STANDARDISATION OF AIRWORTHINESS
REGULATION ACROSS THE GLOBE

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EDITORIAL

In this latest issue of the Aviation Safety Newsletter, we focus on the international issues at stake in the standardisation of airworthiness regulation. While we are deeply committed to controlling a national regulatory framework for airworthiness of State aviation in France as a matter of our sovereignty, we must also embrace a changing environment that brings with it new challenges.

The proliferation of cooperation programs such as the A400M, the growing maturity of airworthiness and also the need to control its costs, the interest shown by aviation operators in more and more other countries in expanding cooperation, and the existence of real industry challenges all quickly pointed to a way forward. The advantages of developing widely shared airworthiness regulation were immediately apparent, however the process ahead is far from smooth as various technical, regulatory and cultural obstacles stand in its way. Nevertheless, a growing number of countries are resolutely embarking on this course, which is testament to its success.

This momentum is clearly demonstrated by the various authorities which have agreed to be interviewed for this issue of the Newsletter. Their needs and approaches, and the solutions they have adopted, are remarkably diverse. Furthermore, there is real purpose, in terms of budget, operations and above all safety, in the forces’ pursuit of a consolidated move towards the EMAR. It is not a constraint but rather a necessity which must guide our actions and we must also persuade our partners of this.

As we look to the future, the pursuit of international cooperation complements the DSAÉ’s process of internal consolidation in order to capitalise on its particular characteristics: a global approach to safety, a cross-functional vision of problems and a capacity for occurrence analysis. The DSAÉ must also aim for a level of performance that meets the expectations of the aviation operating authorities that we regulate and oversee. The creation of the BEAS (French Bureau of Safety Evaluation and Improvement) will help to achieve this objective by raising the standard of reflection on cross-disciplinary issues of air safety to complement discipline-specific approaches.

I trust you will find this newsletter of interest.

Général de division aérienne Eric Labourdette,
DSAÉ Director

1 Translator’s note: The DSAÉ is responsible for regulating and overseeing air safety matters relating to all French State aviation. This encompasses aircraft operated by all the State aviation operating authorities, namely the Army, Navy and Air Force and also the national Gendarmes, the DGA (French defence procurement agency), and the civil security and customs services.

FOCUS

Airworthiness
Standardisation of Airworthiness Regulation Across the Globe: Challenges, Issues and Perspectives

In the military, just as in the civilian world, aircraft safety is the raison d’être of airworthiness. However, airworthiness also involves a number of other benefits and interests. The standardisation of requirements, currently on a national or European scale and in future perhaps on a global scale, presents many opportunities in the field of defence aviation and for all stakeholders that stand to benefit from these requirements. The European Military Airworthiness Requirements (EMAR) may, in time, become the Esperanto of military airworthiness. This universal language should make it possible not only to share a frame of reference for the benefit of military aviation safety as a whole, but also to facilitate cooperation of all kinds between military aviation operators, harmonise and simplify the airworthiness landscape, create synergies, share methods and good practice and, lastly, promote our European defence aviation industry through the adoption of globally recognised standards.

Main Principles

It is worth briefly reviewing here a few basic principles. Airworthiness means the technical and intrinsic suitability of an aircraft to fly safely in airspace, commonly referred to in a technical environment as operating safety. An airworthy aircraft is therefore essentially a safe aircraft. By extension, airworthiness refers to all of the regulations governing the technical life of an aircraft, starting from its design and including its manufacture, operation and
ultimately its withdrawal from service. The different stages in an aircraft’s life are subject to specific regulations: initial airworthiness, which applies to the industrial development and manufacture of an aircraft, is therefore distinct from continuing airworthiness which applies to the operational life of the aircraft. By design, a military aircraft must meet a minimal level of safety generally defined by the probability of a catastrophic accident per flight hour, which is set at $1 \times 10^{-6}$ for military aviation. Production is tasked with reproducing these characteristics identically over a whole series, while maintenance, as the name implies, maintains or restores this level of safety throughout the operating life of the aircraft. The purpose of airworthiness is to organise the different stages in the technical life of an aircraft by imposing a rigorous framework to ensure that safety objectives are met.

Civil Aviation Airworthiness in the EU
For civil aviation, airworthiness policy, and air safety policy in general, are subject to a regulation adopted by the European Union, commonly known as the Basic Regulation. This regulation comprises various specific technical rules or Parts, each one identified by a reference number relating to the specific area covered by and subject to these rules. Part 21, for example, covers the rules for aircraft design and production and the obligations of organisations engaged in this area; Part 145 defines maintenance requirements; Part 147 defines the requirements applicable to aviation technical training organisations; Part 66 defines the licensing conditions for aviation maintenance operators and Part M covers the requirements for managing and ensuring the airworthiness of a fleet of aircraft. The European Aviation Safety Agency (EASA) and the various national civil aviation directorates such as the DGAC in France are the authorities responsible for ensuring proper application and compliance with these rules.

Standardisation of Military Airworthiness Regulation in Europe
Following on from the changes in civil aviation in Europe, the European Defence Ministers decided to initiate a process of reviewing what was termed airworthiness applied to military aviation. The matter was entrusted to the European Defence Agency (EDA), whose missions include facilitating synergies through general policies such as the standardisation of regulations. This move took shape in the creation of the Military Airworthiness Authorities (MAWA) Forum. The essential first task of this forum was to define a common policy for its members and European military aviation: the Basic Framework Document, more commonly referred to as the BFD. This document establishes the general framework for the expected activities of the MAWA Forum as well as its broad guidelines and objectives. The task centres around harmonisation and standardisation based on the example of European civil aviation. The first step consisted of defining all of the rules that would be needed to govern airworthiness in the context of military aviation. Four task forces were then formed to draw up these rules or EMAR. In the northern summer of 2017, an essential and highly symbolic milestone will be reached with completion of the regulatory task as development of all the EMAR covering every aspect of airworthiness will by then be finalised.

The process of implementing and adopting the EMAR is indisputably making progress, although the various stakeholders in this area are moving forward in a fragmented manner and at varying speeds dependent on the resources and national political support behind the process.

“France has made the very ambitious and essentially successful choice to implement the process across its entire State aviation”

The Airworthiness Landscape in Europe and Around the World
France’s State aviation is today certainly one of the frontrunners if not the leader in this field. Our country is currently reaching the end of the transition phase and is on target to reach cruising speed in 2018. France has made
the very ambitious and essentially successful choice to implement the process across its entire State aviation and relevant organisations. The majority of our partners are not so far advanced.

The benchmark European military aviation operators are nevertheless making progress and clearly moving ahead of the others. The United Kingdom and Germany in particular are fully and deeply committed to the process.

The United Kingdom has for some years had a military aviation safety authority, the Military Aviation Authority (MAA UK). While the British have not opted to adopt the EMAR, their regulatory framework is fairly close and compatible with these requirements. The consequences of Brexit in this field remain to be seen however, and the United Kingdom’s continuing participation in the MAWA Forum is now uncertain. Nonetheless, as a member of NATO, which is itself implementing an airworthiness policy, the United Kingdom will in all likelihood maintain its momentum.

Germany is also resolutely engaged in the process and is making rapid progress with the recent creation of the LufAbw. The EMAR (renamed DEMAR) have been adopted, but with two distinct frameworks. The first, historic framework defines airworthiness requirements relating to the oldest aircraft; the second, to which the DEMAR apply, is first and foremost designed for the A400M program but is intended to gradually replace the old regulatory framework.

Numerous other EU countries may also be mentioned here, for example Spain which has the distinction of being home to a large part of the European aviation defence industry. The Spanish military airworthiness authority, the DGAM, has for several years been engaged in the process and, with the support of its technical expertise organisation, the INTA, has gradually incorporated the EMAR into its national regulation under the name of PERAM. The purpose is to satisfy the national industry’s many military clients on the basis of known airworthiness standards which are now the benchmark for all Europeans. Spanish military aviation, on the other hand, is yet to apply these standards itself.

Lastly, Belgium, the Netherlands, Italy and Portugal amongst others also share the same objectives.

The success of the EMAR, while initially cautious, now extends beyond the borders of the European Union. Norway has decided to adopt them and other European countries such as Switzerland are observing the move and taking an interest, as are some countries further afield in the Middle East, Asia, Africa and South America.

In 2016, Australia decided to adopt the EMAR as part of its national legislation. This decision appears politically somewhat courageous for such a geographically distant country, and also quite heavily influenced by the American military system. Indirectly, Australia’s choice is further testament not only to the quality of these European-developed airworthiness standards, but also to their potential, particularly for industry and the economy. Indeed, the close interest that certain countries in Asia are taking in the EMAR can surely not be devoid of some commercial motivation or thought of export opportunities.

The support of the aviation industry in general appears to have been essential to the success of Australia’s process. Australia’s decision has also had a knock-on effect in the Pacific region, starting with New Zealand which appears decided on adopting the EMAR, as well as Indonesia and possibly Malaysia, although this would no doubt be in the longer term.

This success of the EMAR once again confirms the relevance of these standards and the benefits gained in terms of standardisation for military aviation globally.

The Challenge of Recognition and the Importance of Standardisation

In addition to the voluntary adoption of these rules and their implementation by states’ military aviation operators arises the question of international cooperation initiatives which, by nature, involve different national regulatory frameworks.

From this point of view, the military airworthiness landscape in Europe is far less homogeneous than that of civil aviation. Indeed, while the 27 EU Member States have adopted the same rules and created a supranational air safety regulatory authority, each country has its own military aviation authority with its own national regulation, essentially for reasons of sovereignty relating to the actions of the armed forces.

European military aviation therefore resembles a kind of mosaic of independent regulatory frameworks and associated authorities. In order to move between different regulatory frameworks, particularly in the case of cooperation programs, it is necessary for the national authorities concerned to grant mutual recognition. This means certifying that, particular national characteristics aside, the airworthiness requirements are identical, equivalent or acceptable and that the authorities responsible for enforcing them have the same powers, responsibilities and prerogatives. If everyone speaks the same language, albeit with a different accent, understanding and therefore comparison and eventual recognition become considerably easier.

If, for example, an A400M engine maintained in Germany under regulation DEMAR 145 under the authority of the LufAbw is delivered to the French air force, it can be accepted under the EMAR FR if the DSAÉ has recognised its
German counterpart and its regulation. This type of scenario may arise on multiple levels and for a wide variety of equipment under manufacture or undergoing in-service maintenance. Recognition is rather like the mortar that binds the pieces of the mosaic, giving it form, structure and coherence.

“The major cooperation programs are all directly affected.”

The matter of recognition arises, in fact, every time that two or more states have common interests. The major cooperation programs such as the A400M, NH90, Tiger, MRTT, F35 or Typhoon are all directly affected. It can also extend to many other areas such as logistics if there is a foreign project manager, or in the context of exchanges of services within an international coalition.

This is the reason why organisations such as the OCCAR\(^1\) and the NAHEMA\(^2\), the industry more generally and its representatives such as the ASD\(^3\) and even the EATC\(^4\) and NATO have an interest in EMAR succeeding. Sharing the same benchmark or the same standards could in fact simplify a number of problems. Procurement agencies and their industrial clients have every interest in the establishment of common requirement standards that would be recognised throughout Europe. For a multilateral operational command such as the EATC which uses fleets of the same type such as the A400M, the sharing of identical methods and processes simplifies its task and makes it possible to envisage far more flexible common technical support.

Achieving mutual recognition is a very advanced stage on the way to building military airworthiness in Europe, but the move is already underway between several states. The DSAÉ has specifically recognised its German, Spanish and British counterparts, to the benefit of the A400M program. NATO is about to embark on the process and could serve as a driving force. In time, the EMAR could form the structure of the entire economic and industrial fabric of defence aviation.

**Results to Date**

Airworthiness continues to acquire a somewhat negative image at times as a result of proliferating red tape. However, although our aircraft are increasingly complex and operational pressure is as sustained as ever, State airworthiness is a safeguard that enables a precise framework adapted to the forces’ needs to be established, thus limiting the risks of any slipping or watering down of standards. The successful certification of the French State fleet demonstrates that our aviation is in a good state of technical health. It has also made it possible to rectify a number of shortfalls and impose a rigorous model. Adoption of the same rules for all State aviation has given rise to new synergies and, above all, a controlled and shared framework. In the future, when this is extended on an international scale, it will expand those same synergies and provide opportunities for cooperation of all kinds in the field of aviation, on both an industrial and an operational level.

“The successful certification of the French State fleet demonstrates that our aviation is in a good state of technical health.”

There is no doubt that it is time to change the perceptions of airworthiness. Rather than a necessary evil, it must now start to be seen as an asset that can be improved upon. Above all, we must become fully aware of its potential and advantages and also the opportunities it presents.

The European-developed EMAR, the military reflection of the civil aviation regulations, are currently winning over countries throughout the world. Europe has a unique and quite novel opportunity to disseminate its own standards and provide an impetus that it can channel, provided that it is able to seize this opportunity and meet the challenge it presents.

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\(^1\) Organisation for Joint Armament Cooperation  
\(^2\) NATO Helicopter Management Agency  
\(^3\) Aerospace and Defence Industries Association of Europe  
\(^4\) European Air Transport Command
France, for its part, has very quickly understood the significance of these new international military standards which could provide not only a common language for aviation safety but also a considerable boost to our defence aviation industry. Aware of these stakes, France is an ardent supporter of the EMAR and will promote them in the interests of our national State aviation.

The standardisation of airworthiness regulation is therefore not only a worthy move in terms of safety, but is also a structuring process that will gradually redraw and shape the face of defence aviation technical support.

*Participants at the 48th MAWA Forum meeting on 29 November to 1st December 2016 in Paris*
NATO and Military Aviation Airworthiness

Over the last ten years, several European nations have seen important developments in the field of airworthiness for military aircraft. Organisational structures have been created, such as the Direction de la Sécurité Aéronautique d’État [French State Aviation Authority or DSAÉ], the Military Aviation Authority in Great Britain and more recently the Luftfahrtamt der Bundeswehr in Germany, and legal frameworks have been put in place to better define airworthiness responsibilities. Against this backdrop, NATO decided it was appropriate to implement a policy to ensure airworthiness of civil and military air assets deployed by NATO within the scope of its missions and operations. This policy consists of ensuring that these assets are certified by an airworthiness authority recognised by NATO. The policy applies to national assets made available to NATO, assets chartered on NATO’s behalf and, of course, NATO assets operating under a Charter approved by the North Atlantic Council (AWACS, C-17 and AGS). An implementation plan has been developed with a view to phasing the policy in gradually, starting with NATO assets.

NATO’s Airworthiness Policy

Given its intergovernmental rather than supranational status, NATO recognises that airworthiness certification of State aircraft is the prerogative of sovereign states. NATO’s policy is therefore not designed to replace or contradict established national airworthiness policies and regulations. Rather, it is intended to implement standardised collective processes and procedures to ensure the airworthiness of assets provided for exercises and operations conducted by NATO. The vast majority of air assets deployed on behalf of NATO do in fact come from national inventories and it is therefore advisable to ensure their safety while promoting consistency in airworthiness matters. For this reason, NATO limits itself to evaluating the national airworthiness systems tasked with ensuring the airworthiness of the aviation products and systems for which they are responsible. The purpose is therefore to obtain a guarantee that the aviation products certified by the national authority in question are airworthy for NATO operations. This guarantee is essential to ensuring the interoperability of Member States’ aviation systems in the longer term, as well as their availability for NATO missions, while also ensuring a comparable level of safety.

“NATO’s policy is not designed to replace or contradict national policies”

This approach requires common methods for evaluating national airworthiness systems as well as recognition procedures subject to the Allies’ consensus. This has led to the appointment of a NATO official responsible for airworthiness who is tasked with implementing a collective recognition methodology, dependant on the voluntary participation of the countries whose airworthiness authorities undergo evaluation.

Wider Context of the Comprehensive Systematic Approach to Aviation

In 2015, NATO introduced a “comprehensive, systematic approach” to aviation encompassing all the relevant aspects of air safety such as air traffic management, aircraft technology, aerodrome capacity, piloted aircraft and remotely-piloted aircraft systems, licensing and training as well as airworthiness. As part of this approach, the Air Traffic Management Committee’s (ATMC) responsibilities were broadened and it became a true Aviation Committee (AVC) whose members include the military aviation authorities of the NATO Member States as well as representatives from the European Commission, the European Defence Agency, the ICAO and Eurocontrol. This cooperation, which goes well beyond the scope of airworthiness, is essential not only to avoid duplicating the activities of other international organisations but also to promote civil-military cooperation and consistency in the area of aviation systems standardisation. It is important to point out that this cooperation also extends to the implementation of the Single European Sky. NATO and the EDA have just obtained approval at the level of Defence Ministers for a military strategy aimed at protecting the specific requirements of military aviation in the context of significant developments in the civil domain. As part of this strategy, NATO and the EDA will establish coordinated implementation plans in close cooperation with Eurocontrol.
Emphasis on Cooperation

NATO’s airworthiness policy can only be implemented through close cooperation with NATO Member States while drawing on the significant work on standardisation already undertaken by The European Defence Agency. This collaboration is mainly directed towards establishing a process of assurance to confirm that a country’s airworthiness system meets the agreed safety objectives. For this purpose, NATO takes into account processes already developed by the EDA which, through its Military Airworthiness Authorities (MAWA) Forum, has drawn up a series of questions known as the MARQ (Military Authorities’ Recognition Question-Set) to form part of the process of recognition between military authorities. A number of NATO Member States use the MARQ to implement agreements on recognition of other airworthiness authorities. The ASIC (Air and Space Interoperability Council), which comprises Australia, Canada, New Zealand, the United Kingdom and the United States, also uses the MARQ as a tool for mutual recognition of their airworthiness authorities as well as those of other countries. NATO can therefore benefit from these existing types of cooperation while recognising that its Member States’ airworthiness systems are at differing stages of development. The implementation of NATO’s policy may have a harmonising effect between national systems by building on the standardisation work undertaken by the EDA based on ICAO documents adapted to the military environment.

Beyond the military domain, recognition of civil airworthiness authorities could be based on the accepted recognition of the European Aviation Safety Agency (EASA) and the United States Federal Aviation Administration (FAA) as well as other civil authorities by virtue of existing agreements with the EASA or FAA.

Conclusion

Military aviation airworthiness is a rapidly developing field. As an intergovernmental organisation, NATO contributes mainly through its activities aimed at collective recognition of national airworthiness systems. Its airworthiness policy fits within the wider framework of a comprehensive systematic approach to aviation. In implementing this policy, NATO relies heavily on existing cooperation with a view to harmonisation of national systems between Member and Partner States.

AUSTRALIA

Interview [in English] with Air Commodore James Hood, Director General of the Defence Aviation Safety Authority

Could you explain what has driven the Australian Defence Force to adopt the European Military Airworthiness Requirements (EMAR) for airworthiness regulation?

The airworthiness regulation of the Australian Defence Force was first introduced in the early 1990s following a spate of fatal accidents. In all respects, the regulation served Australia well and prevented the Australian Defence Force from revisiting the high accident rates of the past. However, the bespoke regulation was not without weakness and it struggled to support increasing commercialisation in the late 1990s; the advent of globalisation in mid 2000s; and the emergence of strict work, health and safety legislation in Australia in 2012.

All attempts to improve the previous regulation were unsuccessful. While ‘band-aiding’ fixed some problems, many others were introduced. In September 2013, Air Marshal Geoff Brown, Defence Aviation Authority, formally acknowledged that the old regulations no longer represented best international practice and directed the Defence Aviation Safety Authority (DASA) to implement new Defence Aviation Safety Regulation (DASR) by no later than December 2018.

A number of different regulatory models were evaluated and Australia’s decision to base the new DASR on the European Military Airworthiness Requirements (EMAR) – which are closely aligned to EASA regulations – recognises EMAR’s place as an emerging global convention in military aviation regulation. The decision to adopt EMAR comprehensively resolves the deficiencies with the previous airwor-
The decision to adopt EMAR resolves the deficiencies with the previous airworthiness regulation.

Could you explain Australia’s Implementation of EMAR?
Australia’s DASR comprises six regulatory suites:
- Initial Airworthiness (DASR-21)
- Continuing Airworthiness (DASR-M, DASR-145, DASR-66, DASR-147)
- Flight Operations (DASR-Flight Operations)
- Air Navigation (DASR-Air Navigation Services)
- Aerodromes (DASR-Aerodromes)
- Safety Management Systems (DASR-SMS)

Initial Airworthiness and Continuing Airworthiness are based on the full adoption of EMAR. Each EMAR is published in full and without change, and therefore represents the purest implementation of the emerging international convention in military airworthiness. By keeping the new DASR sovereign-agnostic – with little to no Australian unique content – the DASR can be quickly and easily adopted by other regional countries in South East Asia.

EMAR Implementation in Australia is nearly complete. DASR-21, DASR-M and DASR-145 were fully implemented in the Australian Defence Force and across 50% of Australian Industry in September 2016. National equivalencies were established for DASR-66 and DASR-147, with full licences due to be issued to each Defence and Industry technician by no later than September 2018. This will allow three months to resolve any shortcomings before the December 2018 deadline for Implementation of the new DASR.

Flight Operations, Air Navigation and Aerodromes are based on the EASA regulatory structure and only adopt EASA regulation where there is clear benefit that doesn’t limit the Australian Defence Force’s ability to fly and control aircraft differently to civilian aviation. A (Military) Air Operator construct was implemented in September 2016 and work is currently underway to implement a (Military) Air Navigation Service provider and (Military) Aerodrome Operator construct by September 2017. DASR-SMS is based comprehensively on Annex 19 to the Chicago Convention as adopted by the International Civil Aviation Organisation (ICAO) Council on 25 February 2013. As such, these regulatory suites are designed to seamlessly work with ‘Initial and Continuing Airworthiness’ EMAR and therefore might be regarded as equivalent to ‘Operational EMAR’.

After the success Australia’s International conference on military airworthiness, do you think that European norms could become a global convention in military airworthiness?
The world finds itself increasingly interconnected with military forces now operating in greater partnership and relying on global supply chains than ever before. The recent International conference in Australia was attended by over 600 participants, from more than 25 different countries. The conference was the largest gathering of military airworthiness experts in the world, and all countries spoke of their journey towards the emerging global convention in military airworthiness regulation.

The presentations by European countries – and particularly the French presentation – promoted a future global vision for military airworthiness: a vision that encompassed the fuller need for common approaches to aviation safety across sovereign borders. There is much we can do together to make this vision a reality. Australia is well placed to champion the European norms in the South East Asia region, and also contribute key lessons into European fora.
Also, the recent decision by the United States, Canada, Australia, New Zealand and United Kingdom to publish the EMAR as an Air Space and Interoperability Council (ASIC) Standard will see European airworthiness norms progressively adopted by other non-European countries: first as a benchmark against which to measure national equivalency and support mutual recognition; and later, hopefully, as a newly emergent global convention in military airworthiness.

The biggest challenge is the insatiable desire to publish sovereign-unique regulation that deviates from ‘pure’ EMAR.
BEAS

The Bureau of Safety Evaluation and Improvement (BEAS) working for State aviation safety

In its role as an aviation safety authority, the DSAÉ is structured to deal with safety matters from a discipline-specific point of view. However, certain subjects are multidisciplinary because they relate to reducing a whole set of risks or may even concern the entire field of aviation. The DSAÉ is therefore seeking to develop a cross-disciplinary approach to safety to complement its discipline-specific approach. With this aim in view, the BEAS (Bureau d’études et amélioration de la sécurité – Bureau of Safety Evaluation and Improvement) was created in September 2016.

The BEAS is tasked with proposing the DSAÉ’s internal policy and strategy, which are evaluated through safety reviews. These reviews are also intended to develop synergies within the DSAÉ and provide input to the work of the DSAÉ management committee (CODIR DSAÉ), in the same way that the standing advisory groups on military air traffic (GPC CAM) and airworthiness (GPC NAV) provide discipline-specific input.

The BEAS also coordinates and oversees implementation by the aviation operating authorities of the State Aviation Safety Program (PSAÉ) in the form of 15 safety points which have been identified as essential. For this purpose, the BEAS meets annually with each of the operating authorities who are given the opportunity to raise any matters relating to air safety. Following these bilateral meetings, their discussions are all summarised and submitted to the CODIR DSAÉ for approval, thus concluding the PSAÉ’s yearly cycle.

It is also the BEAS’s mission to promote safety. Two main focuses have been identified: training and information sharing. The BEAS organises and provides various types of training. There is a one-day training course for DSAÉ directors and assistant directors as well as State Aviation Safety Training for risk management department personnel and for members of the operating authorities’ standing committees on air safety. Additionally, an air safety awareness day is organised annually for high-level officials of the aviation operating authorities. Lastly, the BEAS also participates in seminars and in-house training for the operating authorities at their request. These different types of training and participation help to improve safety by enabling the various stakeholders to learn the basics of safety management and the essential tools for managing aviation risks. With regard to information sharing, the BEAS organises meetings between the risk management departments of the different aviation operating authorities to promote dialogue between their air safety experts and contribute to the sharing of good practices. The BEAS also makes use of state and civil information resources with the aim of identifying trends and signs of weakness which may be useful to bring to the attention of the operating authorities.

As the military counterpart of the Mission for Safety Evaluation and Improvement (MEAS) of the French Directorate of Civil Aviation Safety (DSAC), the BEAS works in close collaboration with this body to share experiences in the field of air safety and to develop synergies. The MEAS is in charge of the State Safety Program (PSE) which is equivalent to the PSAÉ but only for civil aviation. Together, the PSE and the PSAÉ provide France with comprehensive air safety management. The BEAS also communicates with its foreign and principally European counterparts on matters relating to air safety policy and strategy. It is significant that, for the second consecutive time, the BEAS is part of a multidisciplinary international team of experts tasked with evaluating the effectiveness of the British Military Aviation Authority.

As an interdisciplinary bureau, the BEAS has become a preferred partner of the various risk management departments of the aviation operating authorities and the Mission for Safety Evaluation and Improvement of the Directorate of Civil Aviation Safety, thus making a valuable contribution to improving the level of air safety in France.
Controlling the level of risk is at the heart of Defence’s concerns. And in the field of ATM, this concern is shared with civil aviation. Occupying the same space and faced with constant increases in traffic flow, the two administrations work in concert to improve safety. The risk of an incident is real and requires particular vigilance on the part of both administrations, as well as regular sharing of occurrences and lessons learned. As far as Defence is concerned, the actions taken with regard to the assets deployed and the nature of the missions conducted have led to considerable reductions over the last 30 years in the attrition rate resulting from aviation accidents, without undermining the forces’ operational capabilities.

Defence aircraft must operate in a space shared by commercial and recreational aviation. This sharing, and the existence in France of two categories of air traffic (military air traffic or CAM and general air traffic or CAG) means that, thanks to the collaborative work of our administrations, measures are taken on a daily basis to limit the impact of the activities of each one upon the other. Segregation of activities in temporary reserved spaces or separation between aircraft are the two main methods of ensuring compatibility between different types of air traffic.

Nevertheless, numerous factors (human, meteorological, technical, etc.) may give rise to undesirable occurrences which can threaten the high level of flight safety. In-depth analysis of these factors or causes makes it possible to reduce their occurrence.

This valuable endeavour falls within the scope of a European framework for implementing specific mechanisms to manage air traffic occurrences by means of a series of directives which have been adopted into French law. Over the last ten years, these directives have led to the establishment of analytical procedures common to most civil and military aviation stakeholders. These directives have now achieved a certain degree of maturity, powerful tools have been added and their development has kept pace with that of safety management systems within organisations. Today, safety is at the very heart of operations.

With the OASIS tool, Defence has equipped itself with a dedicated, effective means of obtaining a comprehensive vision of malfunction management.

The principles introduced by the European and national regulations as a whole relate to:

- defining the organisations which have an obligation to report incidents
- the format of the data sent
- the obligation to analyse and classify risks associated with occurrences within a formal framework at the level of local committees or committees comprising civil and military stakeholders
- fostering a “just and fair culture” and making it mandatory under criminal law to report certain occurrences
- implementing corrective and /or preventive measures arising out of local or national analysis

The DSAÉ, together with all the defence organisations that use and supervise air space, participates fully in the reporting and analysis of safety-related air traffic management issues. There are two national authorities specifically tasked with supporting and complementing the actions of the control centre service quality/safety entities in terms of analysing occurrences and issuing recommendations aimed at reducing risk:
- the Defence Commission for Air Traffic Management Safety (Commission Défense de Sécurité de la gestion du trafic Aérien - CDSA), responsible for analysing notifications of occurrences concerning only defence users and control organisations;
the Standing Group of the Airspace Board for Air Traffic Management Safety (Groupe Permanent du Directoire de l’Espace Aérien pour la sécurité de la gestion du trafic aérien - GPSA) which issues recommendations and measures on a national level relating to occurrences involving one or more civil or defence control organisations and one or more users operating under the military flight (CAM) or civil flight (CAG) system. This group is co-chaired by the civil and military directorates (DGAC and DIRCAM respectively) and hence plays an important role in ensuring the compatibility of military and general air traffic and in improving ATM safety.

Collaboration between the service quality/safety entities, service providers and the various levels of management ensures that the occurrence notification and analysis process is effectively followed through. The maturity of the system at local control organisation level is also such that measures taken locally and evaluated by the CDSA and the GPSA are often then taken up and applied on a national level. This collaborative move has enabled both of these authorities to improve their efficiency and focus increasingly on thematic issues such as TCAS, France’s Defence Very Low Altitude Network (RTBA), emergency phraseology, IFR/VFR conflict resolution, etc. Deliverables are therefore broader in scope and more coherent on a national level, thus helping to bring about a general improvement in safety.

**AGREEMENT PROTOCOL**
**ON EXCEPTIONAL PROCEDURE**
**FOR TRANSIT THROUGH**
**RESTRICTED AREAS**
**CONSTITUTING THE DEFENCE**
**VERY LOW ALTITUDE NETWORK**

“CERISE”: Exceptional crossing of RTBA for compelling service reason.

*By way of example, an initiative has led to the establishment of an agreement protocol ensuring better awareness and provision for life-saving missions flown by medical emergency service helicopters.*
A Mirage 2000C from 2/5 “Ile de France” Fighter Squadron in Orange intercepts a TB10 during a training exercise.