

FABEC

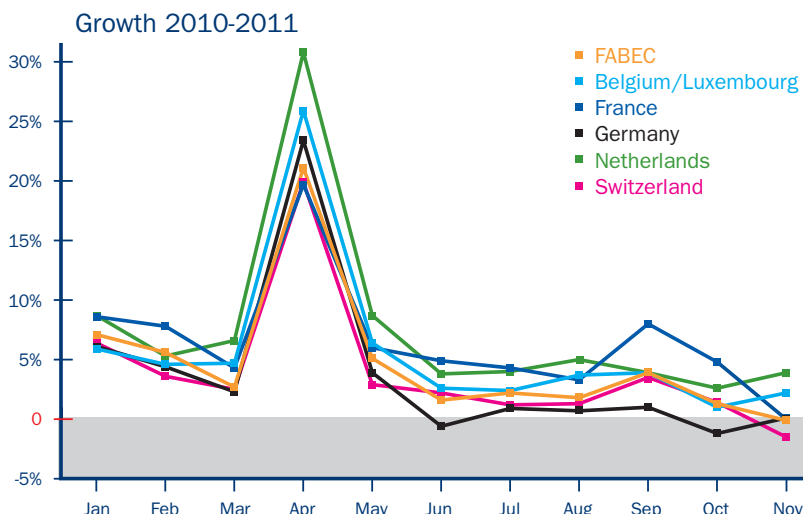
Traffic increase is slowing down

In the last months, the rise in air traffic has slowed down considerably in large parts of FABEC airspace, following a European trend. Based on the data provided by Eurocontrol, FABEC recorded in May 2011 a strong growth rate of 5.1 percent compared to May 2010. This increase has slowed down considerably in the last three months. In November 2011 a decrease in traf-

fic in the FABEC airspace compared with the prior-year period of 0.1 percent has been reported.

Experts see the causes for this in the general economic situation, the political developments in North African countries and its effects on tourism as well as the high oil price. Although there was a significant increase in traffic at the be-

ginning of the year (among other things resulting from the compensating effects of the ash cloud in April/May 2010), some countries will not see the traffic increase initially anticipated at the beginning of the year. The development of the overall economy will determine to what extent the trend continues in 2012.



Source: Eurocontrol

In May 2011 the FABEC countries Belgium, France and the Netherlands recorded an increase in traffic of over 6 percent, while Germany (3.9 percent) and Switzerland (3.2 percent) each showed healthy growth. In November 2011, the increase in traffic compared with the prior-year period was 0.0 percent in France, 0.1 percent in Germany, 2.2 percent in Belgium and 3.9 percent in the Netherlands. For Switzerland a decrease of - 1.5 percent has been reported. Seven air navigation service providers control the airspace in six FABEC-States.

FABEC

States are establishing formal structures

On 19 October, the first Provisional FABEC Council meeting took place. With this meeting, FABEC has initiated the formal change from project status to operational status. By building up the structures almost one and half years before the formal deadline set by the European Commission, the six FABEC States Belgium, France, Germany, Luxemburg, the Nether-

lands and Switzerland strongly underline their commitment to improve cooperation in air navigation services to enhance safety, capacity and flight efficiency in the FABEC airspace. The FABEC Council will be the main governance body of the FABEC Cooperation as laid down in the FABEC Treaty which is under national ratification.

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FABEC

Point Merge System implementation plans

Fully in line with the FABEC Airspace Strategy developed under the Matterhorn Declaration orientations, FABEC plans to implement the promising SESAR Point Merge System in Paris area in the 2012-2014 Performance Review Period.

The development of a Point Merge System Terminal Extended CONOPS (PMS-TE) has begun in 2009. Page 04

ATC Global Amsterdam – 06.03.2012 - 08.03.2012
Meet FABEC at stand 203, hall 9

FABEC States are establishing formal structures

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To safeguard the progress and to develop concrete improvements, the FABEC Council will be supported by Committees and the FABEC States Bureau. In addition, the FABEC Council decided to establish an Air Navigations Service Provider Consultative Board whose task is to advise the FABEC Council on air navigation services aspects. All FABEC bodies are composed of civil and military representatives and will be provisional until the FABEC Treaty has been ratified by all countries.

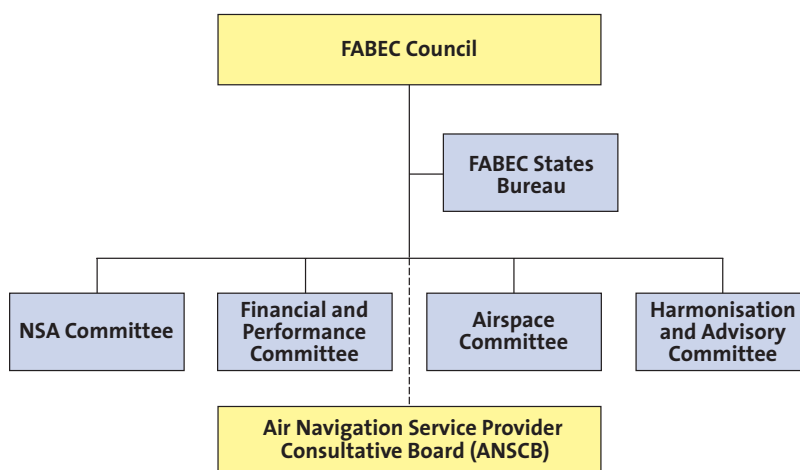


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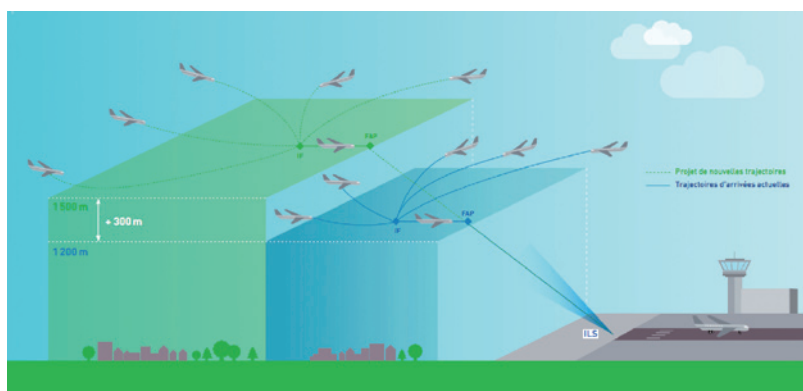
Paris TMA

Environment-friendly new airspace design

On November 17th 2011, DSNA has put in place a new airspace and procedures design in the Paris TMA, in order to comply with a gov-

ernmental environmental commitment to reduce noise impact of air transport on the Paris airports communities. This is the first major

operation held exclusively for environmental purposes. It has been carried out with the full involvement of all stakeholders, through a Collaborative Environment Management extended to the communities. Since 17 November 2011, all arrivals trajectories to the Paris airports have been raised of 1,000 ft. In particular, the altitude of ILS interceptions are raised of 1,000 feet, which allows a 50% noise reduction before the final approach point (FAP) and a full continuous descent approach (CDA) from 4,800 ft above ground level (AGL) to the ground at CDG. The population concerned by 25 events of more than 65 decibels (NA65) has dramatically gone down from 217.000 to 86.000, i.e. a 60% decrease. All TMAs had to be changed and the transition altitude has been raised at 5,000ft. All controllers from Paris-Orly approach, Paris-Charles de Gaulle approach and Paris ACC have been trained and were ready in time to handle the 2500 daily flights of the Paris area.



Raising the altitude of incoming aircraft in the Paris region

Germany

Flight inspection in Braunschweig

The 17th International Flight Inspection Symposium (IFIS) will take place in Braunschweig, Germany, from 4 to 8 June 2012. The symposium, which takes place every two years, is a broad-based international event covering flight inspection. More than 300 decision makers from air navigation service providers, flight inspection companies, manufacturers and supervisory authorities from over 40 countries will meet to exhibit the latest technologies, products and procedures and exchange views on the newest developments in the industry.

In addition to the forums and debates, the event also offers an interesting cultural programme which will give all participants the opportunity to get to know the city of Braunschweig, former residence of Henry the Lion.

The motto for the 2012 event is "Waypoints to New Horizons". The motto alludes to the diverse range of topic areas which are in flux in our industry at the moment. These range from flight inspection methods for new technologies, validation of flight procedures, new calibration methods for ground and flight inspections to data management and regulatory aspects.

The event is being hosted by three air navigation service providers: Austro Control, skyguide, and DFS Deutsche Flugsicherung GmbH. The three partners hold stakes in the flight inspection provider Flight Calibration Services (FCS). FCS conducts calibration flights for the air navigation service providers in Germany, Austria and Switzerland, and for their military partners. FCS is a competent and reliable partner in all flight inspection issues.

More information can be found at www2.ifis2012.com.

FABEC Point Merge System implementation plans

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The development of a Point Merge System Terminal Extended CONOPS (PMS-TE) has begun in 2009 with a partnership between Eurocontrol-DSR and DSNA. The purpose was to fine-tune a Point Merge System into a generic extended Paris TMA.

After this promising initial experiment, real time simulations were held in Brétigny Eurocontrol DSR in 2010 and 2011. Then, SESAR-JU considered as appropriate to validate this new method and to face it to a wide spectrum of skills and expertise. SESAR-JU created the exercise 427 within a DFS project called WP5.6.7 – Integrated Sequence Building and Optimisation of Queues. Among numerous SESAR stakeholders, this exercise consists of live trials, and gathers most FABEC partners, including Belgocontrol, Belgium Air Component, DFS, DIRCAM, DSNA and MUAC.

The live trials will be held on Saturdays 10, 17, 24 and 31 March 2012 in the northern airspace of Paris area. Two different systems will be tested, one in the North-West and one in the North-East of Paris. The purpose is to check assumptions made during the real time simulations:

- Easy way to handle and intuitive for ATCOs
- Compatible with an AMAN tool for traffic sequencing



- Out streaming delivery on optimum profile
- Frequency load reduction
- Optimisation of load distribution when the system is handled through two sectors
- Improve air traffic awareness.

At arrival peak time, ATCOs must convert groups of flights arriving vertically separated into regular sequences horizontally spaced. To do this, speed reductions and vectoring are commonly used by ATC with holding patterns activated only in rare cases. The point merge would transform an unpredictable situation for pilots into a predetermined pattern.

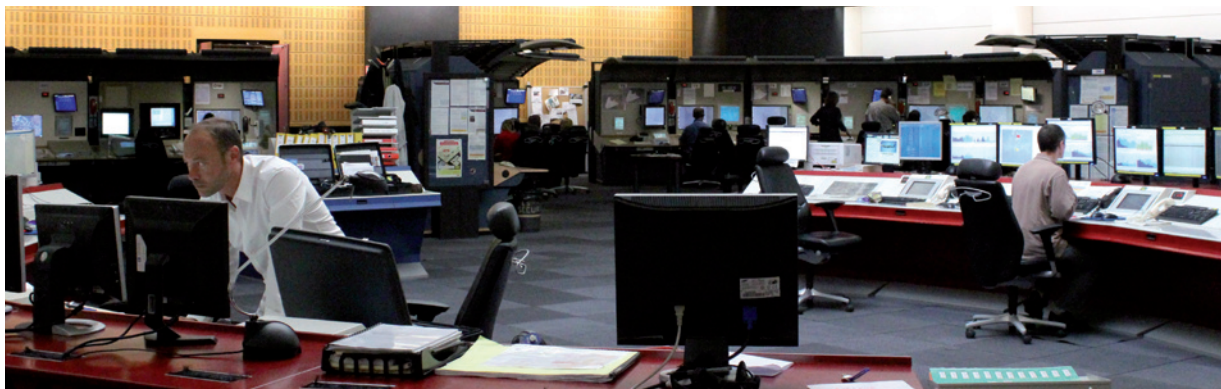
In the future, the point merge system would enable the implementation of new ATM services, such as Queue Management, TTA/CTOT management, 'cherry picking', 4D trajectory, so that ATCOs are able

to utilise them in a safe, effective and efficient manner.

The live trials aim at refining and confirming the great operational interest of the concept. Under this assumption, the Operational Standing Committee has planned two implementations during the Performance Review Period 2012-2014:

- The first one is a tailored Point Merge to the arrival to Paris North-West extended TMA, in close cooperation with NATS and DSNA.
- The second one is the arrival to Paris North-East extended TMA, in close cooperation with Belgocontrol, MUAC, DSNA and military partners.

The device will initially provide operational gains when military activity is off, and should be improved later on with best FABEC Airspace Management practices.



Frankfurt Airport New runway opened

German Air Force six two five, runway zero seven left, cleared to land.” With these words, the air traffic controller in the tower issued the clearance to land for the government aircraft with Chancellor Angela Merkel on board. At 14:40 hrs on 21 October 2011, the Airbus A 319 touched down on runway northwest of Frankfurt Airport and officially opened the new landing runway. A Lufthansa Airbus A 321 landed about an hour later and marked the start of normal flight operations on runway northwest.

By 13:00 hrs on 28 October 2011, exactly 2,345 aircraft had been guided safely to the new runway northwest at Frankfurt Airport by air traffic controllers of DFS Deutsche

Flugsicherung. Since the runway was opened, 1,796 flights approaching from the east and 549 approaching from the west had been issued clearance to land. This means that the new runway system is operating better than expected. There were no teething problems.

The air traffic controllers in the control tower at Frankfurt Airport and the control centre in Langen, near Frankfurt, brought all landing aircraft to the two runways in Frankfurt am Main. The number of landings was split almost identically between the two runways. Thanks to the smooth operations and the good weather conditions, there was no need for traffic restrictions, which could have been re-

sorted to if needed. “Our staff were extremely well prepared for the new landing runway and mastered the demands placed on them with flying colours. Absolutely no staff shortages were reported and the current capacity was ensured at all time,” emphasised Ralph Riedle, Managing Director Operations.

The airlines also praised the working methods of the air traffic controllers and were satisfied with the operation of the new runway system. A further test will need to be mastered by the air traffic controllers this weekend with the start of the winter schedule, where the coordinated hourly runway capacity will be raised to 90 flight movements per hour.



First landing: Chancellor Angela Merkel arrived in Frankfurt

Karlsruhe Control Centre One million flights under the new air traffic management system

17 October 2011: With the words “You’re identified”, the air traffic controller confirmed the initial call of the Lufthansa pilot of flight DLH729 from Shanghai Pudong to Frankfurt and the DFS radar control centre in Karlsruhe took over control of the one millionth flight using

its new P1/VAFORIT system. The introduction of P1/VAFORIT in the Karlsruhe control centre last December was a great technological leap forward for air traffic controllers. The system makes predictions of flight paths, giving the air traffic controllers much earlier support

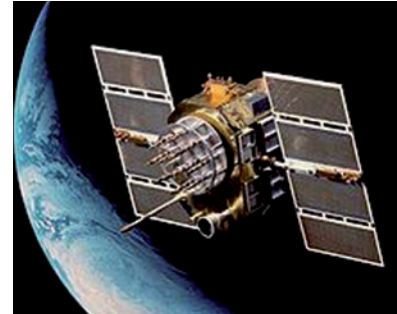
for their planning and in detecting possible conflict situations. This boosts the airspace capacity while maintaining a high safety standard. This new system has even more potential: By completely digitalising all data, the system is ready for future technologies.

Switzerland

EGNOS satellite flight procedures introduced

Skyguide has adopted its first approach procedures using data from Europe's EGNOS satellite system. The new satellite-based approaches, which have been introduced at the regional airports of St. Gallen-Altenrhein and Les Eplatures (near La Chaux-de-Fonds), have been developed as part of a research programme of the

European Commission, with their development co-financed by skyguide and the Commission. The publication of these two new procedures has been possible after the signature of an EGNOS Working Agreement between skyguide and ESSP, the EGNOS Service provider.



France

DSNA awards Thales a fixed contract for renewing its ATM system

On October 28th 2011, the French Air Navigation Service Provider (DSNA) awarded Thales the Framework Agreement and the first development contract for the 4-FLIGHT programme, following the Memorandum of Understanding (MoU) signed on the 24th June at the Paris Air Show. This agreement, of a 10 year renewable duration, organizes the long term collaboration between the DSNA and Thales for the development of the next generation 4-FLIGHT Air Traffic Management (ATM) system, its deployment in all DSNA en-route centres and majors approaches by 2020 and its future technological evolutions.

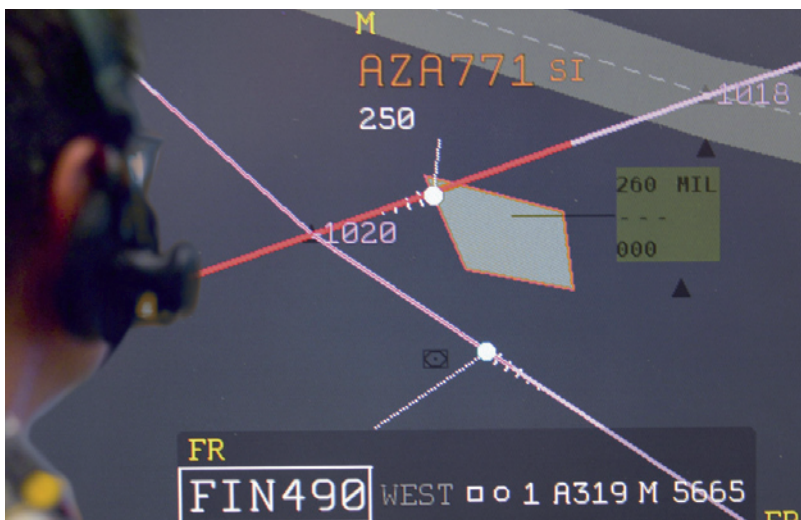
The 4-FLIGHT programme, launched in 2008 as a collaboration be-

tween the DSNA and the Italian air navigation service ENAV, is based on the COFLIGHT Flight Data Processing system, a new human-machine interface in an electronic and stripless environment, and new controller help tools designed to comply with the SESAR programme's Single European Sky initiative. For the DSNA and Thales, it will allow to respond to the increasing volume of air traffic scheduled in next years.

This contract aims to develop the first operational version of 4-FLIGHT, to deploy it in two en-route centres (ACC Reims and ACC Aix-en-Provence) by 2015, and to conduct an operations evaluation of this new system. For that, an 'agile'

development process has been set up in order to take into account users feedbacks from the early stages of system design until the operational acceptance of the final product. Additional contracts will be made, covering the development of further versions of 4-FLIGHT, their deployment in the 5 ACCs and major approaches – including those in the Paris area – and the evolution of these deployed systems.

Maurice GEORGES, Director of the French Air Navigation Service Provider (DSNA), stated that 4-FLIGHT will provide an appreciable foundation for the SESAR programme: by using COFLIGHT, 4-FLIGHT will enable us to meet SESAR requirements and will be fully interoperable with other FABEC ATM systems. He added that 4-FLIGHT will support the "free route" and "flexible use of airspace" concepts in particular for efficient operations. He emphasized that our controllers and technicians have been involved in the development process since the beginning of the system development, in order to guarantee a better acceptance of new tools and new working methods.



Toulouse/Paris

Biofuel and optimized ATM

On Thursday October 13th 2011, Air France completed a flight from Toulouse-Blagnac to Paris-Orly that achieved a fuel efficiency of 2.2 liters per passenger-100 km, cutting in half the CO₂ emitted compared to a normal flight.

Thanks to the experience acquired in the AIRE activities, DSN has supported Air France to achieve the very first lowest CO₂ emissions flight.

The Airbus A321 aircraft commercial flight was powered by a 50 % blend of biofuel, using cooking

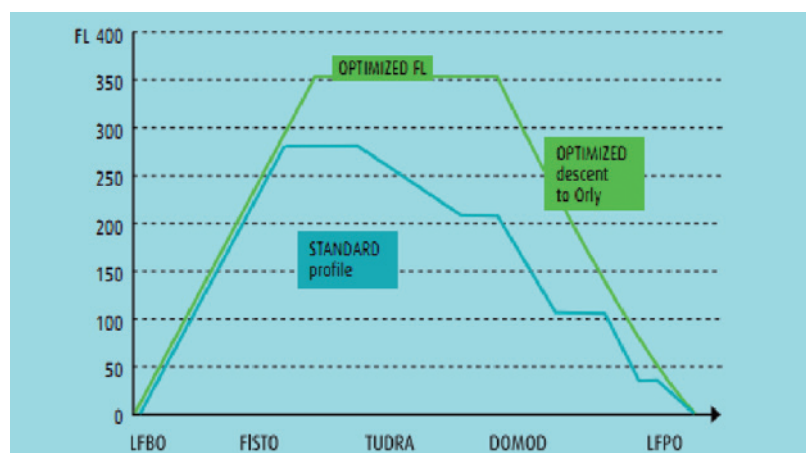
oil supplied by Dutch aviation bio-fuels company SkyNRG, in each engine – the maximum blend permitted. This biofuel has been delivered to the aircraft thanks to Airbus that is testing this fuel at its factory in Toulouse. This type of biofuel has neither environmental nor social impact on agricultural resources.

In addition, optimized air traffic management (ATM) procedures delivered by DSN were employed: a Continuous Climb until the optimal flight level (FL340 instead of the usual FL280), coordination be-

tween the pilot and the controllers for the optimal Top of Descent (ToD), a full Continuous Descent Approach (CDA) from TOD to the runway. In the recent past, and during the AIRE activities supported by SESAR JU, DSN has extensively cooperated in evaluating and deploying these procedures with Air France, therefore ATC services are able to implement them whenever the traffic load allows it.

Finally, onboard weight reduction also helped contribute to the fuel and emissions savings of the flight, which was equipped with a new seat that weighs 40 % less than a conventional seat, helping save 1,700 tons of fuel a year. In addition, the weight of catering equipment is being reduced by an average of 15 % annually during the period 2006 to 2012.

Combining biofuel and efficient ATM allowed the flight to claim CO₂ emissions of just 44 grams per passenger-kilometer. The best performing airlines emit in average over 100 grams of CO₂ per passenger-km.



Vertical profile from Toulouse (LFBO) to Paris-Orly (LFPO)

Skyguide

Completed first decade

In 1999 the Swiss Federal Council resolved to integrate Switzerland's civil and military air navigation services into a single organisation. Skyguide was duly founded on 1 January 2001; and Switzerland became the first country in Europe to entrust all its air traffic management – including the tactical command of its military jets – to a company organised under private law. One year later, skyguide welcomed 108 new colleagues from the Swiss Air Force.

In the first ten years of its existence, skyguide has significantly enhanced its punctuality record. In its first ten years, skyguide has invested substantially in expanding the existing capacity; and, as a result, the company has reduced the numbers of delays attributable to air traffic management by a sizeable 80%. Skyguide has achieved these substantial performance improvements by fundamentally restructuring the airspace under its control, adopting innovative new efficiency-raising technologies and

significantly expanding its operational workforce: the company now has 15% more civil air traffic controllers and provides instruction for 48% more trainees than it did ten years ago. In addition, skyguide and the Swiss Air Force have enshrined in 2002 their collaboration in a bilateral services agreement which is revised and adapted each year. The approach has proved its worth, enabling various airspace protection missions to be flown smoothly and without incident every year.

French-German cross-border airspace management from Strasbourg: A role model for FABEC development in lower airspace

DSNA has been providing approach control to German airports Karlsruhe-Baden and Lahr for more than 10 years. DFS and DSNA have concluded in July 2000 a memo-



espace aérien géré par le SNA

randum delegating to the control centre of Strasbourg the provision of Air Traffic Services in a portion of the FIR Frankfurt, in particular the approach control of Karlsruhe-Baden and Lahr airports.

To face the increase of air traffic of Karlsruhe-Baden airport, this organisation has appeared as the best from an operational point of view, given the interference between the published trajectories of the three airfields, some of which being separated from only 3 Nm.

Since then, the approach control centre of Strasbourg has regularly worked with its DFS colleagues in

order to adapt the airspaces and the procedures to the evolution of air traffic on both sides of the Rhine.

A new agreement between DFS and DSNA framing the delegation of service is under review to reflect changes in regulations (SES and FABEC).

In 2010, the Karlsruhe-Baden airport recorded 1.19 million passengers (1.06 million in Strasbourg), carried by low-cost airlines (Airberlin, Ryanair, Germania ...). It accounts for nearly 35% of IFR movements handled by the approach control centre of Strasbourg.



MUAC

Improving downlinked Mode-S call sign accuracy

Since March 2010, incorrect Mode-S call signs caused by technical problems on board the aircraft or erroneous pilot inputs had been steady at around 2% of all flights in the MUAC airspace, potentially resulting in the misidentification of the flight. In August 2011 monitoring tools were introduced at MUAC to flag call sign inconsis-

tencies on the controller's radar screen. Once these inconsistencies are identified, air traffic controllers report the problem to the pilot or to the airline for corrective action. Since the launch of this awareness campaign in June 2011, a significant reduction in the error rate has been achieved. Flights affected by call sign inconsisten-

cies now account for 1.3% of traffic (0.7% crew errors and 0.6% technical anomalies). By improving flight correlation, this initiative makes it possible to move forward with the use of Mode-S. Similarly, MUAC's military partners and other ANSPs who rely on Mode-S call sign accuracy will also benefit from this improvement.

MUAC

Improved data communications

On 22 September 2011 the **European ATM Communication Gateway (ECG)** system was introduced at the Maastricht Upper Area Control Centre to replace the Data Communication Front End Processor. The ECG provides operational staff with a controller access terminal which offers advanced technical features.

It also paves the way for the migration to the interoperable Aeronautical Message Handling System protocol for communications, which will ultimately enable the exchange of larger data volumes and more diverse types of data, thereby contributing to improved service delivery.



LVNL

New system prevents impending aircraft collisions

On 28 October 2011 LVNL officially presented RIASS, acronym for Runway Incursion Alerting System Schiphol. This new and unique safety system was developed to further improve ground safety at Amsterdam Airport Schiphol.

The system warns air traffic controllers (ATCOs) in the control towers of so-called runway incursions: any imminent danger involving the unauthorised presence of an aircraft or vehicle on a take-off runway or landing runway already in use. RIASS was developed by LVNL in conjunction with the National

Aerospace Laboratory NLR. It is a supplement to current technologies and applicable procedures designed to prevent unsafe situations on runway crossings.

The system is based on the current radar technology LVNL uses at Amsterdam Airport Schiphol. This technology locates and identifies any aircraft and vehicles on the ground that are equipped with a transponder. Since 2006, ATCOs in the control towers have been using a ground radar monitor that shows exactly where aircraft and vehicles are located. RIASS alerts

ATCOs by clearly marking the location where the runway incursion is likely to incur on the ground radar monitor and by issuing a verbal alert.

RIASS has further improved safety at a time when air traffic volume is increasing, the runway system has been expanded, the number of crossings has increased, and the passage of aircraft and vehicles through the manoeuvring area has intensified. All take-off runways and landing runways at Amsterdam Airport Schiphol are equipped with the system.

skyguide

Sharpened brand identity

Skyguide has modified its brand identity, in response to the sizeable changes that both it and the air navigation services sector have undergone in the past few years – not least through the intensified col-

laborations among Europe's ANS providers. A clear and consistent focus on customers' and partners' needs is at the heart of the revised brand alignment and new web site. www.skyguide.ch



Belgocontrol

Pioneering work for an optimal aircraft identification use

The European Union published the long-awaited implementing regulation laying down requirements on aircraft identification for surveillance for the Single European Sky, commonly known as “ACID IR”, on 22 November 2011.

The current method for identifying individual aircraft uses discrete secondary surveillance radar transponder codes (“SSR codes”), assigned in accordance with ICAO procedures and the air navigation plan for the European region. The new regulation requires increased use of the downlinked aircraft identification feature of the transponder throughout the airspace of the Single European Sky, in order to overcome the shortage for discrete SSR codes to identify general air traffic operating under instrument flight rules. Efficient use of this identification method can only be made if the correct flight information has been inserted by the flight crew into their on-board system.

Back in September 2008, and in anticipation of the awaited EU implementing rule, Belgocontrol actively started to monitor this in-

formation for all departures from Brussels Airport, using the airport multilateration system and the in-house developed AMS (Airport Management System).

The AMS provides the ground controller with a visual indication when the received downlinked aircraft identification does not match the flight plan callsign. It quickly became clear that the number of mismatches were unacceptably high. Thanks to the active participation of the involved controllers, the impacted flight crews were informed about the errors they made and invited to correct them.

By doing so, the number of mismatches at take-off has decreased from about 7% in 2008 to roughly 0.8% in 2011. Nearly 50% of the remaining errors are due to known aircraft technical issues for which solutions are being sought with the help of EASA.

By chasing the identification mismatches before take-off, Belgocontrol clearly relieves the downstream (FABEC) units from the extra workload of solving flight correlation issues and actively contributes to the successful implementation of the ACID implementing rule.

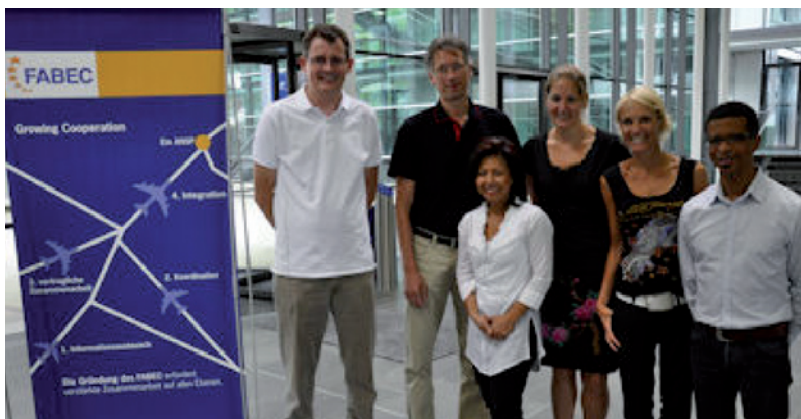


Langen

LVNL faced the challenge

FABEC is at work at many levels. A running team from the Netherlands ANSP LVNL travelled all the way from Amsterdam just to take part in the DFS Challenge Run in Langen on 1 September 2011.

The six, who often compete at different running events, were very satisfied with their results in the 12 K race and also enjoyed the post-race party. The following day they were treated to a tour of Langen Control Centre before they had to head back home.



At the DFS Challenge Race (from left to right): Jurgen van Avermaete, Henri Spaans, Rina Duval, Annerie de Haan, Claudia Kuijlenburg, Reginald Morales

Belgocontrol

Continuous improvement process for less delays

In 2011, Belgocontrol has implemented a continuous improvement process as regards capacity to further reduce en-route delays in its airspace, which leads to less costs for the airlines. The average ATFM en-route delay in the Belgian airspace that had already shown very good results in 2010 has been further reduced to 0.04 minute per flight for these first 11 months of 2011, i.e. a decrease of 80% compared to 2010 (0.21 min average ATFM delay - en-route). This result was achieved by introducing new ATFCM procedures coupled with tailored training, which gave the Traffic Managers a series of working methods to balance capacity and traffic demand in a dynamic way, reducing the number of ATFM regulations. These new working methods have been continuously fine tuned during the past year. Theoretical and practical courses have been conducted since the beginning of 2011 together with solid awareness training on the impact of the SES Performance IR. The results of those efforts are then assessed and refined during post-operation analyses, debriefings and workshops.

These results in terms of en-route delays are the product of a combination of distinct factors: the adaptation of procedures, continuous training, awareness of the need to control our delays in order to contribute achieving the FABEC

capacity target, but also the dynamic and efficient application of these concepts by the operational staff without whom these improvements would not be possible.

But it is essential to continue developing ways to maintain these results. A new launched project on the new flexible sector configurations aims at avoiding as much as possible the overload of a sector, and thus the need to resort to regulations. Taking into account the 7 basic sectors in the airspace managed by Belgocontrol, sector configurations based on the combination of elementary sectors adapted to certain traffic situations were developed with very promising results. Traffic Managers use these configurations in a flexible

manner to avoid overloads and, as a consequence, delays. This involved a lot of work as it implies an adaptation of procedures and working methods, as well as considerable changes of the CANAC 2 sector data and the related safety assessments.

The next step will be the introduction of the occupancy counts concept: instead of planning traffic load on the basis of sector entry counts, the effective occupation of the sectors will be considered. In this way regulations will be only implemented when shown necessary and for the duration periods it is required. This will allow avoiding unnecessary regulations and limit the duration of potential regulations to the strict minimum.



MUAC

AIRE trials

In the course of October and November, LVNL and KLM, with support of the National Aerospace Laboratory NLR, have been running a trial under the **Atlantic Interoperability Initiative to Reduce**

Emissions (AIRE) II project. The objective of AIRE II is to allow aircraft to absorb any delay by adjusting their speed to meet a planned time of arrival rather than having the controller choose the

flying speed. MUAC supported the trial by allowing aircraft to fly their optimum speed in their approach to Amsterdam through MUAC airspace.

List of abbreviations

(A-)CDM	Airport Collaborative Decision Making	CDM	Cooperative Decision Making	FMTF	Flight Message Transfer Protocol
ACC	Area Control Centre	CDO	Continuous Descent Operations	IATA	International Air Transport Association
ACT	Flight Activation Message	CEO	Chief Executive Officer	ICAO	International Civil Aviation Organisation
ADIDS-c	Aeronautical Digital Information Display System -C	CFMU	Central Flow Management Unit	ISAAC	Innovative System for Automated Aeronautical Communication
ADS-C	Automatic Dependent Surveillance – Contract	CNS	Communications, Navigation and Surveillance	NM	Nautical Mile
ANS(P)	Air Navigation Service (provider)	COO	Chief Operational Officer	NSA	National Supervisory Authorities
ANA	Administration de la Navigation Aérienne Luxembourg	DFS	DFS Deutsche Flugsicherung GmbH	PRC	Performance Review Commission
AO	Aircraft Operator	DLR	Deutsches Zentrum für Luft- und Raumfahrt	RTS	Real-Time Simulation
ASB	ANSP Strategic Board	ECAC	European Civil Aviation Conference	SES	Single European Sky
ASM	Airspace management	EEC	Eurocontrol Experimental Centre	SESAR	Single European Sky ATM Research
ATC(O)	Air Traffic Control (Officer)	EUROCAE	European Organization for Civil Aviation Equipment	SYSCO	System Coordination
ATFCM	Air Traffic Flow and Capacity Management	FASTI	First ATC Support Tools Implementation	MUAC	Maastricht Upper Area Control Centre
ATM	Air Traffic Management	FMP	Flow Management Position	VFR	Visual Flight Rules
CANSO	Civil Air Navigation Services Organisation	FMS	Flight Management System		
CBA	Cross-Border Area				
CPDLC	Controller-Pilot Data Link Communications				

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