FABEC

PERFORMANCE 2012

Belgocontrol DFS Deutsche Flugsicherung dgac DSNA EUROCONTROL skyguide

making the difference

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FOREWORD

These are the opening lines of the *Performance 2012*, a brochure, which aims to guide you through different dimensions of performance of air navigation services in the core area of Europe. First of all, it provides you with a comprehensive overview of the performance achieved by the air navigation services of FABEC. It combines and analyses individual contributions from the civil air navigation service providers ANA Luxembourg, Belgocontrol, DFS, DSNA, LVNL, MUAC and skyguide as well as from their military counterparts in Belgium, France and the Netherlands. Secondly, it reflects on the results achieved so far in fulfilling the targets set in the FABEC Performance Plan. FABEC is committed to common targets and common areas of improvement combined in one performance plan.

Currently, FABEC and the air navigation services in Europe are in a crucial period. For the first time in European history, traffic figures have stagnated for more than seven years. Any prediction which forecasts more than one or two years into the future contains a considerable amount of uncertainty and can hardly provide the reliability required of a performance planning and regulation system.

In light of the changed demand from the airlines, the first FABEC performance figures are reasonably good. In 2012, safety remained at a high level, punctuality improved substantially and overall horizontal flight efficiency reached very good scores. In parallel, we can show progress in all key performance areas defined in the FABEC Performance Plan.

However, there are also some clouds on the horizon which derive mainly from the stagnating demand for flights from the airspace users. This new situation has led to an atmosphere of uncertainty questioning paradigms, such as the belief in constant future growth or the predictability of air traffic demand. On top of this, there are also questions about the impact of the regulatory framework, which is mainly based on the principle of determined unit cost. Current calculations show that the civil air navigation services will suffer a loss of income from shrinking traffic demand of about 226.7 million euro over the reference period 2012-2014, which was neither foreseen in the financial planning nor announced by the airspace users. In combination with cost savings derived from the reduced service unit rates, from 2012 to 2014 civil ANSPs will be contributing an overall amount of about half a billion euro to the aviation value chain.

FABEC is operational now. Take this report as a sign of our commitment to the Single European Sky.

The FABEC Air Navigation Service Providers

TRAFFIC DEVELOPMENT

LOWER DEMAND FROM THE AIRSPACE USERS

Declining traffic demand

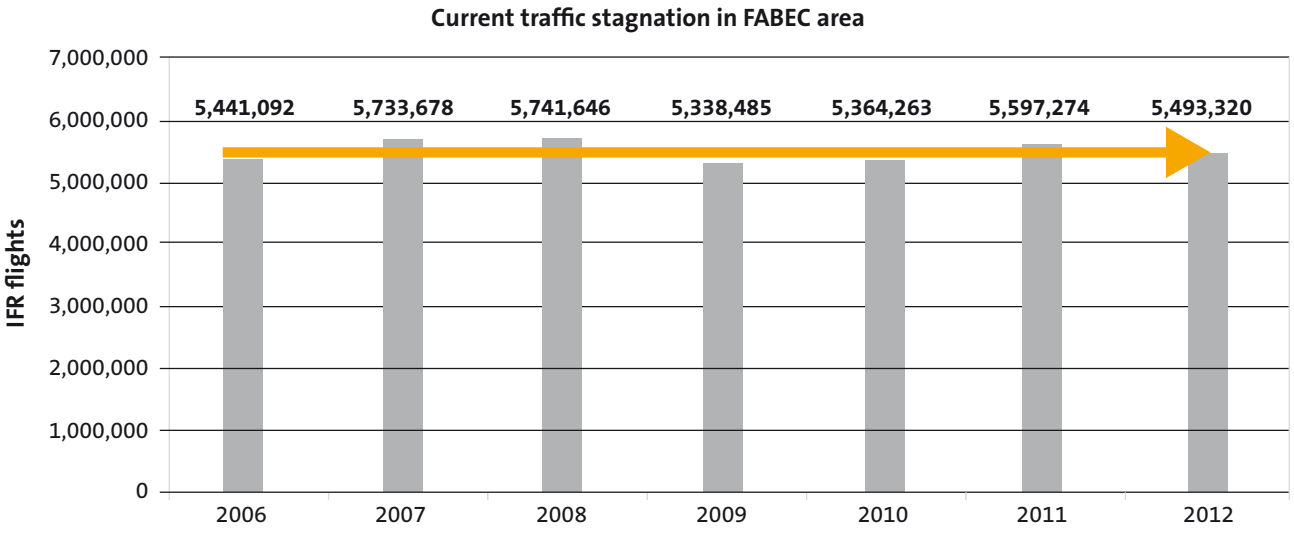
2012 was marked by declining air traffic demand from the airspace users. Concretely, the number of controlled flights in the FABEC airspace decreased from 5.597 (2011) to 5.493 (2012) million controlled flights. This development is mirrored in the monthly statistics of 2012 which show – with one exception (June: +0.4 %) – only negative growth. In cumulative terms, the real traffic demand from airspace users was 7 % below the traffic forecasted in the FABEC Performance Plan.

Local variations occur

Although this overall trend seems to be strong, there are some signs of growth, including local developments, such as the launch of new low-cost carriers in Germany and southern France or changed business strategies of individual airlines (Easyjet in Geneva). In addition, there is a strong capacity demand at the major hubs and during the peak hours.

Uncertain forecasts

The observed change in air traffic demand is based on a wide variety of reasons, starting with the general economic development worldwide and in Europe. This situation has an immediate impact on socio-demographic factors in Europe (GDP, unemployment rate, etc.) which has changed mobility behaviour. The overarching developments were strengthened externally by the current crises including North Africa and the Middle East (tourism) and internally by substitution effects by other means of transport. This view is supported when one takes a look at the US market on the other side of the Atlantic. The number of flights there have been stagnant for almost 20 years. In 2012, it dropped to the level of 1995!



Real traffic evolution FABEC airspace 2007-2012 (IFR: Instrument flight rules). The data for 2012 confirms an overall trend which shows, from an overall FABEC perspective, stagnating demand from the airspace users which has now continued for seven years. Taking the overall European picture into account, it becomes obvious that there is no longer a common trend between the core area of FABEC and, for example, Eastern Europe.

KEY PERFORMANCE AREAS AND INDICATORS

FABEC GOES FURTHER

FABEC strives to achieve and maintain a dynamic balance between capacity, costs and sustainability in its service provision, while guaranteeing the same high levels of safety – or higher. The responsibility of FABEC extends both to the social and environmental domain. Military mission effectiveness – in terms of the ability for our military partners and stakeholders to perform their mandate with regard to maintaining the sovereignty of the respective national airspaces – is another essential part of the mandate. As a consequence, the definition of performance exceeds the strict limits of the European Commissions' target definition.

For the purpose of this report, FABEC measured its performance in the five key performance areas (KPA) of safety, environment, capacity, cost-efficiency and military mission effectiveness. The latter two are addressed at national level only. All indicators for the main KPAs concern en-route services. In addition, the implementation of Continous Descent Operations at airports is addressed.

A number of indicators have been adopted at FABEC level on top of those provided by Regulation (EU) 691/2010, in order to address the regional needs and to further improve the performance in the second reference period.

SAFETY

CONSISTENTLY HIGH LEVELS OF SAFETY AND SUBSTANTIAL ADVANCES IN SAFETY MANAGEMENT

The foremost objective of FABEC in the understanding of the participating ANSPs is increased safety. FABEC has therefore decided to create performance indicators in this domain. We believe that safety should not be taken for granted without interdependencies with other key performance areas.

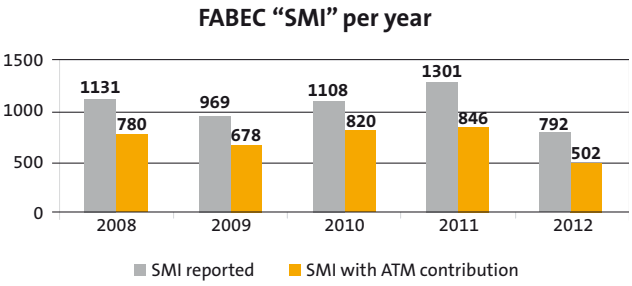
In the domain of safety FABEC has a double approach.

1. Standardising safety-related measurement indicators in order to create a sound basis for comparison between the FABEC ANSPs.
2. Implementing a system for sharing experience and best practice in safety management.

In the safety area good progress has been made in 2012. The expectations for the coming years are also positive. FABEC delivered documentation to the European Commission that we operate in a safe manner. With the objective to ultimately define a common safety management process, FABEC has taken the first steps to lay down a FABEC safety risk assessment process. In 2013 the training of safety officers, investigators and risk assessors will be one of the important tasks.

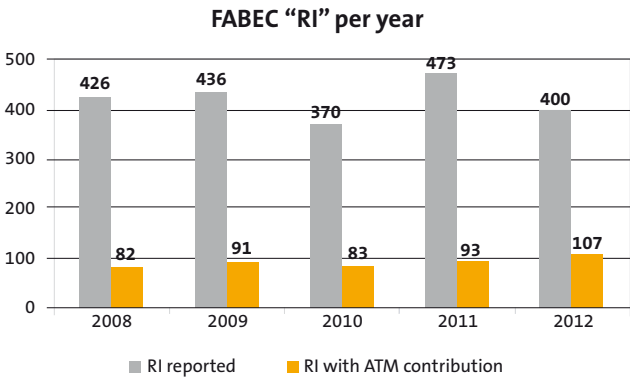
Excellence in operational safety in FABEC

First data on separation minima infringements and runway incursions over a time span of five years (2008-2012) show a consistently high level of safety in the FABEC airspace. Less than 0.01% of flights are subject to an SMI.



A separation minimum infringement is a situation where the prescribed minimum distance between two aircraft has been lost. Grey line: total number of reported SMI in FABEC airspace. Orange line: share of reported SMI with ATM contribution.

Runway incursions are defined as occurrences at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft. Only approximately 25% of all runway incursions have ATM as a contributing factor. The overall figure of RIs is very small.



Grey line: total number of runway incursions at FABEC operated aerodromes. Orange line: total number RI where FABEC ANSP had any contribution.

Starting from 2015, severity classifications based on the risk analysis tool (RAT) will be applied to all SMI and RI with ATM contribution.

Safety performance indicators for RP1

The following three indicators have been validated by the European Commission for measuring the improvements of safety during the first reference period.

"Effectiveness of safety management as measured by a methodology based on the ATM Safety Maturity Survey Framework"

This indicator measures how effective the individual safety management systems of FABEC ANSPs are. Besides the collection and sharing of data, it introduces the notion of monitoring and trend analysis and the exchange of solutions and best practice in FABEC. The FABEC Safety Performance Plan for RP1 includes an objective that will be set and reached by FABEC ANSPs by the end of RP1 in 2014.

"Application of the severity classification of the Risk Analysis Tool"

The Risk Analysis Tool (RAT) is a system to standardise data collection and analysis in FABEC. Based on RAT-shared data, the organisations will be able to classify the severity of operational and technical incidents. This is an important step in the identification of targeted and best practice safety improvement measures.

RAT focuses on separation minima infringements, runway incursions and failures of technical functions. The technical functions include communication, surveillance, navigation and data-processing systems.

The FABEC Safety Performance Plan for RP1 requests a feasibility study to be conducted by the ANSPs for the implementation of an automated reporting tool for separation minima infringements. One result is the production of FABEC ANSP safety reports based on commonly collected data twice per year.

"Reporting Just Culture"

The implementation and promotion of just culture, i.e. a culture where air traffic controllers and technical staff have the possibility to report errors and failures without the fear of retribution or criminal prosecution, is essential for the development of safety in ANS. FABEC collaboration with regard to just culture focuses on the collection of data, the monitoring and trend analysis of the results, the exchange of solutions and best practice and the coordinated call for support from the NSA with regard to legal and judiciary aspects.

CAPACITY

FABEC MEETS CAPACITY TARGETS AND OFFERS EXCELLENT PUNCTUALITY

EUR 70 million in direct savings for FABEC airspace users in 2012

FABEC has responded to the industry's demand for increased capacity by taking targeted capacity improvement measures both on the operational level (increased sectors, increased training output, increased staffing) and the airspace management and design level.

As a result of these efforts, FABEC capacity and punctuality increased in 2012 compared to 2011 and led to overall savings of almost EUR 70 million for users of FABEC airspace. When focusing on the decrease of en-route ATFM delays on top of what was required for FABEC in 2012, a cost saving of EUR 30.9 million was brought to the customers.

Controlled IFR flights		
2012	2011	Difference
5,493,300	5,597,300	– 1.9%

1.9% less traffic, 7% below forecast

In 2012 the number of controlled flights in FABEC airspace declined by 1.9% compared to the previous year and by –7% compared to the traffic forecast underpinning the FABEC Performance Plan. This was due primarily to consistently high fuel prices and a slower than expected economic recovery in the whole EU area. Only in June, July and August traffic levels reached 2011 values. A strong decrease is noted at the end of the year: November and December (–5.1% compared to December 2011) brought the lowest levels of traffic of the past five years.

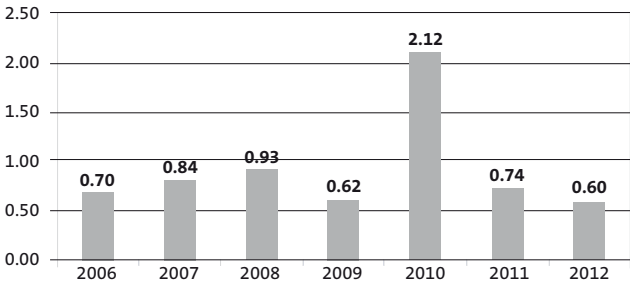
Traffic evolution by market segments

Apart from the charter segment, no sector was showing growth in 2012: the charter segment was on average growing by 3% since January 2012. This positive evolution was a sign of recovery after the particularly strong decrease in this segment after the political unrest in North Africa in 2011. The low-cost segment, losing around 5% of its traffic at the beginning of the year, increased by 2% due to a better summer but declined again after the first weeks of the Winter schedule. The traditional network carriers lost 4% in comparison to 2011. Business and cargo also remained weak with a drop by 3.5% compared to 2011 levels. (Source: STATFOR)

En-route average ATFM delay per controlled flight

Air traffic flow management (ATFM) delays occur whenever a control centre needs to regulate incoming traffic. This happens when traffic predictions based on filed flight plans exceed a control sector's capacity (i.e. the number of aircraft that can be handled during a certain period of time).

Average ATFM delay per flight in minutes

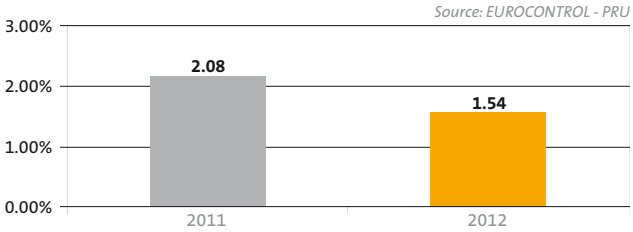


The average ATFM delay per controlled flight in 2012 amounted to 0.60 minutes. This is a drop of 20.5% compared to 2011.

Percentage of controlled flights with en-route ATFM delay of 15 minutes or more

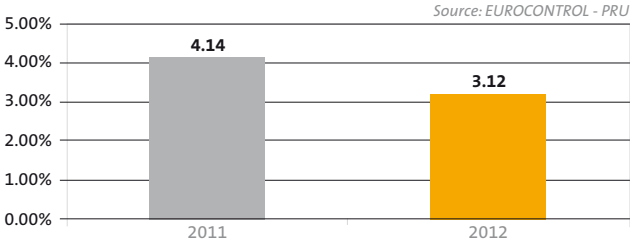
When delays occur, it is particularly important that they do not exceed a tolerable length of time. The percentage of controlled flights with en-route ATFM delay of 15 minutes or more therefore measures to a certain degree the tolerability to the passenger of delay caused by ATC.

In 2012, 1.54% of all controlled flights were subject to delays of 15 minutes or more. This is an improvement of 26.07% compared to 2011 (2.08%).



Percentage of controlled flights with any en-route ATFM delay

This indicator measures the overall punctuality rate. In 2012, 96,88% of all flight were punctual. Whereas in 2011, 4.14% of flights were subject to ATFM delays, this figure dropped by 24.55% to 3.12% in 2012. Monthly delay analysis showed that the en route ATFM delay was constantly reduced all over the year except for April (where industrial actions took place between 2 and 3 April).



The main causes of ATFM delay in 2012 were ATC capacity (42.4%), industrial actions (17%), staffing (16.9%), adverse weather conditions (16.8%) and other reasons (7.0%).

COST-EFFICIENCY

THE HIDDEN BURDEN

ANSPs contribute directly to airline benefits

In principle, the cost base plus the traffic forecast are the determining factors for the calculation of the unit rate – "the price" – to be paid by airspace users. The calculation is determined on the basis of the reference value of the unit rate from 2009. FABEC-wide the FABEC Performance Plan states that the determined national unit rates will decrease by 6.0 percent until 2014. This decrease contributes to the value chain of aviation – and thus immediately to the financial benefit of the airlines – with an amount of EUR 270 million until 2014.

Declining traffic penalises ANSPs financially

In addition to this, FABEC ANSPs have to compensate the missing income which is caused by the declining demand from airspace users. For 2012, this loss amounts to approximately EUR 60 million. By 2014 it is expected that it will increase to approximately EUR 226 million. This loss of income is based on an economic regulatory system focussing on cost per unit and the accompanying trust in the maturity of economic forecasts.

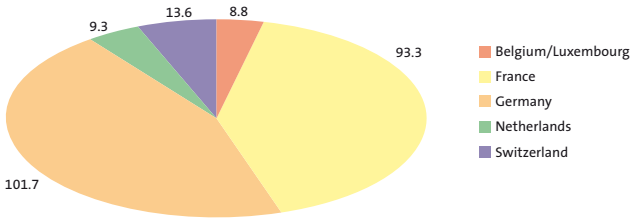
As the air navigation services are mainly based on highly qualified staff and long term investments in highly sophisticated systems, predictability of the financial foundation has to be the basis of any economic regulation.

The aggregated amount of cost to assure en-route air navigation services in the FABEC area for 2012 was defined at EUR 2.6 billion. For the coming years, an increase to EUR 2.8 billion (2014) is planned.

ANSPs contribute EUR 500 million to airlines

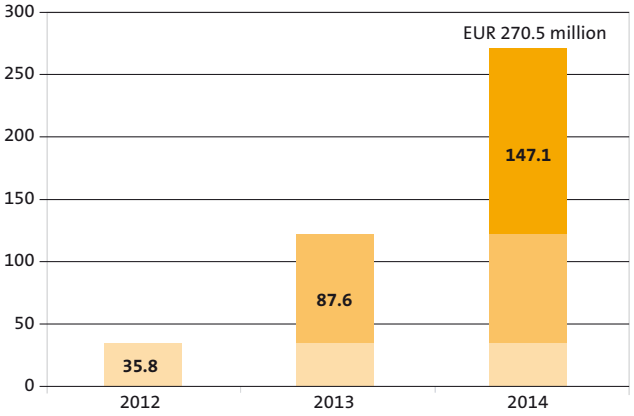
Overall, the total financial contribution amounts to about half a billion euro for the period from 2012-2014. In fact, the lack of maturity of the forecasts used has put a tremendous financial burden on the shoulders of the ANSPs, as the decrease in unit rates outstrips the initial cost savings by almost 80 percent.

Expected loss of income due to traffic reduction 2012-2014
(according to Regulation (EU) 1191/2010, Article 11a, item 3 et seq.)



in millions of euro (status 3/2013)

Cost savings in millions of euro



Planned cumulated FABEC cost savings (in millions of euro in real terms compared to 2009)

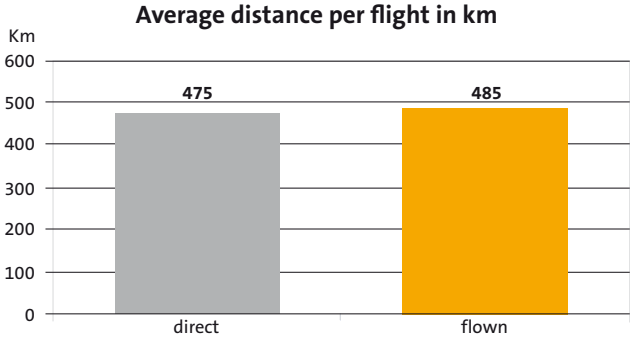
ENVIRONMENT

HIGHER THAN EXPECTED ENVIRONMENTAL PERFORMANCE

Air navigation services organisations have a major influence on their customers' fuel consumption and related CO_2 emmissions. Any new airspace design, route or procedure should ideally support airspace users to further reduce fuel and CO_2. FABEC ANSPs strive to improve the environmental impact of aviation by offering shorter routes and improved vertical flight paths whenever possible.

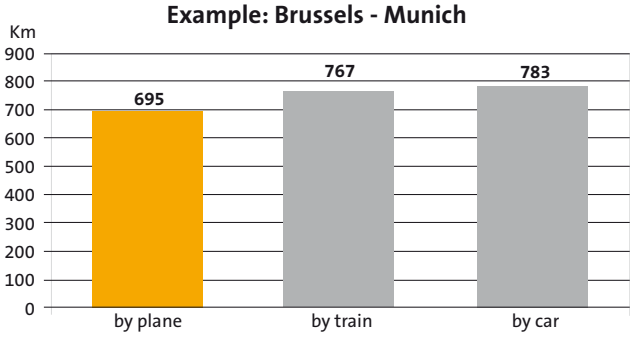
Environmental performance in FABEC is much better than expected. The actually flown distances are much shorter than generally assumed. This has been proven by using radar track analysis and confirmed by EUROCONTROL data. Within the FABEC area, a lot of flights are almost direct. The average distance per flight in FABEC airspace is 485 km, only 10 km longer than the average direct route.

Average distance per flight in km



In comparison to other means of transport, the efficiency of air travel is very high.

Example: Brussels - Munich



Distance from main train station to main train station

Environmental performance indicators

The following indicators have been validated by the EC for measuring the environmental performance during the first reference period.

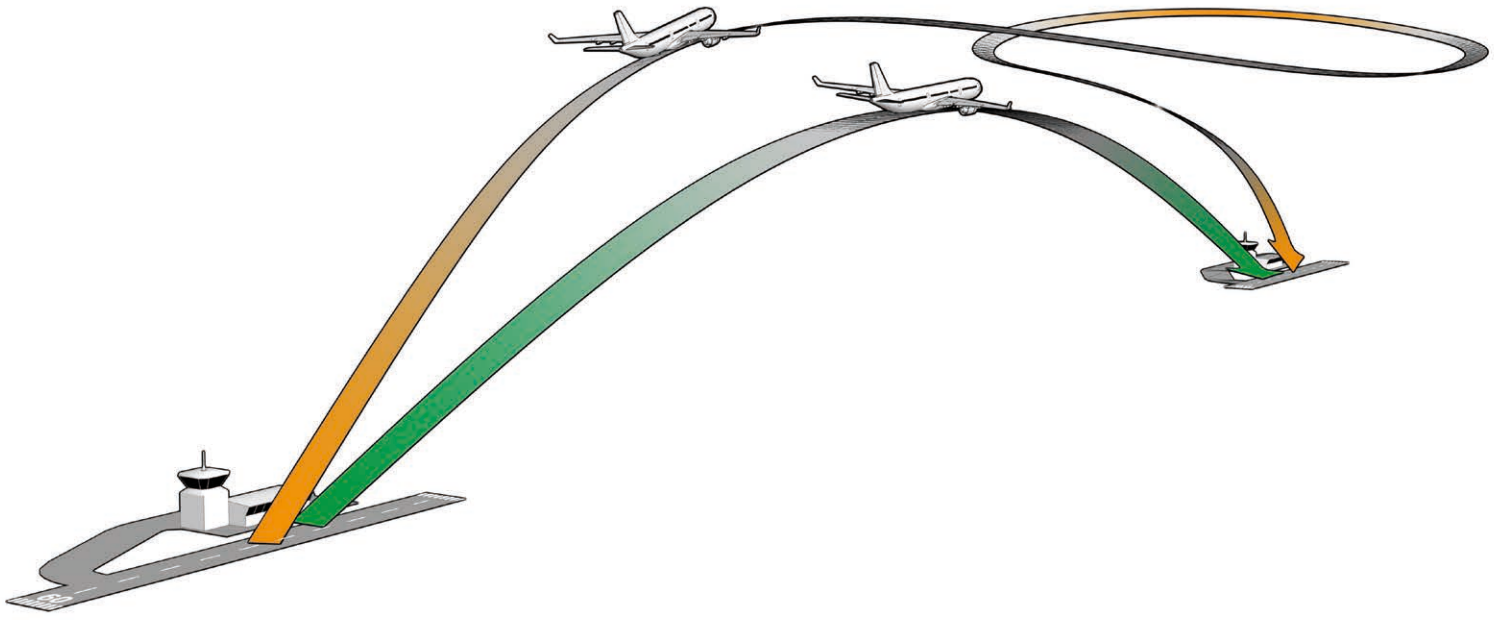
"Percentage of route extension represented in distance flown compared to the great-circle distance."

This key performance indicator measures the horizontal flight efficiency in the FABEC airspace for all flights based on radar data. It accounts for the additional distance flights have to travel in comparison to the great-circle distance, the most direct flight route. Route extensions can be caused by a variety of reasons such as areas of bad weather, military activity, ATFM restrictions, etc. The measurement of en-route distances is limited to the portion of the point profile falling within the airspace analysed (FABEC countries) and outside the TMA (Terminal Control Area). For the purpose of the KPI, the TMA around an airport is defined as a circle of 40 nautical miles radius around the origin and destination airport. Real radar data is used to calculate this indicator.

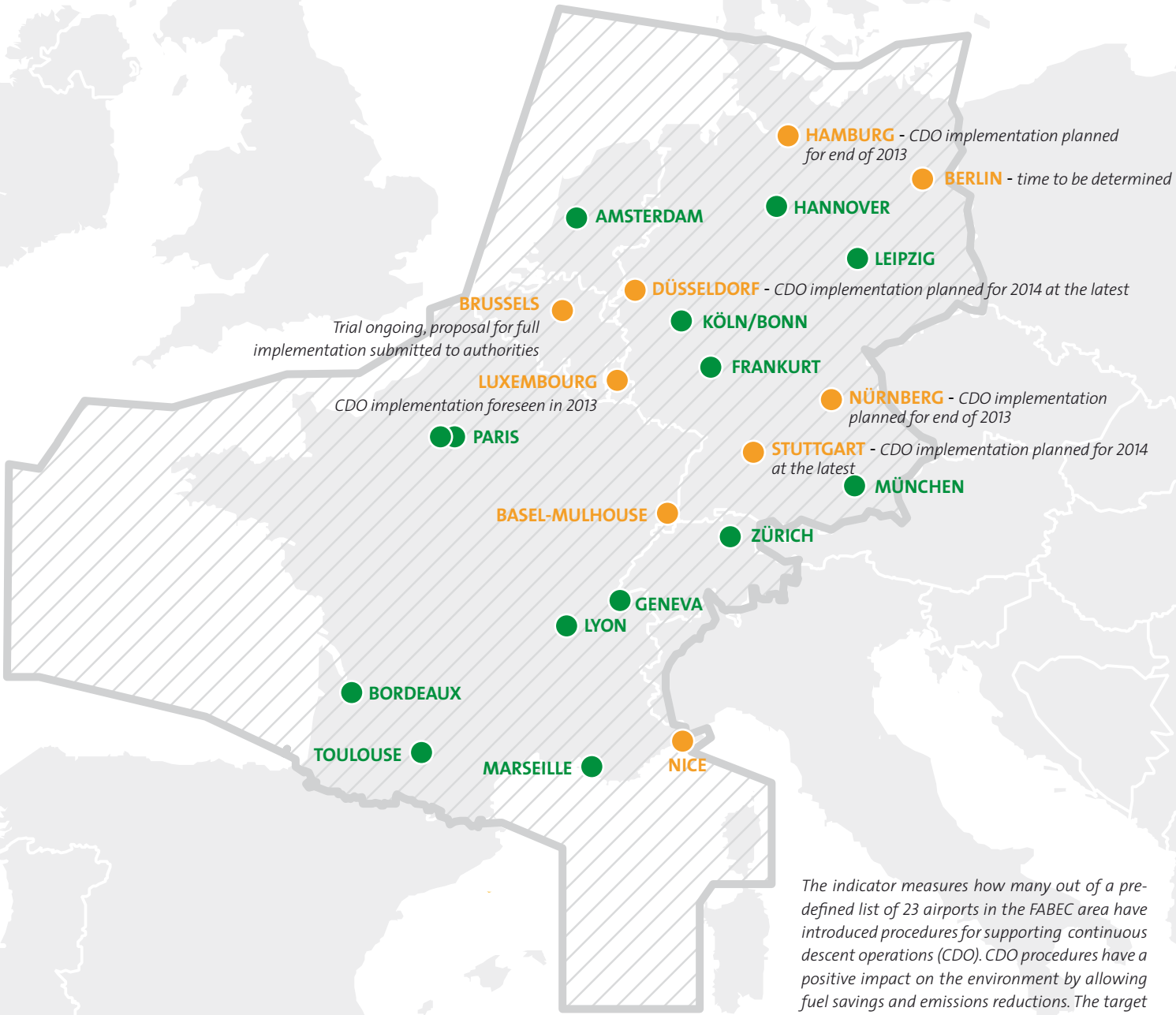
Until the start of the first regulatory period in 2012, horizontal flight efficiency was only measured using flight plan data. However, in reality, shorter routes are often flown thanks to direct routings provided the traffic situation allows it. The use of real radar data now shows that en-route extension is less than 2% and thus much better than generally thought. Nevertheless, some airlines still do not always file the shortest route. The target is to reach a 5% reduction by the end of 2014 compared to 2011.

"Percentage of route extension of intra-FABEC flights represented by last filed flight plan compared to great-circle distance."

This performance indicator is limited to intra-FABEC flights only, as opposed to the previous one which measures all flights in FABEC including overflights and both in- and outbounds to the FABEC airspace. It is based on flight plan data only. The percentage of route extension based on last filed flight plan for intra-FABEC flights was 6.60% in 2011 and remained more or less stable with a slight increase to 6.67% in 2012.



APPROACH PROCEDURES SUPPORTING CONTINUOUS DESCENT OPERATIONS



The indicator measures how many out of a pre-defined list of 23 airports in the FABEC area have introduced procedures for supporting continuous descent operations (CDO). CDO procedures have a positive impact on the environment by allowing fuel savings and emissions reductions. The target for 2014 is that 90% (21 airports) have implemented procedures supporting CDO.

At the end of 2012, 14 airports out of 21 (61%) had approach procedures in place supporting CDO. During RP1 another 7 airports are required to have CDO procedures in place to reach the target.

MILITARY MISSION EFFECTIVENESS
A CRUCIAL DIMENSION

Civil-military cooperation is crucial

From the start, the military has been an integral part of FABEC – based on the understanding that airspace is a common resource. Cooperation between civil and military is crucial since the most sustainable way to make aviation more efficient is to find a common understanding on how to use the airspace best. Consequently, military mission effectiveness is one key performance area laid down in the FABEC Performance Plan – although the military dimension is not part of the Single Sky package.

Best use of airspace and cost-efficiency and mission compatibility

From a military perspective, there are two major aspects to ensure military mission effectiveness. First of all, to safeguard that the adequate amount in size and time is available to fulfill military needs. Secondly, a cost-efficient and mission-compatible use of military aircraft has to be safeguarded. This means, for example, that a realistic ratio between airborne and training time of military aircraft has to be ensured. These needs are mirrored in seven detailed indicators defined in the FABEC Performance Plan. Due to the fact that these indicators are new, FABEC has started to collect, to monitor and to analyse data on military mission effectiveness at States level within FABEC while making best use of the airspace needed for military training. Currently the Belgian, French and German military have started to feed the so-called PRISMIL tool. The Netherlands and Switzerland will follow in the course of 2013.

GLOSSARY OF ABBREVIATIONS

ANSP
Air Navigation Service Provider

ATC
Air Traffic Control

ATFM
Air Traffic Flow Management

ATM
Air Traffic Management

CDO
Continuous Descent Operations

EC
European Commission

GDP
Gross Domestic Product

IFR
Instrument Flight Rules

KPA
Key Performance Area

KPI
Key Performance Indicator

MME
Military Mission Effectiveness

PRU
Performance Review Unit (EUROCONTROL)

RAT
Risk Analysis Tool

RI
Runway Incursion

RP 1
Reference Period 1 2012-2014 for assessing FABEC performance

SMI
Separation Minimum Infringement

TMA
Terminal Control Area

FABEC Performance 2012
Editior: FABEC ANSPs/COMCELL
Sources: PRU (p.4: traffic development; p.8-9: capacity data; p.10: cost-savings, p.11 route extension);
FABEC ANSPs (p.6: safety data; p.10: loss of income; p. 13: CDOs);
Eurocontrol/google.maps/bahn.de (p.11: different traffic means)

Design: Publium SA, Trelex
Status: 4/2013
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