



## DIRECTORS GENERAL OF CIVIL AVIATION-MIDDLE EAST REGION

**First Meeting (DGCA-MID/1)**  
*(Abu Dhabi, UAE, 22-24 March 2011)*

### **Agenda Item 4: Air Navigation Issues**

#### NEED FOR A REGIONAL/SUB-REGIONAL AIS DATABASE

*(Presented by the Secretariat)*

##### **SUMMARY**

This paper highlights the importance of AIS automation as an important pre-requisite for the transition from AIS to AIM and propose that a study/business case be carried out in the MID Region pertaining to the establishment of a Regional/Sub-Regional AIS Database, taking into consideration the experience of adjacent Regions.

Action by the meeting is at paragraph 3.

##### **REFERENCE**

- AIS/MAP TF/4 Report
- AIS/MAP TF/5 Report
- MIDANPIRG/11 Report
- MIDANPIRG/12 Report

## **1. INTRODUCTION**

1.1 MIDANPIRG/12 underlined the need for a strategic evolution towards Aeronautical Information Management (AIM) in a manner that will ensure the availability of aeronautical information to any ATM user in a globally interoperable and fully digital environment. It was highlighted that, as part of system-wide information management (SWIM), AIM is required to support evolving requirements for, inter alia, collaborative decision making (CDM), performance-based navigation (PBN), ATM system interoperability, network-centered information exchange, and to take advantage of improved aircraft capabilities.

## **2. DISCUSSION**

2.1 The capability to provide digital information will provide the basis for the transition to AIM, and thus allow for the establishment of new services that directly support current and future ATM service requirements.

2.2 Currently, an important number of MID States are still struggling to complete Phase 1 of the ICAO Roadmap for the transition from AIS to AIM (Consolidation). Only 4 States have developed and provided their National AIM Plan, as requested by MIDANPIRG.

2.3 Several limitations and drawbacks related to the current operational structure and provision of AIS/AIM services in the MID Region are identified. In particular:

- inconsistent quality of data;
- lack of cross border aeronautical information coherence checking;
- duplicated, redundant and dispersed investments in the development and maintenance of systems by both Aeronautical Information Services and the end users;
- no single integrated aeronautical information database has been implemented;
- no regional or sub-regional AIS database has been established;
- high maintenance costs for each State and end users; and
- lack of interoperability between systems.

2.4 MIDANPIRG/11 recognized that the level of introduction of automation by the MID States' Aeronautical Information Services is still far below expectations. With a view to enhance the level of automation within MID States' AISs the meeting urged States to accord high priority to the implementation of AIS automation, taking into account the experience and implementation strategies/techniques being adopted in adjacent States and Regions.

2.5 In connection with the above, the AIS/MAP TF/4 meeting noted that the European AIS Database (EAD) is representing currently the World's largest Aeronautical Information System - a centralized reference database of quality assured aeronautical information for the States of the European Civil Aviation Conference (ECAC) and, simultaneously, a fully integrated Aeronautical Information Services (AIS) solution. EAD allows the data providers to directly maintain and distribute their own aeronautical information. They retain full control of and intellectual property rights over the information they input into EAD. At the same time, EAD enables data users, such as aircraft operators, private pilots and the general public, to retrieve and download AIS data from the system in real-time. It's to be highlighted also that EAD enhances the quality of aeronautical data by using international standards and rigorous data checking procedures, including in-depth validation and verification.

2.6 EAD offers a number of benefits to both Data Providers and Data Users, especially:

- a reliable source of aeronautical information;
- improved data quality enabled by constant data checking, including NOTAM validation and cross-border data coherence verification;
- ensure data integrity based on cyclic redundancy checks (CRC);
- a secure channel for timely and efficient electronic distribution of aeronautical information to all users;
- reduced workload throughout the complete AIS process;
- reduced investment costs in the development and maintenance of local systems by both AIS Units and airspace users; and
- increased availability of data through easy access.

2.7 In view of the above and recognising the operational need for AIS automation, it was noted that many States are in the process of designing and implementing, individually, reference aeronautical information databases. The undertaking by States of such developments in isolation could be an unnecessary duplication of effort, which is likely to lead into incompatibility problems. While some States have already automated their AIS, others are still in the process of doing so, or are in the planning stage. Consequently, the AIS/MAP Task Force re-iterated that it is highly desirable that all AIS systems in the MID Region be automated along the same or similar lines in order to ensure compatibility.

2.8 Based on the above, MIDANPIRG/11, through Conclusion 11/49 encouraged those MID States that are Member of EMAC (Europe-Middle East ATM Coordination) to take appropriate actions in order to initiate formal coordination with EUROCONTROL to take advantage of EAD. In this respect, the meeting may wish to note that Jordan was the first MID State migrated to the EAD.

2.9 Through decision 11/50, MIDANPIRG/11 agreed also to the establishment of an AIS Automation Action Group (AISA AG) with a view to foster and harmonize the implementation of AIS Automation in the MID Region. In particular, the AISA AG was requested to monitor technical and operational developments related to AIS automation in other regions, including AIXM, eAIP, EAD, etc, and consider how the MID Region could take benefit from these developments. In addition, the AISA AG was requested to develop a cohesive and comprehensive AIS Automation Plan for the MID Region, taking into consideration the communication infrastructure necessary for the exchange of aeronautical information. However, MIDANPIRG/12 noted with concern that the activities of the AISA AG were very limited and that the tasks assigned to it were not completed. Accordingly, the meeting urged States to provide more input and support to the Action Group and encouraged its Members to use all means of communications for the exchange of information and sharing of experiences related to AIS automation (e-mails, ICAO MID Forum, teleconferencing, etc), in order to achieve the agreed objectives.

2.10 The meeting may wish to note also that in the AFI Region, an agreement was reached for the establishment of an AFI Centralized AIS Database (AFI CAD). The framework for the development of the AFI-CAD has been endorsed by the APIRG and the associated Business and Financial Plan has been developed.

2.11 The implementation of a Regional/Sub-Regional AIS Database in the MID Region could be a good solution to improve the quality, availability and timeliness of aeronautical information provided to users and pave the way for the transition from AIS to AIM in the Region. However, important issues should be addressed when taking the decision to go ahead with such an important project, including:

- minimum number of States committed to the project;
- institutional and legal framework;
- business and financial Model/Plan; and
- a number of technical and operational issues/solutions.

2.12 In connection with the above, a study/business case should be carried out in the MID Region pertaining to the establishment of a MID Region AIS Database (MIDAD). The financial and logistic issues related to this study are to be addressed by the meeting. However, it would be preferable, if a State could take the lead in carrying out the study with the support of a Consultant and in close coordination with ICAO.

2.13 It's to be highlighted that the efficiency of the project is proportional to the number of participant/committed States. However, if the project starts with a limited number of States, new participants would always be welcome to join.

**3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the information contained in this working paper;
- b) agree that a study/business case be carried out in the MID Region pertaining to the establishment of a MID Region AIS Database (MIDAD); and
- c) consider the proposal in para. 2.12.

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