

2010 will be a year of paramount importance for the FABEC

The signature of the Treaty between the six States should happen in autumn, and will materialize three years of work. Numerous civil and military experts have been, and remain, involved in all technical and administrative matters, with obvious and full commitment. Thus, I have no doubt that all issues will find a solution in due course, some before this signature, some beyond.

Now for this new year, I make the wish that FABEC be felt as everybody's project, becoming ever more concrete, performing better than individual States and Air Navigation Service Providers, and that all staff feel fine with the FABEC, and fully commit to its construction.

*Patrick Gandil
Chairman High Level Implementation Board*



*Military and civil
participants*

FABEC civil-military conference

The civil and military State authorities in charge of airspace and air traffic management, Air Chiefs of Staff and ATM directors met in a High Level Conference held in Paris on 21 January 2010, in order to reflect the major aspects relating to civil-military interface at stake in the FABEC project, as an essential success factor to meet the ambition of FABEC. >>





They listened to the views and expectations of airlines and military airspace users, civil and military air navigation service providers (ANSPs), the European Commission and the SESAR Joint Undertaking.

After the presentation of the various aspects, the authorities debated among themselves. They agreed on the following:

Governance

The civil and military State authorities welcome the provision of a strong governance structure, facilitating joint decisions by the States in a FABEC Council. This should enable the States to develop and implement a common organization of the airspace, via committees placed under the responsibility of a FABEC Council.

The civil and military State authorities confirm their joint will to work in transparency for the benefit of all FABEC stakeholders.

Airspace Design

Taking into account the objectives of FABEC, including managing benefits and disbenefits, and considering the importance of airspace design for the success of FABEC and the challenge to integrate and fulfil both civil and military requirements, the State authorities noted the preliminary early benefits for the civil airspace users and the needed improvements for the military airspace users in the near future.

However they agreed that a paradigm shift - taking into account the spirit of SES developments - is needed in the way airspace related matters are approached. In order to meet civil and military airspace requirements, they call upon the parties in the project to step up their work in the light of a common FABEC airspace aiming to achieve benefits beyond the capabilities of the individual States, and encourage them to explore solutions beyond present day's practise.

Airspace Management

Reminding that optimisation of the usage of the commonly designed FABEC airspace is the key enabler for fulfilling civil and military requirements, all parties are encouraged to work urgently towards a joint civil and military airspace management cell at FABEC level, so as to meet FABEC goals.

They call upon the parties in the project to apply all levels of the FUA-concept based on best practices already experienced amongst FABEC partners.

Technology

Considering that many anticipated benefits will only come within reach after deliverables from the SESAR technology program have become available, the State authorities stress the importance of a FABEC governance structure, dealing with both civil and military ATM and CNS infrastructure.

This governance can effectively address the issues associated with coordinated large-scale investments and rationalisation of infrastructure.

Joint planning

Given the scale of the challenge, state representatives agreed that trials of joint planning, information sharing and Collaborative Decision Making should be set up between key civilian and military stakeholders, so as to improve flexibility and predictability in FABEC airspace.



Civil-military cooperation in FABEC

Most people in the European aviation industry know ‘their’ air navigation service providers. We mean civil ANSPs, of course, because even civil ANS professionals are quite often unaware of their military counterparts. The creation of FABEC relies not only on international cooperation but also on a close civil-military partnership, with greater transparency of the military ANSPs. This article is the third of a series on the military and civil-military ANS situations in each of the six FABEC countries.

The german point of view

Previously organised in two separate systems, civil-military cooperation in the field of air traffic services in Germany has developed into an efficient and integrated organisation over the years. Developing flexible airspace management was a decisive step in this connection. Almost 20 years have passed since the first political considerations to corporatise the civil air navigation services and transform them into an organisation under private law while, at the same time, integrating regional military air traffic control. This cooperation has shaped the history of aviation in Germany. In order to perform general air traffic control services for military flights and to be involved in all important decisions made by DFS, the Federal Ministry of Defence temporarily releases military air traffic control personnel from regular service so that they can work for DFS. In states of tension and defence, the Armed Forces' defence mission also includes the provision of civil air traffic control services.

In one of the busiest airspaces of the world, coordinated use of airspace is indispensable. This philosophy has prevailed in Germany for more than 25 years now. Germany was the first country to optimally implement the European Flexible Use of Airspace (FUA) Concept in daily

operations and to enhance it in a consistent manner. This is because the positive effects of the original FUA concept had more or less reached their limits in the ever-busier airspace. Therefore, DFS is testing a far-reaching concept together with the Air Force: The former TRAs (Temporary Restricted Areas) have been converted into dynamically allocated MVPAs (Military Variable Profile Areas). According to MVPA, military airspace users only have to inform DFS about the dimensions of the training airspace and the planned scenario. DFS will then provide an airspace tailored to their specific needs while considering civil traffic flows. This allows for shorter flight routes, and only in individual cases do aircraft have to fly around military airspace.

In contrast to many other countries, a considerable amount of military training operations in Germany is conducted in airspaces jointly used with general air traffic (GAT). Only special profiles take place in protected airspaces for safety reasons. Not only does civil-military cooperation comprise the handling of air traffic, it goes even further. The Air Navigation Services Academy of DFS provides joint training for civil trainees and military air traffic control officers so that they can perform air traffic control services in the DFS control centres. DFS also works in close consultation with the military in the fields of aeronautical data management, flight data handling, flight inspection and engineering. The systems used at DFS have to be compatible with those used by the Armed Forces. Military sensors are integrated into the civil-military radar data network for joint use of data. DFS even has the technical responsibility for tactical navigation (TACAN) technology of the Armed Forces. The equipment of DFS control centres meets the requirements of peacetime operations as well as operational support of the military air traffic. The further development of civil-military integration will continue to be a fixed permanent feature of the corporate strategy in the future. For the creation of a functional airspace block at the heart of Europe, the experience made by DFS has been used for the realisation study to develop an optimum model of civil-military cooperation for the six central European States.

IN BRIEF - 1

Field trial **ATFCM/ASM:** **Planning traffic flows**

Over 40 experts with vast experience in the ATM domain got together for a period of 2 weeks to conduct a field trial that assessed the viability of an ATFCM/ASM function by looking at the internal operation of a FABEC ATFCM/ASM function and the local units comprising the FABEC region. During the preparation of the trial a set of criteria to determine whether:

- ❑ an overall reduction of delays in the FABEC area would be achievable;
- ❑ service to airspace users could be improved by overall closer adherence to aircraft operators' trajectories;
- ❑ improved coordination between FABEC partners could be established; and
- ❑ CIV/MIL procedures could be successfully integrated.

The initial feedback from the participating experts is quite positive.
A detailed report will be elaborated by March 2010.

Preparation of charts

DFS creates ICAO chart for the Netherlands

In cooperation with its Dutch counterpart Luchtverkeersleiding Nederland (LVNL), DFS Deutsche Flugsicherung - the German air navigation services - will create the official ICAO Chart for the Netherlands as of 2010.

This chart is mainly used by private pilots conducting flights under visual flight rules. The joint preparation of the chart is among the first concrete measure in terms of cooperation in the field of Aeronautical Information Management within FABEC, which aims at creating a common block of airspace in Central Europe.

The chart of the FABEC partners is part of the current pan-European efforts to harmonise visual operation charts.

Visit the FABEC stand at ATC Global 2010

9 - 11 March 2010, Rai Amsterdam
Hall 11



Field trial

IN BRIEF - 2

Study on a common control centre

The FABEC partner organisations DSNA, DFS and skyguide have been tasked by the ministries of transport to study the feasibility of a common control centre in the triangle-border region of Switzerland, Germany and France. The study will concern the idea of controlling the entire Swiss and some German and French airspace from one single control centre in the border triangle between France, Germany and Switzerland. In a letter to the three air navigation service providers, the ministries emphasised the importance of this initiative in the southern part of the FABEC. A jointly operated centre in the border triangle should lead to an optimised airspace and centre structure and should be seen as a welcome contribution of the FABEC to the realisation of the objectives of the Single European Sky initiative. The study will thus be embedded in the overall FABEC project. The participating States tasked the concerned air navigation service providers to present, in one year's time, a feasibility study which would facilitate final decision-making.

The initiative was, among others, launched in the process of a large-scale internal project by the Swiss ANSP skyguide in 2008 in order to set up a new organisational strategy. For this purpose, skyguide developed six scenarios, national and international, one of which was the establishment of a common FABEC control centre. This option shall now be evaluated in-depth by the three concerned FABEC partners.

ANSP Cooperation Agreement

Common Tendering Procedure

In December CEOs from the 7 civil ANSPs approved a common tendering procedure. This procedure is now part of the FABEC ANSP Agreement - the legal basis of the ANSP cooperation inside FABEC. During the last months FABEC was confronted several times with requests from externals to "sell" as FABEC. But until now the ANSP agreement was only focusing on common procurement. With a new Annex FABEC has now the legal basis to tender in common. Based on a simple procedure and together with a model Consortium Agreement bids can now be prepared in an efficient way. Setting up a Consortium to prepare for a call for tender and to execute an external contract was seen as the most suitable legal solution until a more permanent structure is created for FABEC. A Consortium permits its members to act as one towards the Contracting Authority, but with no separate legal personality. The procedure defines the outline of a joint response (bid) to be given to a call for tender in which some or all FABEC ANSPs are eager to tender and to present themselves as 'FABEC'.

IN BRIEF - 3

Maintenance of instrument landing systems

First FABEC course in Kaufbeuren, Germany

For the first time, in October 2009 DFS Academy conducted a course for ATSEP's from the Netherlands air navigation service provider LVNL. The course dealt with the maintenance of ILS 420 instrument landing systems and took place at the DFS navigation campus, co-located with the German Air Force Technical School in Kaufbeuren, Germany. Nearly all the navigation aids used at DFS are set up at this location including antennas and test frequencies. This means that training courses can be conducted there on real equipment without the need for operational restrictions. The 1,800 metre runway can be used for measurements and runway test drives at any time. All in all, this means that an almost infinite constellation of training courses can be carried out at the location. This is a unique setup in Europe. A second ILS 420 training course for LVNL will be held end of January 2010. The continuation of this very successful FABEC training cooperation demonstrates the power and the benefits of the FABEC idea in the area of technical training as well. In the FABEC ATCO training business, similar training cooperation were established in 2009.



The course in the field

Field trial Voice over IP

DSNA and DFS conducted a common VoIP (Voice over Internet Protocol) field trial based on EUROCAE WG67 specifications. The test phase of this field trial has resulted in more than 230 VoIP Air Traffic Services (ATS) related tests being performed within a simulated operational environment located in Toulouse and Langen. The trials have confirmed the maturity of VoIP for deployment in an operational environment. Another objective of the field trial was to investigate how existing legacy systems can be integrated within an IP network infrastructure and this was demonstrated by the success of tests performed on the gateways.



VCS Task Force

First common VCS systems in the air

The Voice Communications System (VCS) Task Force has been tasked with developing a common VCS which meets the FABEC concept of operations and can lead to common procurement and maintenance by the FABEC partners. The overarching objective is to reach system commonality, ensure maintenance synergies and reduce acquisition and landline interconnection costs while meeting the partners' current and future technical and operational requirements. Work has now progressed and ready-to-use common technical specifications have been developed which may have to be complemented by site-specific specifications. The VCS Task Force is currently looking into other issues such as technical support specifications, a common training strategy and common maintenance. Additional supporting specifications such as quality assurance, security requirements and acceptance testing will also be developed in the course of 2010.

Meanwhile, in order to address the need for urgent procurement, MUAC and DSNA will soon be launching the procurement of the first VCS systems developed in line with FABEC specifications. Implementation is scheduled

for the end of 2013 at MUAC and 2015 at DSNA. Tom Goossenaerts, FABEC VCS Specifications Task Force Leader, stated that "This represents one of the first concrete moves within FABEC to achieve technical synergies. Obviously, all ANSPs will not be moving at the same pace - simply because they have different technical priorities and upgrade plans. But the spirit within the Task Force is definitely a positive and constructive one and we are moving towards a real collaborative process. I do not have any doubt that major strides will be made in the medium term towards greater technical system commonality and harmonisation in the FABEC area."

In September 2009, the main US and European manufacturers of VCS equipment attended a briefing at Maastricht UAC aimed at identifying the key features of a future system that would meet future operational requirements and evaluating the feasibility, from an industrial perspective, of the future operational concept proposed. In total, eight manufacturers were represented.

OLDI Task Force

First implementation steps taken

OLDI - this acronym stands for On-Line Data Interchange, a standard that was developed by Eurocontrol in the early 1990s. It is to ensure that the flight plan data and flight plan messages which are exchanged electronically by the control centres are always up-to-date. A task which may sound easy but is very complex as the actual flight progress often deviates from the original flight plan. This requires timely coordination which is ensured by standardised OLDI messages. Over the years, Eurocontrol has developed 40 of these messages. However, only a few of them are actually used in daily operations. A FABEC task force has examined how this potential could be put to a better use. This task force, which has now submitted its final report, is headed by Dr Frank Zetsche.

Dr Zetsche, the OLDI standard is already about 15 years old. Why was this initiative launched at FABEC level at this point in time?

There are three main reasons. First, the basic idea behind FABEC is to intensify cooperation between the partners. A main prerequisite for this is the improved data exchange. Furthermore, over the past years, individual States have taken first steps to make more of the OLDI standard. And thirdly, the requirements and opportunities related to the use of the OLDI mechanism have increased, for example due to the implementation of arrival management systems.

Does that mean that all 40 messages are now being used?

No. The task force has determined that about 10 messages could be used. From our point of view, it would not make sense to use the 30 others in FABEC.

Which concrete implementation steps have been taken?

We have started three initiatives. This year, our colleagues from Belgium, the Netherlands and the Maastricht Control Centre will start with the implementation of OLDI messages for arrival management at the airports of Amsterdam and Brussels. As of 2011, the control centres in Karlsruhe, Maastricht, Brussels and in Switzerland will introduce OLDI dialogue procedures.

And, starting in 2012, all FABEC partners are planning to use OLDI messages for the transfer of communication.

How were the messages selected?

As I have mentioned before, it has to make sense with regard to operations, technology and, of course, economics. The messages have very different effects. The first initiative mainly affects flight efficiency, whereas the second deals with controller workload and the third one with safety aspects.

Irrespective of work-related factors, what can you say about the teamwork?

It was very positive. Everyone, the technical and the operational experts, were very proactive, enabling us to present our results after a relatively short period of time. We had a lot of fun!



Dr Frank Zetsche

List of abbreviations:

ANA	Administration de la Navigation Aérienne
ANSP	Air navigation service provider
ASM	Airspace management
ATC(O)	Air traffic control (officer)
ATFCM	Air traffic flow and capacity management
ATM	Air traffic management
ATS	Air traffic services
ATSEP	Air traffic safety electronics personnel
CEO	Chief Executive Officer
CNS	Communication, navigation, surveillance
DFS	Deutsche Flugsicherung
DGAC	Direction Générale de l'Aviation Civile
DirCAM	Direction de la Circulation Aérienne Militaire
DSNA	Direction des Services de la Navigation Aérienne
FABEC	Functional Airspace Block Europe Central
FUA	Flexible use of airspace
GAT	General air traffic
ICAO	International Civil Aviation Organization
ILS	Instrument landing system
LVNL	Air Traffic Control the Netherlands
MUAC	Maastricht Upper Area Control Centre
MVPA	Military variable profile area
SESAR	Single European Sky ATM research
TACAN	Tactical air navigator
TRA	Temporary restricted area
US	United States
VCS	Voice communications system
VoIP	Voice over internet protocol

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