

ELEVENTH AIR NAVIGATION CONFERENCE

Montreal, 22 September to 3 October 2003

Agenda Item 1 Introduction and assessment of a global air traffic management (ATM) : operational concept

A SINGLE EUROPEAN SKY TO OVERCOME THE FRAGMENTATION OF THE EUROPEAN AIR TRAFFIC CONTROL SYSTEM

(Presented by the European Commission)

SUMMARY

Europe needs to reform air traffic management to allow smooth operation of its air transport system. The European Community has launched itself on an ambitious but essential programme to achieve this goal, under the name of Single European Sky. This programme sets the conditions for establishing a harmonised and integrated network providing for safe and efficient use of airspace by air carriers. As such it will open the way to the continued growth of air transport in Europe as the expansion of the European Union fuels demand.

1. THE EUROPEAN AIR TRAFFIC CONTROL SYSTEM

1.1 Following the liberalisation of air transport, air traffic steadily developed between the Member States of the European Community. Since 1998 the cross-border traffic is predominant over national traffic. The sustained growth of air transport in the 90s highlighted the mismatch between the internal market and the European network of national systems of air traffic control. This network stands as a patchwork of national systems, heritage of the historical evolution of air traffic control and of the relatively small geographical size of many European States.

1.2 The consequence of this fragmentation was the increase of congestion and delays and the reduction of flight and cost efficiency. The fragmentation of the European system also imposed high costs of central and local coordination.

1.3 At the governmental level, States have taken different decisions about the direction and oversight of their air traffic control systems in the various regulatory fields such as safety, airspace, economic

and interoperability. There are also important differences in corporate governance for air traffic control, including commercialised public entities, State enterprises, limited liability companies and government departments or agencies.

1.4 At the operational level, the provision of services and infrastructures primarily followed national requirements which, though compliant with ICAO and European Organisation for the Safety of Air Navigation (EUROCONTROL) standards, led to the implementation of different technological platforms and systems and associated procedures for air traffic control and civil military coordination.

2. THE NEED FOR A SINGLE EUROPEAN SKY

2.1 The need for removing the fragmentation of the European system is at the origin of the Single European Sky initiative. This initiative has been launched in 2000. A high level group, bringing together the civil and military air traffic control authorities, was created to devise a new approach for regulatory, institutional and technical aspects of air traffic management (ATM) in Europe.

2.2 On the basis of the high level group report, the European Commission proposed, in October 2001, a comprehensive set of set of legislative and cooperative actions to give effect to the Single European Sky. These build upon existing international standards of ICAO and Eurocontrol. They will therefore be consistent with the developments of the global and regional ATM policies and operational concepts.

2.3 The final goal of this initiative is to improve the safety, to create additional capacity and to increase the overall efficiency of the ATM network in Europe. To achieve this goal the legislative proposals set the conditions for:

- a) improving the administrative and organisational processes in the area of decision-making and enforcement in ATM; and
- b) achieving a more effective and integrated ATM network and ensuring that this network is based on demand driven service provision.

3. IMPROVING ADMINISTRATIVE AND ORGANISATIONAL PROCESSES

3.1 The development of policies and regulations in Europe has followed a decentralised approach where each State is responsible within the context of a European-wide framework whose guidelines are set at the level of Eurocontrol. These guidelines are then implemented at State level.

3.2 The Single European Sky initiative reduces the fragmentation at the regulatory level, and hence fragmentation at the operational level, by allocating clear responsibility and accountability and it defines uniform requirements and standards means of compliance.

3.3 A first measure in this direction consists of the separation between regulatory and operational functions. The separation, required at functional or structural level, is to avoid conflicts of interest and to

ensure the necessary transparency of the processes. This separation is ensured at the European level by the prominent role of the European Community as a legislator. At the national level, Member States will designate national supervisory authorities independent of service providers.

3.4 Under a new institutional framework for decision-making, the European Community will take decisions with the support of the Eurocontrol organisation. These rules will have a community-wide application; they would also be followed by a number of States that are not members of the European Union on the basis of institutional arrangements associating them with the European Union. The European Commission will mandate Eurocontrol to draw up these rules. The European Commission will then adopt them, following discussion with States, within a committee. The advantages of this approach consist of introducing an effective decision-making process based on majority voting and resulting in binding decisions.

3.5 The national supervisory authorities will monitor the application of the rules. This will ensure that they are correctly understood by all concerned; that all the means needed to enforce them are available; and that any failure to comply properly is detected and corrective action taken.

3.6 A process of enhanced industry participation will support the above regulatory set-up and it will help set the roadmap for the development of ATM toward the future European system. Those specific steps required to achieve it will be clearly identified. Furthermore, industry will help to define the investment needs for research and technical development (RTD) and the implementation of the transeuropean transport network (TEN-T) and in supporting the standardisation process.

4. ACHIEVING A MORE EFFECTIVE AND INTEGRATED ATM NETWORK

4.1 With regard to the provision of the air traffic control infrastructure and services, there are significant differences between the individual approaches of Member States of the European Union, yet these can be accommodated within the proposed framework - provided certain essential principles are observed and a harmonised environment is created.

4.2 These differences concern the modalities of service provision, the operational and technical environments in which such services are provided. Therefore they primarily affect three different actors of the ATM community, respectively air navigation service providers, airspace users and the equipment manufacturing industry. The Single European Sky initiative addresses these different aspects and actors by means of legislative proposals concerning service provision, organisation and use of airspace, and interoperability.

4.3 With regard to the provision of air navigation services, the priority is to ensure optimum efficiency and economy for both providers and airspace users of air traffic control services without prejudice to safety, as recommended by ICAO. The removal of fragmentation requires that services are designed and provided according to the operational needs at the regional rather than national scale.

4.4 A key enabler for a seamless ATM network is the provision of cross-border air navigation services. The Single European Sky will introduce new concepts and methods to facilitate it:

- a) the approach to safety will be reinforced by speeding up the implementation of safety requirements and the harmonisation of the European system as well as by ensuring uniformity of interpretation and application across States of existing requirements drawn up by Eurocontrol;
- b) a harmonised certification scheme will be introduced setting the common requirements for the provision of services at a European level. These requirements will base on existing ICAO Standards (Annex 3 — *Meteorological Service for International Air Navigation*, Annex 11 — *Air Traffic Services* and Annex 15 — *Aeronautical Information Services* of the ICAO Convention). Individual States will implement the scheme and will mutually accept certifications given by other States; and
- c) States will retain their power to designate providers of air traffic services and meteorological services operating under monopoly conditions within a specific airspace. However, service providers and airspace users will have a choice of aeronautical services and communication, navigation and surveillance services.

4.5 With regard to the operational environment, the compliance of aircraft operators with the rules of the air (Annex 2 — *Rules of the Air* of the ICAO Convention) will be supported by the creation of a more integrated operating airspace. This new environment should optimise flight operations. Most of the inefficiencies in the European environment stem from the inability of the en route airspace system to cope with existing levels of traffic. Thus the reform will, in the first instance, concern the upper airspace and, at a later stage, the lower and terminal airspace.

4.6 A number of actions are foreseen towards the creation of this integrated operating airspace. They include:

- a) the establishment of a European upper flight information region that should replace the corresponding existing national zones. It will ensure uniform organisation of the airspace. The services operating therein will have to comply with the same set of rules;
- b) the reconfiguration of the upper airspace into functional airspace blocks that are optimised to reflect operational requirements regardless of national boundaries. The creation of functional airspace blocks will also help in ensuring the harmonisation of airspace classifications and of route and sectors design;
- c) the efficient allocation and use of airspace will be promoted by the full and harmonised application of the concept of flexible use of airspace. This will allow the efficient allocation and use of military airspace and the timely opening of such airspace to civil flights; and
- d) the management of air traffic flow in cooperation with service providers, airports and airspace users will be improved. Mechanisms will be introduced, allowing for a more comprehensive and disciplined use of the airspace aimed at integrating airports into the flow management process.

4.7 With regard to the technical environment, interoperability is an issue that has impeded the integration of European airspace in a seamless fashion. Specific actions are proposed to address its improvement.

4.8 Within the Single European Sky the essential requirements of the European ATM network together with the technical specifications and the associated implementation rules will be established. The latter will aim to enforce the essential requirements and secure their compliance, taking account of operational and technical developments. The drafting of technical specifications will imply the consensual agreement of stakeholders on those standards of voluntary application.

4.9 The implementation of ATM rules will follow transparent procedures. Technical specifications, whether these are European standards or Eurocontrol specifications, will be adopted by consensus within a formal public enquiry process. This will enable product manufacturers and service providers to make a declaration of conformity and verification to the essential requirements of these specifications. This will, in turn, benefit and streamline public procurement in ATM and ensure an open market in products and services.

5. OTHER KEY ASPECTS OF THE REFORM

5.1 The creation of the Single European Sky also introduces the need for efficiency incentives and to deal with optimal investments, labour supply matters and civil-military coordination.

5.2 The charging principles will be reviewed to provide effective signals of where investments are needed and concurrently to raise additional resources to sustain such investments, including the setting up of a collective funding mechanism.

5.3 On the labour supply matters, the harmonisation of the training and licensing procedures for controllers will be implemented, removing some of the constraints that have affected the system and improving the overall safety of air traffic services.

5.4 The process of reform requires reinforcing civil/military cooperation. Member States will ensure the uniform application of the flexible use of airspace concept. However the integrity of military operations will be safeguarded by protection mechanisms. Member States will have the possibility of temporarily suspending the application of the flexible use of airspace concept in case of significant operational difficulties. A safeguard clause will exist allowing States to apply measures necessary to satisfy essential defence and security interests.

5.5 The needs of both the civil and military communities will be respected and properly taken into account, where there are areas of common interest, such as the application of the concept of the flexible use of airspace, yet safeguarded where there may be conflicting needs. Member States will aim at greater levels of civil-military cooperation and cooperation between their armed forces within a more formal European framework that will guarantee a balanced consideration of economic as well as security and defence requirements.

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