

# Aircraft Sectoral Group

## Vision for the European Military Aircraft Industry

The European ambition to independently contribute to global security, and to face new defence and security challenges, is supported by a strong European Military Aircraft Industrial base, which is part of an enterprising culture providing world class competitive Air Power Systems

### **The European Military Aircraft Industrial base:**

- Is in a position to master the technologies and capabilities required that will enable Europe to have the freedom to act in an autonomous manner
- Is an acknowledged supplier of Air Power Systems on the world market
- Is lean, flexible and responsive, offering affordable solutions for the entire life cycle
- Is a driving force in providing technology innovations generating wealth and multi-sector growth within Europe
- Employs efficient and commercially viable business practices, embracing the complete supply chain

**February, 2006**

## **Executive Summary**

During the past five decades the European Military Aircraft Sector has contributed to the excellence in European defence capability and wealth creation, by proving a plethora of technological innovations and products that has positioned the European industrial base to be world class within this and other sectors. The engineering skills and technologies developed in the Military Aircraft Sector has been a prerequisite for the build up of the European civil aircraft industrial base as well as for many other military and commercial sectors.

However, with military focus now firmly fixed on dispersed, small and medium conflicts rather than full-scale war, there is a clear trend for the provision of rapid and flexible capability underpinned by flexible doctrine, rapid insertion of technology and robust flexible products. In addition, there are new challenges due to the asymmetric nature of the current threats and the need to place more emphasis on homeland security.

These new challenges for Air Power will almost certainly have an impact on the military and security operating environment over the next twenty years. This will have a consequential and significant impact on the shape and nature of the European Military Aircraft Industrial base.

It is therefore imperative that the Military, Governments and their agencies together with the Industrial players, take a joint integrated approach to the transformation of military and industrial capability within Europe. The future and quality of European Air Power can only be secured by the creation of an 'enterprising culture' that is inclusive of all the key stakeholders and supportive of a strong European indigenous capability base. In support of this inevitable transformation, the Aircraft Sectoral Group (ASG), within the ASD framework, has created a vision to sustain and develop the existing excellent technology and skills base. In doing so Europe will be in a strong position to provide world class competitive Air Power Systems that will respond to the evolving security & defence challenges worldwide. The Military Aircraft Industrial base will also continue to be the driving force in providing technology innovations generating wealth and multi-sector growth within Europe. In this context, Europe will secure its right to be a dominant and independent world player across the globe.

The five key strategies developed for securing this vision are:

1. Encourage a European integrated approach to the Military Air Power sector through close interaction between Governments, their agencies, the industry and research institutions.
2. Actively pursue a close dialogue with our customers to be able to react and satisfy the emerging Air Power requirements in defence and security.
3. Ensure the set up of coordinated technology developments and technology demonstrators programs in the Air Power Systems domain.
4. Nurture a European market, with harmonised rules and regulations, enabling European Defence Industries to be competitive on the world market.
5. Secure the existence of a strong supply chain structure within Europe having increased accountability at all levels regarding technology development, investments and risk.

## **Introduction**

This Vision and Strategy paper is developed by the Aircraft Sectoral Group (ASG) within the framework of ASD. The Aircraft Sectoral Group includes European Aircraft industries engaged in the development, production and support & services of Air Power Systems as prime contractors. It is assumed that this Vision and Strategy paper will be under continuous development in a close dialogue with our stakeholders.

**Strategy 1: Encourage a European integrated approach to the Military Air Power sector through close interaction between Governments, their agencies, the industry and research institutions.**

The European Military Aircraft Industrial base is currently strong and several Air Power System Programs are in production. Many of the technologies developed for these programs have also been the base for the successful Commercial Aircraft industry as well as for many other industrial sectors, having a very positive impact on the European wealth creation. However, the fragmentation within the Air Power sector is obvious which is caused by historical reasons. The declining expenditure in defence spending and the transition in military priorities mean it is no longer economically viable to retain major areas of duplication within Europe. This necessitates a harmonized approach, between Governments, their agencies, the industry and research institutions, to enable European Governments to have access to affordable European Air Power solutions, meeting future defence and security demands.

The LOI and ETAP initiatives are most welcome from an Industry point of view. Even if some progress has been made in certain areas, the pace is too slow. An increased commitment to really make progress through well identified actions, with appropriate funding, within the existing LOI and ETAP framework is wanted. A further enhancement of the LOI and ETAP initiatives are also required to assure future required capabilities within the Air Power sector to enable Europe to have the freedom to act in an autonomous manner. This will also give access to advanced technologies and products which can be utilised in the closely related Commercial Aircraft sector as well as for other European industrial sectors keeping Europe in the industrial front line.

New type of business models should also be explored, offering service provision based contracts, when applicable, which will provide value to the customer and a viable return for the shareholders.

**Measures to be taken:**

In order to achieve the above strategy, the following initiatives should be pursued:

- Evaluate the outcome from the LOI and ETAP initiatives so far and propose corrective actions from lessons learned.
- Communicate the ASD/ASG initiative to our stakeholders and promote an increased focus and a further development of the LOI and ETAP initiatives
- Identification of a joint European roadmap involving Governments, their agencies, the industry and research institutions, starting with the six LOI nations, leading to well identified actions.
- Position the European Defence Agency and ASD to act as facilitators in this process.
- Industry needs to develop attractive business models offering service provision based contracts, when applicable, which will provide value to the customer and a viable return for the shareholders.
- Industry must further increase our ability to offer integrated solutions thereby enabling improved interoperability.

**Consequences of Failure:**

- Continued dispersed technology investment with no fixed tangible dates to force the pace for technology development.
- Poor alignment of European requirements with a tendency for each nation to revert back to national strategic imperatives.
- Limited and unfocused concept demonstration programmes
- Little or no momentum for common European acquisition programmes

**Strategy 2: Actively pursue a close dialogue with our customers to be able to react and satisfy the emerging Air Power requirements in defence and security.**

New emerging trends are likely to shape the military and security operating environment in the next twenty years. These trends will have a significant impact on the European Defence Industry.

With military focus now firmly fixed on dispersed, small and medium conflicts rather than full-scale war, there is a clear trend for rapid and flexible capability in terms of doctrine, technology and products. In addition, there are new challenges due to the asymmetric nature of the threat. It is also likely to have more emphasis shifted from military support to homeland security. This will probably lead to more intensive monitoring of infrastructure and borders including more Policing roles such as drug trafficking, pipe line protection, port security, asset monitoring (land, sea and air) and immigration control.

These are today's trends, however, history has proven that it is impossible to predict the future with any degree of certainty. Therefore it is of outmost importance for our Industry sector to actively pursue a close dialogue with our customers to be able to react and satisfy the emerging Air Power requirements in defence and security. This would also lead to identification of required systems and technologies that needs to be developed to meet the future needs.

Our Industry sector should also improve the flexibility to be able to adapt to the unforeseen changes in the environment and to deliver affordable solutions meeting our customers challenging and changing needs.

**Measures to be taken:**

In order to achieve the above strategy, the following initiatives should be pursued:

- Industry needs to create a close dialogue with the customer and actively participate in the near and long term operational analysis underpinning the defence and security threat scenarios of the future. This would improve Industry's ability to provide the required flexible and affordable solutions in a timely manner which is either based on existing or new developed systems and technologies.
- To be able to meet shorter lead time (concept to delivery) and deliver cost-effective solutions, the sector needs to employ more effective engineering and commercial processes.

**Consequences of failure:**

- Without close involvement of the industrial players in the development of capability requirements there is a continued risk that practical cost effective or affordable solutions will not be found.
- Europe will not be able to provide niche systems and solutions and therefore nations will become more dependent on non-European solutions

### **Strategy 3: Ensure the set up of coordinated technologies developments and technology demonstrators in the Air Power Systems domain.**

Investment into integrated technology demonstrator programmes during the last 50 years has provided a focus for technology development, skills retention and significant risk reduction prior to major defence equipment acquisitions. This investment has positioned the European industrial base as a world class provider of aerospace defence equipment for its home and export markets. Technologies that has been developed for the Air Power systems has also been spread to other sectors, both military and civil which has strongly supported the wealth creation in Europe

In more recent times, the challenges to the military budgets, evolution in the geopolitical environment and the dynamic changes in the customers requirements coupled with the complexity of systems, has resulted in limited investment into innovative solutions for future advanced systems. This has created a gap in the technology, skills and processes required to support future military operations.

The window of opportunity to readdress this trend within Europe and provide a complementary set of solutions that prevents the growing dominance of the US in novel systems is closing fast. In order to protect the European political agenda it is time for the EU Governments to take positive action to position its military capability and supporting industrial base.

To address these issues and provide a viable competitive industrial base, focused investment is required in advanced studies, technology risk reduction and flight systems demonstrators. This is critical for sustaining core engineering skills, facilities and technologies required for the next generation of air combat systems.

By setting up coordinated technologies developments and technology demonstrators in the Air Power Systems domain not only future technologies will be demonstrated, but also an increased cooperation between the industries and customers will be achieved which could benefit a future restructuring process.

#### **Measures to be taken:**

In order to achieve the above strategy, the following initiatives should be pursued:

- Develop a plan that will lead to a joint proposal for a series of integrated development and technology demonstrator programmes that are owned by key Governments and Industrial players.
- Promote this strategy in each Nation among the equipment suppliers and research community (Institutes, Universities, etc.)
- Make each Government, EDA and other agencies understand and confirm the critical value of this initiative.
- Avoid misleading stakeholders about this strategy, making clear that the demonstrator programmes are not an end in itself but just a step to keep the Defence and Technology Industrial Base.

#### **Consequences of Failure:**

- Required technologies and systems are not available when needed.
- Reduction of competitive advantage in the world market
- Limited or no technology maturation, systems integration, system qualification prior to future major defence acquisition.

**Strategy 4: Nurture a European market, with harmonised rules and regulations, enabling European Defence Industries to be competitive on the world market.**

Today, the European defence market has diverse trade barriers and national security constraints. This promotes national protection of critical technologies and skills, particularly those closely coupled to national security. In an environment where defence budgets are shrinking, sustainment of significant overlapping capability and capacity is not tenable.

To address this issue, the procurement of defence systems within Europe should be transparent and promote the re-generation of wealth in terms of skills, technology and process within the European Community.

Examples of positive steps towards this strategy are the current efforts undertaken by the Commission and EDA on the Green Paper on Defence Procurement and the Voluntary Regime initiative respectively. In response to these initiatives, Industry has been and will continue to be very proactive by coordinated input through relevant National and European Trade Associations.

To date the Aerospace Defence Sector has taken the lead in consolidation of the Industrial base and cooperation on major defence programmes. However, further rationalisation is required to create a strong European Defence Equipment Market that remains competitive in the aggressive global market.

**Measures to be taken:**

In order to achieve the above strategy, the following initiatives should be pursued:

- Develop the Procurement Mechanisms such that they protect the core science and skills base within Europe.
- Build upon the existing Letter of Intent (LOI) framework, to provide a robust market environment based on:
  - Security of Supply between Governments and Industry.
  - Simplified Export Licensing Procedures.
  - Simplified Security provisions for Classified Information and exchange of personnel.
  - Mutually beneficial treatment of Intellectual Property.
  - Emergence/creation of centres of excellence for critical technologies.
- Foster European programmes that result in world class competitive Air Power Systems.

**Consequences of Failure:**

- Duplication of technology development within national boundaries.
- Little or no gearing from joint development of technologies and systems.
- Poor alignment of resources maintaining the status quo with respect to over capacity that will ultimately yield increase cost and reduced efficiency.
- Decline in the European Defence and Technology Industrial Base due to limited synergies and gearing from co-ordinated investment.
- European capabilities will continue to decline against the US bench mark.
- Dependence on, and dominance of, non-European solutions

**Strategy 5: Secure the existence of a strong supply chain structure within Europe having increased accountability at all levels regarding technology development, investments and risk.**

The European Military Aircraft Industry is supported by a very strong supply chain base, in most European Nations, thereby contributing to technology transfer to other sectors.

To meet present and future challenges, all parts of the supply chain must increase their involvement and accountability for delivery in support of the Prime Contractors. This more pro-active and coordinated approach will lead to improved technology focus, product risk reduction and cost effective procurement. Further, these Small Medium Enterprises (SMEs) must take more responsibility for developing synergies for core research and technology with other sectors such that they provide economic gains within the air sector.

In this case, the SMEs within the supply chain will be a natural part of an enterprising culture within the European air sector providing solutions that enable the fulfilment of customer needs not only within Europe but within the global market.

If successful, the supply chain will comprise commercially viable enterprises that are successful on the world market with both military and civil products. As such they will directly contribute to the wealth creation within Europe. Such a European supply chain base will be a very important success factor for industry within the air sector to fulfil its vision.

**Measures to be taken:**

In order to achieve the above strategy, the following initiatives should be pursued:

- Together with other Sectoral groups within ASD (equipment, engine, SME, etc.), further develop this strategy including the agreement of an agenda to acquire the pro-active support of all ASD member organisations.
- Promote a structure consisting of more competent suppliers with the ability to carry accountability for the complete product life cycle, (time, investment, technology development, risk, quality and support), to achieve a sustainable and competitive supply chain.
- An increased commitment to the early exchange of information and timely communication to ensure there is no ambiguity of need or requirement throughout the supply chain.
- Make evident to the EU commission, European National Governments and their agencies that this supply chain, having in mind their technology impact on both military and civil products, play an important role in the creation of wealth and growth within Europe.
- Ensure coordinated military and civil research and development programs for dual use application.

**Consequences of failure:**

- Europe will be significantly more dependent on a non-European supply chain due to lack of required technologies and affordable solutions within Europe.
- The full benefit of the creation of the European wealth and growth throughout our supply chain will not be achieved.