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## Foreword by Steering Committee Chairman

### Dear Reader

With the annual report on hand I would like to summarize the conceptual progress of the MET Alliance in 2009.

Stabilizing relations:

For current projects the philosophy is continue with gradual improvements. Small steps in the right direction make lead to effective progress with time. Best practice will also improve in this way.

Trusting relations:

The experience of MET Alliance is that its total effectiveness is greater than the sum of its constituent parts, working through the synergetic exchange of information and knowledge and the sharing of experiences and expertise. This effectiveness is further strengthened with the growing number of members. These developments yield significant benefits for users and customers.

Valuable relations:

The requirements for aviation meteorological services continues to grow, ot alone because of the requirements of the new European airspace but also due to increased pressure for the provision of services through market mechanisms. The best, and perhaps the only, way to deal with increased demands in an era of reducing resources is through close and intensive cooperation and a concentration on the essential goals - improving efficiency and creating value added services required by customers.



Klaus Sturm, Chairman of the Steering Committee

## Activity report by Board Chairman

"Coming together is a beginning; keeping together is a progress; working together is a success". This quote by Henry Ford seems to describe pretty well the development of MET Alliance.

With the arrival of Météo France, MET Alliance has achieved its "beginning phase". The collaboration between all the MET services of the FAB EC is now encompassed within MET Alliance. The coordination and harmonization expressed in its mission statement could be achieved ahead of the needs required by the Single European Sky.

After this first phase, the time of "progress" is now starting. In 2008, the TAF verification project went successfully into its operational phase. The common scheme of verification illustrates the core benefits of harmonization and synergy in MET Alliance. But this scheme can also be used, with some adaptations, for the verification of TRENDs. In 2009, the first steps toward an extension into a new project "TREND verification" have started.

MET Alliance also aims to share expertise in R&D. The workshop held on the subject "MOS and AUTOTAF" serves this purpose and illustrates as well the "progress" made.

It is of course far too early to speak about success. But giving the floor once again to Henry Ford, who said "If everyone is moving forward together, then success takes care of itself", we then know that MET Alliance is on the right track. The activity report of 2009 shows that all the MET Alliance members are really moving forward and together!



Marcel Haefliger, Board Chairman

### Summary list of activities in 2009:

Board Meeting Board Meeting Board Meeting Steering Committee Meeting Steering Committee Meeting Steering Committee Meeting Workshop: TAF verification Workshop: MOS and AUTOTAF Offenbach Toulouse Dublin Zurich Vienna Offenbach Dublin Offenbach

14-15 January 12-13 May 20-21 October 18-19 February 16-17 July 10-11 December 18-19 June 30 November – 1 December

## **Organisational Support and Communication**

## **Establishment of the Secretariat**

The Secretariat acts as the focal point and clearing house for external and internal communications. All communication with the MET Alliance is now dealt with by the Secretariat.

The Secretariat contact details are: MET Alliance Tervuursesteenweg 303 B-1820 Steenokkerzeel Belgium phone: +41 22 716 28 52 fax: +41 22 716 28 29 e-mail: info@met-alliance.com



### Website

The website is a useful source of information for external users and an efficient platform for internal communications.

The website address is: www.met-alliance.com



## **Ongoing Activities in 2009**

### **MOS and AUTOTAF**

When issuing a TAF, forecasters at KNMI and DWD use TAF guidance as a first guess. This kind of guidance is based on a Model Output Statistics(MOS).

Working with HIRLAM, KNMI produces TAF guidance for other MET Alliance members; in addition DWD is able to provide TAF guidance in a similar way. In parallel MET Alliance partners are operationally working with different NWP models.

The point with MOS is its unbreakable relationship with one specific model and its need of regular and costly updates when modifications are implemented to the model or have to be applied because of upgrades of ICAO standards.

A group of experts in statistical adaptations, coming from several MET Alliance organizations, met during winter 2009 to discuss the actual status of research and knowledge on the subject, and looked for possible improvements, trying to make the production of TAF guidance more flexible, less dependent to NWP and offering a portable solution.

This work is still in an early stage and different directions are under investigation. The relevant experts have formed a network and are involved in informa exchanges relating to this task. This structure means that they will be ready to act effectively as this matter matures enough to provide an efficient, cost effective new solution, replacing the present MOS system.

#### TAF verification: experts meeting

In June 2009 the experts in verification of each MET Alliance organization met at Met Éireann in Dublin, for a fruitful two-day meeting. For the first time, the experts had the opportunity to discuss not only the verification methodology but also the results: verification results for winter 2008-2009 were delivered before the meeting. Some adjustments in the verification scheme were requested, in particular for the parameter "wind direction".

The meeting also provided the opportunity for the experts to discuss TAF verification in the context of TAF production: how to use the results of verification to improve the TAF production, how to communicate the results to forecasters, to customers and to engineers. This common discussion proved very fruitful. The spirit of collaboration within this European group of verification experts is growing, with a healthy and scientific sense of competition.

#### **Measures of performance**

A first set of common Key Performance Indicators (cKPI) has been defined in 2008. Measurements were conducted in 2009. They have brought up to interesting observations; it has for instance appeared that a small percentage of METARs were done too early. Attention of the observers was drawn to the point and the timeliness of METAR has already improved during late 2009 and early 2010.

New measurements of the defined KPI are ongoing in spring 2010; first observations from this processes will be possible later.

#### **Building on our strengths**

In theory, sharing common tools and common developments allow economies of scale and cost saving. In practice, exchanges are not as straightforward as may appear at first sight: a clear strategy on the way of sharing competences needs first to be defined. A strong knowledge of strengths and needs within the whole group is therefore a necessity. Each organization of MET Alliance has conducted a SWOT analysis, at home, before sharing the results in a plenary meeting.

The result of those analyses show significant potential for exchange of products and services. 2010 will see the production of a common catalogue of the products and services provided by MET Alliance. Based on the SWOTs, it will summarize the competences of MET Alliance.

The catalogue will be one part of the achievement planned by MET Alliance; practical actions, based on what was revealed by the SWOTs will also be developed. An example is the first collaboration between Belgocontrol and MeteoSwiss for the education of new employees.





## Acting together

Cost effectiveness, sharing best practices and harmonization are part of the mission of MET Alliance. Taking advantage of competences of one or the other member is one way towards that goal. Building a community spirit is also an important step in achieving this aim. In 2009, the new experience between Belgocontrol and MeteoSwiss related to training was a materialization of the spirit of MET Alliance.

#### Common training: the Belgian-Swiss experiment

In March 2009, MeteoSwiss employed three new employees as observers and future briefing officers at Geneva airport. Given the resources available at that moment, MeteoSwiss was in a difficult situation to start a qualification for those people.

Belgocontrol has its own training center, with trained teachers and adapted infrastructure, and can provide bespoke training for different users or partners. For the first time, an arrangement was made between Belgocontrol and MeteoSwiss: the Swiss employees have spent their first weeks in Belgium and made their first contact with meteorology courses at Belgocontrol.

This first experiment has been concluded with success. It has saved time at MeteoSwiss, has taken profit of an already existing infrastructure and teaching materials and has allowed the new meteorologists to have knowledge of practices another organization. This offers the real potential to exchange best practices.

#### **Exchange of forecasters:**

With the same idea in mind – sharing best practices in seeing other working habits and building a community spirit – exchanges of forecasters within MET Alliance organizations have been implemented. The first experiment was made between DWD and Meteo France: a German forecaster spent four days in the regional center of Illkirch (Strasbourg). He had the chance to experience by himself the French way of working and delivering information to the aeronautical world. Back home, he described to his colleagues what he saw, what he learnt, what surprised him and what pleased him.

This kind of experiment allows building a community spirit between the people working in the operational field, dealing with the same kind of questions and requests, but in different countries. It supports the sharing of best practice in a less strategic level but in an approach quite complementary to the one defined by the managers.

### A new member

In 2009, Météo France approached MET Alliance to start a possible collaboration. The common interest of supporting the establishment of the functional airspace block Europe Central (FAB EC) made the connection obvious. To be ready to take up the challenge related to the new management of the air space, the MET services based their strategy on the fact that joint efforts are greater than the sum of the parts acting alone.

Météo France's first relationship with MET Alliance started with observer status for a full year. In the beginning of 2010, Météo France became a full member of MET Alliance and was warmly welcomed by all members.



## Single European Sky

The new organization of the European Sky with Functional Airspace Blocks (FAB) requires the MET services to be ready to satisfy new kinds of needs and requirements. Concerning FAB EC, in 2009 MET Alliance considered the work done by a Task Force "Common Data Service" within the project initiated by the air traffic service providers of the combined airspace of Switzerland, Benelux, Germany and France. Since this project defines the future needs related to meteorological information contacts were also ongoing with FAB CE, and to a lesser extend with FAB UK/Ireland, through the members of MET Alliance concerned by those specific FABs.

SESAR is also in the scope of MET Alliance; being still young and not in its mature stage, MET Alliance decided not to tender itself. Nevertheless, thanks to the involvement of its individual members, for example in the EUMETNET bid team or in the Noracon Consortium where MET department supports the ATM in the airport processes, the meteorological experts of MET Alliance are involved in SESAR. MET Alliance members are fully aware of SESAR developments and will profit from this awareness. This last point allows MET Alliance to adjust its actions to be aligned with the future defined within SESAR.





## The year ahead

Having been founded by 5 members, MET Alliance has progressively grown up, first with the arrival of DWD in 2006 and then with Météo France in 2009. In 2010, MET Alliance welcomes Luxembourg as a new member, at first with observer status.

Even if MET Alliance now brings together all the Met providers concerned by FAB EC, it won't be only dedicated to that latter project but will keep working on its mission, which is to improve quality and cost-effectiveness of meteorological services by satisfying user needs and by defining best practice.

After the success of the common TAF verification, MET Alliance has now working on TREND verification. Profiting from the schemes already implemented, a new project will be developed in order to have a common scheme for verifying TRENDs. The aim of this work is not only harmonization, but also cost-effectiveness.

Harmonization is an important topic within MET Alliance. The year 2010 sees the first meeting leading to stronger SIGMET coordination among MET Alliance countries. If such coordination already exits between neighboring countries, the idea here is to expand it in a larger scale, allowing more information to flow between all the members' countries.



## Profile of Member Organization

### **Austro Control**

AUSTRO L

The Austrian MET Service Provision for Civil Air Navigation is one of the core processes of the national Air Navigation Service Provider Austro Control. The MET Service Units are located at six international airports (Vienna, Linz, Salzburg, Innsbruck, Graz and Klagenfurt), the Vienna office is Meteorological Watch Office. In addition, Austro Control is partly responsible for the service provision for the Austrian Air Force. The Vienna office is also one of the three European OPMET Databanks providing the world with OPMET information



#### Belgocontrol

Belgocontrol is an autonomous public company in charge of the safety of air navigation in the civil airspace for which the Belgian State is responsible. It controls aircraft movements in and around Brussels Airport and the four regional public airports: Antwerp, Charleroi, Liège and Ostend. The company has its own in-house meteorological service. The Belgocontrol's Met Office produces weather forecasts and warnings, while ensuring the meteorological watch for the Flight Information Region of Belgium and Luxembourg. Furthermore, the Brussels office is also one of the three European aeronautical meteorological databases serving aeronautical users.



#### DWD

The Deutscher Wetterdienst (DWD) is as National Meteorological Service of the Federal Republic of Germany responsible for providing meteorological services for the protection of life and property. Core tasks include the meteorological safeguarding of aviation. The Department for Aeronautical Meteorology of DWD operates seven regional advisory centres for Flight weather forecasting, warning and aeronautical meteorological advisory service. In addition, three of them are performing the tasks of Meteorological Watch Offices. The broad spectrum of aeronautical services includes the development and operation of self-briefing systems for all kind of IFR and VFR traffic as well as special services for ATC and airport operations. Furthermore the DWD is authority of meteorological supervision at all international and regional airports.



## KNMI

KNMI is responsible for the service provision in Dutch Airspace and at all the international and regional airports of the Netherlands. The central forecasting unit of KNMI, located in De Bilt, is the central production facility for all the forecasts and warning, and is supported by small units at the regional airports and the weather dependant deployment of forecasters at the Schiphol Airport site. Furthermore, the central office is performing the tasks of Meteorological Watch Office for the Dutch FIR and for the Dutch Continental Shelf (North Sea).



### Met Éireann

Servicing aviation needs under ICAO regulations for Ireland is one of the most important tasks of Met Éireann. It comprises the Central Aviation Office at Shannon Airport together with the meteorological offices at Dublin, Cork, Knock and Casement airports. It issues forecasts (TAFs and Local Area Forecasts) for the various airports and smaller airfields in the country, as well as local warnings, SIGMETs for the Shannon Flight Information Region (FIR), en-route documentation and briefings. Meteorological services for the Defence Forces and meteorological training are provided at Casement Aerodrome.

### Météo France



Météo-France is a public administration placed under the authority of the Ministry of Transport.

Its Aviation Forecast Division in Toulouse is in charge of the production of the national Significant Weather Charts (SIGWx) and hosts the Toulouse Volcanic Ash Advisory Center. Five Meteorological Watch Offices are responsible for the SIGMET Watch over the five French Flight Information Regions. The Météo-France facilities in Toulouse also operate one of the three Regional OPMET Centre for the ICAO EUR, with a particular gateway role regarding the AFI OPMET data.

Aerodrome observation and forecast products are delivered for more than 70 airports over the European French territory, with specific tailored services for the major platforms, e.g Paris-Charles De Gaulle. Météo-France also operates overseas in the French "Départements" and Territories.

Within the Aviation Forecast Division, a dedicated R&D unit provides forecasters with state-of-the-art nowcasting and forecasting tools for hazards relevant for aviation. In the observation domain, Météo-France was a pioneer in implementing fully automated observation at airports complying with ICAO standards, and now develops the techniques for merging observations from various sources.



#### **MeteoSwiss**

MeteoSwiss is the national weather service in Switzerland. It fulfils its meteorological tasks for the use of the public, businesses, and public institutions. The MET service units are located at the international airports Zurich and Geneva. MeteoSwiss issues forecasts for these international airports and all the regional airports.

Furthermore it provides en-route documentations and briefings and is also responsible for warnings at the aerodromes as well as for the FIR Switzerland.