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The future of the European defence aeronautics industry – reply to the annual report of the Council

REPORT

submitted on behalf of the Technological and Aerospace Committee
by Mr Yañez Barnuevo, Rapporteur

ASSEMBLY OF WESTERN EUROPEAN UNION
THE INTERPARLIAMENTARY EUROPEAN SECURITY AND DEFENCE ASSEMBLY
43, avenue du Président Wilson, 75775 Paris Cedex 16
Tel. +33(0)1.53.67.22.00 – Fax: +33(0)1.53.67.22.01
E-mail: assembly@weu.int
Internet: http://assembly.weu.int

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[1] Adopted unanimously by the Committee on 13 May 2003.

[2] *Members of the Committee:* Mr *Arnau Navarro* (Chairman); MM Mauro, *O'Hara* (Vice Chairmen); Mrs Alvarez-Arenas (Alternate: *Yañez Barnuevo*), MM *Anacoreta Correia*, *Atkinson*, Azzolini, Bindig, *Braga*, Ceder, *Danieli*, Dimas, Duivesteijn, *Etherington*, Haupert, Höfer, Kucheida, Le Guen, Letzgus, Martínez Casan (Alternate: *Agramunt Font de Mora*), *Meale*, Mrs Melandri (Alternate: *Piscitello*), MM Monfils, Pintat, *Reymann*, Siebert, Van Winsen.

Associate members: MM *Açikgöz, Ates*, Bergvinsson, Çavusoglu, Eörsi, Gawlowski, Komorowski, Konradsen, Rockenbauer, Mrs Senyszyn, Mr Titz.

N.B. *The names of those taking part in the vote are printed in italics*.

RECOMMENDATION 728[1]

on the future of the European defence aeronautics industry – reply to the annual report of the Council

The Assembly,

(i) Stressing the need for an autonomous aerospace capability for European security and defence purposes;

(ii) Highlighting the contribution the European defence aeronautics industry makes to developing and strengthening Europe's autonomous military capabilities;

(iii) Considering that overall, the European defence aerospace industry, including its civilian side, constitutes a strategic sector for Europe and one that European nations have a particular responsibility to maintain and develop, in this respect emulating the United States;

(iv) Pointing to the considerable effort already expended, under pressure from states and firms, with a view to restructuring this sector, notwithstanding the fact that from an institutional point of view there is still some way to go, and hopeful that this process will continue, thus putting paid to the continuing fragmentation and dispersal that characterises the sector;

(v) Considering that without more active commitment from European countries to military aerospace, the European defence aeronautics industry's prospects are limited and will be further weakened by US and Russian competition;

(vi) Considering therefore that it is necessary for the main weapons-producing countries in Europe to reach agreement on future common defence aerospace requirements;

(vii) Pointing to the threat the lack of government investment in European projects – as opposed to transatlantic cooperation projects of uncertain outcome whose furtherance does not depend on a joint decision by all partners – constitutes for the sector, especially from the point of view of technology transfer;

(viii) Considering that it is essential to develop a coordinated approach to armaments exports within the ESDP based on the commercial and economic opportunities the EU can offer, as a means of counteracting US policy in this sphere;

(ix) Emphasising that this approach alone, incorporating facets that are economic, technological and political, can make it possible for European producers to export their products and know-how on the basis of balanced, fair competition;

(x) Considering that it is necessary for both EU and NATO member states and candidate countries to work together to define a common strategic policy for the European aerospace sector, for they alone are able to provide the necessary political and economic impetus for its development;

(xi) Underlining the importance of involving the new NATO and EU member states and candidate countries with industrial capacity in this sphere in forthcoming decisions on defence aeronautics programmes, in order to facilitate their integration, in the longer term, in existing state (OCCAR and the Framework Agreement for example) and industrial (EADS and others) structures;

(xii) Considering that European nations should engage in and pursue cooperation with Russia and Ukraine on such matters and facilitate and guarantee cooperation agreements between their respective industries;

(xiii) Desirous that transatlantic cooperation and competition should be more balanced and fair, which can only happen if Europe's autonomy of decision in regard to aerospace matters is guaranteed,

[1] Adopted unanimously by the Assembly without amendment on 4 June 2003 (4th sitting).

RECOMMENDS THAT THE COUNCIL

1. Encourage WEU nations to cooperate with a will in defining future common defence aerospace requirements;

2. Encourage WEU nations to develop a strategic policy for the defence aerospace sector and a common export policy for defence aerospace equipment;

3. Actively support WEAG and WEAO activities connected with the European defence aerospace sector;

4. Keep the Assembly informed of action taken by WEU nations in this sphere.

EXPLANATORY MEMORANDUM

submitted by Mr Yañez Barnuevo, Rapporteur

I. Introduction

1. The European defence aeronautics industry[2] is going through a difficult period. Its prospects for investment and development are limited and it faces tough transatlantic competition. The absence of medium and long-term projects, the fact that States have pulled out of commitments, competition within Europe and the cap on defence budgets have combined to produce a less than rosy outlook: either a steady decline as compared with civilian capabilities, or involvement in more deeply integrated transatlantic cooperation that threatens to reduce the European defence aeronautics industry to sub-contractor status – admittedly with high added value, but with little autonomy. It is clear, then, that the way for Europe to achieve greater autonomy, as far as its security and defence capabilities are concerned, is to retain and develop a strong defence aeronautics industrial base.

2. Europe can manufacture high performance fighter aircraft, military helicopters, transport aircraft, a wide range of missiles and military satellites. Current capabilities are proven and the potential for development exists but the main beneficiaries, customer (and shareholder) nations act randomly, without any overall plan, often leaving their national "flagship" companies open to what is not always free and fair competition. Efforts have been made over the last ten years to restructure the aeronautics industry but these have been largely in the civilian sphere – with Airbus as the most successful. European countries involved in the project produce a single civilian passenger/transport aircraft that competes with Boeing for its share of the world market.

3. The situation of the European defence aeronautics industry, with its three fighter aircraft (Eurofighter, Rafale and Gripen) and the Airbus A400M military transport aircraft, is completely different. The A400M represents a major advance towards achieving an autonomous European forces projection capability, but is hostage to the political and budget disagreements that have at various times led to at least two of the eight countries originally involved in the programme dropping out. The fighter planes enjoy a high reputation for performance, quality and versatility, but they are in heavy competition with one another and must also compete with US F-16s and, in future, the Joint Strike Fighter (JSF/F35).

4. On the world market, European aircraft for export have, for political and economic reasons, run into trouble because of American competition. It would also be true to say that European nations, which support their "flagship" companies, do not have the same financial and diplomatic "clout" as the United States. In the absence of an export market, domestic sales alone are insufficient to keep the defence aeronautics industry afloat, other than by turning to protectionist measures like subsidies and materials costs that are unsustainable in the longer term. Internal political change also has an influence for better or for worse. The commitments given by one government can be confirmed or reversed by its successor, adding a further degree of uncertainty that does not bode well for investment.

5. As long as existing programmes receive support and orders are maintained, the defence aeronautics industry will remain stable. However, there is real cause for concern. When current programmes come to an end, the industry in Europe will find itself subject to the heavy market domination of the United States because of the involvement of a number of the larger nations in the JSF programme. For the time being, there are no new European aircraft programmes in the offing that could compete with this project, especially since the funding some European partners have committed to it will not be available to those parts of the European defence industry that are not involved.

6. The choice is not about economics or technology: it is a major political choice with implications for European defence industries and their autonomy. The "Americanisation" of European fighter aircraft fleets is also reflected in systems integration, tactics, training and equipment (for example parts and munitions), giving rise to the risk of incompatibility, as far as interoperability goes, between aircraft produced for the European market. In the light of the present restrictions on exports and constraints in terms of technology transfer, recourse to American hardware and software for the sake

[2] Aerospace industries and capacities in the 15 European Union Member States.

of compatibility is an attractive solution but one that further reduces the autonomy and comparative independence that Europeans still retain in this area.

7. The European defence aeronautics industry will also in the medium term have to come to terms with the aeronautics industries of the central European states, via NATO and European Union enlargement. The latter have recognised areas of expertise which will need to be integrated in the present European network, otherwise they may fall under the sway of American firms in the sector, through buy-outs and equipment sales. Russia also occupies an important place in this sphere and its aircraft compete with those produced in Europe, particularly in south-east Asian markets. Cooperation between the European defence aeronautics industry and that of Russia, the subject of another report from this Committee, is also, ultimately, one of the ways of safeguarding Europe's autonomy, know-how and specific capacities.

II. Strengths and weaknesses of the European defence aeronautics industry

8. After the cold war, as a result of the continuing decline in Russian capabilities in this sphere, the European defence aeronautics industry found itself in a better position on the world export market. However, it also suffered the backlash of recession and falling defence budgets and the impact of the negotiations on conventional arms reduction in Europe. The need to replace old equipment with new was part of the reason for continuing and expanding existing programmes, particularly Eurofighter and Rafale. Here too it was a matter of supporting national production, research and technology and research and development capabilities. Eurofighter also provided an example of Europe's resolve to cooperate at a time when governments wanted to show the United States that they were able to start taking on a more important role in Europe's defence (as the "European Pillar" of the Alliance) including in the defence equipment field.

9. The Gulf war laid bare the gap between Americans and Europeans in terms of air assets and capabilities. Allied aircraft had little, if any, night combat capability or guided ordnance; they were less well protected (electronic counter measures, suppression of enemy air defences) and had limited interoperability with US aircraft. At the end of the war, the American aeronautics industry was able to reap the benefit of the technical advantage and superiority of its products while the inadequacy of the systems in use in the majority of the major European countries concerned, as compared with new medium-intensity conflict requirements, was plain for all to see. Europeans could not have conducted such an extensive air war without the United States. The wars in former Yugoslavia, Bosnia and Herzegovina and Kosovo were blatant examples of this continuing inadequacy.

10. There is not only a need for new fighter aircraft but also for larger, more modern transporters with bigger payloads and wider ranges. The Future Large Aircraft (FLA) project, now the Airbus A400M, is an attempt to meet this requirement. Munitions are also needed, particularly air-to-air and air-to-ground missiles, guided bombs and cruise missiles. Stealth capability is also under study, as are offensive and defensive electronic weapons systems, software, aerodynamics, all of them to become part and parcel of new, fourth-generation multi-role aircraft – to have, where possible, a naval variant for use aboard aircraft carriers. At the same time, it is hoped to procure attack and transport helicopters for tactical missions, ground support, special forces heliborne transport and short- and medium-range ground and air surveillance. This adds up to a total of no less than six major programmes.

1. The state of play in the European defence aeronautics industry

11. Overall, the European aeronautics industry provides over 435 000 jobs (direct employment) while subcontractors account for a further 800 000[3]. In 2001, total turnover was 80 billion euros, with total orders worth some 300 billion euros. Investment in R&D stands at 10 billion. These large credit balances nevertheless mask a significant imbalance: three quarters of turnover is accounted for by commercial orders (private, intra-European) and exports and the remainder by government orders. In the United States, the federal administrations and NASA account for 37% of orders placed with the US aerospace industry. In the military sphere, the imbalance is even more pronounced, with the

[3] "The European Aerospace Industry, Facts and Figures 2001", Association européene des constructeurs de matériel aérospatial (AECMA), October 2002; www.aecma.org.

European military sector accounting for under a third of sales (28%) while in the United States the corresponding figure is 40%.

12. The aerospace industry is divided into three major sectors; “systems and cells”; engines and equipment (e.g. avionics). There are three main product groupings: aircraft (including helicopters), missiles and space. Military aviation (excluding helicopters) accounts for 26% of turnover. A large part of this (34.8 billion euros) is generated by trade in the aerospace sector, as a result in particular of orders placed by consortia such as ATR (Avions de Transport Régional) and, on the military side, Eurofighter (as part of EADS). In 2001, the governments of the 15 EU member states procured some 20 billion euros-worth of products and services (civilian and military), as compared with the Pentagon’s almost 50 billion dollar-investment in aerospace (aircraft, missiles and space) in the same year[4].

13. There are today ten or more aerospace firms across the whole of the European Union. From them two names emerge: EADS and BAe Systems. In the early 1990s there were some 30 such firms. Mergers and restructuring in the second half of the 1990s to 2000 helped revive the sector. However, it is still very fragmented. These trends brought the major producers that dominated the European aerospace market – France, Germany, Italy, Spain, Sweden and the United Kingdom – closer together. The European aeronautics industry was thus able to compete with the US industry, in the form of Boeing and Lockheed Martin, on a global scale. EADS is in second place after Boeing and BAe Systems occupies fourth place, behind Lockheed Martin.

14. Taking European defence constraints – market fragmentation, stagnant budgets, lack of a common policy – into account, the European industry is by and large very dependent on civilian orders. This lack of a more extensive government commitment makes it extremely vulnerable in the event of a prolonged air transport crisis or a fall-off in investment in the telecommunications sector (with direct implications for the industry’s space sector) for example. Such a commitment is only possible at European level since not even the major producers, still nowhere near total convergence themselves, can guarantee the survival (and viability) of the industry’s defence component on their own.

15. European governments have a major responsibility to pursue and promote restructuring in this sector, where only 1% of firms have more than 10 000 employees and there are some 80 000 suppliers and subcontractors. It is not so much their number that is the problem as the fragmented and dispersed environment in which Europe’s defence aerospace industry is evolving, giving rise to duplication, conflicts of interest, difficulties over cooperation, and so on. The picture will become more complicated and varied still upon the entry to the European Union of ten new central European states, and later of Turkey, all of which have aeronautics capabilities and potential, such as equipment and handling capacity. Poland and Romania, for example, between them have some 30 firms with a workforce of some 50 000.

16. Exports are also a very important consideration as regards the future of the European aerospace industry, in both the civilian and military sectors. Exporting passenger, transport and military aircraft is tantamount to exporting political and economic influence, something that emerges very clearly in US commercial and political strategies. The lack of an organised, operational ESDP diminishes Europe’s capabilities in this area where only two countries have any international network of influence (albeit very limited): France with its Mirage aircraft and other weapons systems produced by Dassault and Thales, for instance, and the United Kingdom with BAe Systems established in the United States and the Gulf states.

2. Current projects

17. For the present, given the relative “youth” of its programmes, whatever form they take – multilateral or bi-national cooperation or national production – the defence aeronautics industry is still on the way up. National orders are assured, with some variants, costs are rising but within reason and

[4] “Final Report of the Commission on the future of the United States aerospace industry”, 18 November 2002; http://www.aerospacecommission.gov.

funding (and delivery) schedules can sustain industrial research and production capabilities over the coming years. The volume of funding committed to such programmes and the amount of work they bring in make it difficult for major contributors or customer states to pull out. The gradual ageing of European fleets makes it necessary either to forge ahead or forego autonomy completely, not only in the defence sphere, but also in industrial terms, and in terms of R&T and R&D capability.

(a) EADS: the central axis of European capabilities in defence aeronautics

18. Founded only three years ago, on 10 July 2000, EADS is now at the hub of civil and defence aerospace activity in Europe. In terms of platforms, systems and the rest, EADS is a milestone in European industrial integration as far as design, R&D and production are concerned. Very few European companies are outside its reach and it is likely ultimately to become the sole independent centre of defence aeronautics activity. Three pilot programmes are in the course of development or production in the EADS Military Aircraft defence sector: a fighter aircraft, a military transport bulk carrier and transport and combat helicopters.

Eurofighter: Due for commissioning in 2003, this is one of the most advanced fighter aircraft in Europe. There are four countries taking part in the programme: Germany, Italy, Spain and the United Kingdom. Greece and Austria have also expressed an interest in buying the Eurofighter and in January 2003 Norway decided to participate in developing the aircraft’s weapons systems. The programme’s four participating countries, which together make up the NATO Eurofighter and Tornado Management Agency (NETMA), have committed themselves to procurement of a total of 620 aircraft and placed an initial order for 148. Eurofighter is basically an air-air combat aircraft that also has air-ground (suppression of enemy air defence, anti-radar) and air-sea capabilities. For the present no naval version (for aircraft carriers) is planned. Unit costs are estimated at over 60 million euros.

Airbus A400M: This is a strategic programme to strengthen and develop European projection capabilities. Six countries are directly involved in the project: Belgium, France, Germany, Spain, Turkey and the United Kingdom. The A400M is an important milestone towards harmonising European nations’ requirements as set out in the European Staff Requirement defined, in 1996, by eight countries (Italy and Portugal withdrew from the project in 2002). The estimated requirement is for some 300 aircraft to replace old Transalls (C-160, Franco-German) and Hercules C-130 (Lockheed Martin) still in service. Airbus Military Industries are responsible for production and OCCAR for programme management. Unit costs, affected by uncertainties over the final number of firm orders, are estimated at over 90 million euros. The first deliveries are scheduled to take place in 2008.

Eurocopter: Two main programmes are currently under way, the Franco-German “Tigre” assault helicopter and the NH-90 transport and maritime surveillance aircraft. A total of 240 Tigre, which exists in two variants: an anti-tank and a ground support version, have been ordered by France and Germany (the initial order was for 160 aircraft). The first deliveries of the ground support version to both France and Germany are scheduled to begin during the current year and continue until 2011. Australia, which bought Tigre in 2001, should take delivery of 22 helicopters from 2004. As in the case of the A400M, OCCAR is managing the programme. Unit costs are estimated at 20 million euros (anti-tank version) and 17 million euros (ground support version).

The NH-90 exists in two versions, a land (tactical transport) and a naval (aircraft carrier) version. Within the latter category there are support and anti-submarine and anti-surface unit warfare versions. Five countries are involved in the programme: France, Germany, Italy, the Netherlands and Portugal. A total of 377 helicopters (both versions) are to be produced and commissioned over the coming years, including 69 ordered by Finland, Norway and Sweden (20, 24 and 25 respectively) in 2001. Production of the first units began in 2002 and the first helicopters will be delivered in 2004, with deliveries continuing up until 2011. Unit costs are estimated at 20 million euros for the tactical transport version, 30 million for the naval version with combat capabilities and 25 million for the support version. The programme is managed by NATO (NATO Helicopter Management Organisation, NAHMO).

(b) Dassault and the Rafale

19. The Rafale, along with the Gripen, will probably be the last fighter aircraft to be produced by a single European country. This is a multi-role aircraft which comes in an air and a naval (aircraft carrier) version. The Rafale has nuclear, air defence and air interdiction, ground attack and reconnaissance capabilities. Together with the Mirage 2000D and 5 it is due to replace France's entire range of fighter aircraft still in service. Ten of these aircraft (air-air version only) are already in service in the Navy and operate from the nuclear-powered "Charles de Gaulle" aircraft carrier. A total of almost 300 aircraft are due for delivery between 2014-2020 (234 for the Air Force and 60 for the Navy). French budget legislation *(loi de programmation budgetaire)* provides for the commissioning of 120 aircraft in 2008-2009 (60 for the Air Force and the same number for the Navy). The unit cost of the two Rafale versions is estimated at 44 million euros (air) and 52 million euros (naval).

20. The Rafale programme has enormous industrial and financial implications, to the tune of 32 billion euros in total, which leave the French Government with no other choice than to accept its commitments while negotiating, it has to be said with some difficulty, reductions in unit costs and in the number of aircraft on order. This leaves Dassault in a rather difficult position, since, having only one customer, it is forced to accommodate it. The situation has given rise to delays in the programme which has twice been interrupted (in 1995 and 1996). An agreement reached in 1997 on a firm order worth 500 million euros revived development and production. Although matters are now more or less resolved at national level, the Rafale's future on the world market (which could bring in substantial profits for Dassault) for the present hangs in the balance, and things are likely to get even more difficult when the aircraft finds itself in competition with the Eurofighter, Sweden's Gripen aircraft and the American F-16 and JSF/F-35.

(c) SAAB/BAe and the JAS Gripen

21. This multi-role fighter aircraft, of Swedish design and manufacture (SAAB), was commissioned in 1996 and will ultimately be the only aircraft Sweden has in service once the "old" Viggen and Draken aircraft are withdrawn. The Gripen has an air-air, ground-attack and reconnaissance capability and can adjust to fulfil all mission types. The Swedish Government has ordered 204 aircraft to 2007, 116 of which have already been delivered. In September 2002, the first Gripen JAS39C single-seater version was delivered. This model was designed to be completely interoperable with aircraft in service in NATO member state air forces. The unit cost of the Gripen is estimated to be between 20 and 30 million euros, including the weapons system and training.

22. On 15 June 1995, SAAB signed an agreement with BAe (British Aerospace) for the export marketing of the Gripen. The aircraft therefore has the benefit of BAe's worldwide sales network and its expertise in terms of weapons systems. To date, only South Africa and Hungary have bought Gripen (28 and 14 aircraft respectively). Austria and the Czech Republic also showed interest in the aircraft but in the case of the latter the decision was postponed following the disastrous floods of 2002. Brazil and Greece also featured among the number of potential customers. However, SAAB/BAe's failure to win the order to replace Poland's air fleet dealt a blow to their ambitions to supply the NATO candidate country market. Like Eurofighter and Rafale, continuing sales of the F-16 to the central European countries and European countries' commitments to the JSF/F35 programme, are reducing Gripen's chances elsewhere than on the domestic market.

(d) Weapons systems: Meteor and Storm Shadow

23. The Eurofighter, Rafale and Gripen are high performance, multi-role aircraft adapted to current air combat conditions and to ground attack and surveillance missions. They therefore need sophisticated precision weapons systems that meet tactical and operational requirements. Among such systems missiles are at the forefront, especially for air-air defence and ground attack on both fixed targets (radar stations, airport installations, command centres, for example) and moving targets (vehicles, ships). Two programmes are of crucial importance in this field: Meteor and Storm Shadow/Scalp.

Meteor: This is a long-range (over 100 km) airborne air-air missile also known as a "beyond visual range air-air missile" (BVRAAM). Meteor can engage with a wide variety of airborne targets within its range, by day or night, in all types of climatic conditions. The contractor is MBDA, which emerged from the restructuring of the French, German, Italian, Spanish, Swedish and UK missile industries.

The missile is ready to equip the Eurofighter, Rafale and Gripen, which constitute an important market, while freeing European fleets from the constraints associated with the procurement of US missiles of the same class. On 23 December 2002, a 1.86 billion euro contract was signed between MBDA and the UK Defence Procurement Agency, on behalf of the French, German, Italian, Spanish, Swedish and UK industries, to launch production of Meteor. The missile must first be tested on the Gripen in 2005, then on the Eurofighter and Rafale. The first deliveries are scheduled for 2008-2009.

Storm Shadow/Scalp EG: This is a "strategic" ground attack missile programme to give European armies greater precision strike capability. It consists of a long-range cruise missile flying at low altitude using "both inertial navigation and terrain-reference navigation to find the target and automatic target recognition for its high terminal accuracy. This multiple navigation system provides the missile with good navigational precision and excellent resistance to countermeasures. During the final target approach phase, the imaging infrared homing head is activated and automatic target recognition algorithms compare the actual scene with the memorised scene, identify the designated target and select the target impact point. The missile is then guided to the selected impact point"[5]. The missile will initially equip the French air fleet (Mirage 2000 and Rafale; 500 missiles including 50 for on-board aircraft), and those of Greece (Mirage 2000), Italy (Tornado and Eurofighter) and of the United Kingdom (Eurofighter: 900 missiles). The United Arab Emirates are also interested in the Storm Shadow/Scalp EG (Mirage 2000). MBDA is to produce over 2 200 systems in the coming years.

3. Political issues and consequences for European defence

24. If the list of current programmes is taken as a barometer, the defence aeronautics industry can boast of substantial order books, important to its survival, over the next few years. These projects, of the utmost importance in developing national and European defence capabilities reflect firms' industrial know-know and R&T and R&D capabilities. Although in receipt of but modest budget support and subject to political pressure, they have succeeded in bringing themselves up to technological levels comparable to those of the major American groups, foremost among them Lockheed Martin and Boeing. However, progress is being held back essentially by the lack of a coherent policy towards the defence aeronautics sector, and armaments production in general, where a purely national approach can no longer suffice.

25. In the 1990s, under pressure from US competition, cut-backs in defence budgets and efforts directed towards developing and strengthening autonomous European capabilities, the national "majors" were forced into realignment. The example *par excellence* is EADS. Nevertheless, this form of restructuring did not produce true defence multinationals. The industries that thus regrouped never managed to free themselves entirely from national control. While an American group has only one main customer, and a number of secondary ones (export markets), a European group has as many main customers as there are countries likely to present themselves on the world market. As each country has its own priorities and its own industries or industrial and technological capacities to protect, all projects involve technical and political offsets that tend to lead to duplication, delay and substantial cost overruns.

26. The net result is aircraft whose various parts are designed, manufactured and tested in different places, in a number of countries, and moved thousands of kilometres for final assembly. While this protects industrial capacities and employment, particularly skilled jobs, in the countries concerned it all adds to the cost. Furthermore, customer nations right from the outset have difficulty in meeting their original commitments, which are constantly being revised in the light of evaluations of needs and current budget constraints. However, the level of financial commitment involved and fear of the loss of defence aeronautics expertise means many programmes are spared being cancelled outright. Thus, it is thanks to the fact that the industry has been prepared to some extent to sacrifice profitability that the Eurofighter, Rafale and Gripen have come into being.

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[5] Storm Shadow/Scalp EG cruise missile firing clears way for RAF service trials"; MBDA press release, 20 June 2002; http://www.mdba.net

27. The major challenge for European defence aeronautics programmes is to safeguard and strengthen autonomy in defence – an autonomy not measured solely in military terms but which can also have significant implications for future technical, industrial and economic development and living standards in armaments-producing countries. Hundreds of thousands of jobs are at stake, and whole networks of contractors and entire regions benefit from such activities. To this can be added tax and export revenues. To export fighter aircraft is to export political and economic influence, given the value of the contracts, worth billions of euros or dollars over long periods of time. This is an art in which the United States excels but in which Europeans are less proficient.

28. The explanation for this is that the European armaments sector as a whole is still fragmented and widely dispersed. There are currently three European fighter aircraft in a regional and world market that is, when all is said and done, fairly small[6]. These three aircraft, each with its own specific characteristics, are in competition with Russian, American and possibly with other producers' aircraft (China, Brazil, India or Israel for example). If the field is widened to helicopters, training aircraft and weapons systems, Europe's fragmented production is the more striking. European sellers' have little to offer buyers in terms of offset deals and other contracts (which often have nothing to do with the original tender) and the possibility of European countries, either individually or as a group, being able to make a case to the major financial institutions (the World Bank, the IMF or the EBRD) are fairly limited (unless the European Union as a whole were to commit itself to doing so).

29. This particular economic aspect is a highly significant one in view of equipment costs. Today, even between the partner countries of the Eurofighter programme, orders are placed having regard not only to analyses of military requirements but also to the financial contribution that each partner has made and trade-offs in terms of work for national companies (for example, the EADS subsidiaries in the various countries and their many subcontractors,). When it comes to third countries, as mere purchasers, the inability to offer real financial trade-offs can easily lead to markets being lost to competitors with more to offer. This happened, for example, with the Czech Republic as a potential buyer for the Gripen aircraft. Following the floods in autumn 2002, the Czech Government decided to suspend the negotiations in progress at the time and use the budget it had originally allocated to military spending to meet the cost of the devastation caused by the exceptionally bad weather.

30. Prague is today considering a possible "hire-purchase" arrangement involving Canadian and Belgian ("second-hand") F-16s, or having recourse to Mig-29 aircraft in service in the Slovakian army. This has cast doubt for the immediate future over the European option involving the Gripen. The outcome might have been quite different if Sweden (or better still the European Union) had helped the Czech Republic out in the wake of the flooding, so as to safeguard interests tied in with the Gripen contract. Any recourse to American aircraft, albeit owned by Canada or Belgium, accordingly reduces the Gripen's chances of breaking into the central European market beyond Hungary and Austria (which also suspended its order).

31. Another not inconsiderable political consideration, linked with the transatlantic dimension of European security and defence and, in the wider world, with market positioning in regard to the United States, is that procurement of weapons from the US is bound up with commercial advantages such as access to the American market, the political benevolence of the US Administration and Congress, military assistance from the Pentagon and being part of the United States' circle of friends and allies. The fact should not be overlooked that to export planes and other fighter aircraft, is also to export influence over the use of equipment (systems integration, battlefield tactics, doctrines, etc.), through pilot and ground-staff training, dependence on after-sales service – spare parts, upgrades – and development and replacement of the versions sold originally.

32. Some European states are seeking to maximise the autonomy of their equipment and guarantee security of supply by developing joint or national programmes. Costs are greater than for "off the shelf" purchases from the United States, but the advantages in terms of preserving and developing industrial and technological capabilities, both by control over assembly lines and greater flexibility when it comes to exports, are significant. When the United Kingdom committed a billion pounds

[6] World production for the period up to 2008-2010 is estimated at 3 000 aircraft, according to the TEAL Group (a US defence and market analysis firm); http://www.tealgroup.com.

sterling (1.5 billion euros) to the Meteor programme, it was both for reasons of technical and military performance and because it meant being able to keep and create some 1 000 skilled jobs at national level, having a guaranteed supply and possibly achieving further export revenues.

33. National economies thus gain by such programmes, even if their cost overruns are debatable. A strong economy benefits the armed forces and investment in equipment, especially when it comes to defence aeronautics where equipment costs are highest. Technological investment in the context of such projects is therefore also to the advantage of civilian and defence sectors other than aeronautics and space. In the case of the A400M transport aircraft, the Eurofighter and Meteor, thousands of euros worth of investment and tens of thousands of jobs are at stake, along with the impetus for European cooperation, which taken together help improve national and European military capabilities. Such national or joint projects strengthen and develop European interoperability at a time when the technology gap between Europe and the United States is reducing interoperability with equivalent US-produced equipment.

34. Nevertheless the prospects these projects offer are insufficient to meet the longer-term needs of the defence aeronautics industry beyond 2010. By then, hopefully, deliveries will have taken place of the Eurofighter, Rafale and Gripen, A400M, Meteor and Storm Shadow, all of which are due to remain in service for 20 years or more. Their replacement, apart from those systems that need to be renewed and upgraded on a regular basis, will be for the longer term. However, production properly speaking is likely to be stopped unless the export market is such as to keep production lines rolling at sufficiently profitable levels. A further consideration is the fact that no less than six European states have joined the American JSF/F-35 programme and the chances are that others will follow. JSF deliveries are scheduled to start in 2010 (150 aircraft for the United Kingdom) just at the time when European production will be at a standstill.

35. The fact is that the attempt to achieve industrial consolidation at European level, the emergence of EADS, SAAB-BAe synergy and the production of a single air-air missile for the three European aircraft, have not been matched by parallel development of nations' own positions in terms of defence and defence equipment. Countries are acting in complete isolation from one another in this respect, jealously preserving their own industrial capacities, entering into cooperation programmes which ultimately add to their cost and slow down progress towards industrial integration and consolidation. Moreover, the ESDP, still at the capabilities catalogue and wish-list stage, is not developing into a genuine policy. In a context where it is obvious that states are no longer able to invest by themselves in defence aeronautics programmes, divisions between Europeans over the aircraft of the future are the defence aeronautics industry's most pressing problem.

III. Prospects: autonomy or subcontracting?

36. The future of the defence aeronautics industry does not depend solely on economic, industrial, social and technological factors, but also on the development of an autonomous European defence capability – a matter of strategic importance to Europe. The aerospace industry consists of more than aircraft, missiles and rockets; it is also where a missile defence system could be developed and it holds the key to independent access to outer space. It constitutes a whole. And it produces (economic and social) spin-offs in civilian life and contributes to Europe's general technological progress.

37. It is important therefore, to take as European an approach as possible towards ensuring that existing capabilities are strengthened, to continue the process of gradually merging companies (Dassault and Alenia for example are not part of EADS, and this makes them very dependent on smaller government orders from France and Italy) and, through tax breaks and political support, give them the wherewithal to stand up to and compete on an equal footing with the American majors. Future defence aeronautics industrial capacity depends in large measure on getting new projects and programmes under way that will also promote a better balance in transatlantic relations. This in turn implies letting central and eastern European EU and NATO applicant countries with acknowledged technological and industrial potential in on the act. The defence aeronautics industry must rise to this challenge if it is to gain access to this expanding market and stand up to US commercial (and political) blandishments in that region. The defence aeronautics industry must look to cooperation at one and the same time with both Russia and the United States.

38. It is the United States which presents the greater challenge. The American defence industry's technological, economic and political superiority, its monopoly position and the machinery available to it for financing its capital base means that transatlantic industrial cooperation becomes a complicated and subtle ploy that creates division, or so it would seem, between the main European producers and nations. There is cooperation but often on unequal terms, particularly when it comes to access to technology or information exchange. There is only one European aircraft in active service with the US Marines – the British Harrier vertical take-off jet (manufactured in the United States by McDonnell Douglas), but its replacement, the JSF, will be one hundred per cent American designed and manufactured.

1. European political and industrial initiatives

39. Over ten years ago, at the end of the Gulf war, "western" Europe embarked upon the setting up of a European defence in the framework of the Atlantic Alliance and intended to complement it. This took place first in WEU, then in the European Union. Reorganisation of countries' armed forces on a smaller scale and along more flexible and efficient lines was accompanied, and at times preceded by defence industry restructuring and reorganisation. This development has been most marked in the aeronautics sector while the army and naval sectors remain extremely fragmented. Defence aeronautics is also an area with one of the longest histories of cooperation, with the Tornado and Jaguar aircraft and, in the 1980s, the future European fighter aircraft, which now exists in two variants: Eurofighter and Rafale[7].

(a) Intergovernmental cooperation

40. This is without any doubt essential for dealing with European defence issues. Notwithstanding its disadvantages, and the difficulty in reaching common positions on sensitive subjects, substantial progress, relevant also to armaments production and development, has been made over the last ten years. The need is not only operational, but political and economic as well, since no single state can now sustain major programmes of this kind without recourse to bi- or multilateral cooperation at various levels, depending on the specific needs of individual projects. The UK Government's recent decision to "share out" the construction of two aircraft carriers between the European THALES group and BAe (UK) is the latest example. France for its part is contemplating construction of a new aircraft carrier which it might possibly build in cooperation with the United Kingdom.

41. The pioneers of recent cooperation, WEAG (Western European Armaments Group, 1992) and WEAO (Western European Armaments Organisation, 1996) have a variable record of success but one very important achievement to their credit: the founding of a forum of discussion between Europeans that is open and advantageous to most of them, irrespective of whether they are producers or buyers. It was in WEAG that the future large aircraft (now the Airbus A400M) got off the ground and in WEAG too that many equipment shortfalls were identified and remedies sought. When WEAO was created, European states set up joint cooperation machinery which has proved extremely effective in the areas of R&T and R&D, notwithstanding their failure to develop the Organisation in the direction that was originally intended of a European Armaments Agency.

42. The Organisation for Joint Armament Cooperation (OCCAR), which was set up in 1996, is now positioning itself as a future European Armaments Agency. Based on a Convention (international agreement) that came into force in 2001, after ratification by the parliaments of the Member States (France, Germany, Italy and the United Kingdom) OCCAR is able to act both as principal and as programme manager. For its transformation into a European Armaments Agency (EAA) to be successful, the organisation must nevertheless enlarge to take in other member states, providing that they subscribe to its guiding principles, particularly concerning "*juste retour*"[8] and "European preference". In this respect, Articles 5 and 6 of the Convention provide that:

[7] The original group of partner countries in the project included France, which withdrew from the programme in 1985 to pursue its Rafale programme on its own.

[8] "A compensation arrangement between governments participating in a collaborative programme which seeks to align work-share with cost-share. These arrangements will be reflected in obligations placed on contractors to discharge obligations that have been accepted by governments", EDIG Policy Paper On Offsets, 26 June 2001.

> "the Member States renounce, in their cooperation, the analytical calculation of industrial *juste retour* on a programme-by-programme basis, and replace it by the pursuit of an overall multi-programme/multi-year balance";

and that:

> "When meeting the requirements of its armed forces, each Member State shall give preference to equipment in whose development it has participated within OCCAR".

To date, four European countries, Belgium, the Netherlands, Spain and Sweden, have expressed an interest in joining OCCAR.

43. In the defence aeronautics and missiles field, OCCAR plays a central role in managing the Tigre attack helicopter programmes, the A400M transport aircraft and FSAF (future surface-to-air family systems) for theatre missile defence. These systems come in a naval SAAM (surface-to-air anti-missile system) and a land-based SAMP/T (land-based medium-range surface-to-air missile) version and are extremely important in extending the autonomy of national and European defence capabilities and reducing dependence on US-designed and manufactured systems, such as Lockheed Martin's Patriot Pac-3 which is foreseen for NATO's MEADS programme (Medium Extended Air Defence System, developed as a cooperative venture by Germany, Italy and the United States).

44. Another important initiative in terms of intergovernmental cooperation was the signature on 24 July 2000 of the Framework Agreement on measures to facilitate the restructuring and functioning of the European defence industry, following on from the Letter of Intent (LoI) of 8 July 1998 signed by France, Germany, Italy, Spain, Sweden and the United Kingdom. This agreement, which is in the process of being ratified, brings together the major weapons producers in western Europe and if successfully implemented might lead, with OCCAR's support, to the coming into being of an integrated transnational European defence industry, able to meet the challenges of transatlantic cooperation and competition.

45. The Framework Agreement sets out principles which are strategically important in strengthening European defence industries, first and foremost among them the defence aeronautics industry. It contains four major provisions concerning:

– security of supply;

– common procedures for equipment transfer and export between the states parties and third countries;

– information exchange and cooperation in research and technology (R&T);

– harmonisation of military requirements.

This last point is of prime importance, not only for the industry, where it can help cut down significantly on duplication and provide the antidote to fragmentation of programmes, but also for the gradual building of a common European defence capability, if not an integrated one. The Framework Agreement, like the OCCAR Convention, is open to signature by other states following unanimous decision by the present states parties.

46. In late 2002 and early 2003, proposals were made in bilateral Franco-German and Franco-British declarations for strengthening European defence industrial capacities. The Franco-German Declaration adopted on the occasion of the 40th Anniversary of the Elysée Treaty, on 22 January 2003, echoes the terms of the contribution submitted to the Convention on the Future of Europe by the French and German foreign affairs ministers in November 2002, by setting the following objectives:

– "The strengthening of military capabilities which presupposes a better allocation of resources, stepping up the equipment effort of our armed forces, and developing new forms of cooperation, particularly by harmonising the planning of needs, pooling resources and capabilities and, eventually, sharing out tasks.

– Better coordination of cooperation on armaments and strengthening the defence technological and industrial base (DTIB) which requires the definition of a European armaments policy including the creation of a European Armaments Agency. This agency could be based on OCCAR (Organisation for Joint Cooperation in Armaments) which could be progressively enlarged."

47. At the Franco-British summit in Le Touquet, France, on 4 February 2003, a joint Declaration was adopted on strengthening European cooperation in security and defence, which proposed that "an intergovernmental defence capabilities development and acquisition agency could be established in the EU (…) to promote a comprehensive approach to capability development across all EU nations". The agency would have the following functions:

– "the identification of the qualitative and quantitative objectives set out above, and evaluation of capabilities against them;
– efficient procurement;
– coordination of defence research and technology;
– harmonisation of military requirements;
– promotion of multinational solutions to fill identified capability gaps;
– management of cooperative programmes on the basis of the development and progressive enlargement of OCCAR;
– strengthening of an internationally-competitive defence industrial and technological base, drawing on procedures identified in the Letter of Intent Framework Agreement and through the provision of advice on the regulation of the armaments sector, e.g. adaptation of the Community Framework".

48. All these forms of cooperation and intergovernmental initiatives, prompted by a resolve to "Europeanise" as far as possible, and in a progressively integrated way, the entire armaments production chain in Europe, from identification and definition of requirements through design, R&T, R&D, production and commissioning to marketing and export, are complementary but increasingly convergent on setting up a European armaments agency, possibly based on OCCAR and situated within the European Union, around which defence industries might, as it were, "federate". If the first major project for such an agency were to meet Europeans' military aerospace requirements for the 21st century this would give a major political and financial impetus to the work of the defence aeronautics industry over the next 10-15 years.

(b) The European Union and the defence aeronautics industry: STAR21 and the European Capabilities Action Plan (ECAP)

49. The European Union is first and foremost a complex legal edifice with an immense range of powers, defined in its Treaties, covering industry and research. The dual character of the aeronautics industry means that its civilian activity is monitored by the European Commission, through supervision of the process of restructuring, takeovers and mergers, and through the technical and financial assistance the Commission gives to various programmes. The single market, however, does not cover defence equipment, placed outside the Community sphere of responsibility pursuant to Article 296 of the Treaty establishing the European Communities. But as a result of the difficulties arising through lack of national investment in this sector and uncertainties over future programmes or even completion of those at present under way, the European defence industry has drawn closer to the Commission in order to lend greater weight to its demands.

50. Thus, in July 2002, the European aeronautics industry and the Commission published a report entitled "Strategic Aerospace Review for the 21st Century" (STAR21). The report's industrial co-signatories included most of the defence aeronautics industry: EADS, BAe Systems, Rolls Royce, Snecma, Thales et Finmeccanica. The report also dealt with those defence programmes that fell outside the Commission's area of responsibility, recalling that the aerospace industry "makes an essential contribution to security and defence, thereby helping to safeguard Europe's freedom of action in its external policies" and that "the well-being of the industry depends on twin pillars, namely, civil and defence". The introduction to STAR21 also points out that:

> "Aerospace is vital to meeting Europe's objectives for economic growth, security and quality of life. It is directly associated with, and influenced by a broad range of European policies such as trade, transport, environment and security and defence.
>
> A strong, globally competitive industrial base is essential to provide the necessary choices and options for Europe in its decisions as regards its presence and influence on the world stage. (...)".

51. Defence issues occupy an important place in this study and programmes in this area are regarded as vital to the industry's survival. STAR21 thus states that "It is in the areas of security and defence and related research that the most pressing need for added efforts to secure the future of the European industry is identified. Such efforts are needed to ensure a highly capable European industrial and technological base which is an essential prerequisite to guaranteeing the industry's overall future competitiveness". Further on it is also stated that the "well-being" of the aerospace industry rests almost equally on its interdependent civilian and military sectors. Part 7 of the report entitled: "Vital need for European security and defence capabilities" puts forward some apposite recommendations of a more general political nature but whose implementation would have an extremely beneficial impact on the future of the defence aeronautics industry:

- "ultimate goal: a European armaments policy to provide structure for European defence and security equipment markets, and to allow a sustainable and competitive technological and industrial base;
- harmonisation of military requirements and planning of procurement budgets and of arms procurement;
- increased resources, used more effectively, with encouragement for European collaborative programmes and more effective task-sharing between Member States;
- more coherent defence research spending between Member States;
- work towards establishment of a European defence equipment market and an armament agency responsible for a wide range of activities related to acquisition, common research and development, off-the-shelf procurement, etc.;
- promotion of EU-wide actions similar to the Framework Agreement for Defence Restructuring;
- bridging the gaps identified in the European Headline Goal and in the collective capability goals".

This last point is the main priority of the European Capabilities Action Plan (ECAP) approved at the EU Laeken Summit in December 2001, and set in train under the EU Spanish Presidency in 2002.

52. ECAP is still in its infancy. So far there have been no startling results and progress will be slow. The chosen method of proceeding, of a very marked intergovernmental nature, and difficulties with project funding, restrict the scope of the Plan, which is accompanied by a further initiative in the field of defence research and technology, (EATP). This is an integral part of the process for the development of EU military capabilities for crisis management, as called for in the European Council's Cologne Declaration in 1999. In November 2000, the Capabilities Commitment Conference adopted two catalogues, one relating to capabilities, the other to forces. In November 2001, a Capabilities Enhancement Catalogue was submitted to a second conference and ECAP was ushered in as a means of making good the shortfalls identified when the forces and capabilities catalogues were drawn up.

53. The guiding principles of ECAP, approved at the Laeken European Council in December 2001, are:

- "Enhanced effectiveness and efficiency of European military capability efforts.

The current fragmentation of defence effort provides scope for Member States to rationalise. This might be done by stepping up military cooperation between Member States or groups of Member States.

– A 'bottom-up' approach to European defence cooperation.

Member States' commitments would be on a voluntary basis, with due regard for national decisions. The required capabilities will be achieved partly by carrying out national and multi-national projects which are already planned and partly by developing new projects and initiatives to make good remaining deficiencies.

– Coordination between EU Member States and cooperation with NATO.

Application of this principle is essential to target specific shortcomings, avoid wasteful duplication and ensure transparency and consistency with NATO.

– Importance of broad public support

The public in the Member States must have a clear vision of the context in which CFSP development is situated, of the existing shortcomings and the efforts to be made to achieve the objectives set. This transparency of the Action Plan will help to make the action plan more effective and back up the political action and political will underpinning it."[9]

Comparison between the catalogues enabled 42 major shortfalls to be identified, particularly in regard to protection of deployed forces, capability to engage and logistics. The primary purpose of ECAP is to make good at least 24 of the areas of need identified.

54. The work was shared among 19 panels, in which defence aerospace applications feature prominently. Thirteen of the panels are directly connected with that sector:

- Attack Helicopters/Support Helicopters;
- UAV/STA Units;
- Carrier Based Air Power;
- Suppression of Enemy Air Defence;
- Air to Air Refuelling;
- Combat Search And Rescue;
- Cruise Missiles/Precision Guided Munitions;
- Theatre Ballistic Missile Defence;
- Theatre Surveillance and Reconnaissance Air Picture;
- Strategic ISR IMINT Collection;
- UAV (HALE, MALE and tactical UAVs);
- Early Warning and Distant Detection Strategic Level;
- Strategic Air Mobility/Outsize Transport A/C, General Cargo A/C

An initial progress report was submitted to the Military Staff early in March 2003. An implementation plan (ECAP Phase II) now has to be approved and implemented with a completion target of 2004.

(c) Industrial initiatives

55. The defence aeronautics industry is directly concerned by what becomes of the European project for implementing and developing autonomous military capabilities in the service of the ESDP. The industry has acquired a European dimension, in both the civilian and military spheres, and expects

[9] European Union Capabilities Commitment Conference, Statement on improving European Military Capabilities, Brussels, 19 November 2001; http://ue.eu.int

that national governments will move in the same direction. This is an essential condition for maintaining its ability to withstand American competition. More Europe also means greater harmonisation of requirements and possibly the pooling of budgets and clearer prospects for the companies within the sector, through confirmation of current programmes and the development of new projects. To get over their message and their demands, defence groups have also engaged in more "political" forms of cooperation, by contributing to the debates in the Convention on the Future of Europe.

56. The contribution from the European Defence Industries Group (EDIG), submitted in September 2002, first highlights the need for a single market in defence equipment, taking existing national capacities as the starting point, and calls for a sustained commitment from governments to achieve that goal. The role assigned to intergovernmental cooperation is most important as the EDIG membership includes European and national firms from producer and purchaser countries, whose interests may not be entirely reconcilable and need careful handling. At the same time, governments must encourage alliances and mergers and help firms "consolidate their production capacity in accordance with their best interest for assuring a globally competitive industrial concern". The need to harmonise requirements and develop and implement a European research and technology policy are also, in EDIG's view, two essential areas to which governments must give full support.

57. EDIG recommends that the new EU Constitutional Treaty, to be negotiated by the Intergovernmental Conference that is to follow the Convention on the Future of Europe, should:

– " (…) include a statement that the ultimate aim is a European armaments policy (...);

– The harmonisation of military operational requirements is a vital action for future progress and nations should be encouraged to harmonise their defence requirements wherever possible. The creation of a European armaments policy will provide the framework for this;

– (...) continue to build on previous initiatives (OCCAR, LoI and WEAO), with the aim of establishing in the longer term a Common Armaments Agency as a tool for further fostering a single European defence equipment market. There must be a competitive and effective framework for cooperation that avoids unnecessary duplication of capabilities. Bilateral and multilateral agreements to favour equitable competition across national boundaries and harmonisation of legal and procurement procedures and standards should be encouraged;

– Member States should make available through their defence budgets more resources for and better coordination of:

  – their defence-related R&T with the aim of supporting the creation of centres of excellence, preparing the launch of a centrally funded multi-year programme, and by adopting the WEAO tools;

  – their defence equipment programmes. More effective use of resources should be encouraged through, for example, more collaborative programmes to fill capabilities gaps (...) In addition, defence long-term investments and, in particular, multi-year collaborative programmes should be exempt from the Pact of Stability;

– Introduce a concept enabling common procurement in support of EU operations".

A recommendation was worked out on the basis of a June 2002 EDIG statement on defence budgets. The first draft expressly demanded a reversal of the trend towards cutting back defence budgets or allowing them to stagnate. The proposals furthermore made defence firms the instrument of national/intergovernmental policies. The more successful their integration, particularly in larger groups like EADS, the greater would be their autonomy in relation to governments and they would consequently have a say in political choices on armaments and on defence matters generally.

58. The EADS contribution to the Convention, submitted in January 2003, is not simply a list of suggestions, but a document containing muscular proposals that looks towards an advanced stage of integration of national policies. This is clear from the introduction to the document which states, rightly that "there is a clear gap between the level reached on the consolidation of the European Defence and Technology Industrial Base, notably in aerospace, and what has been achieved at the

institutional level in defining and setting up a true ESDP”. This is a major political judgment addressed directly to the governments and is followed by an appeal for Europe “to have the sufficient and necessary defence capabilities to play the role it claims as an influential political and economical global power”. The inadequacies of an intergovernmental approach mean there is a lack of vision and coherency, making it difficult:

– “to maintain and to develop an autonomous and competitive European Industrial and Technological Base when the gap with our main competitor (the US) widens constantly;

– to continue the initiated consolidation and restructuring efforts for increased efficiency and competitiveness when there is no European armament market and very few new programmes are launched;

– to define and preserve key competencies and capabilities which are essential to satisfy the armed forces requirements and needs and to support, during their operational life, delivered equipment”.

59. In order to meet these challenges and attain the industrial and political goals that would support a credible and effective ESDP, the contributors make two main proposals:

– that the political will to build defence Europe should be affirmed by writing a collective security and defence clause into the future EU Constitutional Treaty and by drawing up a European Defence Book;

– that a European security and defence agency with wide-ranging responsibilities should be created, whose remit would include:

“definition of armament policy; transatlantic relations in defence matters; export control and export support; contribution to ESDP and with three main activities:

Defence R&T: open to Member States only; reinforced cooperation ; group of core Member States and looser groups ; stimulating innovation like the US DARPA;

Security R&T: open to all Member States; involvement of the European Commission for the valorisation of the technologies; separated from the 6th Research Framework Programme; mixed financing from Member States and the European Community (above 50%);

Procurement: format of an enlarged OCCAR; implementation of the White Book; use of large demonstrators; open to participating Member States in the Defence R&T activity of the Agency.”

EADS goes further than EDIG by intrinsically linking the prospects for the industry’s future to the success of a European political project whose outlook is uncertain. It is also because this regional “giant” with worldwide ambitions needs to be publicly supported by its customer governments (especially the major producers) so that it can stand up to competition from the United States, including American competition in Europe itself. An autonomous European defence industry must necessarily be founded on an integrated regional industrial base, of which this group constitutes an example *par excellence*.

60. Another important initiative was the publication in January 2001 – by a group of eminent persons connected with the aeronautics industry and enjoying the support of the European Commission – of a report entitled “European Aeronautics: A Vision for 2020”. This exercise in industrial forecasting in a sector of strategic importance to European defence has a certain resonance with similar approaches that are commonplace on the opposite shore of the Atlantic in both the civilian and military spheres but which are still sadly lacking in Europe. The political ambitions are, moreover, clearly set out in the document’s subtitle “Meeting society’s needs and winning global leadership”. Although European defence is not mentioned there as such, the proposals for strengthening industrial capacities in the European defence aeronautics sector have a direct impact in that sphere, particularly in regard to R&T and R&D. The authors are agreed on drawing up a Strategic Research Agenda

(SAR) to be progressively defined and implemented by an Advisory Council for Aeronautics Research in Europe (ACARE).

61. ACARE is made up of representatives of States, the industry and of the European Commission (some 25 to 30 in all). States' representatives are divided into two categories depending on whether they are countries where there is significant public funding for aeronautics research or not (observers). It is clear that the first category consists of the major weapons producers and suppliers to defence aeronautics industry programmes. Given the dual nature of aeronautics research, improved funding, cooperation machinery and working practices will benefit all projects, whether civilian or military. ACARE also draws attention to the need to maintain public and private investment in Europe in favour of European industry, to maintain and strengthen its abilities to cooperate and compete with its US counterpart. When presenting its first SAR in October 2002, ACARE laid down the requirements for meeting the two major objectives set out in the 2001 report's subtitle:

– the need to make major progress "both in technology and in concepts of operation (...);

– (...) more output from the European aeronautic research community which must devise new ways to make the system of research, in all its forms, more efficient;

– a number of additional and significant Pan-European enabling mechanisms within the European Research Area. Five areas for new mechanisms are identified: the European research infrastructure, the supply chain, certification and qualification, education and Trans-European synergy of research;

– (...) more investment from both public and private sources will be needed;

– this requires that major corporations, which increasingly have international links and options, continue to invest their resources in Europe. From its side Europe must provide a receptive environment, ensuring equal competitive footing with other countries and economic regions, to encourage those investments to remain in Europe".

2. Dilemmas involved in transatlantic cooperation or competition

62. Transatlantic relations are going through a turbulent period in which they are being called into question and the crisis has continued to deepen since the ending of the cold war. The restructuring undergone by the European aeronautics industries over the last ten years has been the product, in large measure, of mergers and acquisitions on the other side of the Atlantic which have involved the carving up of the internal American market between Boeing and Lockheed Martin. The fear of these two giant American companies, once consolidated, turning their attention to European companies, has accelerated the process in Europe. Even if this particular scenario has not taken place – the two companies in actual fact did not have the wherewithal to expand into the European market – the fear of US industrial domination remains present and has shaped the perceptions and actions in Europe of governments and industries alike in regard to transatlantic cooperation or competition in the aerospace sector.

(a) Transatlantic cooperation in the defence aeronautics sphere

63. This is an ambiguous relationship in which cooperation and competition both have a part. Cooperation creates interdependence, competition for the same markets accentuates differences and particularities. Neither can be regarded as evenly balanced. American companies in the sector have more financial resources than their European counterparts, particularly when it comes to R&T and R&D. They have at their disposal – although not always ready to hand – the legislative and legal instruments to protect them from competition on their territory in the fields of defence research and technology, production and development. And they have a very rich "captive" customer who is also their best representative abroad – the Department of Defense (DoD).

64. If the European Union countries are taken as the reference point, the European defence aeronautics industry, notwithstanding its efforts in recent years, still has to deal with the separation between producer and purchaser countries, scant defence budgets and the need to allay the national, regional and sectoral interests of each country involved in common programmes. They also face US

competition on their own territory while the reverse is not always true. Transatlantic industrial relations operate in one direction only: Europe buys cheaper, older or obsolete American equipment, as compared with US models from the same families, sometimes in the name of strategic alliance and solidarity. In Europe there is not a single producer that would give such reasons to justify its sales to the US.

65. However cooperation is essential – for both "partners". In 2001, France, the United Kingdom and Germany, were among the American aeronautics industry's most important suppliers, in first, third and fourth places, respectively[10]. Cooperation between firms is not only an economic issue or one of access to technologies and processes, it is also a way of breaking into markets, creating synergies and taking advantage of commercial opportunities on either side. This is the attitude taken both by BAe and Thales towards the American market. In spite of constraints in terms of information exchange and although there is virtually always a need to enter into some kind of joint venture with American companies (or take them over), the two companies have a dynamic approach to transatlantic cooperation, notwithstanding the fact that the results are still modest.

66. This is also the means of gaining access to the most sophisticated technologies and of following US technological developments. US companies behave in similar fashion: buy-outs, cooperation, joint ventures and involvement in European defence aeronautics programmes. The imbalance between the two sides in terms of resources gives US industry the edge. With the exception of EADS – and especially its flagship civilian programme, Airbus, no other company can match Boeing or Lockheed Martin. The national or European markets underpinning BAe or Thales are, taken overall, much smaller. It is up to governments, which, not withstanding "Europeanisation" of the defence aeronautics industry, retain the means of national control (if only through orders and programmes) over their national sectors, to make sure that cooperation is balanced and as reciprocal as possible.

67. In this respect there is still a long way to go since when it comes to defence there is no European integration, because of a lack of a common vision, other than to preserve a European industrial and technological base, usually when this brings national or regional (within a given state) advantages. As to countries that feel somewhat left out of the system – the small and medium-sized states that do not have highly developed capabilities in that particular sector (especially as regards maintenance and upgrading) – they tend to look for the lowest price and the most advantageous offsets. Added to this, in view of the political slant of bilateral relations with the United States, the choice in favour of American equipment is a logical one. There are plenty of examples: Poland's choice of the F-16 fighter aircraft or the Italian Government's decision, followed by that of the Portuguese Government, to withdraw from the A400M transport aircraft in favour of the C-130J.

68. Even the major producers cannot escape the need to look to the other side of the Atlantic where they procure US equipment both out of operational necessity and for economic reasons. The Netherlands, Italy and the United Kingdom are all involved in the JSF/F-35 programme, hoping not only to have an advanced, high-performance aircraft by 2010-2015 but also contracts for their firms – defending national interests being one of the most significant factors in the entire process. France has had to procure three Hawkeye early warning aircraft (two EC-2C and one of the new 2000 version) for its "Charles de Gaulle" aircraft carrier. Sweden has bought computer systems (both hardware and software) for the Gripen, which have led to some difficulties with exports. On the other hand, there are no Eurofighters, Rafales or Gripens flying under the American flag. This situation is of concern to the defence aeronautics industry, but the real challenge is the future fighter aircraft, a key project for the survival of independent European capabilities.

69. Given the state of play in transatlantic relations following the Iraq crisis, it is also possible that transatlantic cooperation in defence matters will suffer the adverse effects of division between Europeans. If the US retaliates, industries like EADS for example (where France and Germany have a good deal of say), might be affected. At the same time, the plan for a Boeing-BAe systems merger, creates a challenge for the European firm as BAe is one of the main partners in the A400M carrier. This is perhaps a foretaste of the transatlantic industrial integration which the US industry, especially

[10] US Department of Commerce, US Census Bureau; http://www.census.gov.

Lockheed Martin, would like to see but which would inevitably reduce the European defence aeronautics industry's role to that of a sub-contractor.

(b) The case of the JSF/F-35

70. The Joint Strike Fighter, the multi-role aircraft of the "future", is not merely an aeronautics engineering project. It has economic, political and technological implications with direct consequences for the future of the defence aeronautics industry and the setting up of an independent ESDP. Currently, six European members of NATO are taking part: Denmark, Italy, the Netherlands, Norway, Turkey and the United Kingdom. Canada is also a partner. Israel and Singapore would also like to join the programme. Other European countries, especially those with F-16 and F/A-18 may ultimately be future customers for the Joint Strike Fighter.

71. The aircraft was first designed for the American armed forces' air, sea and marine branches and for the British Royal Navy. This is a supersonic stealth fighter aircraft of which there are three variants: a classic variant for the air force, a naval one (for aircraft carriers) and a vertical takeoff and landing version for the Marines and Royal Navy. In the US, the F-35 will replace the fleet of F-16s and A-10s (along with the F-22 Raptor, used by the air force alone) the Marine Corps' F/A-18 and AV-8B (Harrier) and most (other) F/A-18s and A-6s. The JSF is to replace the UK's Sea Harriers on its aircraft carriers (the Royal Air Force will be equipped with European Eurofighter aircraft). This is a large-scale programme, the major unknowns of which are the total number of aircraft to be produced and the final cost of the aircraft. What is known is that the total cost to the United Kingdom – development, procurement and life-cycle costs (to 2040) is estimated at 28 billion pounds sterling (40 billion euros with (an estimated) 10 billion euros earmarked for the purchase of 150 aircraft[11].

72. Ultimately the JSF and F-22 will have replaced all fighter aircraft at all levels of the four branches of the United States armed forces and of a major part of the air forces of many European countries. For the European defence aeronautics industry the biggest challenge of the JSF is that the sums earmarked by the European NATO countries are not matched by an investment of the same order of magnitude in a future European aircraft project, intended to replace Eurofighter, Rafale and Gripen. Moreover, there is overlap of the schedules for commissioning the JSF, expected to take place in 2008, and the delivery of the European aircraft. Ultimately, in Europe, Eurofighter (involving four countries) the JSF (involving six) and the old F-16s (pending replacement with a cheaper JSF) will form the basis of NATO air forces. That leaves two outsiders, reliant solely on their national markets: France's Rafale and Sweden's Gripen aircraft

73. The JSF will present a problem for the European defence aeronautics industry in the absence of investment in years to come in R&T and R&D for a "European" Joint Strike Fighter to equip virtually the entirety of Europe's armed forces. Even for European companies like BAe which is highly active in the JSF programme, the constraints surrounding the programme in terms of information exchange and technology transfer (in regard to stealth, for example) make it difficult, if not impossible, to exploit the data and experience already acquired to the advantage of wholly European projects. For, in the absence of any new common projects, the European defence aeronautics industry has only its existing programmes, now approaching their final phases, on which to survive. Without a promising export market (there will also be competition with the JSF) and dependent on countries no longer capable individually of meeting research and development costs, as well as of procurement of a new fighter aircraft, the European defence aeronautics industry runs the risk of the loss of both research and technological capability, owing to a lack of investment in the sector.

74. In the face of the military "giants", Boeing and Lockheed Martin, which are taking full advantage of the US military and industrial complex, the European defence aeronautics industry is in a state of financial weakness. Under cover of transatlantic industrial integration, the competition could take advantage of this and transform European companies into "pools" of technological know-how and expertise. This should not be thought of as entirely negative, if their survival can thus be guaranteed and their activities continue to carry European defence capabilities forward. Such a

[11] United Kingdom, House of Commons, 18 October 2002; Written Questions; http://www.parliament.the.stationery-office.co.uk

situation would have the major political consequence (along with economic and social costs as a result of dependence on investors and shareholders on the other side of the Atlantic, far from Europe and national and regional concerns) of replacing the word “European” in ESDP by “Transatlantic” (TSDP).

75. For without an independent European defence aeronautics industry, supported politically and financially by the countries of Europe, the ESDP has neither sufficient means nor autonomy and cannot therefore redress the balance in transatlantic relations. Buying JSFs means becoming more deeply enmeshed in a defence system that in the final analysis is controlled by the United States. Achieving interoperability through the procurement of American equipment is a logical and easy solution, especially for countries that do not have advanced technological capabilities or possess insufficient resources to buy European. But medium-sized or larger countries with significant technological capability, such as the United Kingdom, Italy and the Netherlands, can be autonomous. Obviously London is not going to buy the Rafale naval version for its aircraft carriers (British industry would not benefit a great deal from such a decision), but a European solution might have been found taking experience with Eurofighter and Rafale as the starting point (and thus contributing to bringing EADS and Dassault closer together).

76. As the three countries concerned carry weight in EADS (given that their “national” companies form part of the group) the choice of the JSF will ultimately force the European defence and aeronautics industry to become a partner in the project, in order to benefit from any spin-offs and in the hope of penetrating the US market. Added to this, a degree of uncertainty hangs over the entire project which, according to an article published in the journal of the American Air Force Association, might be scrapped in order to guarantee the survival of the F-22 “Raptor” (the preferred option of the US Air Force) and extend the life of the F-16 series[12]. The JSF, a mere fighter aircraft, thus has political and industrial consequences that will in part decide the future, not just of the industry but of any political project built around the idea of achieving an autonomous European defence capability and redressing the balance in transatlantic relations.

[12] *Air Force Magazine*, “The F/A-22 gets back on track”. John A. Tirpak. March 2003, Vol. 86, No.3; http://www.afa.org.