



International Civil Aviation Organization

MIDANPIRG/21 & RASG-MID/11 Meetings

(Abu Dhabi, UAE, 4 – 8 March 2024)

Agenda Item 2.2: ICAO Global and Regional Aviation Safety and Air Navigation developments

ACDM IMPLEMENTATION IN THE MID REGION

(Presented by the Secretariat)

SUMMARY

This paper presents the MID Region Readiness for the Airports Collaborative Decision Making (ACDM) Implementation; and proposes the rationale behind the need to establish of a MID Region ACDM Task Force (TF) and its TORs.

Action by the meeting is at paragraph 3.

REFERENCES

- ICAO GANP 7th Edition
- ASPIG Reports

1. INTRODUCTION

1.1 The ICAO Global Air Navigation Plan (GANP) is a strategic roadmap that provides an overall framework for the development and implementation of air navigation systems and technologies. The GANP is a high-level document that is intended to guide the evolution of the global air navigation system over a 15-year planning horizon.

1.2 The GANP is developed through a collaborative process involving various stakeholders in the aviation industry, including national governments, air navigation service providers, airlines, and aircraft manufacturers. It is periodically updated to reflect the latest advances in air navigation technology and to respond to emerging challenges and opportunities in the aviation sector.

1.3 The GANP is organized into several modules, each of which addresses a specific area of air navigation, such as communication, navigation, surveillance, and air traffic management. These modules are developed using a performance-based approach, which focuses on achieving specific performance objectives, such as improving safety, reducing emissions, increasing capacity, and enhancing efficiency.

Aviation System Block Upgrades (ASBU)

1.4 The GANP also places a significant emphasis on the implementation of the Aviation System Block Upgrades (ASBUs), which are a set of performance-based operational improvements that have been grouped into modules. The ASBUs are designed to provide a roadmap for the implementation of new operational concepts and technologies that can help to enhance the safety, efficiency, and sustainability of the global aviation system.

2. DISCUSSION

ASBU Threads

2.1 The meeting may wish to recall that the ASBUs include three main threads, which are **information**, **operational**, and **technology** threads. These threads are related to the development and implementation of new operational concepts and technologies that can help to enhance the safety, efficiency, and sustainability of the global air navigation system.

2.2 The meeting may wish to recall that the Aerodromes Safety Planning and Implementation Group (ASPIG) is managing and monitoring the implementation of the following AOP Operational Threads:

- Surface Operations
- Airport Collaborative Decision Making (ACDM)

2.3 The meeting may wish to highlight that the Surface Operations Thread will be discussed in a separate Presentation/Working Paper.

ACDM implementation in the MID Region

2.4 The meeting may wish to recall that the Airport Collaborative Decision Making (ACDM) is a collaborative process that involves the airport operator, airlines, ground handlers, air traffic control, and other stakeholders in making decisions that affect the operations of an airport. The primary goal of ACDM is to improve the overall efficiency of airport operations, reduce delays, and enhance safety.

2.5 The meeting may wish to note the following benefits of the ACDM:

- ACDM promotes better communication between airport stakeholders, making it easier for them to share critical information such as flight schedules, gate assignments, and delays. This allows stakeholders to make informed decisions that can help improve the efficiency of airport operations.
- ACDM helps reduce delays by providing stakeholders with real-time information on flight schedules, gate assignments, and other important data. Via information sharing, stakeholders can work together to mitigate delays and keep flights on schedule.
- ACDM can help enhance safety by improving the coordination between airport stakeholders. Through this transparent coordination, stakeholders can identify potential safety hazards and take steps to mitigate them before they become a problem.
- ACDM can help improve the overall efficiency of airport operations by reducing turnaround times and optimizing the use of airport resources. Due to this collaboration, stakeholders can identify bottlenecks and implement solutions to streamline operations.

2.6 The meeting may wish to note that the ACDM process typically involves major sections:

- Pre-Departure Sequencing (PDS): This section involves the exchange of information between airlines, ground handlers, and air traffic control to optimize departure sequencing and minimize delays.
- Stand Management: This section involves the allocation and management of aircraft parking stands to optimize the use of airport resources and reduce turnaround times.
- Resource Management: This section involves the coordination of airport resources, including ground handling and fuel services, to ensure efficient use of resources.
- Slot Management: This section involves the allocation and management of airport slots to optimize the use of airport capacity and reduce delays.

2.7 The meeting may wish to reiterate that ACDM needs enablers to function efficiently. Therefore, the ACDM is typically facilitated through a collaborative decision-making platform that enables stakeholders to share information and make decisions in real-time. This platform may include features such as data sharing, messaging, and collaborative decision-making tools.

2.8 The meeting may wish the note and update, as deemed necessary, the status of MID Region Readiness for the ACDM Implementation as at **Appendix A** (as per the ACDM applicability area, agreed upon by the MID States), and take action as appropriate.

ACDM Main Implementation Challenges

2.9 The meeting may wish to note that the implementing Airport Collaborative Decision Making (ACDM) processes at airports can present several challenges, including but not limited to:

- **Data Sharing:** ACDM requires the sharing of real-time data between airport stakeholders. However, data sharing can be challenging due to technical, operational, and legal barriers. For example, different stakeholders may use different data formats, making it challenging to integrate data from multiple sources.
- **Stakeholder Coordination:** ACDM requires coordination between multiple stakeholders, including airlines, ground handlers, air traffic control, and airport operators. It can be challenging to coordinate the activities of these stakeholders, particularly when there are competing priorities or conflicting objectives.
- **Culture Change:** Implementing ACDM processes may require a cultural change in the way airport stakeholders operate. This can be challenging, particularly if there is resistance to change or a lack of understanding of the benefits of ACDM.
- **System Integration:** ACDM requires the integration of multiple systems, including airport systems, airline systems, and air traffic control systems. Integrating these systems can be challenging, particularly if they use different technologies or are maintained by different organizations.
- **Training and Education:** Implementing ACDM processes may require training and education for airport stakeholders to ensure they understand how the processes work and how to use the tools and systems that support ACDM.

The need for a Mechanism to foster the ACDM Implementation at the Regional Level

2.10 The meeting may wish to note that even though ICAO is monitoring the ACDM implementation in coordination with the CAAs, the service providers are the ones responsible for its implementation. The meeting may wish to note that the active engagement of the service providers in the ACDM implementation/management workflow is vital to ensure the effective implementation of the ACDM.

2.11 The meeting may wish to note the current level of the ACDM Implementation and the challenges faced by the States to reach full deployment of the ACDM elements, and considering that the meeting may wish to agree on the establishment of a Regional ACDM Task Force (ACDM-TF) to support and assist in the implementation of ACDM in the MID Region.

2.12 The meeting may wish to note that Regional ACDM-TF main role is **to assist Airports and enhance their preparedness ensuring the successful implementation of ACDM processes and tools** and that all stakeholders are working together effectively, a task force can take a variety of actions including but not limited to:

- **Establish clear goals and objectives:** The task force should establish clear goals and objectives for the implementation of Airport Collaborative Decision Making (ACDM) processes. This can help ensure that all stakeholders are working towards the same goals and objectives.

- **Define roles and responsibilities:** The task force should define the roles and responsibilities of each stakeholder involved in the implementation of ACDM processes. This can help ensure that all stakeholders understand their responsibilities and are working together effectively.
- **Foster collaboration:** The task force should foster collaboration between stakeholders by providing opportunities for stakeholders to meet, exchange information, and share best practices. This can help build trust and cooperation between stakeholders and ensure that they are working together effectively.
- **Provide Capacity Building:** The task force should provide training and education for airport stakeholders on ACDM processes and tools. This can help ensure that stakeholders understand how to use ACDM processes and tools effectively and can work together to implement them.
- **Monitor progress:** The task force should monitor the implementation of ACDM processes and tools to ensure that stakeholders are working together effectively. This can involve regular meetings, progress reports, and evaluations of the effectiveness of ACDM processes.

2.13 The meeting may wish to recognize that the proposed Task Force (TF) would provide a centralized regional interface connecting ICAO, CAAs, Airports and their stakeholders. The meeting may wish to note that the TF would facilitate the exchange of information and best practices, and provide guidance and support for the implementation of ACDM processes for all parties.

2.14 The meeting may wish to agree that Terms of Reference Draft of the ACDM Task Force is available at **Appendix B**.

2.15 The meeting may wish to endorse the proposal of the establishment of the MID ACDM-TF in accordance with the Terms of Reference as at **Appendix B**. Accordingly, the meeting may wish to agree on the following Draft Decision:

Why	to endorse the establishment of the MID ACDM-TF and approve its TORs
What	MID ACDM-TF/TORs
Who	MIDANPIRG/21 & RASG-MID/11
When	March 2024

PIRG/RASG DRAFT DECISION XX: ESTABLISHMENT OF THE MID REGION ACDM TASK FORCE (MID ACDM-TF)

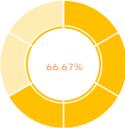
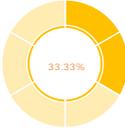
*That, the MID Region Airport Collaborative Decision-Making Task Force (MID ACDM-TF) be established in accordance with the Terms of Reference at **Appendix B**.*

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- urge States to continuously provide ICAO MID Office with their ACDM Implementation Plan within the defined applicability area as at **Appendix A**; and
- endorse to the Draft Decision under paragraph 2.15 of this working paper.

Aerodromes Readiness for ACDM Operations based on the MID Region ACDM Implementation Plan

State	Country Code	Total # of AD as defined in the Applicability Area	City	Aerodrome Name (AOP Table I-1)	Location Indicator (AOP Table I-1)	Designation (AOP Table I-1)	ICAO Reference Code		Aerodrome Traffic Density			Information Sharing	Milestones Approach	Variable Taxi Time	Collaborative Management of Flight Updates	Collaborative Pre-departure Sequence	ACDM in Adverse Conditions	ACDM Elements Implementation Progress	
							Number	Letter	Light	Medium	Heavy								
Bahrain	BHR	1	Manama	Bahrain International Airport	OBBI	RS	4	F					✓	✓	✗	✓	✓	✗	
Egypt	EGY	1	Cairo	CAIRO INTERNATIONAL AIRPORT	HECA	RS	4	F					✓	✓	✗	✗	✗	✗	
Iran	IRN	1	Tehran	Mehrabad International Airport	OIII	RS	4	E					✗	✗	✗	✗	✗	✗	
Kuwait	KWT	1	Kuwait	Kuwait International Airport	OKBK	RS	4	F					✗	✗	✗	✗	✗	✗	
Oman	OMN	1	Muscat	Muscat International Airport	OOMS	RS	4	F					✓	✗	✓	✗	✓	✗	

Aerodromes Readiness for ACDM Operations based on the MID Region ACDM Implementation Plan

State	Country Code	Total # of AD as defined in the Applicability Area	City	Aerodrome Name (AOP Table I-1)	Location Indicator (AOP Table I-1)	Designation (AOP Table I-1)	ICAO Reference Code		Aerodrome Traffic Density			Information Sharing	Milestones Approach	Variable Taxi Time	Collaborative Management of Flight Updates	Collaborative Pre-departure Sequence	ACDM in Adverse Conditions	ACDM Elements Implementation Progress
							Number	Letter	Light	Medium	Heavy							
Qatar	QAT	1	Doha	Hamad International Airport	OTHH	RS	4	F				✓	✓	✓	✓	✓	✓	
Saudi Arabia	SAU	2	Jeddah	King Abdulaziz International Airport	OEJN	RS	4	F				✓	✓	✓	✓	✓	✓	
			Riyadh	King Khalid International Airport	OERK	RS	4	E						✓	✓	✓	✓	✓
UAE	ARE	2	Abu Dhabi	Zayed International Airport	OMAA	RS	4	F				✓	✓	✓	✓	✓	✓	
			Dubai	Dubai International Airport	OMBD	RS	4	F						✓	✓	✓	✓	✗

Aerodromes Readiness for ACDM Operations based on the MID Region ACDM Implementation Plan

		Total # of AD as defined in the Applicability Area	Aerodrome Traffic Density			Information Sharing	Milestones Approach	Variable Taxi Time	Collaborative Management of Flight Updates	Collaborative Pre-departure Sequence	ACDM in Adverse Conditions	ACDM Elements Implementation Progress
			Light	Medium	Heavy							
MID REGION	MID	10	0	7	3							

MID Region
Airports Collaborative Decision-Making Task Force
(MID ACDM-TF)
Terms of Reference

1. SCOPE

The scope and objective of the MID ACDM-TF is to identify, plan and assist in the implementation of A-CDM at the list of Airports concerned by the ACDM Implementation, as defined on the MID Regional Air Navigation Plan (ACDM applicability area agreed by the MID States).

2. PURPOSE:

The purpose of the Regional Task Force is to enhance the MID Region Airports preparedness for the ACDM Implementation. The task force will provide technical assistance, guidance, and support for Airports to ensure the successful implementation of ACDM processes and tools.

3. COMPOSITION:

The Regional Task Force will be composed of representatives from Sates, Airport Stakeholders, including airlines, ground handlers, air traffic control, and airport operators. The task force will be chaired by a representative from the States defined within the ACDM applicability Area.

4. ROLES AND RESPONSIBILITIES:

The Regional Task Force will have the following roles and responsibilities:

- a) Assist, support and enhance the MID Region Airports preparedness for the ACDM Implementation,
- b) Review the Current status of ACDM Implementation Plan in MID Region,
- c) Check the Readiness of the newly Implemented Elements/Enablers of any ACDM Project,
- d) Review the effectiveness of existing Airports ACDM projects in the MID Region,
- e) Assist, as requested, the implementation of coordination procedures between Airports and relevant stakeholders:
 - i. Facilitate the exchange of information and best practices between airport stakeholders to ensure that stakeholders are aware of the latest developments in ACDM processes, tools, and technologies,
 - ii. Provide guidance and support for the implementation of ACDM processes, including training and education for Airport and relevant stakeholders,
 - iii. Monitor the implementation of ACDM processes and evaluate their effectiveness to identify areas for improvement,
 - iv. Ensure that ACDM processes are achieving their intended objectives, including optimizing the use of airport resources, reducing delays, and enhancing safety.

5. MEETINGS AND REPORTING:

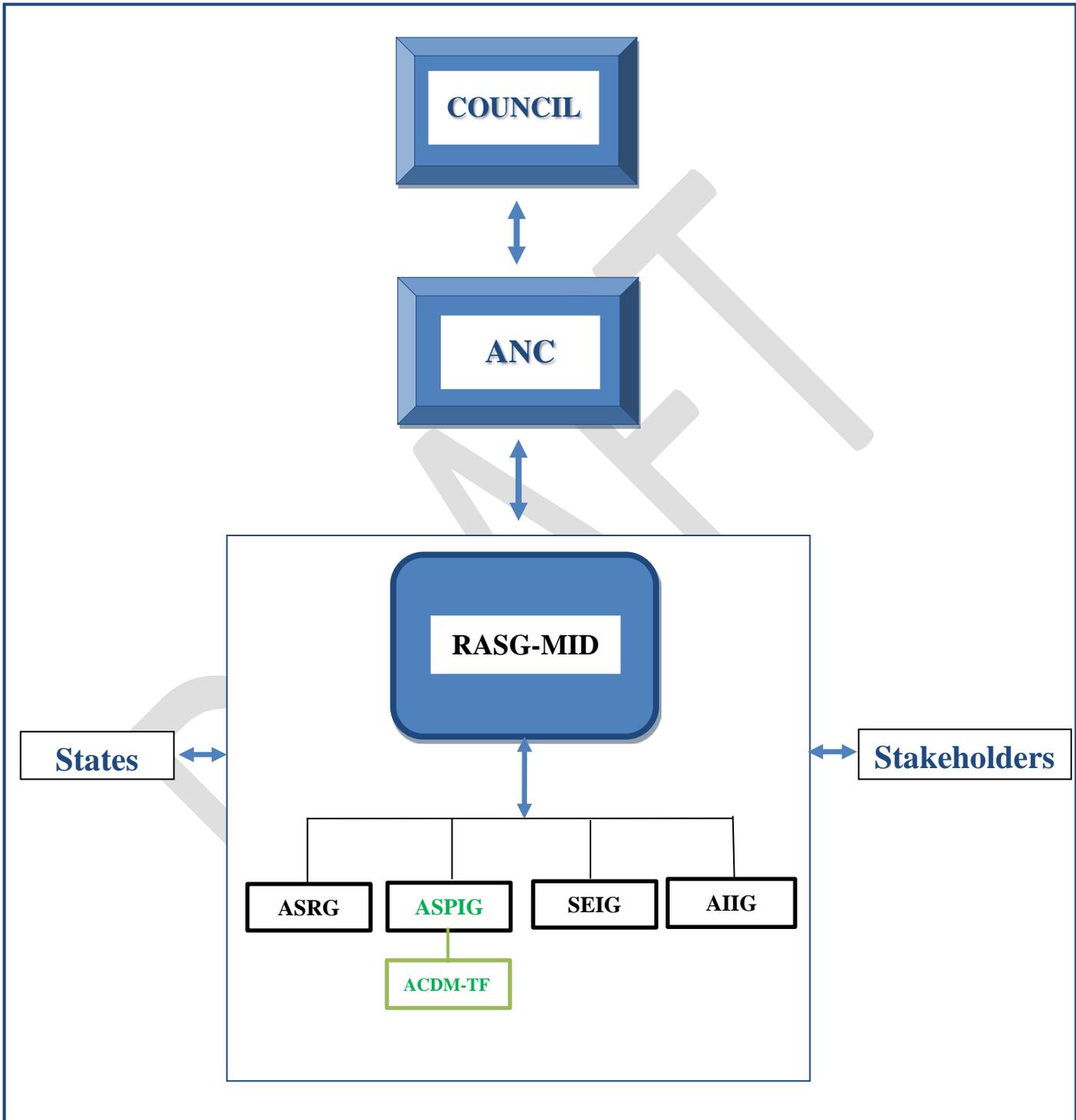
The Regional Task Force will meet on a regular basis to discuss the implementation of ACDM processes and tools. The task force will produce regular progress reports and provide recommendations for improvements to airport stakeholders.

6. WORKING METHODS:

The Task force meeting should be held at least once a year for three-days.

**RASG-MID
 ORGANIZATIONAL STRUCTURE**

Including the proposed ACDM-TF



ASRG	Annual Safety Report Group	SEIG	Safety Enhancement Implementation Group
ASPIG	Aerodromes Safety & Planning Implementation Group	AIIG	Accident & Incident Investigation Group
ACDM-TF	Airport Collaborative Decision Making Task Force		