

Meeting future European defence and security challenges requires a strategic approach to the Aeronautics EDTIB

Executive Summary



FAS4Europe Study

Produced by

Saab AB

in collaboration with

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Our heritage – a world leading European position to be proud of

For almost a century, European nations have relied on a largely indigenous Aeronautics European Defence Technological and Industrial Base (EDTIB) to provide air systems, such as aircraft and helicopters, required for a range of military capabilities. These products have enabled, and continue to enable, European Union Member States to meet their national security and defence requirements in a changing environment.

In addition, this industrial sector, through its leading edge technology, has been a pre-requisite for European commercial aviation success, as well as providing key technologies to other defence and commercial sectors. Investments made in the Aeronautics EDTIB not only provide sovereign air system solutions but also strongly contribute to wider economic growth in Europe. At the same time the sector has created strategically important export opportunities.

The Aeronautics EDTIB is now at a turning point

This strategic position, with the advantages it brings to Europe, has been achieved through past long term investment. The results of the FAS4Europe (Future Air Systems for Europe) study¹ confirm that the Aeronautics EDTIB is eroding. The situation for future air systems is severe, with some important industrial capabilities and technologies already at risk, and will soon become critical, for example development of future combat aircraft (manned and unmanned) and attack helicopters. If measures are not taken, a point of no return will be reached in the next few years. The immediate consequence will be that the Aeronautics EDTIB will not, in key high technology domains, be able to develop and supply sovereign future air systems.

A window of opportunity is at hand

An opportunity exists to break the current trend of erosion and instead capitalise on Europe's strategic position. However, it requires the launch of actions based on a common and coordinated plan to create the foundations for a European strategic approach that will establish a long term and sustainable Aeronautics EDTIB.

¹ The FAS4Europe study has identified the required key industrial capabilities necessary to enable Europe continued access to cost effective sovereign military Future Air Systems (FAS) in strategic areas in the 2035 timeframe. The study includes an analysis, an initial roadmap and proposed appropriate actions for starting the implementation, in an overall European context. The future development plans for already established European air systems programmes are not described in this report.

Why Future Air Systems are needed

Air systems are an essential element of military power. Experience in conflict and crisis particularly since the 1990's has highlighted the value of air delivered military capabilities. The latest example being the successful engagement in Libya of those European air forces involved in the NATO led operations. The European military aircraft and helicopters in the inventories of European Union Member States are key elements supporting both national defence policy and the Common Security and Defence Policy. In a changing world air systems will continue to be one of the most important and cost effective contributions to military capability.

The strategic value of an aeronautics industrial and technological base is widely recognised

USA, Russia and China continue to strongly invest in the military aeronautics domain and proactively develop their defence industrial and technological base. They have all outlined clear strategies to maintain and enhance their current capabilities. Emerging nations such as India, South Korea, Turkey and Brazil are building up and strengthening their aeronautics defence industrial and technological base. The strategic rationale is the ability to meet future operational demands as well as to exploit additional economic growth opportunities in commercial aviation and other industrial sectors.

Why the Aeronautics EDTIB is eroding

National defence budgets are shrinking and the current European economic climate is making the situation even more difficult. As a result there is a steady decline in research, technology and development investment. In addition the development phases of major European programmes are now reaching an end. The timescales and costs associated with advanced military aviation suggest the need for European Union Member States to agree a coordinated plan for the future direction of the Aeronautics EDTIB, but no plan exists. The situation is made worse by the fact that many European Union Member States are procuring and investing in non-European air systems and development programmes, which has the effect of further eroding indigenous industrial capability.

The entire Aeronautics EDTIB is at stake

Industrial capability is already systematically deteriorating and will soon seriously impact many key capabilities and technologies having the following consequences:

- The FAS EDTIB will lose significant industrial capability between now and 2020 (e.g. survivability), and will fail to acquire important enabling capabilities and technologies (e.g. sensors).
- Many of the capabilities at risk will be very costly, in both time and money, to adequately recover if lost.
- The capabilities at risk impact the complete supply chain, from primes to SMEs.
- There will be substantial loss of high quality jobs in the Aeronautics EDTIB and related sectors.

Consequences of an inadequate Aeronautics EDTIB

The study has identified that if appropriate measures are not taken the Aeronautics EDTIB will, by approximately 2020, have inadequate capability to meet European Union Member States expected requirements. **European Union Member States will lose:**

- **Fit for purpose military capability** and will therefore predominantly depend on non-European solutions to avoid significant capability gaps. These solutions may not fully meet the military capability requirements, due to limited customer influence on the programmes.
- **Sovereign control**, since security of supply of air systems and advanced technologies will not be guaranteed due to competing demands and the threat of export restriction.
- **Economic advantage**, since Europe will fail to capitalise on its existing strengths and achievements, due to limited development of technologies and systems. It will also reduce export opportunities.

Required future capabilities to enable sovereign European FAS solutions

To meet the future demand for more cost effective indigenous FAS, tailored for the European Union Member States capability requirements, the Aeronautics EDTIB must adapt to the constantly changing environment. To satisfy these requirements the Aeronautics EDTIB must:

- **Be lean, innovative and globally competitive.**
- **Have access to the required technologies** via research, technology and demonstrator programmes.
- **Have access to highly skilled personnel** via development and demonstrator programmes.
- **Employ more effective development and production processes** in order to deliver more cost effective solutions with shorter lead times.
- **Employ enhanced procurement and business models** allowing predictable long term investment and revenues.
- **Continuously have close dialogue with the customer** in order to understand the future capability demands and prepare accordingly.

How to develop the Aeronautics EDTIB to meet future needs

Clearly there are many challenges in the current operational and financial environment, and some off the shelf procurements may be unavoidable to ensure that immediate requirements are met. But these short term pragmatic decisions need to be balanced with a long term strategy and plan for sustaining sovereign military capabilities and the appropriate Aeronautics EDTIB.

The FAS4Europe team recommends a remedial strategy, underpinned by a roadmap in three phases: short (Phase 1), medium (Phase 2) and long term (Phase 3). This roadmap, if implemented, will help ensure that the Aeronautics EDTIB will be in a position to develop and deliver cost effective sovereign FAS solutions tailored for EDA Member States' capability requirements in an unpredictable future.

Phase 1, Sustainment of the Aeronautics EDTIB - Keeping options open

Phase 1 of the roadmap (2012-2017) is a set of projects that together will sustain industrial capabilities, mature technologies and prepare cooperation and business models, as well as procurement processes for common European programmes. The launch of Phase 1 is critical to help prevent further damaging erosion of the Aeronautics EDTIB. However, a prerequisite is that ongoing and planned programmes (R&T, demonstrators, development and production, national as well as in cooperation) are maintained. This will keep EDA Member States' options open for sovereign FAS solutions.

Phase 2 Preparing for the future

Phase 2 consists of a set of substantial project proposals to be initiated over the 2017-2022 period to develop required industrial capabilities and reduce risks in future development programmes. In this phase FAS demonstrator programmes will be important.

Phase 3 Establishing a competitive EDTIB meeting EDA Member States' requirements

Phase 3 consists of preliminary proposals for the period after 2022, focusing on developing the identified FAS EDTIB longer term needs to a position where it can meet EDA Member States' expected requirements. In this phase substantial FAS development programmes will be necessary.

FAS4Europe study conclusion and recommendations

Europe's military aeronautics industry remains competitive, however today's position is based on past investment. The Aeronautics EDTIB is now at a turning point, and if appropriate measures are not taken erosion will continue until Europe's capability to develop state of the art FAS will no longer exist. This industrial capability will be very difficult, time consuming and costly to recover. If action is taken now it remains possible to safeguard an Aeronautics EDTIB able to meet the future capability challenges and maintain Europe's sovereign military capability.

The study recommends:

- **Launch of the roadmap and implementation plan**, involving EDA Member States supported by EDA in consultation with the European Commission and industry. This would include necessary preparation starting 2012.
- **That Phase 1 of the roadmap is launched by 2013** in order to keep options open whilst EDA Member States determine the future focus on military aeronautics.
- **That an Aeronautics Working Group is established** by EDA Member States, bringing together expert representatives with a close connection to national policy makers, supported by EDA, the European Commission and industry. The group would plan, coordinate and steer the required future activities including close monitoring of sensitive capability domains at risk.