



International Civil Aviation Organization

MIDANPIRG AIM Task Force

**Seventh Meeting (AIM TF/7)
(Cairo, 25 – 27 September 2012)**

Agenda Item 4: Performance Framework for AIM implementation in the MID Region

MID REGION AIS DATABASE (MIDAD)

(Presented by the Secretariat)

SUMMARY

The aim of this paper is to present the outcome of the MIDANPIRG/13 meeting related to MIDAD, pursuant to the review of the MIDAD SG*/1 meeting Report.

Action by the meeting is at paragraph 3.

REFERENCES

- AIS/MAP TF/6 Report
- ATM/SAR/AIS SG/12 Report
- DGCA-MID/1 Report
- MIDAD SG*/1 Report
- MIDANPIRG/13 Report

1. INTRODUCTION

1.1 The First Meeting of the MID Region AIS Database Study Group (MIDAD SG*/1) was held in the ICAO MID Regional Office, Cairo, 20-22 February 2012. The meeting was attended by a total of thirty four (34) participants, from nine (9) States (Bahrain, Egypt, Iraq, Islamic Republic of Iran, Jordan, Kuwait, Saudi Arabia, United Arab Emirates, and Yemen) and of five (5) International Organization/Companies (EUROCONTROL, IATA, AVITECH AG, COMSOFT and FREQUENTIS).

2. DISCUSSION

2.1 The MIDAD SG*/1 meeting re-iterated that the implementation of a Regional/Sub-Regional AIS Database in the MID Region would improve the quality, availability and timeliness of aeronautical information provided to users and pave the way for the transition from AIS to AIM, in accordance with the ICAO Roadmap from AIS to AIM.

2.2 In connection with the above, the meeting recalled that 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 experience of adjacent Regions in the implementation of Regional AIS databases, especially the European AIS Database (EAD), the DGCA-MID/1 meeting held in Abu Dhabi, UAE from 22 to 24 March 2011, through DGCA-MID/1 Conclusion 1/5, 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.

2.3 The meeting recalled that the AIS/MAP TF/6 meeting held in Cairo, 6-8 June 2011, underlined that MIDAD would make it easier for users to access aeronautical data and to exchange it with other Regions.

2.4 In this respect, based on the outcome of the AIS/MAP TF/6 meeting, the ATM/SAR/AIS SG/12 (Cairo, Egypt, 21-24 November 2012) agreed to the establishment of the MIDAD Study Group (MIDAD SG*), to monitor the MIDAD Project and address all associated technical, operational, financial, legal and institutional issues. The Terms of Reference (TOR) of the MIDAD SG as endorsed by MIDANPIRG/13 are attached as **Appendix A** to this working paper.

2.5 The meeting may wish to note that 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).

2.6 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.

2.7 The MIDAD SG*/1 meeting recalled that the objective of the MIDAD study, at its first step, was to collect data from States in order to get a realistic and sound picture of the situation in the AIS Offices in the Region in terms of organization, staffing, facilities and infrastructure, workload, automation, transition to AIM, and most importantly to identify the States' commitment, support and interest in MIDAD and its inclusion in the planning process for the transition to AIM.

2.8 In connection with the above, MIDANPIRG/13 noted 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 emails.

2.9 MIDANPIRG/13 noted that the MIDAD SG*/1 meeting reviewed and updated the Report related to the Initial MIDAD Study (First Phase), which is available on the ICAO MID Website. The meeting reviewed the analysis of the information gathered from States at **Appendix B** to this working paper, which provides a general analysis of the States' replies to the MIDAD Questionnaire. It was highlighted in this respect that the majority of States expect many advantages from MIDAD and would like to play an active role in the MIDAD Project. In particular, it was noted with appreciation that:

- a) 10 out of 13 States plan to include MIDAD into their national planning for AIS/AIM;
- b) 10 out of 13 States are committed to MIDAD;
- c) 10 out of 13 States believe that MIDAD has a realistic chance to be realized. The overall success probability of MIDAD is around 70%;
- d) 9 out of 13 States like to play an active role in the MIDAD project;
- e) 7 out of 13 States like to provide contributions to the MIDAD set-up;
- f) 8 out of 13 States like to participate in the operation of MIDAD;
- g) 9 to 10 States believe that MIDAD would improve safety and efficiency and bring environmental benefits; and
- h) currently, 7 States have no preferred method of funding of the MIDAD project, and no preferred legal framework/institutional scenario or option.

2.10 The meeting agreed that further analysis of the replies to the questionnaires provided by States might be conducted in the second phase of the MIDAD study.

2.11 The meeting agreed that the first phase of the MIDAD Study is considered completed and has achieved the expected goals. Based on the Recommendations contained in the Initial MIDAD Study Report, the meeting agreed to move ahead with the Project.

2.12 The meeting acknowledged the challenges associated with the implementation of an important project such as MIDAD. In this respect, it was recognized that the legal, institutional and human resources (training) issues are the most challenging. With regard to human resources and training issues, it was highlighted that one of the main objectives of MIDAD would be to facilitate the transfer of know-how; and accordingly, it was emphasized that the training plan and requirements (skills and knowledge) need to be developed from the beginning of the project.

2.13 Based on the above, the meeting agreed that the commitment of States to the MIDAD Project should be officially recorded in a legal document. This would be part of the second phase of the Study. Accordingly, the meeting agreed to the following Conclusions:

CONCLUSION 13/19: MIDAD PROJECT SECOND PHASE

That, taking into consideration the results of the first phase of the MIDAD Study, States, Users and all concerned stakeholders be invited to provide all necessary support for the achievement of the second phase of the MIDAD Project.

CONCLUSION 13/20: COMMITMENT TO THE MIDAD PROJECT

That, as part of the Second Phase of the MIDAD Project:

- a) *a Memorandum of Agreement (MOA) be signed by Bahrain, Iran, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria and Yemen in order to legally reflect their commitment to the MIDAD Project; and*
- b) *other States from within and outside the MID Region, interested to participate in the MIDAD Project, be invited to sign the MOA.*

2.14 In addition to the above, the meeting noted that the MIDAD SG*/1 meeting initiated discussions on the MIDAD Purpose and Scope, the technical, operational, financial, legal and institutional issues related to MIDAD. In particular, it was agreed that:

- in addition to the users' requirements, the latest and future developments related to AIM, in particular, the outcome of the ICAO AIS-AIMSG should be taken into consideration when developing the MIDAD Scope, which needs finally to be documented in a User Requirements Document;
- MIDAD should be designed not only to support the present users' needs but also the future ATM requirements as defined in the ATM Operational Concept (Doc 9584), in particular, the Collaborative Decision Making (CDM) and the System Wide Information Management (SWIM);
- the potential users' organizations and stakeholders (IATA, CANSO, AACO, etc), as well as the Military Authorities, should be made aware of the MIDAD Project and invited to participate actively in its development to generate ownership. In this respect, it was agreed that this could be facilitated through the presentation of MIDAD to the IATA RCG meetings, CANSO ME Conference, ICAO MID AIM Seminar and Civil/Military Cooperation Seminar/Workshop, etc;
- the development of the Requirements Document is the responsibility of the ICAO MIDAD Study Group, which might need assistance to fulfil this task;
- in a collaborative environment like MIDAD there are always different possible topology solutions. The chosen topology must be based on sound requirements which have been assessed very carefully;
- depending on the identified user requirements and operational needs, the chosen topology could be a combination of different technical solutions (central, replicated and distributed). This would depend also on the kind of data to be processed and exchanged, i.e.: NOTAMs, static data, eTOD, etc. However, it was highlighted that, from a strategic and operational point of view, the chosen topology should include a central database, which might be in one location or replicated in 2 or more locations/servers;
- communication capabilities are the pre-requisite for any interoperability between national AIS/AIM systems, MIDAD and other Regional AIS databases in other ICAO Regions (EAD, AFI-CAD, etc). It was highlighted that the AFTN Network cannot be used for the purpose of MIDAD, except for NOTAM reception and distribution. Therefore, it was agreed that other means of communications (VSAT, public internet, AMHS, ICAO IPS conform networks, etc) should be explored. This should be done in close coordination with the CNS Sub-Group and the ATN/IPS Working Group;
- the Concept of Operation for MIDAD is very important for an efficient operation. Therefore, a clear and documented Concept of Operation forms the basis for all common work and shared responsibilities. The Concept of Operation shall be based on the target aeronautical data chain as published in RTCA DO-200A/EUROCAE ED76 standards. In this respect, it was re-iterated that MIDAD should enhance the aeronautical data quality, availability and timeliness in the MID Region;

- having the right number of staff available with the right competence, knowledge and skills for the whole undertaking of MIDAD is paramount. Therefore, recruitment, staff selection, ab-initio training, specialized training, and follow up-training in some essential areas of AIM were highlighted;
- the migration from the existing environment to the use of MIDAD shall also be studied and an outline concept needs to be part of the MIDAD study, including at least: a) data conversion concepts; b) data conversion plan and schedule; c) data migration concepts; d) data migration plan and schedule; and e) data migration in cases of version changes of the AIXM (backward compatibility);
- the most important benefits of MIDAD are the cost reductions generated from more efficient flight operations, reduced flight times and the enhancements of safety and security which are expected to emerge as MIDAD is implemented;
- addressing the treatment of costs and cost recovery during the three initial stages of the MIDAD Project: (1) Set-Up Phase, (2) Call for Tender Phase, (3) Implementation Phase, is very important;
- in accordance with Doc 9082, paragraphs 23 to 26, users should be consulted as early as possible when major air navigation services are being planned and increased or new air navigation services charges might be observed. This should be the case for the implementation of the MIDAD Project;
- it's necessary to reach first an agreement on the MIDAD legal framework and then the funding of the second phase of the MIDAD project, which will include, inter-alia, the development of the Financial Plan/Model for the whole MIDAD Project phases (set-up, operations, maintenance, etc);
- starting from phase 2 of the project (detailed study) and taking into consideration the huge amount of work to be done and Documents to be developed, it's not realistic that this task be achieved on a voluntary basis and accordingly, the outsourcing is necessary, which raises legal, institutional and financial implications;
- the following options related to the MIDAD legal framework were identified:
 1. the MIDAD project to be implemented under the umbrella (legal framework) of one of the international/regional organizations i.e.: ACAC or IATA;
 2. a volunteer State/Group of States provides the legal framework by hosting the project;
 3. an ICAO TCB Project for the implementation of MIDAD, including the establishment of a MIDAD legal entity or agency (similar to the MIDRMA);
or
 4. a limited liable private company owned by the member States.
- depending on the chosen option, the funding mechanism should be agreed upon by the member States and the users and has to be clearly documented in the financial model;

- the establishment of a MIDAD Supervisory Management Board might be necessary. This Board would be composed of Representatives appointed by the Directors General of Civil Aviation and should be empowered to take decisions. Another Alternative is to leave the task of supervision of the MIDAD Project to the DGCA's themselves through direct correspondence and/or through the DGCA-MID meetings;
- as part of the legal and institutional issues, it was highlighted that the MIDAD Supervisory Management Board should agree on the MIDAD Centres/Sub-Centres location(s), based on agreed criteria (geographical location, communication infrastructure, political stability, human resources availability, etc). Other institutional issues such as, States sovereignty, responsibility and accountability, intellectual property rights should be addressed; and
- a MIDAD Agency/Service Provider could be responsible for the development, establishment and operation of MIDAD.

2.15 Based on the above, the meeting agreed that the only viable options for the MIDAD legal framework are Options 2 and 3 above. Accordingly, the meeting agreed to the following Conclusion:

CONCLUSION 13/21: MIDAD LEGAL FRAMEWORK

That, the following options be considered for the endorsement of the MIDAD legal framework by the DGCA-MID/2 meeting:

- a) a volunteer State/Group of States provides the legal framework by hosting the project; or*
- b) an ICAO TCB Project for the implementation of MIDAD, including the establishment of a MIDAD legal entity or agency (similar to the MIDRMA).*

2.16 The meeting agreed that it's necessary to reinforce the MIDAD Support Team (MIDAD ST), in order to monitor the developments related to MIDAD until the MIDAD STG/2 meeting, promote the project and prepare the necessary documentation for the upcoming meetings that will address the MIDAD project. It was underlined that the MIDAD ST will continue to work on a voluntary basis, using mainly the electronic means of communications (emails, teleconferencing, etc) to achieve the assigned tasks. Accordingly, the meeting agreed to the new composition of the MIDAD ST, as endorsed by the MIDAD SG*/1 meeting:

- Mr. Moataz Abdel Aziz Ahmed from Egypt (MIDAD STG Chairperson)
- Mr. Salah Al-Humood from Bahrain;
- Mr. Abbas Niknejad from Iran;
- Mrs. Hanan, Qabartai from Jordan;
- Mr. Ghorman Abdul Aziz Al Shehri from Saudi Arabia;
- Ms. Ruby Sayyed from IATA;
- Mr. Mohamed Smaoui from the ICAO MID Office;
- Mr. Gaston Liegeois from EUROCONTROL;
- Mr. Peter Rudolph from Avitech AG, Germany;
- Mr. Ulrich Berthold from COMSOFT;
- Mr. Engelbert Liebhart from FREQUENTIS; and
- Mr. Werner Kurz, from Jeppesen, Germany.

2.17 Based on all of the foregoing, it was underlined that the success of the MIDAD project is directly linked to the effectiveness of the MIDAD Study Group. Accordingly, the meeting urged States to provide all necessary support to the MIDAD Study Group and participate actively in the decision-making process.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) encourage States to support the MIDAD STG by participating actively in the MIDAD STG meetings;
- b) encourage States to support the MIDAD ST by providing additional information, as and when required; and
- c) agree on the dates and venue of the MIDAD STG/2 meeting.

APPENDIX A

MID REGION AIS DATABASE STUDY GROUP (MIDAD STG)

1. TERMS OF REFERENCE

The terms of Reference of the MIDAD STG are to:

- 1) carry out necessary coordination with States for the establishment of the MID Region AIS Database (MIDAD);
- 2) initiate and monitor the development of the MIDAD initial Study/Business case;
- 3) initiate and 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 STG 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 (First Phase)
Analysis of States' replies to the MIDAD Questionnaires

Questions/States	Bahrain	Egypt	Iran	Iraq	Jordan	Kuwait	Lebanon	Oman	Qatar	Saudi Arabia	Syria	UAE	Yemen
Is your AIS/AIM Organisation part of the regulator organisation? (AIS Manual, Figure 3-1, Alternative 1)	NO (Air Navigation Directorate/ATM)	NO (ANSP)	NO (ANSP/ATS Department)	YES	NO (ATM Department)	YES	YES (DGCA/ATS)	NO (DGMAN)	YES (ANS)	YES (GACA/ANS/AIS)	YES (ATM)	YES	YES
To which Organisation do the AIS Aerodrome Units belong to?	ATM	ANSP	Airport Authorities	Airport Authorities	CARC ANSP	DGCA	DGCA/ATS	CAA	CAA/ANS	GACA/ANS	CAA/ATM	Airport Authorities	Airport Authorities
To which organisation does the military AIS/AIM belong to?	MIL	No MIL AIS/AIM Units	No MIL AIS/AIM Units	Not known	No MIL AIS/AIM Units	No MIL AIS/AIM Units	No MIL AIS/AIM Units	No MIL AIS/AIM Units	No MIL AIS/AIM Units	Not known	No MIL AIS/AIM Units	No MIL AIS/AIM Units	No MIL AIS/AIM Units
Do the ARO Units belong to the AIS/AIM organisation?	YES	YES	No	No	YES	YES	YES	YES	NO	NO (ARO Units not existing)	YES	YES (belong to Airport Authorities AIS)	YES
Does the procedure design (PANS-OPS) belong to your AIS/AIM organisation?	YES	No answer	NO (ATS)	PANS-OPS not established	YES	YES	YES	YES	YES	YES	NO (ANS)	NO (Aerodromes)	NO (ANS)
AMHS availability at AIS/AIM HQ	YES	YES	NO (plan for end 2012)	NO	YES	NO (planned mid 2012)	NO (plan for Apr 2012)	YES	YES	YES	NO	YES	NO
AMHS availability at the Aerodrome AIS Units	YES	NO	NO (plan for end 2012)	NO	YES	NO (planned mid 2012)	NO (plan for Apr 2012)	NO	Yes (only for Doha)	YES	NO	NO	NO
Have you established a national plan for the transition from AIS to AIM?	YES	YES	YES	No answer	YES	YES	NO	YES	YES	YES	NO	YES	NO
Is MIDAD already part of your national planning for AIS/AIM? If No, do you intend to include MIDAD into your national planning for AIS/AIM?	NO/YES	No answer	NO/YES	No answer	NO/YES	NO/YES	NO/YES	NO/YES	NO/YES	NO/YES	NO/YES	NO/TBD	NO/YES
Would your state / organisation like to play an active role in the MIDAD?	YES	No answer	YES	No answer	YES	YES	YES	YES	YES	YES	YES	TBD	TBD
Would your state / organisation like to provide contributions to MIDAD set-up?	YES	No answer	YES	No answer	YES	TBD	YES	YES	YES	YES	NO	TBD	NO
Would your state / organisation participate in the operation of MIDAD?	YES	No answer	YES	No answer	YES	TBD	YES	YES	NO	YES	YES	TBD	YES
Do you think MIDAD has a realistic chance to be realised? If yes, can you give a percentage probability?	YES (60%)	No answer	YES/--	No answer	YES (70%)	YES (40%)	YES (80%)	YES (80%)	YES (60-70%)	YES (85%)	YES (70%)	No answer	YES (60%)
Do you think that MIDAD Improves safety?	YES	No answer	YES	No answer	YES	YES	YES	YES	YES	YES	YES	TBD	YES
Do you think that MIDAD brings Passenger time savings?	YES	No answer	YES	No answer	YES	YES	YES	YES	YES	Unknown	YES	No answer	YES
Do you think that MIDAD brings Environmental benefits?	YES	No answer	YES	No answer	YES	YES	YES	YES	YES	YES	YES	No answer	YES
Do you think that MIDAD brings Transfer of high-tech skills?	YES	No answer	YES	No answer	YES	YES	YES	YES	YES	YES	YES	TBD	YES
Does your state / organisation already has a preferred method of financing in mind for MIDAD?	NO	No answer	YES/States Contributions	No answer	YES/Direct Financing by 1 State	YES/States Contributions	YES/States Contributions	NO	NO	YES/To be notified later	YES/Direct Financing by 1 State	NO	NO
Does your state / organisation already prefer a specific institutional scenario for MIDAD?	NO	No answer	YES/Iran Preferred option will be provided before MIDANPIRG/13	No answer	YES/Commercial company owned by interested MID states and/or ANSPs based on one state law in the MID Region	YES/Commercial company owned by interested MID states and/or ANSPs based on one state law in the MID Region	YES/Commercial company owned by interested MID states and/or ANSPs based on one state law in the MID Region	NO	YES/GCC	NO	YES/one MID state and/or ANSP operates MIDAD on behalf of other interested MID states and/or ANSPs	NO	NO

- END -