INTERNATIONAL CIVIL AVIATION ORGANIZATION

MIDDLE EAST OFFICE

FIRST MEETING OF THE MIDANPIRG AIR TRAFFIC FLOW MANAGEMENT TASK FORCE

(ATFM TF/1)

(Muscat, Oman, 23 – 25 September 2018)

SUMMARY OF DISCUSSIONS

1. PLACE AND DURATION

1.1 The First Meeting of the Air Traffic Flow Management Task Force (ATFM TF/1) was successfully held in Muscat, Oman, 23 - 25 September 2018. The meeting was gratefully hosted by the Public Authority for Civil Aviation (PACA), Oman.

2. OPENING

1.2 The Meeting was attended by a total of forty one (41) participants from ten (10) States (Bahrain, Egypt, India, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, UAE and USA) and six (6) International Organizations/Industries (AEROTHAI, CANSO, EUROCONTROL, IATA, MAAR and MIDRMA). The list of participants is at **Attachment A**.

1.3 The meeting was opened by Mr. Anwar Al Raissi, Director General Civil Aviation Regulation, PACA, Oman, who extended a warm welcome to all participants to the ATFM TF/1 meeting and wished them a successful meeting and a pleasant stay in Muscat. Mr. Al Raissi thanked ICAO for organizing this meeting in Oman and re-stated Oman's commitment to support the ICAO MID Regional Office activities.

1.4 In his opening remarks, Mr. Elie El Khoury, Regional Officer, Air Traffic Management and Search and Rescue (RO/ATM/SAR), ICAO Middle East Office, Cairo, welcomed the participants to Muscat. On behalf of the ICAO Middle East Office, Mr. El Khoury expressed ICAO's gratitude and appreciation to H.E. Dr. Mohammed Ben Nasser Ben Ali Al Za'abi, Chief Executive Officer of Public Authority for Civil Aviation (PACA) – Oman for hosting the ATFM TF/1 and World Cup 2022 TF/1 meetings in Oman. He extended special thanks to all the team who participated in the preparation and facilitation of this meeting for their good cooperation and for the excellent hospitality extended to the ICAO staff and all participants. Mr. El Khoury highlighted that Oman continuous support to the ICAO MID Office activities is an evidence of its active role and reflects Oman's commitment to enhance the overall safety and efficiency of air navigation in the Region, and to ensure the success of the regional projects/initiatives.

1.5 Mr. El Khoury highlighted that this meeting provides an opportunity to share experience and agree on the way forward with the implementation of a collaborative ATFM in the Region, which could not be achieved without collaboration, support and contribution from all stakeholders.

1.6 Mr. El Khoury extended ICAO appreciation to India, Thailand (AEROTHAI), USA, ACAO, CANSO, EUROCONTROL, IATA for being part of the ATFM Task Force and for accepting the invitation to actively participate in the meetings and share their experiences and views, which would support the achievement of the ATFM and World Cup 2022 Task Forces' objectives.

1.7 In closing, Mr. Elie thanked the participants for their presence and wished the meeting every success in its deliberations.

3. OFFICERS AND SECRETARIAT

1.8 Mr. Elie El Khoury, Regional Officer, Air Traffic Management/Search and Rescue (RO/ATM/SAR) was the Secretary of the meeting.

AGENDA ITEM 1: ADOPTION OF THE PROVISIONAL AGENDA AND ELECTION OF CHAIRPERSON

1.9 Mr. Hamad Rashid Al Belushi, Director Air Traffic Management, General Civil Aviation Authority, UAE, was unanimously elected as Chairman of the ATFM Task Force.

1.10 The meeting adopted the following Agenda:

Agenda Item 1:	Adoption of the Provisional Agenda and Election of Chairperson
Agenda Item 2:	Global and Regional Developments related to ATFM
Agenda Item 3:	Regional ATFM Framework
Agenda Item 4:	Plan of Actions
Agenda Item 5:	Future Work Programme
Agenda Item 6:	Any other Business

1.11 The documentation, working papers and Presentations delivered during the Meeting are available at the ICAO MID Regional Website: https://www.icao.int/MID/Pages/2018/ATFM%201-W2022.aspx.

AGENDA ITEM 2: GLOBAL AND REGIONAL DEVELOPMENTS RELATED TO ATFM

1.12 The subject was addressed in PPT/1 presented by ICAO, which provided an overview of the main objectives of the ATFM Task Force. The ATFM TF was established by MIDANPIRG/16 through Decisions 16/16 to develop a Concept of Operations (CONOPS) for the implementation of collaborative ATFM in the MID Region taking into consideration the existing initiatives and experiences from other regions. The ATFM Task Force would be the main collaborative platform to drive the implementation of ATFM in the MID Region.

1.13 The meeting was briefly apprised of the Third Edition -2018 of the ICAO Doc 9971 - *Manual on Collaborative Air Traffic Flow Management (ATFM),* which would be use as the main guidance for the implementation of CDM/ATFM. The new Edition of the document is divided into three parts:

Part I Collaborative Decision-Making (CDM)

Part II ATFM

Part III Airport Collaborative Decision-Making (A-CDM).

AGENDA ITEM 3: REGIONAL ATFM FRAMEWORK

C-ATFM - India

1.14 India provided an overview of the implementation of the Central Air Traffic Flow Management (C-ATFM), highlighting the objectives, the challenges and the lessons learned. It was noted that at the C-ATFM is being implemented into three (3) Phases:

Phase I (2015-2017):

- Airport (Ground Delay Program)
- Airport Arrival Constraints e.g. weather, runway outage
- Addressing constraints of Six Major Airports

Phase II (2017-2019):

- Ground Delay Program and Airspace Flow programs supporting Airspace Congestion & DCB at most airports across Country
- Interconnectivity among ATFM –ACDM systems
- Availability of WEB Services for all stakeholders

Phase III (2019-onwards):

- Ability to exchange information with adjacent ATFM Systems-communication Protocol
- Participation in Cross Border ATFM

1.15 The meeting noted that the Phase I and Phase II of the C-ATFM India applies to domestic traffic and starting from 2019, India would be ready to extend the system for cross border ATFM. It was noted with appreciation that India is willingness to support the MID Region with the implementation of ATFM to ensure inter-regional harmonization and optimization of the traffic flows at the interface between ICAO Asia Pacific (APAC) and MID Regions.

Distributed Multi-Nodal ATFM Project -AEROTHAI

1.16 The meeting was apprised of the implementation of the Distributed Multi-Nodal ATFM Project in APAC Region that has been operational since 2015. The membership to the projects is Tiered Participation:

- Level 3 ATFM Nodes (Generate, Distribute, Comply to CTOT):
  China, Hong Kong-China, Singapore, Thailand, Cambodia
- Level 2 ATFM Nodes (Receive and Comply to CTOT Indonesia):
  Malaysia, Myanmar, Philippines
- Level 1 ATFM Nodes (Observers; soon to upgrade):
  Lao PDR, Viet Nam

1.17 The project is being implemented into three phases as follows:

Phase I (2015-2016): *Airport ATFM Programs*
Distributed GDP for Constrained/Congested Arrival Airports

Phase II (2016-20xx): *Airspace ATFM Programs*
Distributed GDP (+other measures) for Constrained/Congested Airspace Volume

Phase X:
Globally-interconnected ATFM network, enabled by SWIM infrastructure

CADENA-FAA

1.18 FAA presented the Caribbean experiences with the implementation of the CANSO ATFM Data Exchange Network for the Americas (CADENA) initiative and noted that FAA and CANSO are supporting the global implementation of ATFM/CDM and have been expanding the work being conducted by ICAO NACC and SAM Regions.

1.19 The meeting noted that CADENA initiative offers a regional, cross-border ATM communications protocol and a seamless operational atmosphere that incorporates operational procedures and practices. Implementing regional, networked ATFM requires the establishment of CDM practices among Members and regional and international stakeholders. These practices shall be inclusive and transparent and provide the opportunity for exchanging operational information to facilitate a shared situational awareness and promote sound strategic and tactical planning in a CDM environment of multilateral decision-making.

Network Manager - EUROCONTROL

1.20 The meeting was provided with a general overview of EUROCONTROL and the Network Manager (NM) activities. The NM main role is as follows:

- optimize European ATM Network's operations with ANSPs and airports;
- ensure that European ATM meets the performance targets set by European Community for Single European Sky.
- provide a consolidated and coordinated approach to all planning and operational activities of the Network
- enable and deliver added operational performance (capacity, delay reduction, environment, flight efficiency, minimum emissions, ops safety, cost-effectiveness)

What is needed for ATFM - CANSO

1.21 CANSO underlined what is needed for ATFM highlighting the key points to consider when planning for ATFM implementation. CANSO shared their experience and the support provided for the implementation of ATFM in AFI, APAC, NACC and SAM Regions. CANSO shared the questionnaire that was used in APAC and for CADENA for determining the State's capabilities related to ATFM.

1.22 The meeting reviewed and updated the questionnaire as at **Appendix A**. The main purpose of the survey is to solicit information and develop a regional baseline view of current ATFM initiatives within the MID Region. Additionally, the questionnaire will gather information on future ATFM planning activity and interoperability between ANSP's.

1.23 The meeting commended India, FAA and the Orgaizations for their willingness to support the MID Region with the implementation of a regional collaborative ATFM in the MID Region.

SWIM Gateway-UAE

1.24 The meeting noted that UAE ATM Community is collaboratively building a nationwide system architecture following the principles of System Wide Information Management (SWIM). As one of the first SWIM enabled services, the UAE SWIM Gateway will provide a major step towards a nationwide SWIM architecture. The UAE SWIM Gateway harmonises and consolidates in real-time flight related information originating from existing legacy systems and those of new SWIM enabled capabilities. The SWIM Gateway is prepared to become a core building block for ATFM services providing centralized flight plan validation and distribution service as well as a data exchange for all flight related information.

1.25 The meeting congratulated UAE for the start of operation of the SWIM Gateway on 25 September 2018.

1.26 Proposals for the way forward were presented by Qatar and UAE through WP/3 and WP/4, respectively.

1.27 Qatar propsed the implementation of ATFM in the Region on a phased approach basis. Starting with Multi-Nodal Concept that would be evolved to the establishment of a system-wide, centralized regional ATFM at later stage after the maturity of the multi- nodal ATFM concept.

1.28 UAE highlithed the importance of specified and aligned pre-requisites as basis for the implementation of a regional ATFM service. Such specified pre-requisites and a phased approach for the implementation of a regional Collaborative ATFM service are crucial for a successful implementation. UAE proposed the establishment of teams to support the implmentaion of each phase as follows:

Pre-requisites:

Pre-requesite 1: Common performance objectives for a regional ATFM service needs to be defined

Pre-requesite 2: A large percentage of traffic causing unbalanced demand and capacity is subject to the service

Pre-requesite 3: Uniformity of traffic flow characteristics of the managed flights

Phases

Phase 1: (Assessment and Evaluation Team) Perform a joint assessment and confirmation of the Pre-requisites for a regional ATFM

Phase 2: (Design and Implementation Team) Develop a Concept of Operations for a regional ATFM service

Phase 3: (Research and Technology Team) Design a Collaborative ATFM solution that facilitates the Concept of Operations of the regional ATFM service

Phase 4: (Research and Technology Team) Implementation and rollout of the ATFM system based on the consideration of the Concept of Operations.

Phase 5: (All Teams) Operational Phase that include constant performance assessments of the ATFM service together with continuous improvement planning

AGENDA ITEM 4: PLAN OF ACTIONS

1.29 Based on the discussions and the experience from other regions, the meeting agreed that it would not be feasible to define and develop a CONOPS for the implementation of ATFM during the meeting without assessment of the current ATM and ATFM States' capabilities. Accordingly, the meeting agreed to a set of actions to be undertaken till the ATFM TF/2 meeting, which are outlined in the Roadmap at **Appendix B**. With a view to facilitate the coordination and follow-up the implementation of the agreed actions, the meeting established the ATFM Core Team composed of volunteer experts from Bahrain, India, Oman, Qatar, Saudi Arabia, UAE (ATFM TF Chairman), USA, ACAO, AEROTHAI, CANSO, IATA and ICAO. The Core Team ToRs are at **Appendix C**.

1.30 The ATFM Core Team would be supported by experts from States and Organizations as required in performing its tasks.

AGENDA ITEM 5: FUTURE WORK PROGRAM

1.31 The meeting reviewed and proposed an update to the ATFM TF Terms of Reference as at **Appendix D** and agreed that the next ATFM TF/2 meeting be held from 24 to 26 February 2019. The venue will be the ICAO MID Regional Office in Cairo, unless a State is willing to host the meeting.

1.32 Qatar offered to host the ATFM TF/2, which would be held back-to-back with the World Cup 2022 TF/2 meetings in Doha on the agreed dates.

1.33 UAE offered to host a face-to-face meeting at Sheikh Zayed Centre in Abu Dhabi from 22 to 24 January 2019 for the ATFM Core Team.

AGENDA ITEM 6: ANY OTHER BUSINESS

1.34 Nothing has been discussed under this Agenda Item.

4. CLOSING

1.35 In closing, Mr. Elie El Khoury thanked the participants for their presence and excellent cooperation and contribution to the meeting.

1.36 The participants thanked ICAO for organizing such a fruitful Meeting as well as PACA – Oman for hosting, and commended the regional efforts exerted to make the CDM/ATFM regional project a success.

INTERNATIONAL CIVIL AVIATION ORGANIZATION

MIDDLE EAST OFFICE

AIR TRAFFIC FLOW MANAGEMENT (ATFM)

Questionnaire

The purpose of this questionnaire is to carry out a survey to solicit information and develop a regional baseline view of current Air Traffic Flow Management (ATFM) initiatives within the MID Region as well for the collection of information on future ATFM planning activity and interoperability between States.

ICAO Doc 9971, Manual on Collaborative Air Traffic Flow Management has been used to assist in formulating the questionnaire questions.

The questionnaire consists of the following topic areas:

- Air Traffic Flow Management (ATFM) Structure and Organization
- ATFM - Capacity, Demand, Balance
- Interoperability

Please include with the survey response any pertinent documentation and/or information which may assist in the understanding and development of baseline and planned initiatives. Pertinent documents may include:

- Letters of Agreement
- Airport Arrival Rate (AAR), Airport Departure Rate (ADR) charts
- Website(s)
- Etc.

Please mark an "X" to the corresponding answer. Please include comments, if you deem pertinent.

Send copies of completed questionnaire response and electronic documents to:

ekhoury@icao.int and icaomid@icao.int

if clarification or support is required please contact Mr. Elie El Khoury Regional Officer ATM and SAR, ICAO Middle East Office (ekhoury@icao.int).

State:	**Point of Contact details**
Date:	**Name:** **Email:** **Telephone/mobile:**

Air Traffic Flow Management (ATFM) Structure and Organization

1. Does your State have a regulatory requirement for ATFM to be implemented in your Flight Information Region (FIR)?

Yes	No	Comments:

2. Does your State have an operational requirement (e.g. demand exceeding capacity) for ATFM in your FIR?

Yes	No	Comments:

3. Does your State have future plans or initiatives for ATFM in your FIR?

   If yes, please include a copy of the Concept of Operations (CONOPS) or other documentation with the survey response.

Yes	No	Comments:

4. Does your State have an organizational structure including the following facilities and/or working positions? If future organizational structure is planned, please include date.

Current	Yes	No	Planned date	Comments
ATFM Services				
ATFM Operational Manager				
ATFM positions located in the following				
National ATFM center				

Area control center(s)				
Approach control(s)				
Control tower(s)				

5. If there is existing ATFM functions performed, are there dedicated resources for these ATFM functions/positions or are these functions provided by another operational position? If provided by another operational position, please identify in the comments section.

Dedicated resource	Another Operational Position	Comments

6. Does your State have Letters of Agreement (LOA) that include ATFM with any of the following stakeholders? If so, please provide a copy or relevant excerpt of the LOA(s) with the survey response:

Stakeholder	Yes	No	If yes, please list	LOA planned date
1. FIR(s)				
2. Stakeholders				
- Airport Operators				
- Aircraft Operators				
- Military				
- General Aviation				
- ATFM Units				
- National ATFM center				
- Area control center				
- Approach control				
- Control tower				

Comments

"Collaborative decision-making (CDM) is defined as a process focused on how to decide on a course of action articulated between two or more community members. Through this process, ATM community members share information related to that decision and agree on and apply the decision-making approach and principles. The overall objective of the process is to improve the performance of the ATM system as a whole while balancing the needs of individual ATM community members."

7. Does your State have existing CDM procedures (planned or Ad-Hoc Teleconferences,) and/or tools with the following stakeholders? If future CDM procedures and/or tools are planned, please add the date.

Stakeholders	Yes	No	If yes, please list	LOA planned date
Airport Operators				
Aircraft Operators				
Military				
General Aviation				
Area control center				
Approach control				
Control tower				
Other ANSP ATFM Units				
Other ANSP ATC Units				

Comments

8. Does your State's ATFM unit(s) perform the following tasks? If future implementation planned, please add the date.

Current	Yes	No	Planned date	Remarks
1. Create and distribute an ATFM daily plan				

2. Collect the following relevant information				
- meteorological conditions				
- capacity constraints				
- equipment outages				
- runway closures				
- procedural issues				
3. Analyze and distribute relevant information				
4.Coordination procedures with stakeholders (indicate method(e.g., voice meetings, email) and frequency) in the comments section				
5. Structured information dissemination process, i.e. website				

Comments

Note: *Please include sample ATFM daily plan and/or other documentation examples with survey response.*

9. Are the following CDM elements included as part of your stakeholder's participation in the ATFM process?

Current	Yes	No	If yes, please list
1.Provide updated flight plan intent information (e.g., plans, changes, delays) provided by:			
- Aircraft Operators			
- Military			
- General Aviation			
2.Telephone conferences			
- Airport			

- Military			
- Aircraft Operators			
- General Aviation			
- ATFM Units			
- Other FIR ANSP's			
3.Web based interfaces			
- Airport			
- Military			
- Aircraft Operators			
- General Aviation			
- ATFM Units			
- Other FIR ANSP's			

Comments

10. Does your State provide standardized and recurrent ATFM training for the following personnel and stakeholders? If standardized training is planned, please add date.

Current	Yes	No	Planned date	Remarks
1.Personnel performing ATFM functions				
- National ATFM center				
- Area control center				
- Approach control				
- Control tower				
2.Stakeholders				
- Airports				
- Aircraft Operators				
- Military				
- General Aviation				

Comments

11. Does your State have an electronic ATFM system that displays airborne traffic? Is this system shared? If not, what is the planned date (if any) for sharing this system?

	Yes	No	Planned date	Remarks
Electronic ATFM display system				
Shared with:				
1. FIR(s)				
2. Stakeholders				
- Airport Operators				
- Aircraft Operators				

- Military				
- General Aviation				

Comments

ATFM - Capacity, Demand, Balance

12. Does your State declare ATC strategic capacity values for the following resources? If capacity value declarations are planned to be completed, please add date.

Current	Yes	No	Planned date	Remarks
1.Airspace sectors				
2.Waypoint(s) or boundaries				
3.Airport acceptance rate(s) (arrival and departure)				

Comments

13. How are the declared capacity values determined?

14. Does your State have strategic airport arrival/departure slots? If planned, please indicate the dates:

Airport	Arrival	Departure	Planned date	Remarks

Comments

15. Does your State have a methodology to balance demand and capacity in the following time frames?

Timeframe	Yes	No
Strategic (more than 1 day before operation)		
Pre-tactical (1 day before operation)		
Tactical (day of operation)		

Comments

16. Has your administration (and/or State) implemented procedures, review, and tools to identify available capacity, compare capacity to forecast demand and establish performance targets including. If initiatives are planned, please add date.

Current	Yes	No	Planned date
1.Airspace design review			
2.ATFM support tools			
3.Procedures review			
4.Staffing resources to workload / traffic review			
5.ATFM Training completed			
6.Forecast demand			

Comments

Interoperability

17. Does your State complete automated exchange of ATS messages (e.g. FPL, CHG, CNL, DEP, DLA, EST, ARR, CPL) with any or all adjacent Flight Information Regions (FIRs) or other non-adjacent FIRs?

FIR	Yes	No	If yes, please identify data exchanged.

Comments

18. Does your State have plans to complete automated exchange of ATS messages with any or all adjacent Flight Information Regions (FIRs) or other non-adjacent FIRs?

FIR	Yes	Date	If yes, please identify data exchanged.

Comments

19. Does your State exchange Airport Acceptance Rate (AAR) information for primary airports with other FIRs? If there are plans to exchange AAR information, please provide date.

FIR	Yes	No	Planned date	Remarks

Comments

20. Does your State share adjacent sector capacity information with other FIRs? If there are plans to exchange sector capacity information, please provide date.

FIR	Yes	No	Planned date	Remarks

Comments

21. Does your State have automated Pre-tactical (day prior to the operation) demand monitoring capability? If yes, is the information shared with other FIRs?

	Yes	No	If yes, please list FIRs

Airport Demand			
Sector Demand			
Route/Airway Demand			

Comments

22. Does your State have automated Tactical (day of the operation) demand monitoring capability? If yes, is the information shared with other FIRs?

	Yes	No	If yes, please list FIRs
Airport Demand			
Sector Demand			
Route/Airway Demand			
Arrival Management			

Comments

23. Does your State have Strategic, Pre-tactical and Tactical planning agreements with other FIRs?

Yes	No	If yes, please explain

24. Are there plans to initiate these agreements?

Yes	No	If yes, please explain

***Note**: Please include any additional documents with the survey.*

25. Has your State identified airports, sectors of airspace or routes which are regularly requiring ATFM Measures to balance demand and capacity? If yes, list them:

26. Does your State initiated/implemented the following Air Traffic Management Measures (ATFM Measures) internally?

ATFM Measures	Yes	No	Remarks
Miles-in-trail (MIT)			
Minutes-in-trail (MINIT)			
Speed restrictions			
Airborne Holding			
Fix balancing			
Altitude/Flight Level capping			
Tactical alternative routing options			
Fix crossing times			
Airport slot			
Minimum departure intervals (MDIs)			
Published, pre-defined alternative routes			

Ground delay program (GDP) – airport arrival constraint			
Ground stop (GSt)			
Ground delay program (GDP) – airspace constraint (also known as airspace flow program: AFP)			

Comments

27. When determining an ATFM Measure, are the following factors considered?

	Yes	No
Demand exceeds capacity		
Weather		
Military exercises		
Resources		
Maintenance / outages		
VIP movements		

Comments

28. Does military airspace/activity cause the use of ATFM Measures? If yes, please explain.

29. Is the military airspace/activity included in strategic planning?

30. How is the effectiveness of the ATFM Measure analyzed?

31. What are the primary demand- capacity imbalance reasons for the ATFM Measures?

	Please list airport/sector/route/airway

Airport capacity	
Sector capacity	
Route/Airway capacity	
Other	

Comments

32. Does your State initiate the following ATFM Measures with adjacent FIRs?

TMIs	Yes	No	If yes, please list FIRs.
Miles-in-trail (MIT)			
Minutes-in-trail (MINIT)			
Speed restrictions			
Airborne Holding			
Fix balancing			
Altitude capping			
Alternative routing options			
Fix crossing times			
Airport Slot			
Minimum departure intervals (MDIs)			
Published, pre-defined alternative routes			
Ground delay program (GDP) – airport arrival constraint			
Ground stop (GSt)			
Ground delay program (GDP) – airspace constraint (also known as airspace flow program : AFP)			

Comments

33. What is taken into consideration when an ATFM Measure is implemented.

34. How is the duration of the selected ATFM Measure determined?

35. Does your ANSP carry out any post-operations analysis?

36. How is the effectiveness of the ATFM Measure analyzed?

37. Are the ATFM Measures included in LOAs?

38. Does your State communicate ATFM Measures through automated or verbal communication with adjacent FIRs?

	Automated	Verbal	Please list FIRs
Miles in trail			
Speed restrictions			
Holding			
Altitude			
Fix crossing times			
Airport arrival times			
Ground delay programs – airport arrival constraint			
Ground stops			
Ground delay program – airspace constraint			

Comments

39. If your State have future ATFM initiatives planned **with other FIRs** please list them below.

Initiative Title	
Primary Functions	
Status (Planning, Approved, Implementation, Testing)	
Initial Operational Capability Date	
Full Operational capability Date	

Initiative Title	
Primary Functions	
Status (Planning, Approved, Implementation, Testing)	
Initial Operational Capability Date	
Full Operational capability Date	

Comments

:

Please include any related documents with the survey.

40. If your State have future ATFM initiatives planned please list them below.

Initiative Title	
Primary Functions	
Status (Planning, Approved, Implementation, Testing)	
Initial Operational Capability Date	

Full Operational capability Date	

Initiative Title	
Primary Functions	
Status (Planning, Approved, Implementation, Testing)	
Initial Operational Capability Date	
Full Operational capability Date	

Comments

Please include any pertinent documents.

41. ICAO has identified various ATFM and CDM initiatives in the Aviation System Block Upgrades (ASBU) process (Block 0 and Block 1 to be implemented by 2018). Please identify which of the following have been implemented or are planned to be implemented:

ASBU Module	Implemented	Planned date	Comments
B0- A-CDM Improved Airport Operations through			
B0-RSEQ Improved Traffic Flow through Runway Metering			
B0-FICE Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration			
B0-DATM Service Improvement through Digital Aeronautical Information Management			
B0-FRTO Improved Operations through Enhanced En-Route Trajectories			
B0-NOPS Improved Flow Performance through Planning based on a Network-Wide view			
B1- A-CDM Optimized Airport to Airport Operations through			
B1-RSEQ Improved Approach and Departure Management through Integration			
B1-FICE Increased Interoperability, Efficiency and Capacity through FF-ICE/1 application before Departure			
B1-DATM Service Improvement through Integration of all Digital ATM Information			
B1-SWIM Performance Improvement through the application of System Wide Information Management (SWIM)			
B1-NOPS Enhanced Flow Performance through Network Operational Planning			

B1-AMET Better Operational Decisions through Integrated Weather Information (Strategic >40 Minutes)			
B1-TBO Improved Traffic Synchronisation and I;nitial Trajectory-Based Operation			

Note: *For these items, please ensure they are included in the responses to previous questions about future plans.*

ROADMAP FOR DEVELOPEMNT OF ATFM CONCEPT OF OPERATIONS FOR THE MID REGION

Level of Cooperation	Action		Target date	Deliverable	Champion	Supported by	Status
	No	Description					
Key Activity 1 Cooperation among MID States to collect information, related to ATM capabilities, airspace, sectors and airports capacity, ATFM systems/ measures in place, ATS route structure, etc.	**1.**	Establishment of ATFM Core Team	25 Sep 2018	Core Team	ATFM TF		
	2.	Develop a questionnaire and disseminate to States through a State Letter for surveying the current status of the MID Region related to ATM capabilities, airspace, sectors and airports capacity, ATFM, etc. The questionnaire should be sent to ATFM/ATM focal points and MIDANPIRG Members.	30 Oct 2018 30 Nov 2018	Questionnaire State Letter Responses	ATFM Core Team ICAO States	CANSO FAA	
	3.	Carry out an hourly traffic count on entry/exit waypoints for each FIR using August 2018 traffic data provided for the MID RVSM airspace.	30 Nov 2018	Traffic count	MIDRMA		
	4.	Define the hotspots within each FIR (RVSM airspace)	30 Nov 2018	Hotspots	MIDRMA		
	5.	Analyze the received responses for the questionnaire (1)	30 Dec 2018	Analysis Report	ATFM Core Team	CANSO	
Key Activity 2 Development of Draft CONOPS	**6.**	Carry out teleconferences with each State to explore their views and thoughts related to ATFM taking into the questionnaire responses	30 Jan 2019	Telecom	ATFM Core Team		
	7.	Consolidate the responses and prepare a progress report to be presented to the ATFM TF/2 meeting	15 Feb 2019	Analysis of the situation Progress report	ATFM Core Team		
	8.	Define the required minimum set of data that should be exchanged and explore means that would be used for the exchange of data including the development of a common template	15 Feb 2019	Data Exchange means	ATFM Core Team	FAA NM CANSO AEROTAI	
	9.	Prepare an initial draft ATFM CONOPS (Skeleton) for presentation to the ATFM TF/2 meeting	15 Feb 2019	Initial Draft CONOPS	ATFM Core Team	FAA NM CANSO AEROTAI	

	10.	Agree on the way forward by the ATFM TF/2 meeting based on the analysis results and the progress report	26 Feb 2019	Way Forward	ATFM TF/2 meeting	India FAA NM CANSO AEROTAI	

MID ATFM CORE TEAM
TERMS OF REFERENCE

The ATFM Task Force was established by MIDANPIRG through the following Decision:

DECISIONS 16/16: ATFM TASK FORCE

That,

a) an ATFM Task Force be established to develop an ATFM Concept of Operations for the MID Region;

b) the ATM SG/3 meeting develop the terms of reference of the ATFM Task Force; and

c) States support the ATFM Task Force through:

i. assignment of ATFM Focal Point to contribute to the work of the Task Force; and

ii. provision of required data in timely manner, and in particular to the survey that will be carried out related to the airspace and sectors capacity, hot-spots, ATFM measures/system, etc.

The Core Team is expected to carry out the task assigned by the ATFM Task Force which include but not limited to:

Develop a questionnaire and disseminate to States through a State Letter for surveying the current status of the MID Region related to ATM capabilities, airspace, sectors and airports capacity, ATFM, etc.

The questionnaire should be sent to ATFM/ATM focal points and MIDANPIRG Members

1. Analyze the received responses for the questionnaire;
2. Carry out teleconferences with each State to explore their views and thoughts related to ATFM taking into consideration the questionnaire responses
3. Consolidate the responses and prepare a progress report to be presented to the ATFM TF/2 meeting
4. Define the required minimum set of data that should be exchanged and explore means that would be used for the exchange of data including the development of a common template
5. Prepare an initial draft ATFM CONOPS.
6. Develop guidance as required to support States addressing issues related mainly to:
    a) aerodromes and airspace capacities under the normal circumstances and adjustment factors affecting the capacity;
    b) regular review for aerodromes and airspaces where traffic demand is expected to reach capacity, or is resulting in traffic congestion;
    c) mechanisms for ATFM data gathering, collation and sharing between States, Organizations and ICAO, which may include:
        i. adjusted aerodromes and airspace capacity due to factors affecting capacity such as special use airspace status, runway closures and weather information;

ii. traffic demand information which may include flight schedules, flight plan data, repetitive flight plan data as well as associated surveillance updates of flight status; and

iii. ATFM Daily Plan.

d) compliance by airspace users with ATFM measures; and

e) any other guidance relevant to the regional ATFM Framework.

7. Develop a Template to support States with the development of National ATFM Implementation Plan.

B) COMPOSITION

The ATFM Core Team will be composed of the following experts:

Name/Title	State/Organization	Contact details
	Bahrain	
	Oman	
Mr. Kevin Cooper	Qatar	
	Saudi Arabia	
	India	
Mr. Travis	FAA	
Mr. Keith	EUROCONTROL	
Mr. Stuart	CANSO	
Toon	AEROTHAI	
	IATA	
Mr. Mohamed Rejeb Safety and Air Navigation expert	ACAO	
Mr. Hamad Al Belushi Director ATM ATFM TF Chairman	UAE	
Mr. Elie El Khoury RO ATM/SAR	ICAO MID Office	

The ATFM Core Team would be supported by experts from States and Organizations as required in performing its tasks.

C) WORKING ARRANGEMENTS

a) The Core Team shall report to the ATFM Task Force; and

b) The work of the ATFM Core Team shall be carried out mainly through exchange of correspondence, between its Members using all means of communication (email, facsimile, Tel, Teleconferencing, etc.) and face-to-face meetings as appropriate.

TERMS OF REFERENCE (TOR) OF THE MIDANPIRG AIR TRAFFIC FLOW MANAGEMENT TASK FORCE (ATFM TF)

I. TERMS OF REFERENCE

1.1 Perform a joint assessment and confirmation of the Pre-requisites for a regional ATFM. This shall include

1.2 Assessment of the performance objectives of the individual cooperating States and definition of common performance objectives for a regional ATFM service,

1.3 Perform a data collection and analysis to identify the hot-spot areas and critical times in a regional ATFM service area where demand consistently exceeds capacity. The reasons and contributing factors for unbalanced demand and capacity are to be identified.

1.4 Analysis of air traffic flows within the designated area of the regional ATFM service that is causing unbalanced demand and capacity. The analysis shall identify the traffic fractions that due to their uniformity are candidates for effective ATFM measures to increase the efficiency without violating the equity principle.

1.5 Develop an ATFM Concept of Operations and a Framework which addresses ATFM minimum requirements for the implementation of ~~and~~ ATFM ~~operational issues~~ in the ICAO MID Region.

~~1.1~~1.6 Agree on a mechanism to support the phased implementation of ATFM measures in the MID Region, when and where required.

~~1.2~~1.7 Identify, research and recommend appropriate guidance regarding:

a) aerodromes and enroute capacities under the normal circumstances and adjustment factors affecting the capacity ~~assessment and adjustment mechanisms~~;

b) regular review for all aerodromes and ATC sectors where traffic demand is expected to reach capacity, or is resulting in traffic congestion;

c) mechanisms for ATFM data gathering, collation and sharing between States, Organizations and ICAO, which may include:

i. adjusted aerodromes and enroute capacity ~~assessments, including~~ due to factors affecting capacity such as special use airspace status, runway closures and weather information;

ii. traffic demand information which may include flight schedules, flight plan data, repetitive flight plan data as well as associated surveillance updates of flight status; and

iii. ATFM Daily Plan.

d) compliance by airspace users with ATFM measures; and

e) any other guidance relevant to the Regional ATFM Framework.

~~1.3~~1.8 ~~Review~~ Consider existing and planned ATFM initiative in the Region, and make specific recommendations to ensure their alignment.

~~1.4~~1.9 Ensure inter-regional ATFM harmonization with adjacent ICAO Regions.

~~1.5~~1.10 Recommend appropriate inputs to the ASBU Modules relevant to ATFM such as NOPS,

A-CDM, etc.

~~1.6~~1.11 Report to the ATM SG.

~~1.7~~1.12 Review periodically its Terms of Reference and propose amendments as necessary.

~~1.8~~1.13 Coordinate as deemed necessary with the Runway and Ground Safety Working Group (RGS WG) and the Meteorology Sub-Group (MET SG) the issues of mutual interest.

II. COMPOSITION

2.1 The Sub-Group is composed of MID ATFM focal points and experts from:

a) MIDANPIRG Member States;

b) India, FAA, AACO, ACAO~~C~~, A~~I~~EROTHAI, CANSO~~,~~ EUROCONTROL, ~~FAA~~, IATA, and ICAO (Bangkok, Cairo, Paris Offices and HQ); and

c) other representatives from provider States and Industry may be invited on ad hoc basis, as observers, when required.

2.2 The Task Force shall elect a Chairperson to act as the point of contact on behalf the Task Force.

2.3 The Task Force shall meet at least once a year and when deemed necessary.

~~2.2~~2.4 ICAO MID Office will act as the Secretary of the ATFM Task Force meetings.

LIST OF PARTICIPANTS

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