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I. Introduction

In 2009, ASD member associations were spread across 20 European countries: the 17 most important EU countries in aerospace and defence as well as Norway, Switzerland and Turkey. The statistics in this publication mainly cover our member companies in these countries.

Data for aeronautics are sourced via a well-established process used for the collection of ASD 'Facts and Figures'. Defence data, namely data related to the land and naval defence sectors, are collected through the same process. Moreover, some figures presented in this publication come from various publicly available sources.

ASD-Eurospace has been running a Space survey for a number of years, the results of which have been incorporated into this publication.

ASD statistics presented here do not include the thousands of suppliers to aeronautics, space and defence sectors throughout Europe, whose main interest is not one of these sectors.



II. Major trends in European ASD industry in 2009

The European aerospace and defence industries managed to turn in a relatively good performance in 2009, despite the global recession resulting from the financial meltdown of 2008. They were marginally affected by the crisis during the year, with the exception of the space sector and specific aeronautical business segments – namely general and business aviation, as well as civil helicopters. Overall our industries proved resilient in adverse circumstances, particularly when compared to other manufacturing sectors.

Such a solid position was, to a great extent, the result of policies implemented in previous years by a majority of European aerospace and defence companies, which managed to improve their industrial competitiveness and performance through strict financial controls, significant manufacturing and process efficiency improvements and cost reductions. European aerospace and defence companies also avoided the temptation of adding too much capacity during the last decade, which put them in a relatively strong position when the global economic climate started deteriorating.

In the civil aeronautical sector, the massive backlogs taken during boom years made it possible for the industry to continue producing and delivering aircraft at robust rates, even as new orders dried up. Large volumes in orders and deliveries characterised military aeronautics.

The European defence sector performed well in 2009, as defence spending remained stable in Europe (due essentially to extra, non-MoD spending) and continued to grow in the rest of the world, where export opportunities increased (in particular in the Middle East and Asia). Beyond 2009, as defence budgets in many European countries and the US are expected to come under further pressure, the European defence industry will have to deal with a difficult business environment. This challenge will be met through better performance and continued efficiency, stronger export promotion of new products and the implementation of life-cycle operational support services.

Activities in the European space industry decreased in 2009, despite the robust health of commercial markets. Institutional businesses, particularly national programmes, were on the wane.

In summary, Europe's aerospace and defence industries managed to achieve good overall performances despite the impact of the crisis in 2009 and the deterioration of global economic conditions which created an uncertain business scenario.

Aerospace and Defence Industries Key Characteristics of the Year 2009

Turnover	€154.7Bn
military / civil	57 / 43 %
Direct employment	696,000
out of which aerospace	500,000
R&D expenditure (aeronautics only)	€12.2Bn
Exports (aeronautical only)	60%
Operating profit margin	5.7%

Compared to 2008 data, aggregated figures for the European aerospace and defence sectors show the following results:

- A turnover increase of more than 11%, mainly driven by the land sector
- An increase in employment of more than 2 % - mainly driven by a rise in the defence sector
- A slight rise in aerospace employment, up to half a million people
- A relatively stable R&D ratio as matched against turnover
- A growth of exports (outside Europe) for the European aeronautical and land defence industries
- A drop of the operating profit margin across the different ASD sectors (net of organic growth) to 5.7%, down from 7.1% in 2008.

Aerospace and defence industries continued to expand their activities outside Europe in 2009.

While merger and acquisition operations were less important than during previous years, the international dimension of our industries was reflected by new cooperation programmes worldwide, such as those between:

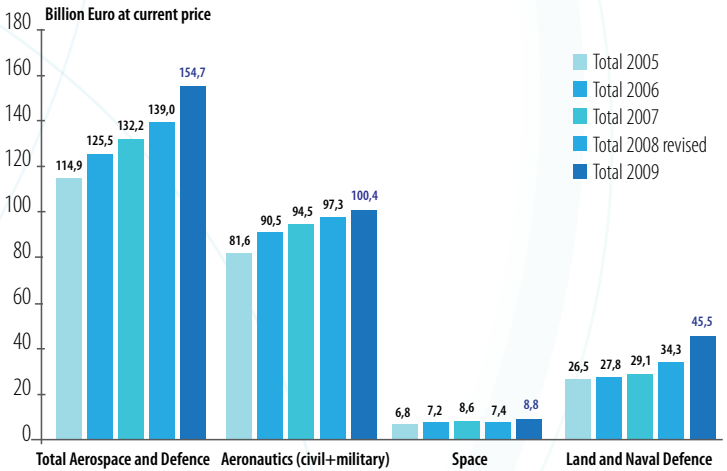
- Eurocopter (EADS) and Avic (China) or KAI (Korea) for the joint development of EC175 and the KUH (Korean Utility Helicopter);
- Alenia Aeronautica (Finmeccanica) and Sukhoi Civil Aircraft (Russia) for the new regional jet Superjet 100 powered by Powerjet Engine (Safran and NPO Saturn's cooperation);
- AgustaWestland (Finmeccanica) and Tata Sons (India) for the assembly line of the AW119;
- Safran with GE and COMAC (China) with the next generation LEAP-X engine for the new Chinese C919 commercial aircraft.

More than 90,000 people are employed in the US by European companies' subsidiaries, delivering an estimated value of €30Bn. These figures are outside the ASD scope and consequently do not form part of the European data presented in this publication.

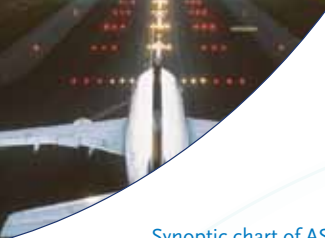
As the European industry turnover is expressed in Euro, the 2009 results were negatively affected by the relative weakening - based on the yearly average exchange rates - of the following currencies: the British Pound, the Polish Zloty, the Swedish and Norwegian Krone, and the Czech Koruna. The 2009 results in Euro were however partially offset by the progression of the US \$ and of the Swiss Franc against the Euro.

European companies recording their value in other currencies than the Euro reported increased benefits from their overseas businesses, thanks to the appreciation of currencies such as the € or the \$ against their own currencies (since the value of the contracts expressed in € or in \$ increased when converted into the national currency of these companies).

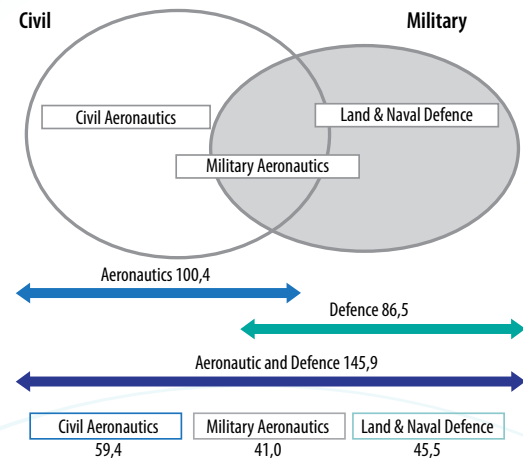
ASD Sector Turnover Breakdown



Source: ASD



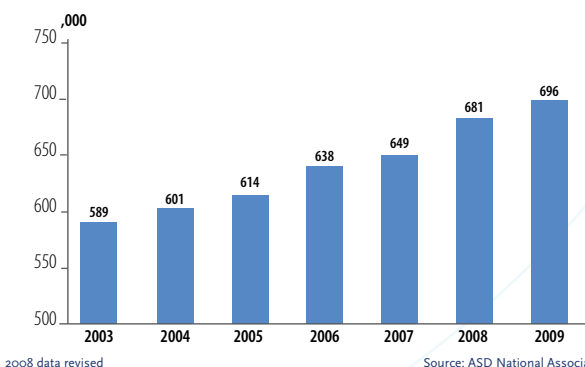
Synoptic chart of ASD «Aeronautics» and «Defence» sectors in Billion Euro



Source: ASD

In 2009 the European aerospace and defence industry continued to be an important contributor to the European economy in terms of manufacturing production, advanced technology, spin-offs to other sectors and trade surplus - thanks to its high export propensity. The industry represented 3.4% of EU external exports and generated an estimated trade surplus of €35Bn, at a time of a €35.3Bn EU trade deficit.

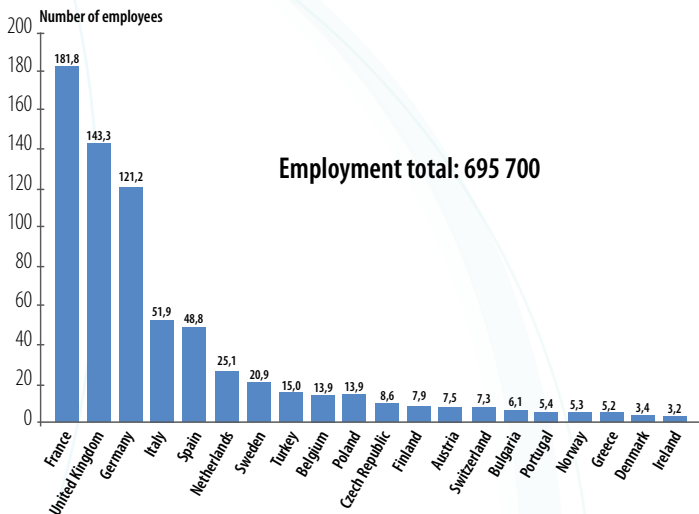
Aerospace and Defence Employment between 2003 and 2009



Employment in ASD industries reached 696,000 in 2009, a rise of more than 2 % on 2008. The strongest increase was observed in the defence sector (+5.8%) which partly came from the good level of activity observed in this sector, and partly from the re-evaluation of defence statistics in Germany and Turkey.

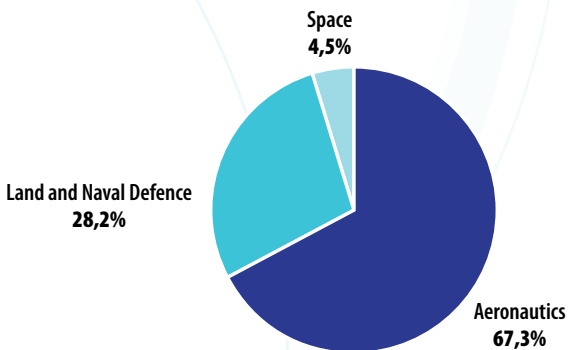


National Contributions to Direct European Aerospace and Defence Industry Employment



Source: ASD National Associations

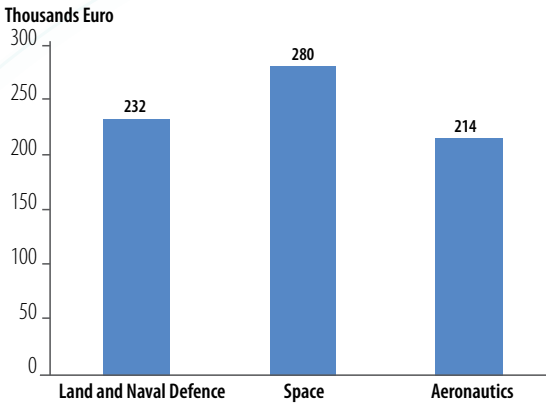
Aerospace and Defence 2009 Employment Breakdown



Source: ASD

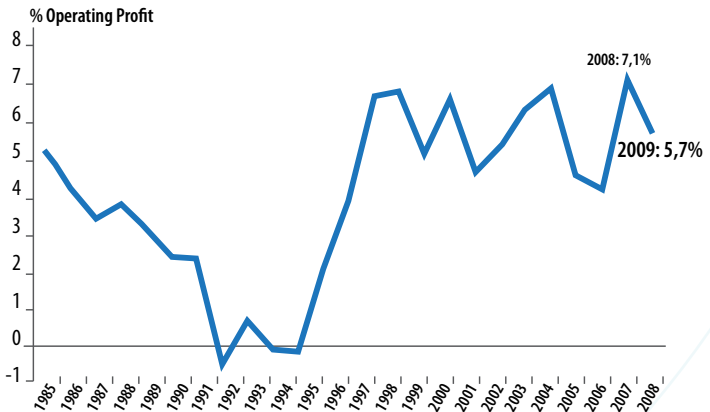


Turnover/Employee per sector



Source: ASD

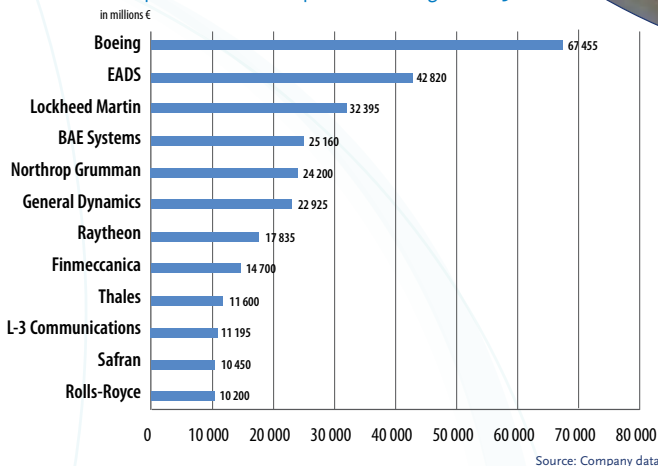
European Industry Operating Profit Margin



Source: ASD

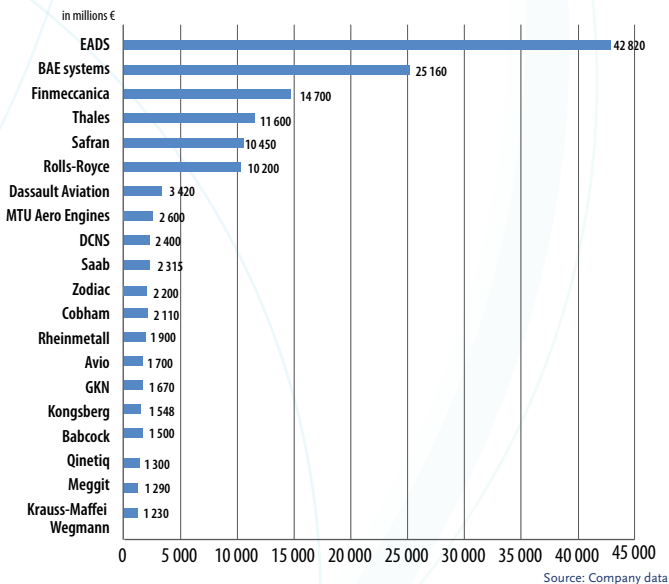
In 2009 ASD industries recorded a drop of 1.4 point in operating profit margin (net of organic growth), down from 7,1% in 2008 (a historically high level) to 5,7%. Such a drop was mainly driven by the fact that major cooperative programmes entered a transition cycle - from development to full production - and faced delays and additional costs due to the complexity of the final development / industrialization phases.

Top world A&D companies' ranking in 2009



When considering the 2009 global ranking of the world top Aerospace & Defence companies (out of ASD European perimeter), European companies appeared well positioned vis-à-vis their US counterparts, with EADS coming 2nd after Boeing, BAE Systems 4th, Finmeccanica 8th, Thales 9th, Safran 11th and Rolls-Royce 12th.

Ranking of major European companies in A&D in 2009



It is estimated that the largest European players, identified in the graph above, generated over €100Bn in the A&D sectors in Europe, representing 2/3 of the total ASD turnover.



The European aerospace and defence industry is therefore concentrated around 20 large players, while a second group of around 100 medium to large companies, mainly Tier 1 and 2 suppliers, is followed by a vast number of specialised SMEs employing an estimated 200,000 employees spread across Europe. SMEs, which suffered heavily from the economic downturn and tougher financial market conditions, are in the process of regrouping and reinforcing their competitiveness thanks to a number of measures such as regional and inter-regional districts, 'competitiveness poles' in France and dedicated EU initiatives.

The European A&D industry has been developing mainly through the launch and implementation of several cooperative programmes, such as the Airbus commercial families, the A400M, the Eurofighter or the FREMM frigates. Its high level of integration at European level is built upon different layers and forms of collaborative entities: joint ventures such as ATR or EuroJet, common companies by business sector such as Arianespace, Astrium, Thales Alenia Space, MBDA or NHIndustries, and more recently the multi-domestic integration of business units owned by large groups, such as EADS divisions, Thales UK or Finmeccanica with AgustaWestland and SelexGalileo.

In the broad defence and security area, European players have had to adapt to an evolving environment. The emergence of new priorities, such as maritime surveillance, border control missions, situational awareness, as well as U.O.Rs, through-life operational support, and integrated logistics and training, have led companies to adapt and transform their traditional structure. In this context defence electronics – a segment which is not registered in ASD statistics - is emerging as a central element of the development and sustainability of platforms and unmanned systems. An estimated €25Bn of the European activity in defence relates to system integration, autonomous assets such as ISTAR and embedded subsystems. The value of electronic systems typically represents around 40% of combat aircraft and warships.



III. Aeronautics

In 2009 Europe's aeronautical sector (civil and military activities) recorded a turnover of €100.4Bn, an increase of 3.2% on 2008 figures.

Without the effects of the depreciation of some European currencies against the Euro in 2009 as mentioned above, these figures would have been significantly higher.

The global economic crisis, as well as the H1N1 infection, continued to impose a strong financial pressure on the air transport industry. This situation also forced major airlines to consolidate their route networks in 2009.

According to IATA figures, in 2009 major airlines were affected by a reduction in cargo (- 11.1% compared to 2008) and in passenger traffic (- 2.9%). They also suffered from a reduction in traffic revenue (the yields fell by 14% in 2009 for IATA airlines) resulting in a lower profitability.

In order to preserve their cash, airlines postponed or cancelled orders, and cut back their fleet expansion plans. In some European countries, the absence of affordable credit resulting from the lack of liquidity in the financial sector was partially offset by government export credit guarantees. A positive factor was the relatively low price of oil, the average price of which was evaluated at \$62 a barrel in 2009.

Civil aeronautics represents nearly 2/3 of the European aeronautics industry. It is by far the most important sector of ASD industries. In the large civil aircraft sector, Airbus delivered 498 aircraft in 2009 (out of which 10 A380), an increase of more than 15 on the previous year and a new company record. The company maintained its commercial aircraft production rates per month in 2009: 34 for single-aisle aircraft and about 8 for long-haul aircraft. It remained focused on improved programme management of the A380 and the development of the A350. The first flight of the A330F freighter took place in 2009.

In China, the Airbus final assembly line in Tianjin started activities on A320 wings from Xi'an Aircraft Industry Company, a subsidiary of China Aviation Industry Corporation (AVIC).

In the turboprop regional segment, the ATR joint venture between EADS and Finmeccanica delivered 53 aircraft in 2009 (55 in 2008). ATR sold its 1,000th aircraft in 2009, benefiting from the growing attractiveness of turboprops as opposed to regional jets – particularly on the shorter routes. The first flight of the new ATR 72-600 was performed in 2009.

The European general and business aviation sector suffered from a large drop of orders in 2009. This mainly affected business jets, for which cancellations far outweighed new orders. In a context of cost cuttings, many operators opted for the second-hand market, which resulted in a negative order intake for the sector. However Dassault Aviation delivered a record number of Falcon business jets in 2009 with 77 jets delivered (72 in 2008). The 2000th aircraft of the Falcon series was delivered, while the year was marked by the first delivery of the Falcon 2000LX .



The lower segment of general aviation, while affected as well, showed some dynamism with deliveries of advanced turboprop executives by Piaggio, Pilatus and Socata, and new designs of light aircraft, particularly Diamond, and light helicopters.

In the military aircraft sector (combat and trainer aircraft), the four-nation Eurofighter consortium increased its deliveries to 55 Typhoon, reaching a total of 210 (home plus export). The 200th Eurofighter was delivered in 2009. The aircraft is now in service with 6 Air Forces. Major facts in 2009 were related to the four nations' order for Tranche 3A of 112 aircraft and 241 EJ200 engines, and major multi-year operational support contracts from the European and Saudi Air Forces.

Deliveries of Dassault Rafale fighters increased from 8 to 14 units for the French Air Force and the Navy.

The Saab Gripen fighter started deliveries to South Africa and completed its maiden flight for Thailand. In the trainer sector, the new advanced trainer Alenia-Aermacchi M346 Master recorded its first order.

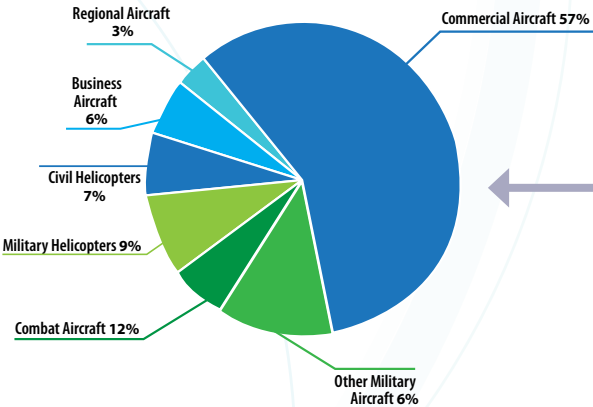
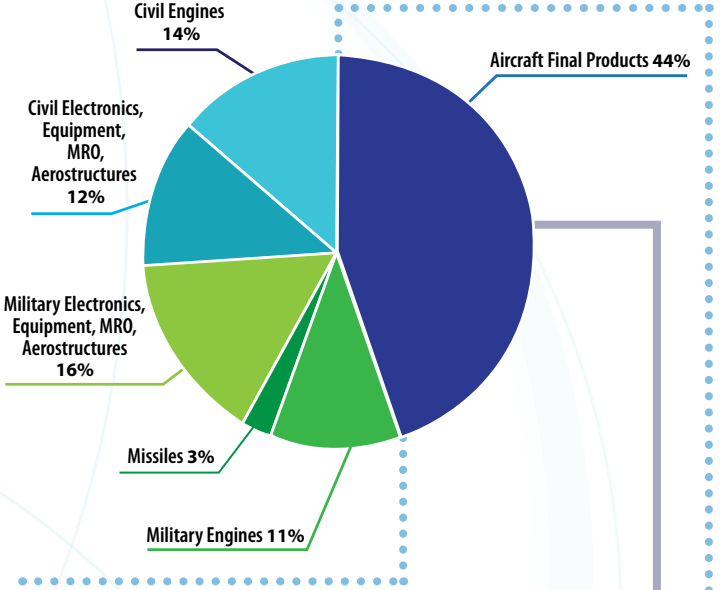
Significant activities related to upgrading and technology insertion (e.g. AESA radar, integration of new armaments and electronic and communication systems) were performed for all the current European combat aircraft (i.e. Eurofighter, Rafale, Gripen Next Generation, Tornado and Mirage 2000) in order to comply with requirements on national and export markets. The participation of some European nations in the 'Joint Strike Fighter' programme, which is mainly under negotiation, was marked by the first test flights of the Rolls-Royce designed STOVL propulsion LiftSystem.

In the military transport sector, a key milestone was the maiden flight of the Airbus Military A400M, powered by the TP 400 engine developed by Europrop International (EPI), a joint venture between ITP, MTU Aero Engines, Rolls-Royce and Safran (Snecma). The first delivery of the A400M is now expected in 2013. In the field of tactical transport, deliveries continued (around two dozens) with EADS CASA aircraft and Alenia C27J - mainly with the JCA for the US Air Force. The special mission segment showed a continued demand for Maritime Patrol Aircraft such as specialised C235/95 and ATR as well as Saab 2000/340 Early Warning, while BAE Systems performed the maiden flight of the first production maritime patrol Nimrod MRA4.

In 2009, MBDA, the 4 Nations' European leader and global player in the missile systems sector, received orders amounting to € 2.6Bn (up from €2.3Bn in 2008). The order book remained substantial with €12Bn.

2009 sales represented a total of €2.6Bn, a slight drop compared to the previous year's figure of €2.7Bn. In Italy and Germany, the MEADS programme successfully completed the Critical Design Reviews (CDR). Key programmes such as Mistral, SCALP Naval, Marte, Dual Mode Brimstone and PARS 3 LR progressed smoothly. A major platform weapons package contract was won on export markets and partnering agreements were signed in the U.A.E. and Poland.

Breakdown of European Aeronautical Industry
Turnover by product segment and aircraft final products



Source: ASD, breakdown estimated



The European helicopter sector confirmed its strength on the global market with important deliveries (a total of around 800 units for its two main players, Eurocopter and AgustaWestland). However, in the civil/government helicopters business, the economic crisis provoked a sharp decline in orders which particularly affected the corporate and light helicopter segments, while demand for the military segment remained strong.

Eurocopter maintained its turnover level of 2008 (a record year) with 558 deliveries - EADS North America deliveries of UH-72A Lakota approached 100 units. The EC175, a joint development with AVIC of China, performed its maiden flight in 2009.

AgustaWestland increased its revenues, with greater volumes mainly of the AW139 and Grand, and the launch of new models such as the T129 with Turkey, a new version of the AW101, the AW149 and the AW159 Wildcat. A joint venture with India's Tata was created for the final assembly of the AW119. AgustaWestland also purchased the Polish helicopter-manufacturer PZL-Swidnik.

NHIndustries continued the deliveries of the NH90 medium helicopter throughout 2009, with a fleet of 40 helicopters in the tactical transport version now in service in five countries. The first naval NH90 was delivered to the Netherlands.

The rapidly emerging sector of UAS (Unmanned Aerial Systems) generated a flurry of activities from most major European platform and electronic companies, with deliveries of tactical UAS and new developments for technology demonstrations in the MALE (Medium Altitude Long Endurance) and UCAV (Unmanned Combat Aircraft Vehicle) segments.

European Industries actively pursued efforts to enable UAS to fly in the general air traffic. This has been done within the framework of studies supported by the European Defence Agency, in particular: Air4All Roadmap, MIDCAS project (Sense & Avoid), SIGAT Study (Allocation of frequencies for UAS).

The largest European UCAV demonstrator program is the nEUROn, led by Dassault with the participation of Saab, EADS CASA, Alenia Aeronautica, Hellenic Aerospace Industry (HAI), Thales and RUAG Aerospace.

Activities in the surveillance segment were related to Thales' Watchkeeper, Safran's Sperwer, EADS' Harfang, Finmeccanica's Falco. Development and test activities on the way are the BAE Systems' Mantis and Taranis, Safran's Patroller, EADS' EuroHawk and Talarion, Dassault-Thales' Système de drones MALE (SDM) and Finmeccanica's SKY-X and SKY-Y.

In the engine sector, Safran recorded deliveries of 1263 CFM56, reaching the target of 20,000 units, as well as increased volumes of thrust reversers and nacelles. In 2009, Safran delivered 1032 helicopter engines (down from 1155 in 2008).

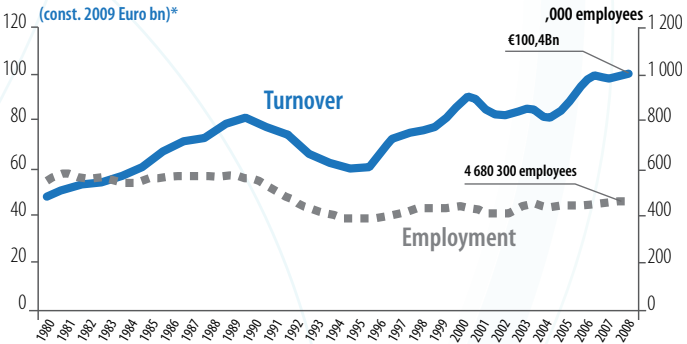


2009 was also a remarkable year for Rolls-Royce, with the first flight of six aircraft powered by the British manufacturer: the B787 powered by Trent 1000; the Gulfstream G650 powered by the new BR725; the A400M; the Embraer Legacy 650; BAE Systems Mantis; and the AW Lynx Wildcat. Rolls-Royce secured a 64% engine market share for the new generation of wide-bodied B787 and A350 XWB.

The other European manufacturers, such as MTU, Avio, Volvo Aero and ITP, continued to be partners of international ventures and niche players.

The broad area of the supply chain has increasingly become the backbone of civil and military large platform/systems. It comprises both large companies acting as prime system integrators and as Tier 1 suppliers of subsystems/components (for example Thales, Safran, Meggitt, Cobham, GKN, Zodiac), and a vast number of SMEs in the airframe, engine and equipment sectors. These companies provide a growing high-tech content along the whole value chain of all European programmes. They also act as partners/suppliers in international programmes in the U.S., Canada and emerging aeronautical countries such as China, Russia and Brazil - mainly on engines, structures and technical expertise. This trend shows the globalised nature of the aeronautical business and the internationalisation of some European companies, through the acquisition of industrial footprints in new EU countries and North America, and the establishment of joint ventures in emerging countries.

Turnover* + and Employment



(*) Based on unconsolidated turnover as from 2005

Source: ASD

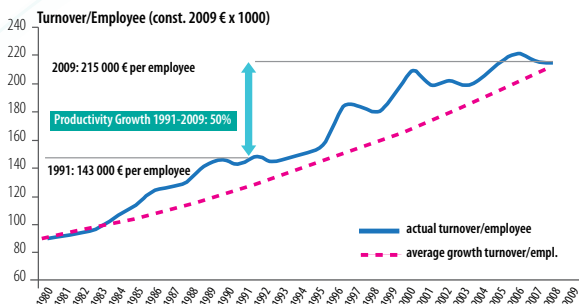
While the turnover of the European aeronautics industry grew by 3.2% in 2009, the total employment remained stable with a slight increase of 0.3% on the previous year.

Spain, Germany, Finland and Portugal were the major contributors to the positive trend in employment.

Some countries registered a slight reduction in their aeronautic employment. Ireland was particularly affected by a downturn in the MRO sector in 2009.



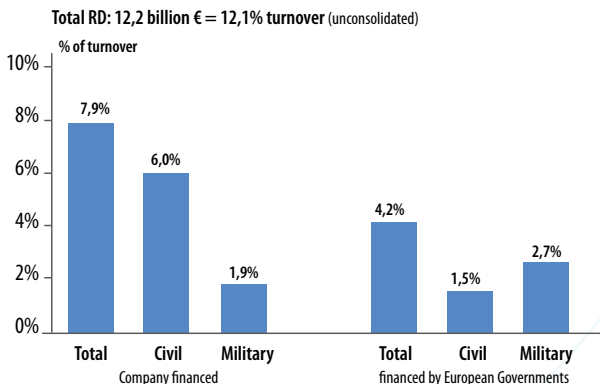
European Aeronautical labour productivity



Source: ASD

Since 1980, the turnover per employee in the European aeronautical sector has steadily increased, reaching an overall long-term growth of 3% per year. After a peak reached in 2007, labour productivity declined in 2008 and 2009. During the 1991-2009 period, this is equivalent to a growth of 50%.

Source of European Aeronautical R&D



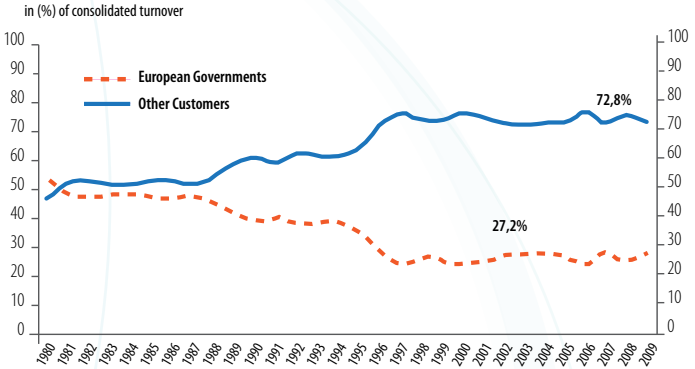
Source: ASD

In 2009, R&D expenditure in the sector (matched against turnover) remained stable at 12%. In value R&D expenditure rose slightly. The industry contributed to 2/3 of R&D expenditure, while the remaining 35% came from government funding.

Compared to 2008, the part of R&D funding contributed by companies slightly decreased, while the share of governments increased.

On the civil side, a vast majority (79%) of R&D funding came from industry while on the military side almost 60% of R&D funding came from public expenditure.

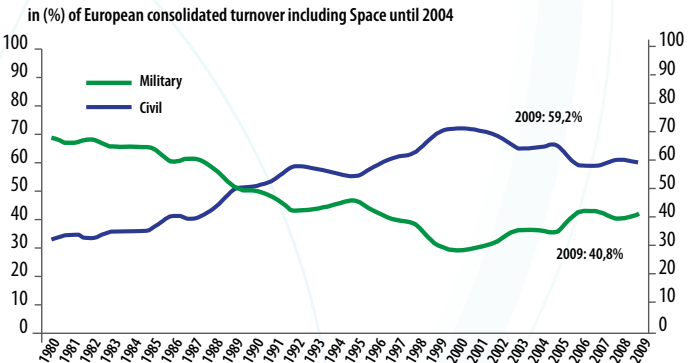
European Aeronautics Industry Turnover* by European Governments / Other Customers



(* based on European consolidated turnover)

Source: ASD

European Aeronautical Industry Turnover* by Civil/Military

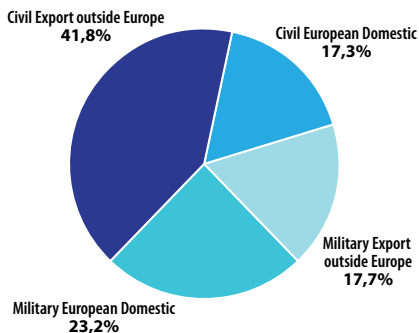


(* based on European consolidated turnover)

Source: ASD



Turnover Breakdown by Market: Civil/Military; European Domestic/Exports



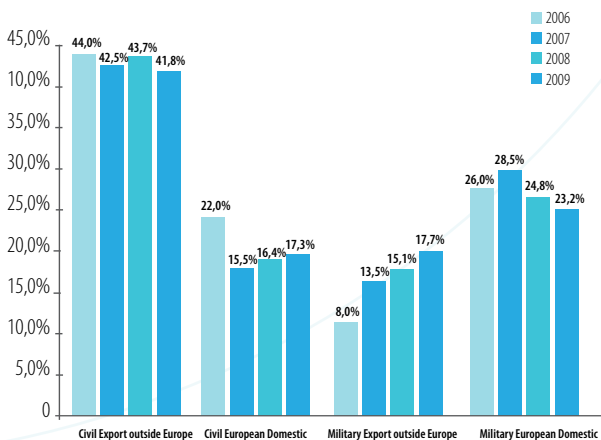
Source: ASD

In 2009, civil markets remained prevalent as they accounted for nearly 60% of the turnover of the European aeronautical industry. 70% of the civil turnover was generated by exports.

On the military side, the European domestic market remained predominant but its share continued to shrink, to 56% of the total military turnover. This reflects the growing success of European military products on export markets, where their share increased by 6% on the previous year.

Overall, the European aeronautical industry continued to reinforce its position as a global actor serving markets all over the world, with exports representing 60% of the total turnover. The export breakdown illustrates that civil activities still represented the majority of exports, while military activities continued to increase their share to represent 30% of all exports (up from 25% in 2008).

Comparison aeronautical turnover breakdown for 2006 and 2009

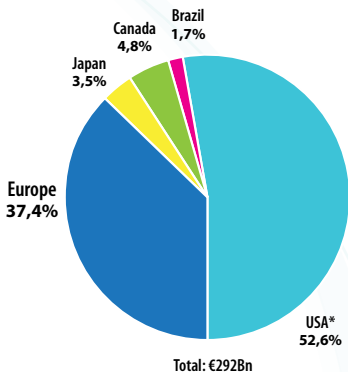


Source: ASD



2009 Comparative Aerospace Industry Turnover*

The following currency rates have been used: 1us\$= 0,71696€, 1¥= 0,00767€, 1can\$= 0,63096€

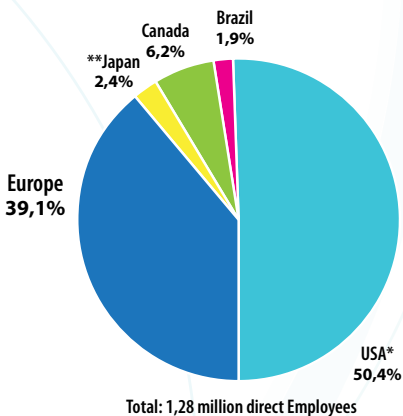


Source: ASD, AIA, AIAC, SJAC, AIAB, U.S. Census Bureau, Company Reports

(+) unconsolidated turnover for Europe

(*) Turnover estimated, excluding turnover not directly associated to aerospace

2009 Comparative Aerospace Industry Employment



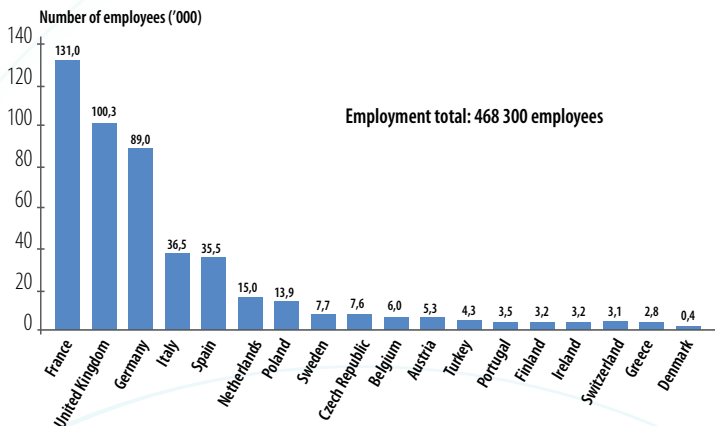
Source: ASD, AIA, AIAC, SJAC, AIAB, U.S. Census Bureau, Company Reports

(*) Excluding employment not directly associated to aerospace

(**) Excluding company staff not directly related to development/manufacturing of aerospace products

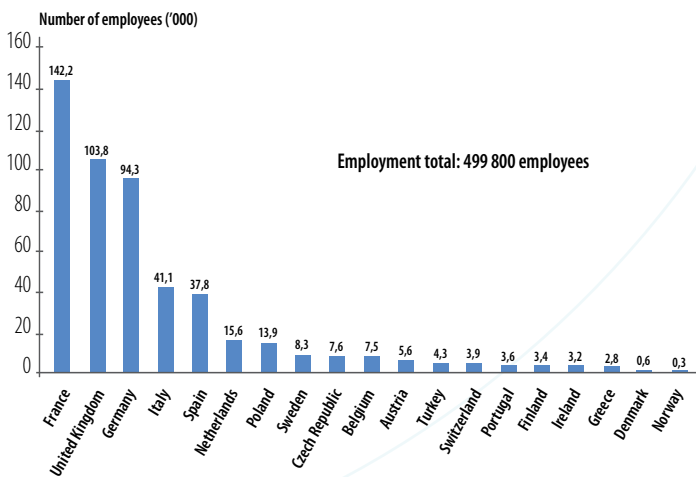


National Contributions to Direct European Aeronautical Industry Employment



Source: ASD National Associations

National Contributions to Direct European Aerospace Industry Employment



Source: ASD National Associations.
All Space data are provided by Eurospace or ASD National Associations



IV. Space

Space Industry data are excerpts from the ASD-Eurospace Facts and Figures annual survey.

The full report can be downloaded at www.eurospace.org.

1991-2009 Space sector turnover and employment

The space manufacturing industry operates at the higher end of the space value chain, and supplies spacecrafts and launchers to services providers and public institutions. The space manufacturing industry is an infrastructure supplier.

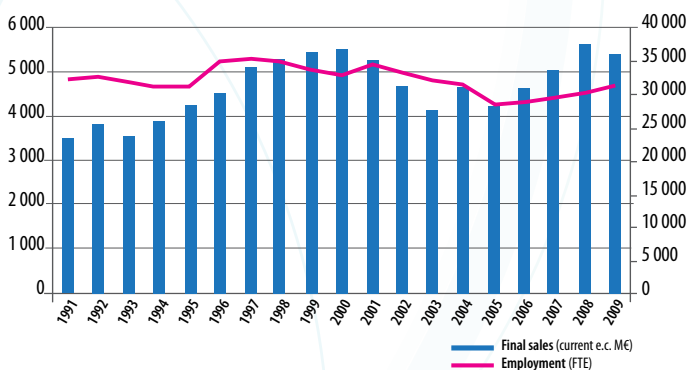
Employment

Direct industry employment in 2009: 31.369

Consolidated industry turnover in 2009: €5.46Bn

In 2009, the space manufacturing industry suffered from a slight reduction of sales (-3.7%) while direct employment grew (+3.5%), even though external personnel was reduced significantly.

1991-2009 Space sector turnover and employment





2000-2009 Space sector turnover distribution by market

End-customers of the European space industry are organised in two main categories, institutional (€2.8Bn) and commercial (€2.5Bn) customers.

Customers on the institutional market are publicly funded institutions in Europe:

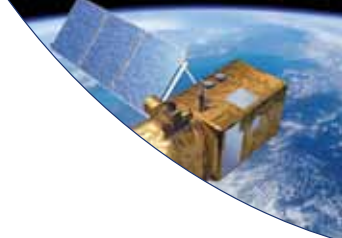
- Space agencies in Europe such as ESA, CNES, DLR etc..
- Eumetsat and other public satellite operators
- European Commission
- Defense procurement bodies in Europe and abroad

Sales to commercial customers & exports include:

- Commercially operated satellite operators world-wide (e.g. SES Global, Chinasat...)
- Satellite and launcher manufacturers outside Europe (e.g. MHI)
- Government agencies outside Europe, including defence procurement bodies

2000-2009 Space sector turnover distribution by market





2009 Space sector turnover details

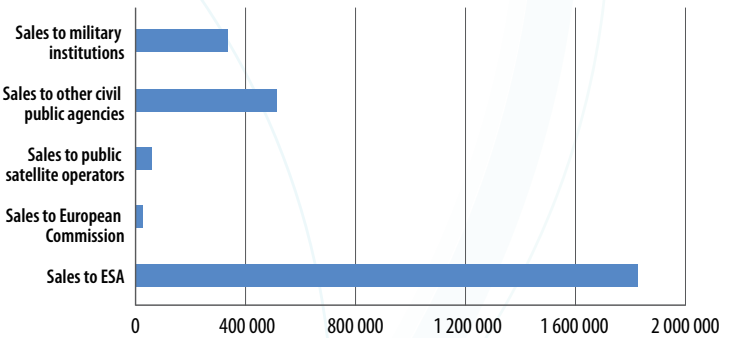
European institutional customers have been, historically, the first customers of the European industry, and they are still the most important - both in terms of procurement volume and diversity.

ESA, with €1.8Bn, is the largest customer of the space industry in Europe. It covers the full spectrum of systems and technologies, and is the sole customer for human spaceflight systems.

Out of all other institutional customers in Europe, military entities represent only 12% of final sales (€0.35Bn), but sales of military systems are much higher (€0.7Bn), as the procurement of defence systems is often delegated to civil entities (CNES, DLR, Paradigm,...).

ESA is by far the largest European institutional customer in all fields. Only in earth observation systems (the strategic dimension of which translates into a greater importance of national programmes) do other European institutional customers represent a sizeable market share.

2009 Space sector turnover details



2000-2009 Space sector commercial turnover details

Sales on the commercial market are composed of two main segments.

Satellite sales (€1.7Bn), including:

- Complete systems sold to commercially-operated satellite operators (80-90%)
- Satellite subsystems, equipment and parts sold to non-European satellite integrators (10-20%)

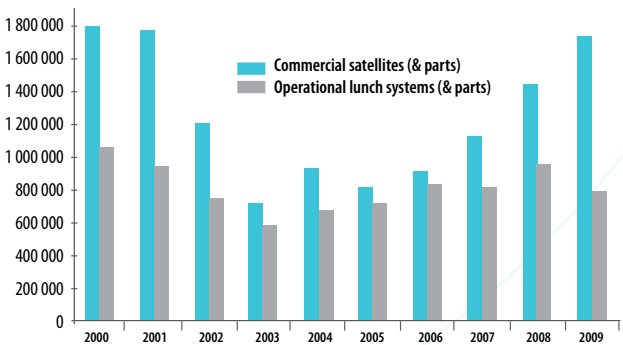
Launcher sales (€800m), including:

- Complete systems (and associated activities) sold to Arianespace (95%)
- Launcher subsystems, equipment and parts sold to non-European launcher integrators (5%)

Market drivers:

- Both segments are strongly driven by the evolution of the geostationary satellite operators markets and structures

2000-2009 Space sector commercial turnover details





1991-2009 Space sector turnover by activity

The European space industry designs, develops and builds space systems, equipment and parts within three main activity areas.

Satellite applications (€3.3Bn):

Including development activities and operational systems for telecommunications, earth observation and navigation purposes.

Launcher activities (€1Bn):

Including development and production activities of launch systems.

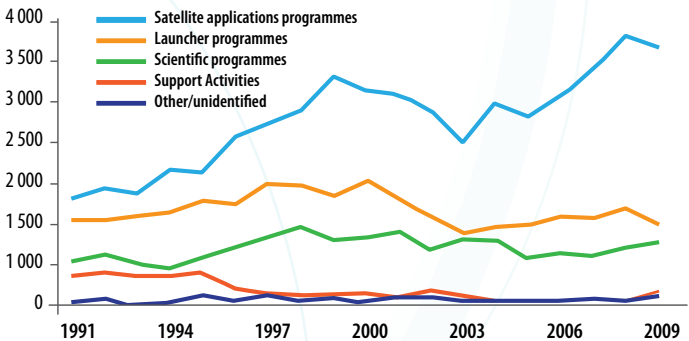
Scientific activities (€0.9Bn):

Including development and production activities of scientific spacecraft, space infrastructure elements (ISS, ATV) and scientific experiments & equipment for space.

Support and other activities (€0.1Bn):

Include transversal activities (e.g. testing, engineering etc.) that could not be traced to any activity area due to lack of information.

1991-2009 Space sector turnover by activity





V. Defence: Land and Naval

The European defence sector, according to the ASD definition, consists of land and naval businesses – as military aircraft and avionics are accounted for in the aeronautics sector.

The defence sector's product and service portfolio ranges from platforms such as armoured vehicles and ships, to weapon systems, electronic systems and ammunition. In that broad range of products, it is worthwhile mentioning the growing importance of the content of combat systems in the naval sector, and of net-centric electronic systems for the battlefield (such as the future soldier, ISTAR assets and force protection) in the land sector.

2009 was a good year for the European defence sector, thanks in particular to the strong growth observed in military markets outside Europe. Overall defence spending remained stable in most European countries, and robust in the U.S., BRIC countries and in the Middle East. However in several European countries procurement investments were hampered by the continuously rising costs of overseas operations.

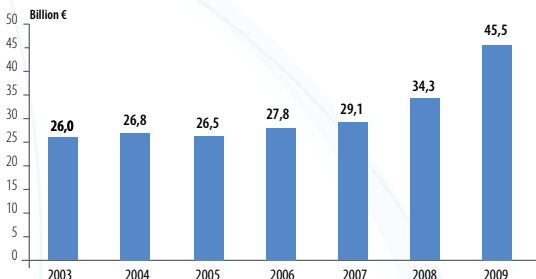
The good performance recorded in 2009 in almost all European countries, as well as the re-evaluation of defence statistics in Germany and Turkey, contributed to an increase in turnover and to a lesser extent to the favourable evolution of employment.

The land industry performed well in 2009, mainly due to increased volumes for new and upgraded platforms, large integrated defence and security systems including tactical UAVs, net-centric assets and force protection. These areas represent the new priorities of the armed forces, and are often requested as urgent operational requirements for overseas operations.

This evolving landscape has led to the emergence of European equipment/electronic system integrators, which generate a volume of land-related activities roughly equivalent to the volume of activities generated by the top 20 European manufacturers of platforms, armoured vehicles, special trucks, turrets, artilleries, weapons and ammunition. While this publication only covers European business, we noted a growing volume of activities of subsidiaries of European companies in the U.S., in the broad Land & Armaments area for the U.S. Department of Defense.

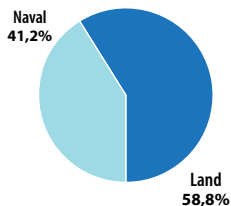
A variety of national programmes (mainly in the armoured vehicles segment) were under way in 2009, involving many players such as BAE Systems, Patria, Nexter, KMW, Diehl, Rheinmetall, GD Europe, IVECO, OTO Melara and RUAG. Modernisation programmes within systems of systems frameworks were also implemented, to bring coherence and interoperability to command-and-control systems and

Land and Naval Turnover from 2003 to 2009



Source: ASD

Land and Naval % Breakdown of Total Turnover



Source: ASD

to renew armoured vehicle fleets made up of Scorpion, FRES and Forza NEC. Among the most dynamic segments were new optical/optronic sensors, network tactical communication, target acquisition, robotics and anti-IED devices (with companies such as BAE Systems, Thales, EADS, Finmeccanica and Cobham).

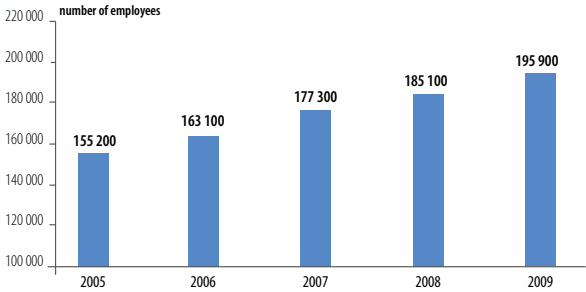
In the area of naval defence, European companies had to cope with a depressed demand cycle for new vessels. The European naval domestic market continued to shrink, while emphasis was given to the modernisation of vessels and the upgrading of combat systems (C2, communication, EW, armaments).

Typically, most European shipyards are engaged in dual activities (military and commercial shipbuilding). However in many cases the crisis in commercial shipbuilding has hampered the industrial capabilities needed to sustain the defence business. For European companies, another challenge has been the growing pressure coming from overseas emerging players. In this difficult context, greater innovation, productivity improvement and more aggressive export policies have been the main solutions for Europe's industry.

During the year, notwithstanding a shrinking export market, important orders were obtained by some European shipyards. Production activities were mainly related to important orders for aircraft carriers, Horizon and FREMM frigates, submarines and several national programmes.



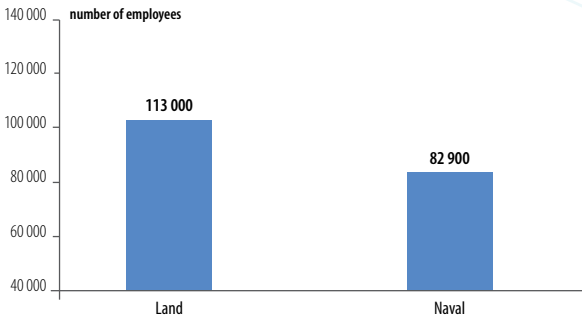
Land and Naval Employment from 2005 to 2009



2008 datad revised

Source: ASD

2009 Split of employment between Land & Naval



Source: ASD

The industrial structure of the naval defence sector in Europe is made up of a dozen of large national shipbuilders, delivering an estimated value of €10Bn related to new units, maintenance and upgrading. Some large equipment/electronic/system integrators (such as Thales, Safran, BAE Systems, Rolls-Royce, EADS – through the merger between Sofrelog and Atlas Elektronik, and Finmeccanica's Selex Sistemi Integrati) also represent an important share of naval systems. Finally, a large number of subcontractors, typically SMEs, complete the industry's landscape.



Major European defence companies of several European countries were involved in the provision of advanced armaments such as artillery, missiles, torpedoes and countermeasures for their domestic and foreign customers.

The European industrial naval offer in 2009 was marked by two main reorganizations:

Blohm & Voss' parent ThyssenKrupp Marine Systems and Abu Dhabi MAR Group formed a 50:50 joint venture for the construction of naval surface ships and a 80% stake of the three companies of B&V was sold to the Arabian partner.

BAE Systems completed the acquisition of VT Group's 45% shareholding in BVT, creating a wholly-owned subsidiary called BAE Systems Surface Ships Limited. A significant element of the workload underpinned by this agreement is the manufacturing of the Royal Navy's new class of two 65,000 tonne aircraft carriers.

Major events characterising the naval sector in 2009 were:

- BAE Systems was fully engaged in the production of the Type 45 anti-air warfare destroyer (powered by Rolls-Royce) and was awarded the first multi-year major UK ship support contract.
- On export programmes, BVT launched its first (out of three) corvette for Oman and two OPV (Offshore Patrol Vessels) for Trinidad & Tobago.
- The first of class Astute submarine successfully completed its nuclear power plant testing and started sea trials
- DCNS recorded a high level of export mainly to Asia (Singapore, Malaysia and India) but also to Morocco, and received orders for 3 FREMM frigates, a 2nd Barracuda attack nuclear submarine and an amphibious ship (a 3rd BPC-type vessel).
- The nuclear-powered ballistic-missile submarine Le Terrible designed for the French navy commenced sea trials in 2009.
- Thales recorded a sharp increase in activity on the CVF aircraft carrier programme in the UK, on contracts to equip patrol boats for Denmark as well as FREMM frigates, and on the minehunter upgrade programme with Singapore.
- The German shipbuilding Howaldtswerke-Deutsche Werft GmbH (HDW), a company of ThyssenKrupp Marine Systems AG, was active in the construction of a submarine for export, including a partnership with Turkey.
- In Italy Fincantieri, after the domestic orders for 4 FREMM frigates and two U212 submarines in 2008, received new orders for a fleet tanker and a corvette respectively from India and UAE in 2009. The Italian shipbuilder commissioned 4 patrol vessels for Iraq and the last Orizzonte destroyer for the Italian Navy.



Annex and list of abbreviations

€ Euro \$ US dollar £ sterling pound

A&D	AeroSpace and Defence Industries
AIA	Aerospace Industries Association (of the USA)
AIAB	Aerospace Industries Association of Brazil
AIAC	Aerospace Industries Association of Canada
ASD	AeroSpace and Defence Industries Association of Europe
EAI	European Aerospace Industry
EASA	European Aviation Safety Agency
ESA	European Space Agency
EU	European Union
Euro	European Currency Unit
EW	Electronic warfare
GDP	Gross Domestic Product
MoD	Ministry of Defence
MRO	Maintenance, Repair and Overhaul
OEM	Original Equipment Manufacturer
R&D	Research & Development
ROW	Rest of the World (outside EU and US)
SJAC	Society of Japanese Aerospace Companies
SMEs	Small and Medium-sized Enterprises
UK	United Kingdom
US	United States of America
U.O.R.	Urgent Operational Requirements

Yearly average exchange rates

the rates are annual averages based upon daily rates through the calendar year.

AERONAUTICS SURVEY

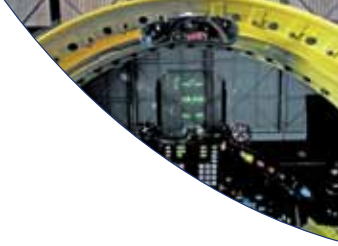
Aeronautics data contained in this publication has mainly been obtained by using the statistical survey firstly developed by AECMA (European Association of Aerospace Industries, ASD's predecessor). It covers the segments detailed below (see segments). The aeronautics survey does not include space data, which were collected separately by Eurospace (see below).

SPACE SURVEY

The Space data contained in this publication has been collected and provided by Eurospace. For the complete survey and methodology, please visit: <http://www.eurospace.org>

LAND AND NAVAL SURVEY

The Land and Naval data presented in this publication are collected through the same process as the Aeronautics survey as well as publicly sources like annual reports.



DEFINITION OF 'EUROPEAN'

The term 'European' as used in the ASD Facts & Figures covers the following 17 Member States of the European Union: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Poland, Portugal, Spain, Sweden, United Kingdom + Norway, Switzerland and Turkey.

CONSOLIDATED / UNCONSOLIDATED TURNOVER

Total unconsolidated turnover is the sum of all turnover data provided by the companies. Consolidated turnover at European level is calculated as the total unconsolidated turnover minus the turnover resulting from sales between European aerospace companies. The consolidated turnover therefore represents all sales to end-user customers as well as to aerospace companies outside Europe. Turnover data provided by the companies is consolidated at company level.

RESEARCH & DEVELOPMENT

Various definitions of R&D exist and it is difficult to achieve reasonably harmonised data throughout the European aerospace companies. For the purpose of this survey, R&D was defined as comprising:

- Research and Technology activities which represent all those R&D activities which are not directly attributable to products. They can, thus, be regarded as generic technologies and are designed to maintain or expand the technological basis
- Development activities leading to series production

SEGMENTS

System and Frames

- Complete systems of and/or airframes for aeroplanes, helicopters and gliders, ground installations... their subsystems and parts, spares and maintenance
- Complete systems of and/or airframes for missiles, ground installations..., their subsystems and parts, spares and maintenance
- Complete systems of and/or airframes for space vehicles, satellites, launchers, ground installations, their subsystems and parts, spares and maintenance

Engines

- Piston engines, turboprops, turbojets, jet engines, their subsystems and parts, spares and maintenance, for installation in aircraft systems
- Engines, their subsystems and parts, spares and maintenance, for installation in missile systems
- Propulsion devices, their subsystems and parts, spares and maintenance, for installation in space vehicles, satellites, launchers



Equipment

- Finished products, subsystems and parts, spares and maintenance, also for test and ground-training equipment, for installation in aircraft systems
- Finished products, subsystems and part, spares and maintenance, also for test and ground-training equipment, for installation in missile systems
- Finished products, subsystems and parts, spares and maintenance, also for test and ground-training equipment, for installation in space vehicles, satellites launchers

Aircraft

- Complete systems of and/or airframes for aeroplanes, helicopters and gliders, ground installations their subsystems and parts, spares and maintenance
- Piston engines, turboprops, turbojets, jet engines, their subsystems and parts, spares and maintenance, for installation in aircraft systems
- Finished products, subsystems and parts, spares and maintenance, also for test and ground-training equipment, for installation in aircraft systems
- Service Providers, Consultants, etc

Missiles

- Complete systems of and/or airframes for missiles, ground installations, ..., their subsystems and parts, spares and maintenance
- Engines their subsystems and parts, spares and maintenance, for installation in missile systems
- Finished products, subsystems and parts, spares and maintenance, also for test and ground-training equipment, for installation in missile systems
- Service Providers, Consultants, etc

The Aerospace and Defence Industries Association of Europe represents 28 national associations from 20 countries across Europe, thereby representing the European aeronautics, space and defence industry almost in its entirety.



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