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# Introduction

Elie EL Khoury

ICAO



ATFM TF/3 (Amman, Jordan, 12-14 January 2020)



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## Daily Programme

	09:00-10:30	Break	11:00-12:30	Break	13:00-14:30	14:30-15:30
<u>Sunday</u> 12/03/2020	ATFM TF/3	30 min	ATFM TF/3	30 min	ATFM TF/3	Lunch
<u>Monday</u> 13/03/2020	ATFM TF/3		FWC2022 TF/3		FWC2022 TF/3	Lunch
<u>Tuesday</u> 14/03/2020	Report ATFM TF/3 FWC2022 TF/3		MIDRMA Board/16		MIDRMA Board/16	Lunch
<u>Wednesday</u> 15/03/2020	MIDRMA Board/16		MIDRMA Board/16		MIDRMA Board/16	Lunch
<u>Thursday</u> 16/03/2020	Report MIDRMA Board/16					



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## **PROVISIONAL AGENDA**

**Agenda Item 1: Adoption of the Provisional Agenda**

**Agenda Item 2: Regional ATFM Framework**

**Agenda Item 3: Plan of Actions**

**Agenda Item 4: Future Work Programme**

**Agenda Item 5: Any other Business**



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## **Why ATFM is needed in the MID Region?**





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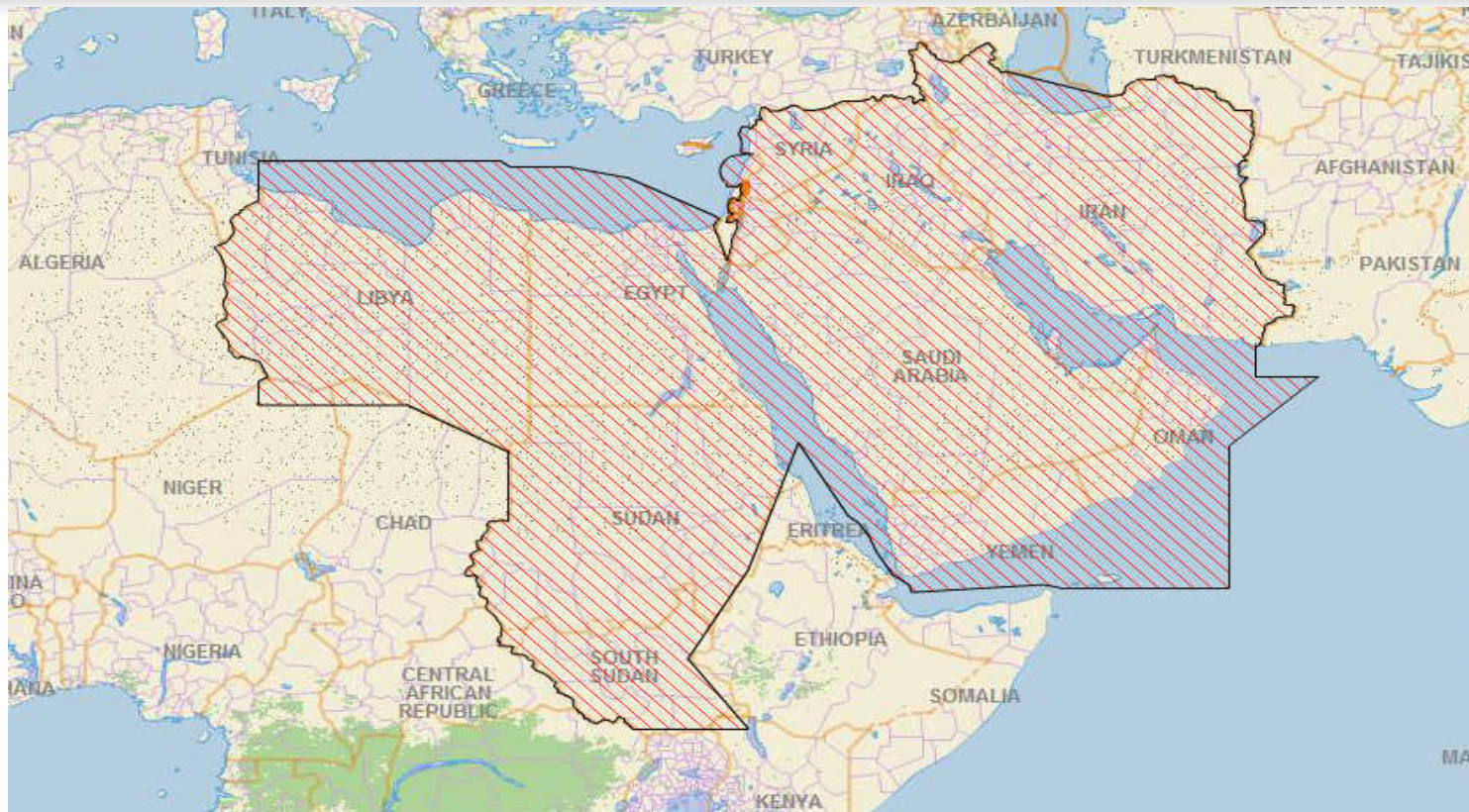
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ICAO Middle  
East Region is  
composed of  
**15 States:**

Bahrain	Oman
Egypt	Qatar
Iran	Saudi
Iraq	Arabia
Jordan	Sudan
Kuwait	Syria
Lebanon	UAE
Libya	Yemen





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## ATFM TF Meetings

- 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.
- The **ATFM TF/2** was successfully held in **Casablanca**, Morocco, **19 – 20 March 2019**. The meeting was gratefully hosted by the Arab Civil Aviation Organization (ACAO).
- The Meeting supported the recommendations emanating from the **ACAO/ICAO ATFM Workshop** (Casablanca, Morocco, **17 – 18 March 2019**) held-back-to-back with the ATFM TF/2 meeting
- The **ATFM TF** and **FWC2022** TF meetings are being held **back-to-back**





## Where we stand Now?

The ATFM TF/1 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, EUROCONTROL, IATA and ICAO to carry out the task assigned by the ATFM Task Force that include but not limited to:

1. Carry out a survey to assess the status of the MID Region related to ATM/ATFM capabilities, airspace, sectors and airports capacity, etc.
2. Carry out teleconferences with States' ATFM focal points to explore their views and thoughts related to ATFM taking into`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.
3. Prepare an initial draft ATFM CONOPS.



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4. Develop guidance as required to support States addressing issues related mainly to:
  - a) aerodromes and airspace capacities;
  - b) regular review for aerodromes and airspaces where traffic demand is expected to reach capacity, or is resulting in traffic congestion;
  - c) compliance by airspace users with ATFM measures
  - d) any other guidance relevant to the regional ATFM Framework
  - e) mechanisms for ATFM data gathering, collation and sharing between States, Organizations and ICAO
5. Develop a Template to support States with the development of National ATFM Implementation Plan.





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## ATFM Core Team Members

Name/Title	State/Organization	Contact details
Mr. David Christmas	Bahrain	<a href="mailto:David.Christmas@mtt.gov.bh">David.Christmas@mtt.gov.bh</a>
Mr. Mubarak Al-Ghelani	Oman	<a href="mailto:m.alghelani@paca.gov.om">m.alghelani@paca.gov.om</a>
Mr. Kevin Cooper	Qatar	<a href="mailto:kevin.cooper@caa.gov.qa">kevin.cooper@caa.gov.qa</a>
Mr. Saleh Zahrani	Saudi Arabia	<a href="mailto:salzahrani@sans.com.sa">salzahrani@sans.com.sa</a>
Mr. Mohammed Khamis Al Baloushi	UAE	<a href="mailto:mbaloushi@szc.gcaa.ae">mbaloushi@szc.gcaa.ae</a>
Mr. Manjunath Krishna Nelli	India	<a href="mailto:mknelli@aai.aero">mknelli@aai.aero</a>
Mr. Travis Fiebelkorn	FAA	<a href="mailto:travis.fiebelkorn@faa.gov">travis.fiebelkorn@faa.gov</a>
Mr. Keith Crawford	EUROCONTROL	<a href="mailto:keith.crawford@eurocontrol.int">keith.crawford@eurocontrol.int</a>
Mr. Stuart Ratcliffe	CANSO	<a href="mailto:Swrat5@gmail.com">Swrat5@gmail.com</a>
Mr. Piyawut Tantimekabut	AEROTHAI	<a href="mailto:piyawut.ta@aerothai.co.th">piyawut.ta@aerothai.co.th</a>
Mr. George Rhodes	IATA	<a href="mailto:Rhodesg@iata.org">Rhodesg@iata.org</a>
Mr. Mohamed Rejeb	ACAO	<a href="mailto:mohamed.rejeb65@gmail.com">mohamed.rejeb65@gmail.com</a>
Mr. Hamad Al Belushi	ATFM TF Chairman	<a href="mailto:hbelushi@szc.gcaa.ae">hbelushi@szc.gcaa.ae</a>
Mr. Elie El Khoury	ICAO MID Office	<a href="mailto:ekhoury@icao.int">ekhoury@icao.int</a>



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### Main Outcome of ATFM TF based on the Core Team work that was supported by MIDANPIRG/17

- The meeting reviewed the responses to the survey received from 10 States.
- It was recognized that the MID Region is still in the first steps related to the establishment of ATFM capabilities.
- It was recommended that qualification of experts in ATFM as well as raising awareness should be given high priority.
- The meeting agreed to a set of criteria to be used for the evaluation of the scenarios based on the severity of the challenge to achieve the criteria as well as its weight/importance on the success of the scenario.
- The meeting emphasized that establishing a **centralized ATFM Unit** would be the optimal solution followed by the scenario in having **2 Centres for 2 participating areas**, then a centralized scenario through a **third party providing the ATFM service** and the last one would be the **Multi-Nodal**. However, considering the challenges, feasibility and time and efforts required, the **Multi Nodal Scenario** achieved the highest Score
- MIDANPIRG/17 agreed that **Multi Nodal Scenario** to be implemented as initial **start**
- MIDANPIRG/17 endorsed the Action Plan developed by the ATFM TF/2 meeting and encouraged the implementation of the Recommendations of the ATFM Workshop (Casablanca, 17-18 March 2019)



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## High level outline to be considered during the development of the CONOPS

### *Phase I- Building State's National ATFM Capabilities*

1. Raising awareness related to ATFM
2. Establishing the regulatory framework for ATFM at national level
3. Establishment of ATFM Services within the ATS organizational structure (FOC, FMP, FMU, etc.)
4. Human resources
5. Training
6. Operating Procedures
7. National ATFM Team to ensure Collaborative Decision Making (CDM)
8. Tools to be used
9. Determine and declare Airspace and airports capacity
10. Establishment of State's National ATFM CONOPS



## High level outline to be considered during the development of the CONOPS

### *Phase II – Establishment of Regional Framework*

- 1- Setting up the concept/framework for Cross border ATFM in the MID Region
- 2- Define which ATFM Measures would be required including GDPs (where applicable to be defined by States)
- 3- Agreement on the Format of the ATFM Messages
- 4- Means to be used for Communication between adjacent States ATFM FOC
- 5- Development of Common Operating Procedure (COP)
- 6- Agreement on LoA template for ATFM (App G of ATS LoA Template)
- 7- Agreement on the coordination procedures
- 8- Signature of LoAs between adjacent ATFM FOC
- 9- Establishment of platform to be used for sharing of information



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## High level outline to be considered during the development of the CONOPS

### *Phase III- Implementation of Cross border ATFM*

- 1- Exchange of information through the established platform and/or periodic daily teleconferences
- 2- Sharing of the ATFM Daily Plan
- 3- Implementation of the ATFM/CDM process for regulating traffic when required (regional and later inter-regional)
- 4- Post Implementation Review
- 5- Research and future development







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ASBU B0-NOPS



## ATFM and ASBU

One of the 12 priority 1 ASBU Modules to be implemented in the MID Region included in the MID Region Air Navigation Strategy (MID Doc 002).



**B0 – NOPS: Improved Flow Performance through Planning based on a Network-Wide view**

Elements	Applicability	Performance Indicators/Supporting Metrics	Targets
<b>ATFM Measures implemented in collaborative manner</b>	<b>All States</b>	<p>Indicator: % of States that have established a mechanism for the implementation of ATFM Measures based on collaborative decision</p> <p>Supporting metric: number of States that have established a mechanism for the implementation of ATFM Measures based on collaborative decision</p>	100% by Dec. 2018
<b>ATFM Structure</b>	<b>All States</b>	<p>Indicator: % of States that have established an ATFM Structure</p> <p>Supporting metric: number of States that have established an ATFM Structure</p>	100 % by 2019



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Table B0-NOPS 3-1

## EXPLANATION OF THE TABLE

Column

- 1 Name of the State  
 2 Mechanism for the implementation of ATFM Measures based on collaborative decision:  
     Y – Implemented  
     N – Not Implemented  
 3 ATFM Structure/Functions:  
     Y – Implemented  
     N – Not Implemented  
 4 Remarks

Applicability State	Mechanism for the implementation of ATFM Measures based on collaborative decision	ATFM Structure/Functions	Remarks
1	2	3	4
Bahrain			
Egypt			
Iran			
Iraq			
Jordan			
Lebanon			
Libya			
Kuwait			
Oman			
Qatar			
Saudi Arabia			
Sudan			
Syria			
UAE			
Yemen			
Total			
Percentage			



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We have to start planning for the revision of the NOPS Thread based on the GANP 2019 and new ASBU Frame work

<https://www4.icao.int/ganportal/ASBU>



## Action by the meeting

The meeting is invited to review:

- a) and adopt the Provisional Agenda at Slide 3
- b) the Recommendations of the ATFM Workshop held in Casablanca at **Appendix A**
- c) and update the ATFM Action Plan at **Appendix B**; and
- d) the draft CONOPS for implementation of ATFM in the Region and agree the next course of actions
- e) ASBU related to ATFM and initiate the discussion on the revision of the NOPS Thread based on the GANP 2019 and new ASBU Frame work
- f) Review the Terms of Reference of the ATFM TF at **Appendix C**, as necessary; and
- g) Agree on the dates and venue of the next meeting.





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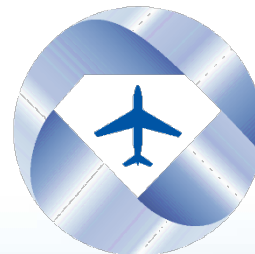


ICAO2019

ICAO2019



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OF CONNECTING THE WORLD



75 YEARS  
OF CONNECTING THE WORLD



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North American  
Central American  
and Caribbean  
(NACC) Office  
Mexico City

South American  
(SAM) Office  
Lima

ICAO  
Headquarters  
Montréal

Western and  
Central African  
(WACAF) Office  
Dakar

European and  
North Atlantic  
(EUR/NAT) Office  
Paris

Middle East  
(MID) Office  
Cairo

Eastern and  
Southern African  
(ESAF) Office  
Nairobi

Asia and Pacific  
(APAC) Sub-office  
Beijing

Asia and Pacific  
(APAC) Office  
Bangkok



THANK YOU

### **ACAO/ICAO ATFM Workshop (Casablanca, Morocco, 17 – 18 March 2019)**

The main objectives of the ACAO/ICAO ATFM Workshop (Casablanca, Morocco, 17 – 18 March 2019) were to is to raise awareness about ATFM, share other ICAO Regions and States' experience as well as discuss and agree on recommendations for the implementation of ATFM in the MID Region based on the work carried out by the ATFM Core Team.

*The Workshop recognized that:*

- a regional solution to manage the traffic flow across the MID Region became a priority.
- collaboration between all stakeholders is a key success for effective development and implementation of regional framework for ATFM/CDM.
- development of ATFM Concept of Operations requires inputs/data from all stakeholders to ensure it meet the projected objectives.
- sharing information is the most important enabler for ATFM/CDM.

*The Workshop agreed to the following Recommendations*

1. States and Stakeholders are encouraged to support ACAO and ICAO efforts related to the implementation of ATFM/CDM and in particular the work of the MIDANPIRG ATFM Task Force related to the Development of ATFM Concept of Operations for the MID Region taking into consideration other experiences.

*States are encouraged to:*

2. establish ATFM framework at the national level (regulations, organizational structure, functions, operating procedures, etc.)
3. develop ATFM National Implementation Plan
4. ensure that ATFM personnel are trained and qualified to effectively carry out their tasks. ATFM Manager (decision maker) should have adequate ATC experience.
5. carry out necessary studies to determine airspace and airports capacities
6. exhaust all measures that would increase capacity and continue working on the airspace improvements and the enhancement of the air navigation services within their relevant FIRs taking into consideration the airspace users' requirements.
7. support the implementation of the IFPS at regional level
8. ensure the implementation of the Collaboration Decision Making (CDM) concept.
9. support flight data exchange for the management and monitoring of air traffic flow at regional and inter-regional levels

*ATFM TF is invited to:*

10. develop a training programme template to be used by States.
11. develop a Template for National ATFM Implementation Plan
12. support States in carrying out their airspace and sector capacity studies

*ACAO and ICAO, supported by ATFM experts as required, are invited to:*

13. organize workshops and training courses related to ATFM.
14. conduct visits to States to support the ATFM Implementation.

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## ACTION PLAN FOR IMPLEMENTATION OF ATFM IN THE MID REGION

Key Activities	Action		Target date	Deliverable	Champion	Supported by	Status/RMK
	No	Description					
<b>Key Activity 1</b> Agreement on the ATFM Regional Framework	1.	Recommending the best Scenario for a regional ATFM framework	20 Mar 2019	Recommendation	ATFM TF/2 meeting		Completed
	2.	Presentation to the ACAO ANC/40	21 Mar 2019	Support	ACAO		Completed
	3.	Preparing a Working Paper to MIDANPIRG/17	30 Mar 2019	WP	Secretariat	Chairman	Completed
	4.	Agreement on the regional ATFM framework by MIDANPIRG	18 Apr 2019	MIDANPIRG Conclusion	MIDANPIRG/17	Secretariat	Completed
	5.	Presentation to the ACAO Executive Council	28-29 Apr 2019	For support	ACAO		Completed
	6.	Notifying States about MIDANPIRG/17 Conclusion and that the development of ATFM CONOPS started	30 Apr 2019	State Letter	ICAO	Chairman	
<b>Key Activity 2</b> Development of Draft CONOPS	7.	Development of a Draft ATFM CONOPS	10 Jul 2019	Draft ATFM CONOPS	ATFM Core Team		
	8.	Circulating the Draft ATFM CONOPS to States	15 Jul 2019	State Letter	ICAO	ACAO	
	9.	Feedback form States on the Draft ATFM CONOPS	15 Aug 2019	Feedback	States		
	10.	Consolidation of the Draft ATFM CONOPS for presentation to the ATM SG/5 meeting	30 Aug 2019	Consolidated version of ATFM CONOPS	Secretariat	Chairman ATFM Core Team	
	11.	Agreement on the Draft ATFM CONOPS	11 Sep 2019	Draft ATFM CONOPS	ATM SG/5		
	12.	Circulating the Draft ATFM CONOPS	25 Sep 2019	State Letter	ICAO	ACAO	
	13.	Presentation to DGCA-MID/5	Nov 2019	For Info and Support	ICAO		
	14.	Presentation to ACAO Executive Council	Dec 2019	For Info and Support	ACAO		
<b>Key Activity 3</b> Development of ATFM Regional Framework and	15.	Development of Initial Draft ATFM Regional Framework and draft ATFM Common Operating Procedures	31 Dec 2019	Initial Draft ATFM Regional Framework and draft Common Operating Procedures	ATFM Core Team	Face-to-face meeting(s) might be required	

## APPENDIX B

B-2

draft Common Operating Procedures based on the agreed CONOPS	<b>16.</b>	Agreement on the Draft Regional Framework and draft Common Operating Procedures	13 Jan 2020	Draft ATFM Regional Framework and draft Common Operating Procedures	ATFM TF/3 meeting (12-13 Jan 2020)		
	<b>17.</b>	Circulating the Draft Regional Framework and draft Common Operating Procedures to States	20 Jan 2020	State Letter	ICAO	ACAO	
	<b>18.</b>	Feedback form States on the Draft ATFM Regional Framework and draft Common Operating Procedures	10 Mar 2020	Feedback	States		
	<b>19.</b>	Consolidation of a Draft Regional Framework and draft Common Operating Procedures for presentation to the MSG/7 meeting	25 March 2020	Consolidated version of Draft ATFM Regional Framework and draft Common Operating Procedures	Secretariat	Chairman ATFM Core Team	
	<b>20.</b>	Presentation to ACAO Executive Council	Apr 2020	For Info and Support	ACAO		
	<b>21.</b>	Endorsement of the ATFM CONOPS, Regional Framework and Common Operating Procedures including agreement on a roadmap for the implementation	17 Jun 2020	ATFM CONOPS, Regional Framework and Common Operating Procedures	MSG/7 (15-17 Jun 2020)		
	<b>22.</b>	Circulation of the CONOPS, Regional Framework and Common Operating Procedures and posting them on the ICAO MID Website	30 Jun 2020	State Letter	ICAO	ACAO	
	<b>23.</b>	Presentation to ACAO Executive Council	Dec 2020	For Info and Support	ACAO		
<b>Key Activity 4</b> Implementation of the MID ATFM Regional Framework and Common Operating Procedures based on the agreed CONOPS	<b>24.</b>	Implementation of the MID ATFM Regional Framework and Common Operating Procedures	Cont.	Implementation of ATFM Regional Framework and Common Operating Procedures	States		
	<b>25.</b>	Implementation of ATFM framework at national level	Cont.	National ATFM framework	States		

## B-3

<b>Key Activity 5</b> Post Implementation Review of the MID ATFM Regional Framework	<b>26.</b>	Post implementation review	Each 3 months	Post Implementation review	ATFM Core Team		
	<b>27.</b>	Improvement of the ATFM Regional Framework and Common Operating Procedures	TBD 2021	Proposal for improved ATFM Regional Framework and Common Operating Procedures	ATFM TF	ATFM Core Team	
	<b>28.</b>	Review and continuous improvement of the ATFM Implementation in the MID Region with consideration of establishment of centralized ATFM system for the MID Region	TBD	Continuous improvement	ATFM TF	ATFM Core Team	
<b>Key Activity 6</b> Training and raising awareness related to ATFM	<b>1.</b>	Development of Training Programme Template for qualifying ATFM Specialist	31 Dec 2019	Training Programme Template for ATFM Specialist	ATFM TF / ATFM Core Team		
	<b>2.</b>	Development of working arrangement for the ATFM Visits to States that would include ATFM Workshop and/or training courses	31 Dec 2019	working arrangement for the ATFM Visits	ATFM TF / ATFM Core Team		
	<b>3.</b>	Organizing an ATFM Workshop with the planned A-CDM Workshop	21-23 Oct 2019	A-CDM/ATFM Workshop	ICAO/ACAO	ATFM TF	
	<b>4.</b>	Organizing of ATFM Training Courses	TBD 2020/2021	ATFM Training Courses	ICAO/ACAO	TBD	
	<b>5.</b>	Conduct ATFM Support visits to States	TBD 2020/2021	ATFM Support visits	ATFM support Team	TBD	
	<b>6.</b>	Conduct familiarization visits to CADENA, Singapore, India, EUROCONTROL, FAA, etc.	TBD	ATFM Familiarization Visits	ACAO ICAO		

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**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 ATFM in the ICAO MID Region.
- 1.6 Agree on a mechanism to support the phased implementation of ATFM measures in the MID Region, when and where required.
- 1.7 Identify, research and recommend appropriate guidance regarding:
  - a) aerodromes and enroute capacities under the normal circumstances and adjustment factors affecting the capacity;
  - 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 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.
- 1.8 Consider existing and planned ATFM initiative in the Region, and make specific recommendations to ensure their alignment.
- 1.9 Ensure inter-regional ATFM harmonization with adjacent ICAO Regions.

- 1.10 Recommend appropriate inputs to the ASBU Modules relevant to ATFM such as NOPS, A-CDM, etc.
- 1.11 Report to the ATM SG.
- 1.12 Review periodically its Terms of Reference and propose amendments as necessary.
- 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, AEROTHAI, CANSO, EUROCONTROL, 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.
- 2.4 ICAO MID Office will act as the Secretary of the ATFM Task Force meetings.

- END -