International Civil Aviation Organization

MID Region AIS Database Study Group

First Meeting (MIDAD SG*/1)
(Cairo, Egypt, 20 - 22 February 2012)

Agenda Item 2: Introduction

MID REGION AIS DATABASE (MIDAD)

(Presented by the MIDAD Support Team)

SUMMARY

The aim of this paper is to present the follow-up actions taken further to the DGCA-MID/1 Conclusion 1/5 related to the establishment of a MID Region AIS Database (MIDAD).

Action by the meeting is at paragraph 3.

REFERENCES

- AIS/MAP TF/6 Report
- ATM/SAR/AIS SG/12 Report
- DGCA-MID/1 Report
- MIDANPIRG/11 Report
- MIDANPIRG/12 Report

1. INTRODUCTION

1.1 The First Meeting of the Directors General of Civil Aviation-Middle East Region (DGCA-MID/1) was hosted by the United Arab Emirates (UAE), General Civil Aviation Authority (GCAA) and held in Abu Dhabi, UAE from 22 to 24 March 2011. The meeting was attended by a total of Fifty Six (56) participants from Eleven (11) States (Bahrain, Egypt, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan and United Arab Emirates) and Five (5) International/Regional Organizations (AACO, ACAC, CANSO, IATA and IFALPA).

2. DISCUSSION

1.2 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.

2.1 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 Several limitations and drawbacks related to the current operational structure and provision of AIS/AIM services in the MID Region were 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.

2.3 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.

2.4 In connection with the above, the AIS/MAP TF/4 meeting noted that the European AIS Database (EAD) represents 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.

2.5 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.

2.6 In view of the above and recognizing 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.

2.7 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.

2.8 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 have been developed.

2.9 Given the importance of high quality aeronautical data and information in the overall framework of global air navigation, and the continuing emergence of extra long-haul operations, the need for rapid and accurate exchange of aeronautical data and information is one of the key components underpinning the safety of international air operations.

2.10 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. 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.

2.11 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.

2.12 Multilateral cooperation in the development of MID Region AIS Database will foster an environment for regular and effective communications between all stakeholders (States, users, industry, etc). In addition to the technical benefits, this kind of Regional/Sub-Regional projects provide economies of scale by allowing for the sharing of required resources and providing administrative savings by sharing costs.

2.13 Based on the experience of adjacent Regions and taking into consideration the limitations and drawbacks related to the current operational structure and provision of AIS/AIM services in the MID Region, and the benefits offered, in particular, by the European AIS Database (EAD), the DGCA-MID/1 meeting agreed that a study/business case be carried out in the MID Region pertaining to the establishment of a MID Region AIS Database (MIDAD). In this respect, the meeting noted with appreciation that Jordan and Bahrain volunteered to take the lead in carrying out the study with the support of appropriate Consultant and in close coordination with ICAO. Accordingly, the meeting agreed to the following Conclusion:

DGCA-MID/1 CONCLUSION 1/5 - MID REGION AIS DATABASE (MIDAD)

That,

a) Jordan and Bahrain take the lead in carrying out a study/business case pertaining to the establishment of a MID Region AIS Database (MIDAD), in close coordination with ICAO;

b) States provide all necessary information and support for the achievement of the study; and

c) Jordan and Bahrain present the outcome of the study to the appropriate MIDANPIRG subsidiary bodies (AIS/MAP TF and ATM/SAR/AIS SG).

2.14 The AIS/MAP TF/6 meeting underlined that MIDAD would make it easier for users to access aeronautical data and to exchange it with other Regions. The meeting recognized that a project like MIDAD needs integrated programme management principles for the whole life-cycle of the concept/project and a good supporting documentation to allow the development of further actions. It was also highlighted that a strategic decision should be taken from the beginning to cover the whole data chain and to ensure that MIDAD would be compliant with the RTCA DO-200A standards.

2.15 Based on the above, the meeting highlighted that the study at its first step would not tackle all issues in detail. The objective is to collect data from States to illustrate that MIDAD would be an advantageous and worthy solution for the Region and provide necessary information on the future of the project with different technical and financial options, in order to help States to decide about the most appropriate option. It was also noted that, as a second phase, a more detailed study would be necessary to cover all technical, financial, human, legal and institutional issues.

2.16 In this respect, the meeting agreed that a MIDAD Study Group (MIDAD SG*) be established with Terms of Reference as at **Appendix A** to this working paper, to monitor the MIDAD Project and address all associated technical, operational, financial, legal and institutional issues. Accordingly, the meeting agreed to the following Draft Decision:

DRAFT DECISION 6/7: ESTABLISHMENT OF THE MIDAD STUDY GROUP

*That, the MID Region AIS Database (MIDAD) Study Group (MIDAD SG) is established with Terms of Reference as at Appendix 3D to the Report on Agenda Item 3 (**Appendix A** to this working paper).*

2.17 Further to the AIS/MAP TF/6 meeting, a MIDAD Support Team (MIDAD ST) has been established in coordination between Bahrain, Jordan and the ICAO MID Regional Office, in order to carry out the missions to States and collect the necessary information. The MIDAD ST was composed of:

- Mrs. Hanan, Qabartai from Jordan;
- Mr. Salah Al-Humood from Bahrain;
- Mr. Mohamed Smaoui, RO/ANS/AIM, ICAO MID Office; and
- Mr. Peter Rudolph from Avitech AG, Germany (Consultant).

2.18 On 30 June 2011, the ICAO MID Regional Office issued State Letter Ref.: AN 8/4.2 – 11/174 for the conduct of missions to States, as part of the first phase of the MIDAD study/business case, requesting States to provide all necessary information and support to the MIDAD ST in accordance with the Schedule at **Appendix B** to this working paper, which has been developed and coordinated by the MIDAD ST.

2.19 Based on the DGCA-MID/1 Conclusion 1/5, the 13 MID States have been divided into two Groups, as follows:

- ***Group lead by Jordan:***

  Egypt, Iran, Iraq, Jordan, Lebanon and Syria; and

- ***Group lead by Bahrain:***

  Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, UAE and Yemen.

2.20 Based on the agreed subjects to be covered by the MIDAD questionnaire (Appendix 3C to the AIS/MAP TF/6 Report), the following question blocks were included in the questionnaire, to support the interviews to be conducted during the missions to States:

a) 0.1 – Cover Sheet
b) 0.2 – Instruction for Use
c) 1 – Organisational Structure
d) 2 – Volume of Activities
e) 3 – AIS/AIM Facilities
f) 4 – COM Infrastructure used by AIS/AIM
g) 5 – Personnel
h) 6 – Transition from AIS to AIM
i) 7 – AIS Automation
j) 8 – Commitment to MIDAD
k) 9 – Visions and Suggestions
l) 10 – Other Issues and Suggestions
m) Contacts

2.21 The questionnaire was developed with the objective to get a realistic and sound base about the situation in the AIS Offices in the Region in terms of organisation, staffing, facilities and infrastructure, workload, automation, transition to AIM, and particularly to identify the States' commitment, support and interest in MIDAD. The missions to States were intentionally used by the MIDAD Support Team (MIDAD ST) to explain the MIDAD concept and the different scenarios for the implementation of MIDAD as well as to clarify the different steps of the transition from AIS to AIM and answer States' questions in this respect.

2.22 In connection with the above, the meeting may wish to note that the ATM/SAR/AIS SG/12 meeting (Cairo, 21-24 November 2011) was apprised of the outcome of the AIS/MAP TF/6 meeting and endorsed the Draft Decision related to the establishment of the MIDAD Study Group. The meeting noted also that Missions were conducted to Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia and Syria. The Missions to Iraq, UAE and Yemen could not be conducted; however, information has been provided by these States through email/telephone.

2.23 The ATM/SAR/AIS SG/12 meeting was informed that the full report of the MIDAD Study (First phase) containing detailed analysis of the information gathered related to all question blocks will be presented to the MIDAD SG*/1 Meeting. However, the meeting noted that question blocks 8 to 10 "Commitment/Vision" showed a general positive picture on interest and commitment by States. The majority of States expect many advantages from MIDAD and would like to play an active role in the MIDAD Project, which is very encouraging. In particular, it was noted with appreciation that:

a) 9 of 13 States plan to include MIDAD into their national planning for AIS/AIM,
b) 9 of 13 States are committed to MIDAD,
c) the overall success probability of MIDAD for 9 of the 11 States which have already sent back their Questionnaires is between 40% and 80%, in average 66,66%.

2.24 Based on the above, the meeting urged States to support the MIDAD ST by providing additional information, as required; and encouraged them to support the MIDAD SG* by participating actively in the MIDAD SG* meetings. The meeting agreed also that a progress report on the MIDAD Study, including the main outcome of the MIDAD SG*/1 meeting, be reported directly to MIDANPIRG/13, if considered necessary by the MIDAD SG*/1 meeting.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper;

b) urge States to support the MIDAD ST by providing additional information, as required; and

c) encourage States to support the MIDAD SG* by participating actively in the MIDAD SG* meetings.

APPENDIX A

MID REGION AIS DATABASE STUDY GROUP (MIDAD SG*)

1. TERMS OF REFERENCE

The terms of Reference of the MIDAD SG* are to:

1) carry out necessary coordination with States for the establishment of the MID Region AIS Database (MIDAD);

2) monitor the development of the MIDAD initial Study/Business case;

3) monitor the development of the detailed MIDAD study addressing all technical, operational, financial, human, legal and institutional issues, and provide necessary guidance;

4) develop the Call for Tender for the establishment of MIDAD;

5) negotiate the contract for the establishment of MIDAD with the chosen Contractor (MIDAD Service Provider); and

6) agree on the mechanism for the monitoring of MIDAD operations and maintenance.

2. COMPOSITION

The MIDAD SG* is composed of:

a) all MID States; and

b) concerned International/Regional Organizations as observers.

Other representatives from industry and user Organizations having a vested interest in Aeronautical Information Management and experience in the development of Regional AIS Databases, could participate as observers, as necessary.

APPENDIX B

MIDAD Study - Tentative Schedule of Missions

(Ref.: SL AN 8/4.2 – 11/174)

	State	Starting Mission	Ending Mission	Team
1	Jordan	17 July 2011	17 July 2011	H & P
2	Egypt	19 July 2011	19 July 2011	H & P
3	Qatar	24 Jul 2011	25 Jul 2011	S & P
4	Syria	25 July 2011	26 July 2011	H
5	UAE	26 Jul 2011	27 Jul 2011	S & P
6	Bahrain	28 Jul 2011	29 Jul 2011	S & P
7	Saudi Arabia	10 Sep 2011	11 Sep 2011	S & P
8	Oman	17 Sep 2011	18 Sep 2011	S & P
9	Iran	9 Oct 2011	10 Oct 2011	H & P & M
10	Yemen	12 Oct 2011	13 Oct 2011	S & P
11	Iraq	17 Oct 2011	18 Oct 2011	H & P
12	Lebanon	26 Oct 2011	27 Oct 2011	H & P & M
13	Kuwait	30 Oct 2011	31 Oct 2011	S & P & M

H= Hanan Qabartai; **S**= Salah Al-Humood; **P**= Peter Rudolph; **M**= Mohamed Smaoui

NAME	CONTACT DETAILS
Mr. Mohamed Smaoui	Regional Officer, ANS/AIM, ICAO MID Office, Cairo Fax: (20) 2 22 67 48 43 Tel: (20) 2 22 67 48 41 ext. 108 Email: msmaoui@cairo.icao.int
Ms. Hanan A. Qabartai	Chief AIS HQ, Civil Aviation Regulatory Commission (CARC), Jordan Fax: (962-6) 489 1266 Tel: (962 6) 4872681 Mobile: (962-79) 6768012 Email: ais.hq@carc.gov.jo; qati_hanan@yahoo.com
Mr. Salah Mohamed Al-Humood	Head Aeronautical Information & Airspace Planning, CAA Bahrain Fax: (973) 17 99 66 Tel: (973) 17 321 180 Mobile: (973) 3640 0424 Email: shumood@caa.gov.bh
Mr. Peter Rudolph	VP Business Development/Authorized Officer, Avitech AG D-88004 Friedrichshafen, Germany Fax: +49-7541-282-199 Tel: +49-7541-282-354 Mobile: +49-1 79-7 89 54 57 Email: Peter.Rudolph@avitech-ag.com

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