



WORKING PAPER

FIFTH MEETING OF THE ALLPIRG/ADVISORY GROUP

(Montreal, 23 – 24 March 2006)

Agenda Item 2.1: Framework for global planning

**EUROPEAN EFFORTS TO JOINTLY PLAN AND IMPLEMENT
THE FUTURE PERFORMANCE-BASED ATM SYSTEM**

(Presented by the European Organisation for the Safety of Air Navigation – EUROCONTROL)

SUMMARY

This paper provides an overview of European planning and implementation initiatives to enhance the performance of the European ATM system. These efforts are putting in practice the principles of the ICAO Global Air Navigation Plan and foster harmonisation and implementation through cooperative planning, rationalised development, interoperability and air-ground integration. In addition, a particular attention is paid to setting the regulatory and project environment which will be able to support the achievement of the required changes.

These initiatives include:

- The Single European Sky (SES) legislative framework;
- The further developments of the European Convergence and Implementation Plan (ECIP) and Local Convergence and Implementation Plan (LCIP);
- The Single European Sky ATM Research (SESAR) initiative, the Definition Phase of which is aimed at delivering a European ATM Master Plan.

The coordination with other regions and the synergy with the Global Plan are integral part of the considerations of these initiatives.

Action by ALLPIRG/5 is in paragraph 6.

1. INTRODUCTION

1.1 This paper provides an overview of European planning and implementation initiatives to enhance the performance of the European ATM system. These efforts are putting in practice the principles of the ICAO Global Air Navigation Plan and foster harmonisation and implementation through cooperative planning, rationalised development, interoperability and air-ground integration.

1.2 Information on the collaborative efforts undertaken in Europe under the auspices of the European Civil Aviation Conference (ECAC), the European Commission and EUROCONTROL has been regularly reported to previous ALLPIRG meetings. The 11th Air Navigation Conference (ANC/11) was, in particular, apprised of the development of an ATM2000+ Strategy, the creation of the Single European Sky legislation, and of the European Convergence and Implementation Plan (ECIP). The ALLPIRG/4 (Conclusion 4/12) and the ANC/11 (Recommendation 4/2) have each adopted a recommendation inviting PIRGS to take the ECIP as a possible model for cooperative regional implementation planning efforts.

1.3 A number of European States, EUROCONTROL and, through associations, members of aviation industry further contribute to the current development work undertaken within the ATM Requirements and Performance Panel (ATMRPP) regarding the Performance Based Transition Guidelines and the ATM Performance Manual. In addition, there had been an active involvement from Europe in the elaboration of the Industry road map in the ad-hoc task force led by IATA, as a follow-up of the ICAO Air Navigation Commission Consultation with Industry of 2004, and which is at the origin of new material for the Global Plan.

2. SINGLE EUROPEAN SKY: LEGISLATION IN FORCE

2.1 The Single European Sky (SES) is an initiative to reform, via EU legislation, the management of the European airspace to meet future capacity and safety needs.

2.2 The legislation was adopted by the European Council and Parliament in 2004 and comprises four specific regulations: framework regulation, interoperability, airspace, and service provision. The regulations in turn progressively materialise through Implementing Rules providing the substance and conditions for specific aspects of ATM/CNS implementation.

2.3 In the last two years, the following Implementing rules have been adopted: Flexible Use of Airspace, Airspace Classification, Interoperability / Initial Flight Plan, Interoperability / Coordination and Transfer, Interoperability / Flight Message Transfer Protocol, as well as Common Requirements for Service Provision and ATCO Licensing. In addition, work is underway in a number of other areas, for example: air-ground data link services or EUIR AIP.

3. ECIP: CONTINUOUS IMPROVEMENT

3.1 This SES is an EU legislative framework and a powerful means to foster harmonisation and implementation. It is an integral part of the planning and monitoring mechanisms and complements well the other mechanisms such as the ECIP. To this effect, as part of its continuous improvement process, the ECIP/LCIP have recently been enhanced to:

- a) further strengthen the performance driven approach and the relationship of implementation objectives with the expected performance benefit;

- b) reflect the regulatory requirements in the implementation objectives; and
- c) monitor the SES implementation and achievement of compliance.

3.2 It is worth noting the steady and successful application of the ECIP and LCIP process, complemented by capacity enhancement actions aimed at establishing a capacity plan for each State/ANSP, and now also developed to integrate cost-efficiency measures. The use of these mechanisms, combined with concrete actions in the field, has allowed reaching the delay reduction objectives set for 2005.

3.3 As proposed in the past, EUROCONTROL is ready to offer advice based on its experience.

4. THE SESAR INITIATIVE

4.1 The European airspace and air traffic management (ATM) system will have to face additional challenges as traffic is forecast to grow steadily over the next 15 years. Air navigation services and the systems that support them are not sufficiently integrated and , moreover, are based on technologies which are already running at maximum. In order to accommodate future air traffic needs, we must re-think the European ATM system. A “paradigm shift” is required, supported by state-of-the-art and innovative technologies.

4.2 In SESAR – the Single European Sky ATM Research – for the first time in European ATM history all the European aviation players have come together in defining, and later committing to a Pan-European programme.

4.3 SESAR is the impulse needed to bring all the elements and actors together. The objectives of SESAR are to eliminate the fragmented approach to ATM, transform the European ATM system, synchronise the plans and actions of the different partners and federate resources. With SESAR, there will be a European ATM network re-engineered to become more efficient, better integrated, more cost-efficient and safer. SESAR will also result in environmentally sustainable ATM. The required changes will be supported and facilitated by accompanying regulatory measures.

4.4 SESAR will be run in three major phases: Definition, Development and Deployment.

4.5 The **Definition Phase**, from 2005 to 2007, jointly funded by EUROCONTROL and the European Commission, will deliver a European ATM Master Plan. This Master Plan is based on future aviation requirements, and will identify the new actions needed. In order to take full account of the requirements of the various stakeholders, gather the necessary expertise and achieve maximum buy-in, the Master Plan is being developed under a contract issued by EUROCONTROL with 30 members of a consortium that is representative of the entire ATM community. It comprises more than 30 companies and organisations.

4.6 It is stressed that the goal is that the ATM Master Plan follows a performance-based approach, founded on the future requirements of air transport industry.

4.7 The Definition Phase will progress via the elaboration of six main deliverables to be produced over a period of two years covering all aspects of the future European ATM system. Work on the Definition Phase started in March 2006. Each step in the Definition Phase is clearly defined and

agreed on by all stakeholders. The European ATM Master Plan will provide the road map for change through time and is geared towards implementation from the very beginning.

4.8 From a global perspective, the SESAR Definition Phase will pay a particular attention to the global interoperability requirements, and will seek feed back from all interested stakeholders so as to create the widest possible buy-in to the Master Plan and the proposed recommendations. As part of the planned communication of the project it is foreseen to present and use the results in relevant ICAO panels and groups.

4.9 The **Development Phase** will run from 2008 to 2013. During this phase, the necessary development and validation work will be conducted; the regulatory measures will be prepared in order to implement the European ATM Master Plan.

4.10 In order to ensure transparency and independence in the Development activities, the European Commission proposes to found, together with EUROCONTROL, a joint undertaking to federate the necessary resources and lead the work. This joint undertaking will be open to the industry, to other international organisations and to third countries. It will rely on the EUROCONTROL Agency for its management and coordination role, facilitating progress of the cooperative work.

4.11 During the **Deployment Phase**, from 2014 to 2020, the investments in European ATM will be managed by the ANSPs and industry in accordance with arrangements yet to be developed, to ensure that an optimal outcome is achieved.

5. THE SYNERGY WITH THE ICAO GLOBAL PLAN

5.1 The SESAR Definition Phase is consistent with the global initiatives and its approach able to support moving from regional to global level. In particular, this Phase will apply the work of ATMRPP and the principles of the Industry road map.

5.2 The need to change the way in which the evolution of Air Traffic Management (ATM) is planned at local, regional and global level is acknowledged. In the past, planning was very much technology and/or solution driven, with insufficient advance knowledge of resulting performance improvement. The traffic conditions in Europe have long determined that the required achievements could only materialise if there was concerted decision making and action of the different stakeholders at regional level.

5.3 The direction taken in SESAR and in particular during the definition Phase is very much the same as that proposed for the Global Plan and promoted by the Industry road map, as well as that being actively defined in the ATMRPP in the form of Performance Based Transition Guidelines - to be submitted to the Air Navigation Commission for approval for publication - containing proposed guidance to PIRGs on the performance based planning of ATM.

5.4 This course of action is based on the recognition that today and in the future, planning choices increasingly need to be justified in advance by a thorough analysis of anticipated performance needs and achievements. Such an explicit management and planning of ATM performance is needed to ensure that throughout the transition process, the expectations of the ATM community are being met.

5.5 Guidance is needed on how to adopt such a performance based approach in the transition from today's ATM system towards the future ATM system as described in the Global Air Traffic Management Operational Concept (Doc 9854).

5.6 However, what is further required, are actions and mechanisms so that Regions and States work collaboratively in developing their future transition arrangements towards the ATM system envisioned in the Global ATM Operational Concept. This is key to make the planning effective at the different scales (national, regional and global), in particular because of their interdependencies and the benefits that can be obtained from such synergies. This will also allow addressing the issue identified in several panels' discussions that, in addition to having made available the operational concept, guidance is needed to ensure a consistent interpretation and realisation of the concept.

6. ACTION BY ALLPIRG

6.1 The ALLPIRG/5 Meeting is invited to:

- a) note the performance planning activities in Europe, and in particular, that the SESAR Definition Phase has just started, involving members of the entire ATM community, that global interoperability is an objective, and that results will be made available for application and integration in the ICAO Global Plan;
- b) reiterate the previous conclusions to use ECIP as a model for PIRG work;
- c) invite PIRGs to consider the performance based transition guidelines and the European developments in their further regional planning work with a view to achieve a coherent input of their implementation plans into the Global Plan; and
- d) stress the need for global transition coordination and invite the ICAO Secretariat to propose effective mechanisms and processes for that purpose.

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