	2002-2003	(900)	
	(4)	RQ-1A Predator	UAV	2001	2004	(4)	Deal worth \$55 m; option on 2 more
	24	AE-2100	Turboprop	2002	2006-2008	(24)	For 12 C-27J transport aircraft produced in Italy
	(113)	AGM-88 HARM	Anti-radar missile	(2002)	2002-2003	(113)	
	2	AN/TPS-77	Air surv radar	2002	2005-2006	(2)	AN/TPS-117 version
	46	HELRAS DS-100	Dipping sonar	2003			For 46 NH-90 ASW helicopters produced in Italy; from FRG production line
	10	Cougar	APC/ISV	2008	2008	10	\$8.3 m deal; incl 4 Buffalo version
	2	MQ-9 Reaper	UAV/UCAV	2008			\$81 m deal

Netherlands	139	AN/APG-66	Aircraft radar	1993	1996-2003	(139)	For 'Mid-Life Update' (MLU) modernization of 139 F-16A combat aircraft to F-16AM (F-16C) version
	6	CH-47D Chinook	Helicopter	1993	1998-1999	6	
	605	AGM-114K HELLFIRE	Anti-tank missile	1995	1996-2002	(605)	\$127 m deal; for AH-64D helicopters
	30	AH-64D Apache	Combat helicopter	1995	1998-2002	(30)	\$686 m deal (offsets \$873 m)
	200	AIM-120A AMRAAM	BVRAAM	1995	1998-1999	200	For F-16AM (modernized F-16A) combat aircraft
	36	AGM-65 Maverick	ASM	1997	1999	(36)	\$6 m deal; AGM-65G version; not incl some as short-term lease from USA before delivery started
	10	AN/AAQ-13 LANTIRN	Aircraft El/Op system	1997	2001	(10)	LANTIRN-2000+ version; for F-16 combat aircraft
	1	Schweizer-330	Light helicopter	1997	1997	1	Operated by civilian company for navy and coast guard in Dutch Antilles
	(2)	RGM-84 Harpoon	Anti-ship missile	(1998)	2000	(2)	
	16	RIM-66M Standard-2	SAM	(1998)	2002	(16)	\$24 m deal; for De Zeven Provinciën Frigates
	(10)	AN/AAQ-13 LANTIRN	Aircraft El/Op system	1999	2001	(10)	LANTIRN-2000+ version; for F-16 combat aircraft
	3	AN/AAQ-13 LANTIRN	Aircraft El/Op system	1999	1999	3	Ordered for use in Operation Allied Force (against Yugoslavia)
	(164)	RIM-66M Standard-2	SAM	(2002)	2003-2005	(164)	For De Zeven Provinciën frigates
	12	HELRAS DS-100	Dipping sonar	2003			For 12 NH-90 ASW helicopters; from FRG production line
	(100)	JDAM	Guided bomb	(2003)	2006-2007	(100)	
	1	DC-10-40	Transport aircraft	2004	2004	1	Second-hand; DC-10-30CF version
	74	BTA-5.9	Diesel engine (AV)	2005	2006-2007	(74)	For 74 BvS-10 APC from Sweden
	2	C-130H Hercules	Transport aircraft	2005			Ex-US; EUR54 m deal; EC-130Q version modernized before delivery; delivery 2009
	32	MIM-104 PAC-3	SAM	2005	2007	(32)	
	6	CH-47F Chinook	Helicopter	2007			Part of EUR250-290 m (\$300-340 m) deal; delivery 2009-2010
	200	Paveway	Guided bomb	2008			Paveway-2 version
UK	(72)	UGM-133A Trident-D5	SLBM	(1982)	1993-2004	(72)	For use on Vanguard (Trident) submarines; with UK nuclear warheads
	15	C-130J-30 Hercules	Transport aircraft	1994	1998-2000	(15)	\$1.56 b deal (offsets 100%) incl 10 C-130J version; UK designation Hercules C-4; option on 5 more
	10	C-130J Hercules-2	Transport aircraft	1994	2000-2001	(10)	\$1.56 b deal (offsets 100%) incl 10 C-130J-30 version; UK designation Hercules C-5
	65	BGM-109 Tomahawk	SLCM	1995	1997-1998	(65)	GBP180 m (\$316 m) deal; BGM-109 T-LAM Block-III version; for Swiftsure and Trafalgar submarines
	6	CH-47D Chinook	Helicopter	1995	1997-1998	6	Part of deal worth \$365 m; UK designation Chinook HC-2
	8	MH-47E Chinook	Helicopter	1995	2000-2001	(8)	GBP259 m (\$365 m) deal; delivery delayed from 1998 to 2001 because of technical problems and kept in storage after delivery (never used operationally); originally delivered as MH-47E (Chinook HC-3) aremed special operations version but due to technical problems modified for GBP200 m to CH-47 transport version from 2007

9	Bell-412	Helicopter	1996	1997	9	Owned and operated by civilian company for UK armed forces pilot training;; Bell-412EP version; UK designation Griffin HT-1; from Canadian production line
(6)	AIM-120A AMRAAM	BVRAAM	(1997)	2000	6	For Tornado F-3 combat aircraft
(2152)	BTA-5.9	Diesel engine (AV)	1997	1999-2008	(1575)	For 145 BvS-10 APC from Sweden and modernization of some 2007 Scimitar and Sabre reconnaissance vehicles and Spartan and FV-432 Bulldog APC
4	Mk-15 Phalanx	CIWS	(1997)	1998-1999	(4)	\$25 m deal; for 2 Victoria support ships produced in UK
20	BGM-109 Tomahawk	SLCM	1999	2001-2002	(20)	GBP23 m (\$50 m) deal; BGM-109 T-LAM Block-IIIC version; for Swiftsure and Trafalgar submarines
(200)	AGM-65 Maverick	ASM	2000	2000-2001	(200)	GBP42 m (\$60 m) deal; AGM-65G2 version; for Harrier GR-7 combat aircraft; ordered as result of experience in 1999 Kosovo War
4	C-17A Globemaster-3	Transport aircraft	2000	2001	4	GBP650 m-GBP1 b 'STSA' 7-year lease (incl \$230 m for training and support; bought after lease); C-17 Block-12 version
(20)	RGM-84 Harpoon	Anti-ship missile	(2000)	2001	20	UGM-84 version
8	Cougar	APC/ISV	2001	2002-2003	(8)	\$3.6 m deal; UK designation MPV and Tempest
(100)	FIM-92 Stinger	Portable SAM	2001	2004	(100)	Part of \$89 m deal (for 1007 missiles for Greece, Italy and UK)
6	Bell-412	Helicopter	2002	2002-2003	(6)	Operated by civilian company for the UK armed forces pilot training and for SAR at UK base on Cyprus; Bell-412EP version; UK designation Griffin HT-1 and HAR-3; from Canadian production line
22	BGM-109 Tomahawk	SLCM	2002	2003	22	\$30 m deal; ex-US UGM-109C version modernized to BGM-109 T-LAM Block-IIIC version; for Swiftsure and Trafalgar submarines
7	King Air	Light transport ac	(2002)	2003-2004	7	Leased from and operated by civilian company for training of UK pilots
(7500)	Paveway	Guided bomb	2003	2008	(250)	GBP120 m deal; Paveway-4 version
1	Watchman	Air surv radar	2003	2003	1	Ex-US
(150)	AIM-120B AMRAAM	BVRAAM	2004	2006	(150)	\$144 m deal
65	BGM-109 Tomahawk	SLCM	2004	2007-2008	(48)	GBP70 m (\$126-129 m) deal; BGM-109 Tomahawk Block-IV (Tactical Tomahawk) version; for Swiftsure and Trafalgar submarines
(40)	AGM-65 Maverick	ASM	(2006)	2007	40	AGM-65D version
2	AN/APY-8 Lynx	AGS radar	(2006)	2007	(2)	Part of \$77 m 'Project Dabinett'; for MQ-9 UAV
1	C-17A Globemaster-3	Transport aircraft	2006	2008	1	Delivery 2008
(100)	Cougar	APC/ISV	2006	2006-2007	(100)	For use in Afghanistan and Iraq; UK designation MPV and Mastiff
16	Mk-15 Phalanx	CIWS	2006	2008	(4)	UK Phalanx Block-1A rebuilt to Block-1B with components (incl new radar) from USA
3	MQ-9 Reaper	UAV/UCAV	2006	2007-2008	3	Part of \$77 m 'Project Dabinett'
140	T-800	Turboshaft	2006			For 70 Future Lynx helicopters produced in UK; delivery from 2011
8	AAQ-33 Sniper	Aircraft El/Op system	2007	2007	8	For Harrier Gr-7/9 combat aircraft

	..	AGM-114K HELLFIRE	Anti-tank missile	2007	2008	(50)	
	1	C-17A Globemaster-3	Transport aircraft	2007	2008	1	GBP130 m deal
	4	King Air-350 AGS	AGS aircraft	2007	2008	(4)	King Air-350ER version
	7	Phalanx C-RAM	CIWS	2007	2007-2008	(7)	For use in Iraq
(100)		Caterpillar-3126	Diesel engine (AV)	2008			For 100 Bronco APC from Singapore
174		Cougar	APC/ISV	2008	2008	174	\$115 m deal; for use in Afghanistan and Iraq; UK designation MPV and Mastiff-2
157		Cougar	APC/ISV	2008	2008	(70)	\$94 m deal; Cougar 4x4 version; UK designation Ridgeback; delivery 2008-2009
24		Cougar	APC/ISV	2008			\$15 m deal; UK designation Mastiff-2; delivery 2009
(45)		Cougar	APC/ISV	(2008)			TSV (Heavy) programme; Wolfhound ALV version; delivery 2009
14		Cougar	APC/ISV	2008			\$19 m deal; Buffalo version; delivery 2009
(2)		MQ-9 Reaper	UAV/UCAV	2008			Contract possibly not yet signed
1		MQ-9 Reaper	UAV/UCAV	2008	2008	1	
(260)		MXT-MV	APC /ISV	(2008)			TSV (Medium) programme; UK designation Husky; delivery 2009
L: France	..	M-30 GMLRS	SSM	(2007)			12.5% of development financed by France; incl production of components in France; for use with MLRS MRL; contract not yet signed
Germany (FRG)	4500	FIM-92 Stinger	Portable SAM	1986	1993-2004	(4500)	Part of 'European Stinger Production Programme'; FIM-92A and FIM-92C version; FRG designation Fliegerfaust-2
	(150)	RIM-162 ESSM	SAM	(2002)	2004-2005	(150)	For Sachsen (F-124/Type-124) frigates
	30	HELRAS DS-100	Dipping sonar	2003			For 30 NH-90 ASW helicopters produced in FRG
	..	M-30 GMLRS	SSM	(2007)			12.5% of development financed by FRG; incl production of components in FRG; for use with MLRS MRL; contract not yet signed
Italy	5	RQ-4 Global Hawk	UAV	2007			EUR430 m deal; for ELINT; Euro Hawk version; delivery 2010-2014
	66	Bell-412	Helicopter	1980	1983-1998	(66)	AB-412SP/HP/EP and AB-412 Griffon version; incl 34 for police and 8 for coast guard
	13	AV-8B Harrier-2 Plus	FGA aircraft	1992	1995-1997	(13)	\$522 m deal; assembled from kits in Italy; for use on aircraft-carrier
	60	T-700	Turboshaft	1997	2001-2005	(60)	For 20 EH-101 helicopters produced in Italy; T-700-T-6A/3 version
	(10)	LM-2500	Gas turbine (SH)	(2000)	2008	6	For 1 Cavour aircraft carrier, 2 Doria (Horizon) destroyers and 2 Bergamini frigates produced in Italy
	4	KC-767 GTTA	Tanker/transport ac	2002			\$619 m deal (offsets up to \$1.1 b incl assembly of 3 in Italy); option on 2 more; delivery 2009
	232	T-700	Turboshaft	(2003)	2007-2008	(22)	For 70 NH-90 TTH transport and 46 NH-90 NFH ASW helicopters produced in Italy; T-700-T-6E1 version
	(131)	F-35A JSF	FGA aircraft	(2006)			Incl 22 F-35B version; contract not yet signed
Netherlands	(726)	FIM-92 Stinger	Portable SAM	1986	1993-1998	(726)	Part of 'European Stinger Production Programme'; from FRG production line; incl production of components in Netherlands; FIM-92A version

UK	874	FIM-92 Stinger	Portable SAM	(1992)	1998-2003	(874)	Part of 'European Stinger Production Programme'; from FRG production line; incl production of components in Netherlands; FIM-92C version
	(200)	RIM-162 ESSM	SAM	2002	2003-2006	(200)	For De Zeven Provinciën frigates; incl production of components in Netherlands (as part of NATO Sea Sparrow Consortium)
	(85)	F-35A JSF	FGA aircraft	(2006)			Incl production of components in Netherlands; contract not yet signed
	980	AGM-114L HELLFIRE	Anti-tank missile	1995	2000-2003	(980)	Part of deal worth \$2.8-3.95 b (offsets 100%); for AH-64D helicopters
	(1600)	AGM-114K HELLFIRE	Anti-tank missile	(1996)	2000-2004	(1600)	For AH-64D helicopters
	67	AH-64D Apache	Combat helicopter	1996	2000-2004	(67)	\$2.8-3.95 b deal (offsets 100% incl assembly and production of components in UK); WAH-64D Apache AH-1 version
	5	ASTOR	AGS radar	1999	2007	(5)	Part of \$1.3 b deal (offsets 100% incl production of 4 in UK); for modification of 5 BD-700 transport aircraft from Canada to AGS aircraft
	3871	FGM-148 Javelin	Anti-tank missile	2003	2005-2007	(3871)	GBP300 m (\$459-490 m) 'LFATGWS' programme (offsets 100% incl production of components in UK)
	(1200)	FGM-148 Javelin	Anti-tank missile	2004	2007-2008	(1200)	GBP100 m (\$179 m) deal (offsets 100% incl production of components in UK)
	(3000)	M-30 GMLRS	SSM	2005	2007-2008	(500)	GBP250 m programme (incl first GBP31 m deal in 2005; 12.5% of development financed by UK; warhead and other components produced in UK); for use with MLRS and LIMAWS(R) MRL
	(138)	F-35B JSF	FGA aircraft	(2006)			'FCJA' or 'JCA' programme; incl production of components in UK; contract not yet signed