



**WORKING PAPER**

**CONFERENCE ON THE ECONOMICS OF AIRPORTS AND  
AIR NAVIGATION SERVICES**

**Montréal, 15 to 20 September 2008**

- Agenda Item 3: Specific issues related to air navigation services economics and management**  
**Agenda Item 3.4: Economic and organizational aspects related to implementation of the global air traffic management (ATM) concept**

**ECONOMIC AND ORGANIZATIONAL ASPECTS RELATED TO IMPLEMENTATION  
OF THE GLOBAL AIR TRAFFIC MANAGEMENT (ATM) CONCEPT**

(Presented by the Secretariat)

**SUMMARY**

This paper discusses economic and organizational issues in the context of ICAO's *Global Air Traffic Management Operational Concept* (Doc 9854). For an efficient and cost-effective implementation of the concept, especially in the areas of infrastructure financing and development of a "seamless" airspace, international cooperation and collaboration within the ATM community should be enhanced. To emphasize the importance of international cooperation, an amendment of ICAO's *Policies on Charges for Airports and Air Navigation Services* (Doc 9082) is proposed. Since the implementation of the concept is an ongoing process, ICAO should continue to monitor the developments in order to decide whether additional policies and guidance on this subject are necessary in the future.

Action by the conference is in paragraph 5.

**1. INTRODUCTION**

1.1 The *Global Air Traffic Management Operational Concept* (Doc 9854) presents ICAO's vision of an integrated, harmonized and globally interoperable air traffic management (ATM) system. With a planning horizon of up to and beyond 2025, the operational concept envisages a globally organized airspace. The objective is to achieve a single airspace continuum free of operational discontinuities and inconsistencies. The expected economic benefits derived from the new global system include, for example, passenger time savings, lower fares and rates, productivity improvements, stimulation of related industries, and transfer of high-technology skills.

1.2 This paper discusses some economic and organizational issues regarding the implementation of the global ATM operational concept, with a particular attention to international cooperation. It also reviews the current relevant text of ICAO's *Policies on Charges for Airports and Air Navigation Services (Doc 9082)*.

## 2. DISCUSSION

2.1 The global ATM operational concept presupposes collaboration and a continuous involvement by the ATM community, i.e. the aerodrome community, airspace providers, airspace users, ATM service providers, ATM support industry, ICAO, regulatory authorities, and States (in alphabetical order). Enhanced cooperation and collaboration of all the community members are required in order to obtain benefits from the new systems.

2.2 Collaboration within the ATM community could especially facilitate financing capital projects. Infrastructure required for the implementation of the operational concept will, in most instances, need the capacity to serve a large number of States and considerable investment beyond the reach of a single State. Each State, region and homogeneous area will therefore have to plan the investments that will need to be made to implement the operational concept, and the time frame for those investments, in a collaborative decision-making environment. The 36th Session of the ICAO Assembly, held in Montreal in 2007, adopted a resolution that urges States, industry and financing institutions to provide the necessary support for a coordinated implementation of the *Global Air Navigation Plan (GANP, Doc 9750)*. The operational concept and the GANP are serving as the umbrella for global cooperation and align with the United States NextGen (Next Generation Air Transportation System) and the European SESAR (Single European Sky ATM Research) programmes.

2.3 International cooperation is also the key for an efficient and cost-effective development of a “seamless” airspace on a regional and/or global scale. The communications, navigation and surveillance (CNS) and ATM systems under the operational concept will favour a seamless airspace based on operational and technical requirements as opposed to airspace established on the basis of State boundaries. If a seamless airspace is fully realized, less ATM facilities covering wider areas can be envisaged. In a number of places, regional ATM arrangements are functioning, or are under development<sup>1</sup>.

2.4 Paragraph 12 of Doc 9082 encourages international cooperation in the provision and operation of air navigation services where this is beneficial for the providers and users concerned. However, the current text of paragraph 12 does not refer to either the global ATM operational concept or the GANP. The text should be expanded in order to include such references in line with what has been done in other ICAO documents. The new text would be better placed immediately before the current paragraph 18 because international cooperation is not directly related to autonomy and privatization.

2.5 Some other economic and organizational issues are likely to emerge. For example, the establishment of a seamless airspace would necessitate the development of a common charging scheme, as well as principles for the distribution of revenues among different States in a common block of airspace. The *Manual on Air Navigation Services Economics (Doc 9161)* describes recent developments in Europe, but does not provide substantial guidance in this respect. Also, there would be a need to

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<sup>1</sup> In Europe, the Single European Sky (SES), the SESAR, and the Functional Blocks of Airspace (FABs) initiatives are progressing. In March 2007, the European Commission issued a mid-term status report on the creation of FABs. The report confirmed that the FABs should be based on operational requirements – in particular traffic flows – rather than on existing national borders.

develop methods to assess economic implications of operational performance as a result of the implementation of the operational concept (such as how to set the value of time to quantify passenger time savings) within a framework of business cases and cost-benefit analyses.

2.6 Furthermore, it is necessary to consider how to apply performance management under the global ATM operational concept. Although the work has not yet been completed, some practical guidance is available in the *Manual on Global Performance of the Air Navigation System* (Doc 9883), which describes how to adopt a performance-based approach in the transition from today's ATM system towards the future ATM system. Also, the ICAO document entitled "*Performance Management and Measurement for Air Navigation Services Providers*", posted on CEANS website, takes into account the global ATM operational concept in addressing aspects related to economic and management performance of air navigation services providers.

2.7 Since the implementation of the global ATM operational concept, using the GANP as the implementation planning document, is a dynamic process, it would be premature to initiate the development of additional policies that cater for the issues discussed in paragraphs 2.5 and 2.6 above. For the time being, monitoring developments and collecting information on this subject could enable ICAO to determine whether additional policies, as well as some form of guidance material, will be necessary in the future.

### 3. CONCLUSIONS

3.1 From the foregoing discussion, the following conclusions may be drawn:

- a) States should strive for the efficient and cost-effective implementation of the global ATM operational concept, using the GANP as the implementation planning document, through international cooperation and collaboration within the ATM community.
- b) ICAO should continue to monitor developments in economic and organizational aspects related to the global ATM operational concept and the GANP in order to determine whether additional policies and guidance on this subject will be necessary in the future.
- c) ICAO should amend paragraph 12 of Doc 9082 to emphasize the need for international cooperation in the implementation of the global ATM operational concept and the GANP.

### 4. PROPOSED AMENDMENTS OF POLICIES

4.1 In accordance with conclusion c) of paragraph 3.1, it is proposed to replace paragraph 12 of Doc 9082 with the following new paragraph, which will be inserted immediately before paragraph 18:

#### *International cooperation*

xx. *The Council encourages international cooperation in the provision and operation of air navigation services where this is beneficial for the providers and users concerned, and with a view to facilitating the efficient and cost-effective implementation*

*of the ICAO Global Air Traffic Management Operational Concept on the basis of the guidance provided in the Global Air Navigation Plan. (See also paragraph 18 addressing charges collection).*

**5. ACTION BY THE CONFERENCE**

5.1 The Conference is invited to:

- a) review and adopt the conclusions in paragraph 3.1; and
- b) review and endorse the proposed amendments of Doc 9082 in paragraph 4.1.

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