INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF THE TWENTIETH MEETING OF THE MIDDLE EAST REGIONAL MONITORING AGENCY BOARD

MIDRMA Board/20

(Muscat, Oman, 11 – 12 November 2024)

The views expressed in this Report should be taken as those of the Middle East Regional Monitoring Agency Board (MIDRMA Board) and not of the Organization. MIDANPIRG will be informed of the outcome of this Report and any formal action taken will be included in the Report of the MIDANPIRG.

Approved by the Meeting
and published by authority of the Secretary General

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PART I - HISTORY OF THE MEETING

1. PLACE AND DURATION

1.1 The Twentieth meeting of the Middle East Regional Monitoring Agency Board (MIDRMA Board/20) was kindly hosted by Oman Civil Aviation Authority in Muscat, Oman during the period 11 – 12 November 2024.

2. OPENING

2.1 The meeting was opened by H.E. Eng. Naif Al Abri, Director General of Oman Civil Aviation Authority (CAA), who thanked ICAO for organizing this important meeting in Oman and extended a warm welcome to all participants and wished them a pleasant stay in Muscat. Eng. Al Abri highlighted the importance of the MIDRMA Board meetings, which will discuss subjects related to the safe implementation of RVSM. He reassured the commitment of Oman CAA to support all ICAO Safety enhancement activities and efficiency initiatives.

2.2 In his opening remarks, Mr. Ahmad Amireh, Regional Officer, Air Traffic and Management and Search and Rescue (RO/ATM/SAR). ICAO Middle East Office, Cairo, welcomed all participants to the meeting. He highlighted the key enablers of RVSM implementation, which enhances airspace capacity and optimizes flight operations. Accordingly, the list of technical requirements to be applied to ensure the continued level of safety within the RVSM airspace. In addition, he elaborated that the meeting would discuss administrative and financial aspects of the MIDRMA project, and review the measures to be applied to ensure the sustainability of the project, which is directly related to the technical tasks assigned to the MIDRMA and its ability to adapt new technologies that will facilitate the economy of operations.

2.3 In closing, Mr. Amireh extended the appreciation for Oman for hosting the event, and for the generosity extended for all the participants and ICAO Staff. He also thanked all the participants for their attendance and wished the meeting every success in its deliberations.

3. ATTENDANCE

3.1 The meeting was attended by a total of twenty-two (22) participants from eight (8) States (Bahrain, Egypt, Iran, Jordan, Oman, Saudi Arabia, UAE and USA-FAA) and one (1) Organization (IATA) in addition to MIDRMA. The list of participants is at **Attachment A**.

4. OFFICERS AND SECRETARIAT

4.1 The meeting was chaired by Mr. Abdulla Al Qadhi, Director of Safety and Security, from Bahrain Civil Aviation Affairs, Bahrain.

4.2 Mr. Ahmad Amireh, Regional Officer, Air Traffic and Management and Search and Rescue (RO/ATM/SAR) was the Secretary of the meeting. The meeting was supported by Mr. Elie El Khoury, Technical Officer, ICAO HQ, and Mr. Ahmed Kavehfirouz, Regional Officer, Air Traffic Management (RO/ATM), ICAO Middle East Office.

5. LANGUAGE

5.1 Discussions were conducted in English and documentation was issued in English.

6. AGENDA

6.1 The following Agenda was adopted:

Agenda Item 1: Adoption of the Provisional Agenda

Agenda Item 2: Follow-up on MIDANPIRG/21 and MIDRMA Board/19 Conclusions and Decisions

Agenda Item 3: Progress Report on the MIDRMA Project

Agenda Item 4: RVSM Monitoring and related Technical Issues

Agenda Item 5: Future Work Programme

Agenda Item 6: Any other Business

7. CONCLUSIONS AND DECISIONS – DEFINITION

7.1 The MIDANPIRG records its actions in the form of Conclusions and Decisions with the following significance:

a) **Conclusions** deal with matters that, according to the Group's terms of reference, merit directly the attention of States, or on which further action will be initiated by the Secretary in accordance with established procedures; and

b) **Decisions** relate solely to matters dealing with the internal working arrangements of the Group and its Sub-Groups.

8. LIST OF DRAFT CONCLUSIONS AND DECISIONS

MIDRMA CONCLUSION 20/1:	*PAYMENT OF ARREARS TO THE MIDRMA PROJECT (RAB/05/802)*
DRAFT CONCLUSION 20/2:	*REQUEST FOR THE TRANSFER OF USD 200'000 TO THE MIDRMA ACCOUNT IN BAHRAIN*
MIDRMA DECISION 20/3:	*MIDRMA FINANCIAL DOCUMENTATION*
MIDRMA CONCLUSION 20/4:	*MIDRMA BUSINESS CONTINUITY AND SUSTAINABILITY STRATEGIC PLAN, VER: 1.0*
DRAFT CONCLUSION 20/5:	*REPORTING OF LHDS*
DRAFT CONCLUSION 20/6:	*MID RVSM SMR 2025*

REPORT ON AGENDA ITEM 1: ADOPTION OF THE PROVISIONAL AGENDA

1.1 The meeting reviewed and adopted the Provisional Agenda as at Paragraph 6 of the History of the Meeting.

REPORT ON AGENDA ITEM 2: FOLLOW-UP ON MIDANPIRG/21 AND MIDRMA BOARD/19 CONCLUSIONS AND DECISIONS

2.1 The subject was addressed in WP/2 presented by the Secretariat. The meeting noted the status of relevant MIDANPIRG/21 and MIDRMA Board/19 meetings Conclusions and Decisions and the follow-up actions taken by States, ICAO and other parties concerned as at **Appendix 2A**.

REPORT ON AGENDA ITEM 3: PROGRESS REPORT ON THE MIDRMA PROJECT

MIDRMA Project (RAB/05/802) Financial Report

3.1 The subject was addressed in WP/4, presented by the Secretariat.

3.2 The meeting recalled the MIDRMA Board task to review, update, consider and approve matters related to the funding mechanism, costs, accounting etc.

3.3 The meeting noted that payment requests related to the State contribution to the MIDRMA project (RAB/05/802) for the year 2024 have been issued and circulated to Members States.

3.4 The meeting reviewed the status of States' contributions to the MIDRMA Project, as of 30 September 2024 as reflected at **Appendix 3A.**

3.5 The meeting noted that after the signature of the MoU, Libya started paying the contribution year 2024, and was included for the first time in the SMR2024.

3.6 The meeting noted with concern that several States had arrears related to the contribution to the project which reached USD560'000. Accordingly, the meeting agreed to the following Conclusion:

MIDRMA CONCLUSION 20/1: PAYMENT OF ARREARS TO THE MIDRMA PROJECT (RAB/05/802)

That, States, that have not yet done so, be urged to pay their contributions/arrears to the MIDRMA Project prior to 31 January 2025.

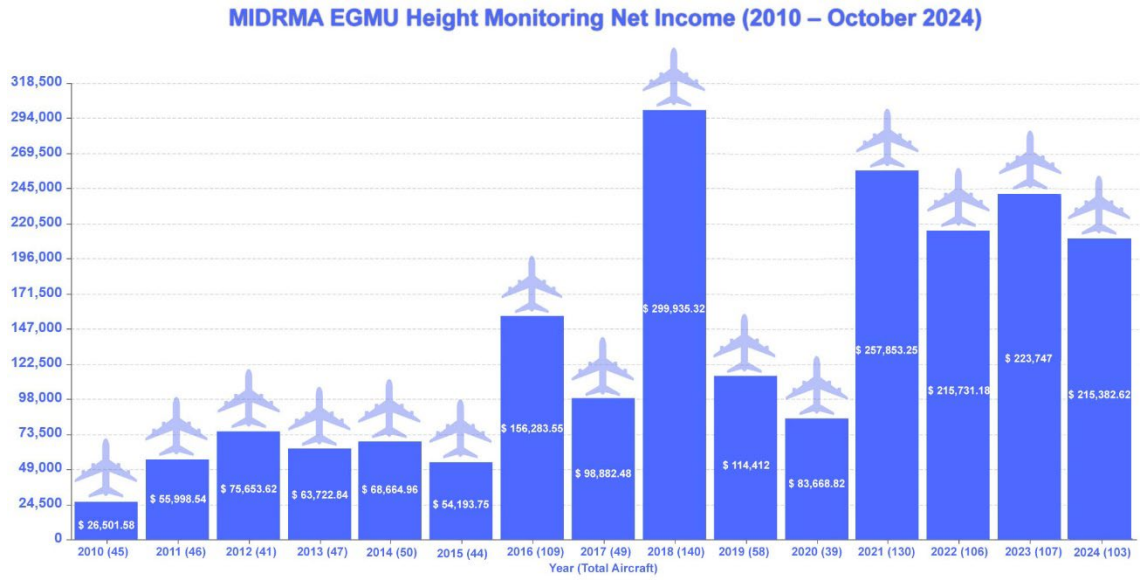
3.7 The meeting noted that for the period of 1 January to 31 October 2024, the MIDRMA conducted GMU monitoring for 103 Aircraft, and expected additional for the remaining Aircraft in 2024.

3.8 The meeting recalled the plan for implementing the MID ADS-B Height Monitoring System (AHMS), which will reduce the dependency on GMU monitoring and thus the MIDRMA income starting 2025. Accordingly, the meeting agreed on the following conclusion to cover the running cost of the MIDRMA:

DRAFT CONCLUSION 20/2: REQUEST FOR THE TRANSFER OF USD 200'000 TO THE MIDRMA ACCOUNT IN BAHRAIN

That the MIDRMA Board Chairperson has delegated the authority to request the transfer of the amount of US$ 200,000 from the MIDRMA account managed by ICAO HQ to the MIDRMA Bank account in Bahrain by March 2025.

3.9 The meeting noted with appreciation that since year 2010, MIDRMA has managed to generate income from successful GMU height monitoring missions for **1078** aircraft, as reflected in Graph 1. The total amount credited to the MIDRMA account used in the development of tools for the MIDRMA activities and cover some of the operational expenses. In accordance with the **2025** Plan for GMU monitoring activities, the expected income from GMU missions would be approximately **120 aircraft**.



Graph 1: showing the income generated from the EGMU RVSM height monitoring missions (as of 31 October 2024).

3.10 The meeting noted that the current balance available in the MIDRMA bank accounts, is as follows:

- the fund balance of the MIDRMA account managed by ICAO HQ (RAB/05/802) as of 30 September 2024: **USD 867,242.**

- the fund balance of the MIDRMA bank account in Bahrain as of 31 October 2024: **USD 275,455.81**

3.11 Based on all the above, the meeting reviewed and approved the financial report of the MIDRMA project (RAB/05/802) for the year 2024.

3.12 Additionally, the meeting reviewed and approved the MIDRMA preliminary budget estimation for the year 2025.

3.13 The meeting highlighted the need for timely communication of the financial aspects including the budget and bank statements prior the conduct of the meetings, to allow suitable time for the board members to review.

3.14 Additionally, the meeting recognized the need for enhancing the way the expenses, budget and other financial-related matters are being presented for the MIDRMA Board. Accordingly, the meeting agreed that the MIDRMA to consult or contract a certified accountant to assist in providing a financial balance sheet and other necessary financial documentation to support the decision-making process by MIDRMA Board. Accordingly, the meeting agreed to the following Decision:

MIDRMA DECISION 20/3: MIDRMA FINANCIAL DOCUMENTATION

That, the MIDRMA consult an accountant to develop necessary financial process and documentation that support the MIDRMA Board fulfilling its mandate.

3.15 In the same vein, the meeting agreed that any request for additional expenses including funds for projects, software, etc., should be supported by proper documentation, such as project charter, to be shared in advance with the Board members.

MIDRMA Business Continuity and Sustainability Strategic Plan

3.16 The subject was addressed in WP/5, presented by the Secretariat on behalf of the Sustainability Action Group (MSAG). The meeting recalled that the MIDRMA Board/18 Meeting (Doha, Qatar, 19 – 20 September 2022) discussed the subject related to the urgency to develop a succession plan for the MIDRMA addressing the staffing needs transfer of knowledge and training, to ensure business continuity; and the continued success of the MIDRMA project. The MIDRMA Board/18 meeting and subsequently MIDANPIRG/20 meeting agreed respectively through the Decision 18/2 and 20/6 to establish an Action Group for this purpose.

3.17 The meeting recalled that the MIDRMA Sustainability Action Group (MSAG) has conducted 5 virtual meetings, to develop a Strategic Plan for the MIDRMA to ensure business continuity and Sustainability. The MSAG developed a document, including the anticipated technical and managerial issues for the coming 6 years (period from 2024 to 2030). The Group agreed on the following Layout/Table of Content of the MIDRMA Strategic Plan:

MIDRMA Business continuity and sustainability, Strategic Plan (2024 - 2030)		
1	**Duties and responsibilities**	
	1.1	Global RMAs duties and responsibilities
	1.2	MIDRMA duties and responsibilities
	1.3	Host State responsibilities (MoA)
	1.4	MIDRMA Board responsibilities (ToR)
	1.5	MIDRMA Member States duties and responsibilities
2	**Financial**	
	2.1	Funding mechanism
	2.2	Incomes and expenses
	2.3	Wages
3	**MIDRMA Human Resources**	
	3.1	Assessment of staffing needs
	3.2	Manpower/Succession Plan (Retirement, Recruitment, retention and training)
4	**Technical**	
	4.1	MIDRMA Tools
	4.2	MIDRMA Operating manual
	4.3	Use of advanced technologies for heigh monitoring
	4.4	Guidance material for continued RVSM safety monitoring of the MID Region

3.18 The meeting may wish to note that MSAG members noticed the following:

a) An agreement on a succession plan for the continuity of services of the MIDRMA is becoming an urgency.

b) New functions and responsibilities were assigned to the MIDRMA team throughout the years, which acquired the advanced technical capabilities to handle and support the MIDRMA functions.

c) Currently the MIDRMA staff consists of 3 personnel (Manager/Team leader, Technical Officer and support officer), while the Chairman is provided by Bahrain (the host State).

d) It was recognized the importance of transfer of knowledge from the current technical staff to their successors (when they reach the retirement); that could

require a period of not less than 2 years; to secure the knowledge and expertise gained by the current MIDRMA team (succession plan).

e) The tools and software currently available within the MIDRMA are sufficient for the coming 6 years.

f) The project maintained its financial growth through the annual States' contributions and the GMU height monitoring activities performed by the MIDRMA. On the other hand, the MIDRMA built extended technical capabilities of its staff and the assigned focal points from States to ensure the continued compliance with the requirements of Annex 6 and 11 related to the RVSM implementation.

g) It is anticipated during the coming years that the financial incomes generated by the GMU activities will be reduced due to introduction of new technologies that would facilitate the height monitoring and reduce the costs on the operators.

3.19 The MSAG presented the initial draft of the "MIDRMA Business Continuity and Sustainability Strategic Plan" as at **Appendix 3B**.

3.20 The meeting appreciated the progress made in the development of the "MIDRMA Business Continuity and sustainability Strategic Plan" document, and agreed on the following Conclusion:

MIDRMA CONCLUSION 20/4: MIDRMA BUSINESS CONTINUITY AND SUSTAINABILITY STRATEGIC PLAN, VER: 1.0

*That, the "MIDRMA Business Continuity and sustainability Strategic Plan" Ver.: 1.0, at **Appendix 3B**, is endorsed.*

3.21 The meeting requested the MSAG to explore the feasibility of initiating a remote working scheme / programme related to the MIDRMA forecasted workforce, taking into account the nature of the tasks, available technologies and the applicable best practices.

REPORT ON AGENDA ITEM 4: RVSM MONITORING AND RELATED TECHNICAL ISSUES

MID RVSM Safety Monitoring Activities

4.1 The subject was addressed in WP/3, presented by the MIDRMA.

4.2 The meeting reiterated that all airline operators with RVSM-approved aircraft must join the RVSM height monitoring program. The main goals of this long-term program are to check the long-term stability of aircraft height-keeping performance and Altimetry System Error (ASE) and to ensure the effectiveness of the operator's ongoing airworthiness program.

4.3 The meeting noted that since January 2024, MIDRMA has conducted EGMU height monitoring for 115 aircraft. Among these, two aircraft were registered outside the MID region (one in Kyrgyzstan and the other in San Marino).

4.4 As reported by MIDRMA, Saudi Arabia's GACA has shown exceptional commitment to RVSM compliance by ensuring the validity of RVSM approvals for its 341 aircraft. Through rigorous follow-ups and direct instructions, GACA maintains these approvals, withdrawing any that fail to comply. MIDRMA extends gratitude to GACA's Airworthiness Inspector for his ongoing cooperation and assistance. To date, MIDRMA has monitored more than 12 GACA aircraft, with checks for three additional aircraft planned to achieve full compliance.

4.5 The meeting noted that Iraq's CAA Flight Safety Department is highly proactive in ensuring RVSM compliance. MIDRMA conducted checks on nine aircraft in Baghdad, with the support of the ICAA Flight Safety Department, with only two remaining to be reviewed by the end of 2024. MIDRMA acknowledges the commitment of ICAA inspectors in ensuring operational safety. Additionally, MIDRMA organized an RVSM Risk Awareness Workshop (attended by 25 persons) specifically for Libya's Air Traffic Control and Flight Safety Department. This workshop proved highly beneficial, offering comprehensive training on safety protocols and RVSM height monitoring practices. It provided valuable insights for Air Traffic Controllers and Airworthiness Inspectors, emphasizing regulatory compliance to ensure safe and efficient operations in RVSM airspace.

4.6 The meeting noted that following a lengthy process, MIDRMA received the renewed OFAC License on July 23, 2024, which is valid until July 22, 2026. This license allows for height monitoring of Iranian aircraft, a critical measure due to the high volume of Iranian flights over the Middle East region. MIDRMA strongly recommends eliminating OFAC licensing requirements for monitoring Iranian and Syrian aircraft to streamline compliance. On 24th September 2024, MIDRMA completed monitoring for 37 Iranian aircraft in Tehran and plans additional missions to monitor 74 more by early 2025. The meeting also noted that obtaining an OFAC (Office of Foreign Assets Control) license to perform RVSM height monitoring for Iranian aircraft presents several challenges, which complicate and delay the MIDRMA's efforts to maintain regional airspace safety. This process is inherently lengthy and complex due to the regulatory restrictions imposed on activities involving Iranian entities. Accordingly, the meeting agreed on the following actions:

a) as a short-term solution, MIDRMA and the FAA initiate discussions to extend the OFAC license authorization for Iran and Syria beyond July 2026; and

b) as a long-term solution, MIDRMA, in collaboration with the FAA, is pursuing a long term (permanent) solution for the utilization of EGMU software to monitor the aircraft height-keeping system.

4.7 Iran appreciated the support and efforts provided to obtain the OFAC License for the Iranian registered aircraft, which supports the commitment towards the safety of Air traffic operations within the Region.

4.8 The meeting was informed that MIDRMA conducted RVSM height monitoring for 23 aircraft registered by Libya's CAA during a recent mission to Tripoli. This successful effort, facilitated with support from the Libyan Airworthiness Section and the Libyan Wing operator, has brought the Libyan MMR into full compliance with RVSM requirements. Notably, two aircraft were removed from Libya's RVSM approval list due to maintenance needs.

Preliminary results of the MID RVSM SMR 2024

4.9 The subject was addressed in WP/6, presented by the MIDRMA.

4.10 The meeting recalled the MIDANPIRG Conclusion 21/14 related to the development of the SMR 2024:

MIDANPIRG CONCLUSION 21/14: MID RVSM SMR 2024

That,

a) the FPL/traffic data for the period 15 May – 15 June 2024 to be used for the development of the MID RVSM Safety Monitoring Report (SMR 2024);

b) only the appropriate Flight Data form available on the MIDRMA website (www.midrma.com) should be used for the provision of FPL/traffic data to the MIDRMA, by 15 July 2024; and

c) the final version of the MID RVSM SMR 2024 be ready for presentation and endorsement by the MIDANPIRG/22 Meeting.

4.11 The MIDRMA presented the initial results of the SMR 2024 at **Appendix 4A**. The meeting noted that based on the data provided to the MIDRMA (TDS and LHDs), the Safety Objectives continue to be met; the value computed for the overall risk is estimated **9.1872×10^{-11}**, which is below the ICAO overall TLS.

4.12 The initial results from the 2024 SMR provide evidence that the safety objectives have been met, based on the available data and methodologies. However, the lack of consistent LHD reporting from several member states, particularly those with high traffic volumes, undermines the confidence in these results. The MIDRMA will await additional data as the SMR reporting cycle completes by the end of 2024.

4.13 The estimation of total risk, which includes Safety Objective 2, incorporates the results of Safety Objective 1 and evaluates risks arising from various other factors. This important component, commonly referred to as operational risk, depends on numerous factors such as airspace configuration, traffic density, ATC procedures, actions of individual controllers and pilots, and the specific operational characteristics of sectors. The assessment of operational risk is based on the analysis of event magnitude and duration, derived from operational incident reports, which are then transformed into Large Height Deviation (LHD) reports.

4.14 MIDRMA has noted a significant and alarming decrease in Large Height Deviation (LHD) reporting from certain member States, particularly those with high traffic volumes. This reduction persists despite the ongoing issuance of monthly reminders to all member States. The lack of comprehensive reporting is especially concerning in relation to LHD categories that involve loss or breakdown in separation between aircraft, which have been highlighted in nearly every report as critical safety risks. Without accurate and timely reporting, the integrity and reliability of safety assessments are compromised, undermining the trust in the overall results. The table below shows the reports received from all member States for the period from January 1 to October 17, 2024.

4.15 MIDRMA continued to monitor the Large Height Deviation (LHD) reports RVSM Safety Protocol at the Eastern Boundaries of Muscat FIR and the increased Number of LHD reports submitted by Mumbai ATCU related to Muscat ATCU. The MIDRMA brought to the meeting attention the ongoing status of the Muscat/Mumbai RVSM safety protocol, which has remained open since 2017. It was underlined that is imperative that a decision be made to close this protocol, given that the associated risks should either be eliminated or reduced to the absolute minimum. The meeting noted that the MIDRMA does not perceive this happening without confirmation of the installation of OLDI/AIDC systems in both ACCs.

4.16 The table below provides a comparison of the number of LHD reports submitted by Mumbai and Muscat ATCUs in 2022 and 2023.

YEAR	LHD Reported by Muscat	LHD Reported by Mumbai
2022	**16**	**41**
2023	**25**	**79**
2024	**75**	**98**

4.17 Based on the above, this increasing trend is extremely concerning and highlights the urgent need for immediate attention and action from both Muscat and Mumbai ATC units. The measures implemented so far, while well-intentioned, have not been sufficient to mitigate the risks posed by these LHD occurrences. We must focus on strengthening coordination, enhancing real-time reporting mechanisms, and ensuring that corrective actions are not only implemented but also monitored for effectiveness. Given the seriousness of the situation, it is imperative that both ATC units take decisive steps to address the root causes of these LHD incidents to prevent further risk to airspace safety.

4.18 The meeting noted that Oman has made significant progress in addressing the Large Height Deviation (LHD) issues between Muscat and Mumbai ACCs. Following the investigation of LHD occurrences over the RASKI waypoint, Oman CAA implemented several corrective measures.

Enhancing Airspace Safety by Reducing Cross-FIR Boundary LHD Events at the Interfaces between Muscat and Mumbai / Karachi FIRs

4.19 The subject was addressed in WP/7, presented by Oman.

4.20 The meeting noted with appreciation that Oman CAA initiated the implementation of Automatic Data Exchange (ADE) System. to enhance cross-FIR flight safety and efficiency, which improve coordination, flight notification, and transfer of control by reducing ATC workload and minimize coordination errors.

4.21 The meeting was informed that multiple AIDC trials with India (Mumbai ACC) have been conducted through 2023, with connectivity tests to resume after India's ATM system upgrade. AIDC communication with Pakistan (Karachi ACC) has also been established in 2024, pending readiness on Pakistan's side for tests. Successful ADE testing is expected to significantly reduce LHDs by minimizing human-related errors associated with the manual exchange of data.

4.22 The meeting supported Oman's proposal that the MIDRMA convene inter-regional coordination meeting to address the reported LHDs, as appropriate.

4.23 The meeting underlined that for several FIRs with high volume of traffic, States continue to report NIL or very few LHDs (Category E only), which has a negative impact on the computed Targets Level of Safety (i.e.: not representative/realistic). The meeting noted with concern

that without the LHDs reports related to all categories mainly A, B, C, D, H, J and K, the MIDRMA would not be able to assess compliance with Safety Objective 2 (Overall risk of collision due all causes).

4.24 The meeting recalled that MIDANPIRG urged States to include the LHD reporting as part of their SMS framework, and to provide the MIDRMA with the reports related to occurrences and incidents through the LHD Online Reporting Tool. The meeting requested the MIDRMA to conduct periodic meetings (vis web conference), at least once every 3 months, with the ATC Focal Points.

4.25 IATA presented an overview of reported TCAS RA events with the MID Region. The meeting invited IATA to share the information relevant to the MID RVSM Airspace with the MIDRMA Team and to present detailed information to the ATM SG for appropriate action.

4.26 Based on the above, the meeting agreed to the following Draft Conclusion:

DRAFT CONCLUSION 20/5: REPORTING OF LHDS

That, in order to assess compliance with Safety Objective 2, the MIDRMA Member States be urged to:

a) take necessary measures to ensure that LHDs (Categories A, B, C, D, E, H, J and K) are reported in timely manner to the MIDRMA using the LHD Online LHD Reporting Tool available on the MIDRMA website (https://midrma.com/lhd/home/login);

*b) provide urgently, not later than **15 January 2025,** their reported LHDs at least from 1 January 2024 (related to the above LHD Categories) to the MIDRMA for the development of the MID RVSM Safety Monitoring Report – 2024 and to ensure that RVSM implementation continue to be safe in the MID Region;*

c) coordinate with MIDRMA, as required;

d) MIDRMA conduct periodic meetings (vis web conference), at least once every 3 months, with the ATC Focal Points; and

e) MIDRMA presents the ATM-technical matters to the ATM SG for appropriate actions.

RVSM Minimum Monitoring Requirement (MMR)

4.27 The subject was addressed in WP/8, presented by the MIDRMA.

4.28 The meeting noted that the MIDRMA, in accordance with its role as a Regional Monitoring Agency (RMA), as specified in ICAO Doc 9937 and 9574, conducts systematic reviews to assess operator compliance with State RVSM approvals within the ICAO Middle East Region. This essential function is carried out to safeguard the safety of the RVSM airspace by identifying aircraft that operate within it without the required approvals.

4.29 While it would be ideal to conduct daily compliance monitoring across the entire ICAO Middle East airspace, challenges in collecting traffic information render this impractical. In alignment with the guidelines set forth in ICAO Doc 9937, the responsible RMA is mandated to monitor full airspace compliance for a minimum of 30 days annually. In fulfilling this obligation, MIDRMA conducts monthly assessments.

4.30 The meeting reviewed the latest MIDRMA Bulletin of Non-RVSM Approved aircraft and observed operating within the ICAO MID RVSM airspace and within the RVSM airspace of other RMAs. The updated Minimum Monitoring Requirement Table is available in **Appendix 4B**.

Doha FIR Phase 2 pre-implementation RVSM Airspace Assessment

4.31 The subject was addressed in WP/9, presented by the MIDRMA.

4.32 The meeting was informed that the RVSM safety monitoring assessment was limited to the RVSM airspace within Bahrain and Doha FIRs, focusing on air traffic operations and risks associated with reduced vertical separation. It is important to note that this assessment does not encompass overall risk evaluation for the safe implementation of RVSM in both FIRs due to the lack of operational error reports, specifically Large Height Deviation (LHD) data. As such, the assessment's conclusions are limited to the current technical risk factors observed in the RVSM airspace, without a comprehensive safety risk measurement.

4.33 The meeting noted that MIDRMA conducted the assessment in line with the methodologies typically applied to RVSM airspace monitoring. The key findings are summarized as follows:

- **Doha FIR:**

  The assessment indicates that within the current Doha FIR boundaries, considering the limited number of airways and low volume of traffic, no hotspots, bottlenecks, or areas of traffic congestion were observed. No significant RVSM issue was identified particularly across the three parallel airways managed by Doha ACC. As a result, the technical risk value for RVSM operations in Doha FIR is currently considered negligible.

- **Bahrain FIR:**

  The assessment reflects the continued presence of bottlenecks and areas of traffic congestion that were identified prior to the establishment of Doha FIR. These traffic challenges have persisted despite the reallocation of airspace responsibilities. A significant factor is that a vast majority of movements within the RVSM airspace remain under the control of Bahrain ACC. Therefore, while Doha ACC has slightly alleviated traffic pressure, the technical and operational challenges within Bahrain FIR’s RVSM airspace remain largely unchanged.

4.34 Based on the above, while the assessment indicates that no significant RVSM issues exist within Doha FIR, Bahrain FIR continues to experience traffic congestion and operational bottlenecks.

ADS-B Height Monitoring System (AHMS)

4.35 This subject was addressed in WP/10, presented by the MIDRMA.

4.36 The meeting noted that using ADS-B for height-keeping performance monitoring requires that the aircraft employ ADS-B Out and operate within the coverage area of an ADS-B ground station receiver. In comparison to other existing ground-based monitoring systems, such as the Height Monitoring Units (HMU) and Aircraft Geometric Height Monitoring Element (AGHME). The effective implementation of the ADS-B Height Monitoring System (AHMS) in the ICAO Middle East region represents a transformative step towards improving the safety, compliance, and efficiency of Reduced Vertical Separation Minimum (RVSM) operations. This system leverages the Automatic Dependent Surveillance-Broadcast (ADS-B) technology to monitor the vertical performance of RVSM-approved aircraft. AHMS offers numerous advantages over traditional height monitoring methods, including greater cost-efficiency, scalability, and ease of deployment.

4.37 With ADS-B technology widely adopted by aircraft operators, AHMS enables the Middle East Regional Monitoring Agency (MIDRMA) to monitor a significantly larger number of aircraft within the region and beyond. Unlike traditional methods such as ground-based height monitoring stations or airborne GPS measurements, ADS-B-based monitoring provides continuous surveillance data, allowing for comprehensive and real-time assessment of Altimetry System Error (ASE) and RVSM performance.

4.38 This system not only enhances the region's capacity to monitor aircraft but also ensures compliance with ICAO provisions—specifically those outlined in ICAO Annex 6, Part I, which governs the operation of aircraft engaged in international air navigation. By employing AHMS, MIDRMA is poised to enhance its oversight capabilities, optimize air traffic management (ATM) processes, and further strengthen the safety of RVSM operations across the ICAO Middle East region.

4.39 The meeting noted that over the past year, MIDRMA has made substantial progress in building the technical capacity required for ADS-B data analysis and implementation of AHMS. Key to this progress has been the comprehensive training program that was delivered to the MIDRMA Team. Following the completion of the training programs, MIDRMA initiated a series of studies utilizing archived ADS-B data, particularly focusing on datasets obtained from Bahrain Archived ADS-B data. These studies were instrumental in evaluating the efficacy of ADS-B for detecting ASE in RVSM-approved aircraft.

4.40 The meeting noted that MIDRMA has developed a comprehensive training manual for the use of ADS-B in RVSM height monitoring. This document serves as a dynamic resource, updated regularly to reflect advancements in AHMS and best practices in RVSM compliance monitoring. This document is essential for ensuring that AHMS method aligned with the standardized procedures for ADS-B-based height monitoring, ensuring consistency and accuracy in data collection and analysis.

4.41 The meeting noted that to further enhance the precision of ASE detection, MIDRMA has formally requested the acquisition of upgraded ASE developer Software and the ASE processor from the Australian Monitoring Agency. This upgraded software are crucial for processing ADS-B data more effectively and delivering high-quality ASE reports. The Australian Airspace Monitoring Agency is currently engaged in discussions with the U.S. Federal Aviation Administration (FAA) to secure the necessary approvals for granting MIDRMA access to these advanced software tools.

4.42 MIDRMA emphasized the critical need for collaboration from all ICAO Middle East member States which have ADS-B system used for surveillance to ensure the success of AHMS implementation. Access to archived ADS-B data is essential for comprehensive RVSM height monitoring and ASE analysis. To this end, the meeting agreed that Board members issue directives to their respective Civil Aviation Authorities (CAAs) to:

a. provide archived ADS-B data for aircraft under their jurisdiction;

b. facilitate the training of their engineers to extract and upload ADS-B data in accordance with MIDRMA’s requirements; and

c. ensure regular submission of ADS-B data for ongoing RVSM monitoring. This cooperation is fundamental to achieving a robust and region-wide AHMS, which will significantly enhance the safety and efficiency of RVSM operations across the Middle East region.

4.43 The meeting urged the MIDRMA to follow up with the relevant States on the implementation plan of the ADS-B and to provide the required training to extract and submit the data.

Expand MIDRMA data to exceed RVSM Levels

4.44 This subject was addressed in WP/11, presented by the ATM SG Chairman.

4.45 The meeting noted that to accomplish the tasks assigned to ATM SG and ASM WG, the Secretariat requires the necessary data to encompass all international operations at the regional level in order to compute the following:

a) MID Region main flows to:

   i. optimize ATS route designators;
   ii. allocate SSR codes; and
   iii. develop required ATS route network to support MID region main flows.

b) monitor the progress of reduction of longitudinal separation in the MID Region;

c) evaluate the progress of airspace restructuring aimed at enhancing flight efficiency and minimizing environmental emissions;

d) effectiveness of coordination mechanism (equipment and procedure) between adjacent ACCs;

4.46 Accordingly, the meeting encouraged the MIDRMA to develop the required tool under the MIDRMA website to accommodate the data submission and collection, and encouraged the States to provide the required Data to the MIDRMA.

Development of MID RVSM SMR 2025

4.47 The meeting noted that the reporting cycle for SMR 2025 spans from 1st January till 31st December 2025. To facilitate this, the Traffic Data Sample (TDS) must be submitted in the prescribed format, utilizing the dedicated Excel sheet designed for the MIDRMA Risk Analysis Software (MIDRAS AI). All members are encouraged to download this Excel sheet, conveniently available on the MIDRMA website (www.midrma.com). This sheet has been meticulously crafted to gather the requisite real-time flight plan data for aircraft operating within the RVSM airspace (FL290 to FL410 inclusive).

4.48 The meeting agreed to the following timelines for the collection of RVSM Traffic Data Sample (TDS) for SMR 2025 from all MIDRMA member States:

a) Collect RVSM Traffic Data Sample (TDS) for the period of 01st May till 31st May 2025 (during the Haj season) for SMR 2025 development and submit it to MIDRMA by 30th June 2025.

b) Collect Large Height Deviation Reports for the SMR 2025 reporting cycle spanning from 1st January till 31st December 2025.

DRAFT CONCLUSION 20/6: MID RVSM SMR 2025

That,

a) the FPL/traffic data for the period 01 May – 31 May 2025 to be used for the development of the MID RVSM Safety Monitoring Report (SMR 2025); before 1 July 2025.

b) only the appropriate Flight Data form available on the MIDRMA website (www.midrma.com) should be used for the provision of FPL/traffic data to the MIDRMA; and

c) the final version of the MID RVSM SMR 2025 be ready for presentation and endorsement by the MIDANPIRG/23 Meeting.

REPORT ON AGENDA ITEM 5: FUTURE WORK PROGRAMME

Terms of Reference

5.1 The meeting reviewed and agreed on the revised Terms of Reference (ToR) of the MIDRMA Board as at **Appendix 5A**.

Date and Venue of the next Meeting

5.2 The meeting recalled that the MIDRMA Board meetings should be hosted by the MIDRMA Member States on rotation basis.

5.3 The meeting agreed that the MIDRMA Board/21 meeting be held during November 2025, taking into account the Regional and Global events. The exact date would be coordinated with the MIDRMA Board Chairman and the MIDRMA team.

REPORT ON AGENDA ITEM 6: ANY OTHER BUSINESS

6.1 The meeting reviewed and updated the list of MIDRMA Board Members, Alternates and Focal Points (ATC and Airworthiness/Flight Operations) as at **Appendix 6A**.

APPENDICES

FOLLOW-UP ACTION PLAN ON MIDRMA/19 CONCLUSIONS AND DECISIONS

CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY DELIVERABLE		TARGET DATE	STATUS/REMARKS
MIDRMA BOARD CONCLUSION 19/1: PAYMENT OF ARREARS TO THE MIDRMA PROJECT *That, States, that have not yet done so, pay their contributions to the MIDRMA Project prior to 31 December 2023, based on the payment request issued by ICAO CDI.*	Payment of arrears	Payments received by ICAO CDI	Concerned States	31 December 2023	**Actioned** Communication with States is ongoing. Details will be discussed in WP/4
MIDRMA BOARD DECISION 19/2: MIDRMA SUSTAINABILITY ACTION GROUP *That:* a) *the MIDRMA Sustainability Action Group is established to develop a Strategic Plan for the MIDRMA to ensure business continuity and sustainability; and* b) *the Action Group is composed of members designated by:* *i. Bahrain;* *ii. Egypt* *iii. Jordan;* *iv. Oman;* *v. Saudi Arabia;* *vi. UAE (Rapporteur);* *vii. MIDRMA; and* *viii. ICAO MID.* c) *the MSAG provides progress report to the MIDRMA Board/20 Meeting.*	Lack of Strategic Plan for continuity and sustainability of MIDRMA	Strategic Plan for the MIDRMA to ensure business continuity and sustainability	Action group members	Progress report to the Board/20 meeting	**Ongoing** Details will be discussed in WP/5
MIDRMA BOARD CONCLUSION 19/3: MIDRMA FUNDING MECHANISM *That,* *a) the activities of the MIDRMA be ensured through contributions from all MIDRMA Member States, which could be recovered in accordance with*	Lack of criteria to categorize MID FIRs regarding MIDRMA contribution	Define MIDRMA funding mechanism	Member States		**Completed**

CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY DELIVERABLE		TARGET DATE	STATUS/REMARKS
ICAO Policies on charges for Airports and Air Navigation Services (Doc 9082), in coordination with IATA; *b) the MIDRMA Member States pay their contributions on a yearly basis not later than two (2) months after the issuance of the invoices by ICAO;* *c) ICAO issue the invoices related to States contribution to the MIDRMA Project on a yearly basis as decided by the MIDRMA Board or its Chairperson;* *d) the annual amounts to be paid by the MIDRMA Member States are, as follows:* *i. Category 1: Bahrain, Egypt, Iran, Iraq, Oman, Qatar, Saudi Arabia and UAE annual contribution is US$ 30,000 each; and* *ii. Category 2: Jordan, Kuwait, Lebanon, Libya, Sudan, Syria and Yemen annual contribution is US$ 10,000 each.* *e) the MIDRMA Member States comply with the payment instructions contained in the invoices sent by ICAO HQ (Project code, fund number, invoice number, Bank information, etc.);* *f) in case a MIDRMA Member State does not pay the contribution to the MIDRMA Project in a timely manner, the MIDRMA Board might consider to take penalty measures against this State (exclusion from the MID RVSM Safety Monitoring Report, review of the Membership, etc);* *g) the MIDRMA Board Chairperson, in compliance with the Custodian Agreement and based on the agreed funding mechanism and the estimation of the yearly operating budget of the MIDRMA, be delegated the authority to certify on behalf of the MIDRMA Member States the requests for advance payment from the MIDRMA account managed by ICAO HQ to the MIDRMA Bank account in Bahrain, as decided by the MIDRMA Board;* *h) the bills related to the MIDRMA expenses be certified by the MIDRMA*					

CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY DELIVERABLE		TARGET DATE	STATUS/REMARKS
Board Chairperson and reviewed by the MIDRMA Board at each of its meetings; *i) the MIDRMA funding mechanism be revised by the MIDRMA Board, when necessary; and* *j) the MIDRMA is invited to explore additional funding and revenue sources to sustain the programme.*					
MIDRMA BOARD DECISION 19/4: MID ADS-B HEIGHT MONITORING SYSTEM (MID AHMS) *That,* *a) States implementing ADS-B to share the archived data with the MIDRMA for evaluation and analysis;* *b) MIDRMA to coordinate with MAAR for:* *i. sharing their experience in evaluating and analyzing samples of the received ADS-B data; and* *ii. providing required training related to AHMS implementation for MIDRMA Staff.* *c) MIDRMA to develop a mechanism and tools for submitting the ADS-B data by States;* *d) MIDRMA provides the required training for CNS engineers from member states responsible for extracting ADS-B data from their systems and submitting it to MIDRMA at regular, mutually agreed intervals;* *e) MIDRMA to develop and document all required processes and procedures to be reflected in the training Manuals for the AHMS implementation, to be incorporated in the MIDRMA Tasks and responsibilities;*	Implementation of new technology to support the activities of hight monitoring.	Implement ADS-B as height monitoring system	Member States	Progress report to the Board/20 meeting	**Ongoing** Details will be discussed in WP/10

CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY DELIVERABLE		TARGET DATE	STATUS/REMARKS
f) MIDRMA shall continue to provide GMU monitoring service until the AHMS is fully operational, and for the Aircraft not included in the MID-AHMS; and *g) the funding mechanism (including services charges) might be revised accordingly (based on cost -recovery basis). In accordance with ICAO Policies on charges for Airports and Air Navigation Services (Doc 9082), in coordination with IATA.*					
MIDRMA Board Conclusion 19/5: MID RVSM SMR 2024 *That,* *a) the FPL/traffic data for the period 15 May – 15 June 2024 to be used for the development of the MID RVSM Safety Monitoring Report (SMR 2024);* *b) only the appropriate Flight Data form available on the MIDRMA website (www.midrma.com) should be used for the provision of FPL/traffic data to the MIDRMA, by 15 July 2024; and* *c) the final version of the MID RVSM SMR 2024 be ready for presentation and endorsement by the MIDANPIRG/22 Meeting.*	Develop SMR 2024	SMR 2024	MID States MIDRMA	31 Dec 2024	**Ongoing** Details will be discussed in WP/6

FOLLOW-UP ACTION PLAN ON MIDANPIRG/21 CONCLUSIONS & DECISIONS

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
C.20/16	**IMPLEMENTATION OF C-DEC225: ESTABLISHMENT OF DOHA FOR/SRR** That, a) the ICAO MID Office to monitor the implementation of the C-DEC225/10 and facilitate coordination between the States concerned, as required; b) States to carry out bilateral and multilateral coordination to finalize the operational and technical requirements, including the necessary letters of agreement; c) MIDRMA to conduct a safety Monitoring assessment for the RVSM airspace within Bahrain and Doha FIRs, highlighting bottlenecks, hotspots and areas of traffic congestion; d) Qatar to provide inputs for the development of the required proposal(s) for amendment to the MID ANP; e) States and other Stakeholders to provide implementation feedback and comments to the MID Office on a quarterly basis for review by the ATM SG; and f) the ATM SG to agree on necessary measures for the conduct of the technical study necessary to support the decision-making for the implementation of Phase 2 and develop a roadmap for the implementation of phase 2 to be presented to MIDANPIRG for endorsement.	safety Monitoring assessment for the RVSM airspace within Bahrain and Doha FIRs	safety assessment report	MIDRMA		**Ongoing** Details will be discussed in WP/9

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
C.21/12	**MID RVSM SMR 2023** That, the MID RVSM Safety Monitoring Report (SMR) 2023 at Appendix 5I, is endorsed.	Development of SMR 2023	SMR 2023			**Completed**
C. 21/13	**NON-SUBMISSION OF REQUIRED DATA FOR THE DEVELOPMENT OF SMR2023** That, Lebanon, Libya and Sudan be included in the list of MID Air Navigation Deficiency	Issue new deficiency against concerned States	New deficiency in MANDD	Concerned States		**Completed**
C. 21/14	**MID RVSM SMR 2024** That, a) the FPL/traffic data for the period 15 May – 15 June 2024 to be used for the development of the MID RVSM Safety Monitoring Report (SMR 2024); b) only the appropriate Flight Data form available on the MIDRMA website (www.midrma.com) should be used for the provision of FPL/traffic data to the MIDRMA, by 15 July 2024; and c) the final version of the MID RVSM SMR 2024 be ready for presentation and endorsement by the MIDANPIRG/22 Meeting	Development of SMR 2024	SMR 2024	MID States MIDRMA	31 Dec 2024	**Ongoing** Details will be discussed in WP/6
C.21/15	**OFAC LICENSE APPLICATION** That, a) the Chairman of MIDRMA Board to submit an application on the OFAC website for the renewal of the OFAC License or waiver for the use of the EGMU unconditionally; and b) invited the FAA representative to support and follow-up the application process as appropriate.	Lack of OFAC license to conduct EGMU	OFAC license	MIDRMA		**Completed**

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
D.21/16	**MID ADS-B HEIGHT MONITORING SYSTEM (MID AHMS)** That, a) States implementing ADS-B to share the archived data with the MIDRMA for evaluation and analysis; b) MIDRMA to coordinate with MAAR for: i. sharing their experience in evaluating and analyzing samples of the received ADS-B data; and ii. providing required training related to AHMS implementation for MIDRMA Staff. c) MIDRMA to develop a mechanism and tools for submitting the ADS-B data by States; d) MIDRMA provides the required training for CNS engineers from member states responsible for extracting ADS-B data from their systems and submitting it to MIDRMA at regular, mutually agreed intervals; e) MIDRMA to develop and document all required processes and procedures to be reflected in the training Manuals for the AHMS implementation, to be incorporated in the MIDRMA Tasks and responsibilities; f) MIDRMA shall continue to provide GMU monitoring service until the AHMS is fully operational, and for the Aircraft not included in the MID-AHMS; and g) the funding mechanism (including services charges) might be revised accordingly (based on cost -recovery basis). In accordance with ICAO Policies on charges for Airports and Air Navigation Services (Doc 9082), in coordination with IATA.	Implementation of new technology to support the activities of hight monitoring.	Implement ADS-B as height monitoring system	Member States	Progress report to the Board/20 meeting	**Ongoing** Details will be discussed in WP/10

Document control: Activity Tracker

Date	State	Description
15 December 2023	**Jordan**	Payment for 2024
20 February 2024	**Oman**	Payment for 2024
23 February 2024	**UAE**	Payment for 2024
4 June 2024	**Saudi Arabia**	Payment for 2024
27 June 2024	**Bahrain**	Payment for 2024
26 September 2024	**Libya**	Payment for 2024

Status of States' Contributions to the MIDRMA Project
***(As of* 04 November 2024)** *Note. Currency in US Dollars*

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Bahrain	Paid 30,000	Paid 20,000	Paid 30,000	Paid 30,000	Paid 30,000	Paid 29,978 27 Oct 11	Paid 30,000 29 Aug 12	Paid 30,000 15 Apr 13	Paid 29,975 6 May 15	Paid 29,975 13 May 15	Paid 30,000 18 Feb 16	Paid 30,000 16 May 17	Paid 29,975 12 Mar 18	Paid 29,975 13 Jan 20	Paid 30,000 2 July 20	Paid 30,000 9 Sep 21	Paid 30,000 31 Mar 22
Egypt	Paid 30,000	Paid 20,000	Paid 30,000	Paid 30,000	Paid 30,000	Paid 29,960 9 Sep 10	Paid 29,960 17 Jan 12	Paid 29,983 30 Jan 13	Paid 29,940 8 Apr 14	Paid 29,940 24 Feb 15	Paid 29,935 24 Dec 15	Paid 29,935 2 Jun 17	Paid 29,935 16 Jan 18	Paid 29,965	Paid 29,965 18 Feb 20	Paid 30,000 11 Aug 21	Paid 29,935 19 Jan 22
Iran	Paid 30,000	Paid 20,000	Paid 30,000	Paid 30,000	Paid 30,000	Paid 29,946 27 Jul 13	Paid 29,935 27 Jul 13	Paid 89,965 4 Apr 16			Paid 29,960 12 May 16	Paid* 29,960 10 Mar 17 not Paid	Not Paid 30,000	Not Paid 30,000	Not Paid 30,000	Not Paid 30,000	Not Paid 30,000
Iraq	N/A	N/A	N/A	N/A	N/A	Paid 10,000 on 16 Sep 11	Paid 10,000 on 5 Jul 12	Paid 10,000 5 Sep 13	Paid 10,000 22 Sep 14	Paid 10,000 23 Apr 15	Paid 10,000 1 Sep 16	Paid 10,000 20 Jun 17	Paid 10,000 20 Aug 18	Paid 10,000 20 Aug 19	Paid 10,000 07 Dec 20	Not Paid 10,000	Not Paid 10,000
Jordan	Paid 30,000	N/A	Paid 1,250	Paid 10,000	Paid 10,000	Paid 10,000 on 10 Aug 10	Paid 10,000 on 28 Nov 11	Paid 10,000 04 Dec 12	Paid 9,924 4 Aug 14	Paid 9,924 3 Feb 15	Paid 9,924 11 Dec 15	Paid 10,000 19 May 17	Paid 9,921 16 Mar 18	Paid 9,984.93 6 Dec 19	Paid 9,984.93 4 June 20	Paid 9,984.93 12 Nov 21	Paid 9,984.93 30 Dec 21
Kuwait	Paid 30,000	N/A	Paid 1,250	Paid 10,000	Paid 10,000	Paid 10,000 on 27 Sep 10	Paid 9,849 on 21 Feb 12	Paid 10,000 20 Mar 13	Paid 10,000 5 May 14	Paid 10,000 12 Mar 15	Not Paid 10,000	Paid 10,000 28 Jul 17	Paid 10,000 14 Feb 18	Paid 10,000 4 Dec 19	Not Paid 10,000	Paid 10,000 27 Sep 21	Not Paid 10,000
Lebanon	Paid 30,000	N/A	Paid 1,250	Paid 10,000	Paid 10,000	Paid 10,000 on 4 Feb 11	Paid 9,960 18 Dec 12	Paid 9,960 10 May 13	Paid 10,000 25 Jul 14	Paid 9,970 15 Dec 15	Paid 9,970 18 Oct 16	Paid 9,915 30 Jul 18	Not Paid 10,000	Paid 10,000 29 Dec 20	Paid 10,000 1 Apr 21	Paid 10,000 1 Apr 21	Not Paid 10,000
Libya	Libya didn't sign the MIDRMA MOA yet.																
Oman	Paid 30,000	Paid 20,000	Paid 30,000	Paid 30,000	Paid 30,000	Paid 30,000 13 Sep 11	Paid 30,000 11 Jan 12	Paid 30,000 28 Feb 13	Paid 30,000 14 Mar 14	Paid 30,000 16 Dec 15	Paid 30,000 9 Mar 16	Paid 30,000 27 Apr 17	Paid 30,000 12 Feb 18	Paid 30,000 16 Dec 19	Paid 30,000 24 June 20	Paid 30,000 29 July 21	Paid 30,000 24 Oct 23
Qatar	Qatar joined the MIDRMA on 28 April 2015										Paid 9,978 19 Nov 15	Paid 9,970 10 Apr 17	Paid 9,978 20 Feb 18	Paid 10,000 7 Oct 19	Paid 10,000 14 Apr 20	Paid 9,978.00 18 Oct 21	Paid 10,000 25 Sep 23
Saudi Arabia	Paid 30,000	Paid 20,000	Paid 30,000	Paid 30,000	Paid 30,000	Paid 30,000 4 Mar 11	Paid 30,000 12 Jan 12	Paid 30,000 13 Mar 13	Paid 30,000 21 May 14	Paid 30,000 21 May 15	Paid 30,000 13 Apr 16	Paid 30,000 16 June 17	Paid 30,000 20 May 22	Paid 30,000 27 Nov 19	Paid 30,000 20 May 22	Paid 30,000 13 Aug 21	Paid 30,000 18 Mar 22
Sudan	Sudan joined the MIDRMA on 26 May 2014									Paid 9,607 17 Feb 15	Paid 9,278 10 Nov 15	Paid 10,000 16 May 17	Paid 9,863 2 Mar 18	Paid 9,974.73 20 Nov 19	Paid 10,133.86 11 June 20	Paid 20,265.61 8 Nov 22	
Syria(*)	Paid 30,000	N/A	Paid 1,250	Paid (US$ 1,250 + 42,789 +11,862+10,374 +7,778+9,970) = 84,023								Not Paid 10,000	Not Paid 10,000	Not Paid 10,000	Not Paid 10,000	Not Paid 10,000	Not Paid 10,000
UAE	Exempted from payment up-to end of 2015										Paid 29,933 26 Apr 16	Paid 29,933 26 Apr 17	Paid 29,931 26 Feb 18	Paid 29,931 9 Oct 19	Paid 30,000 16 July 20	Paid 30,000 9 July 21	Paid 30,000 21 July 22
Yemen	Paid 30,000	N/A	Paid 1,250	Paid 10,000	Paid 10,000	Paid 10,000 17Aug10	Paid 9,975 17Apr12	Paid 19,973 for 2 years 26 Mar 15		Paid 9,987 26 Mar 15	Paid 69,044.70 for 7 years 14 Oct 22						

State	2023	2024															
Bahrain	Paid 30,000 7 Sep 23	Paid 30,000 27 June 24															
Egypt	Paid 29,935 10 May 23	Not Paid 30,000															
Iran	Not Paid 30,000	Not Paid 30,000															
Iraq	Paid 10,000 30 May 23	Not Paid 30,000															
Jordan	Paid 9,984.22 14 July 23	Paid 9,984.93 15 Dec 23															
Kuwait	Not Paid 10,000	Not Paid 10,000															
Lebanon	Not Paid 10,000	Not Paid 10,000															
Libya	**MOA Signed 8Aug2023**	Paid 10,000 26 Sept 24															
Oman	Paid 30,000 13 Apr 23	Paid 30,000 20 Feb 24															
Qatar	Paid 9,978 25 Sep 23	Not Paid 30,000															
Saudi Arabia	Paid 30,000 4 May 23	Paid 30,000 4 June 24															
Sudan	Not Paid 10,000	Not Paid 10,000															
Syria(*)	Not Paid 10,000	Not Paid 10,000															
UAE	Paid 30,000 14 Apr 23	Paid 30,000 23 Feb 24															
Yemen	Not Paid 10,000	Not Paid 10,000															

MIDRMA
MIDDLE EAST REGIONAL MONITORING AGENCY

ICAO • OACI • ИКАО
国际民航组织 • ايكاو

2023 -2030
MIDRMA BUSINESS PLAN

STRATEGIC SOLUTIONS FOR SUSTAINABLE SUCCESS

WWW.MIDRMA.COM

Executive summary

During the past 16 years, the MIDRMA team with the support of the host State (Bahrain), the other MID States and ICAO MID Office, managed to establish and maintain a programme, on a regional basis, for monitoring the height-keeping performance of aircraft operating at the RVSM levels, in order to ensure that the continued application of RVSM meets the safety objectives.

The project maintained its financial growth though the annual States' contribution and the GMU height monitoring activities performed by the MIDRMA. On the other hand, the MIDRMA built extended technical capabilities of its staff and the assigned focal points from States to ensure the continued compliance with the requirements of Annex 6 and 11 related to the RVSM implementation.

It is anticipated during the coming years that the financial income generated by the GMU activities will be reduced due to introduction of new technologies (ADS-B Height Monitoring System (AHMS)) and other modern technologies that would facilitate the height monitoring and reduce the costs on the operators; additionally, it is important to secure the expertise gained by the MIDRMA team through transfer of knowledge and training (succession plan).

The MIDRMA Board at its 18th meeting (Doha, Qatar, 19 – 20 September 2022) recalled that the MIDRMA Board Chairperson and both technical Staff are approaching their retirement. The meeting recognized the urgency to develop a succession plan for the MIDRMA addressing the Staffing, transfer of knowledge/training, business continuity, etc. In this respect, the meeting commended and valued the MIDRMA team for their efforts, contributions, expertise and experience acquired during the past 16 years of activity of the MIDRMA. The meeting agreed that a Strategic Plan for the MIDRMA should be developed to ensure sustainability and business continuity. Accordingly, through Decision 18/2, the meeting established the MIDRMA Sustainability Action Group to develop a Strategic Plan for the MIDRMA to ensure business continuity and sustainability.

The Group agreed that the Strategic Plan should address the Duties and responsibilities, financial aspects, MIDRMA Human Resources and technical subjects.

This Plan was developed by the Group for review and eventually endorsement by the MIDRMA Board. The proposed actions emanating from the Plan are summarized at page 2.

Table of Contents

Summary of proposed actions

The following table summarizes the subjects addressed by the MSAG and the proposed actions:

	Reference Para	Subject	Proposed action	Remarks /Notes
	Duties and responsibilities			
1		MIDRMA Duties and responsibilities	The revised version of the MIDRMA duties and responsibilities (including three additional responsibilities related to PBCS) to be presented for approval to the MIDRMA Board and endorsement by the MIDANPIRG as at **Appendix A**.	Completed
2		Host State Responsibilities (MoA)	No action required.	
3		MIDRMA Board responsibilities (ToR) to include responsibilities of the members (MIDRMA, State and Secretariat)	Revised ToR to be presented to the Board meeting for review and to MIDANPIRG for endorsement, as at **Appendix C**.	Completed to be presented to the Board and the MIDANPIRG and shared with the States.
4		revised MoA	To include latest updates including the new members and including the revised ToR and State responsibilities.	On going
	Financial aspects			
5		Funding mechanism	Revised funding mechanism Conclusion to be presented to the Board meeting for review and endorsement.	Completed revised Funding Mechanism was provided
	MIDRMA Human Resources			
6		Assessment of staffing needs	No action required.	
7		Manpower/Succession Plan (retirement, recruitment, retention, and training)	Encourage Bahrain (Host) to provide candidates to support the MIDRMA Succession Plan.	On going: 2 new teams provided by Bahrain (Host)
	Technical subjects			
8		MIDRMA Tools	No action required.	
9		MIDRMA Operating Manual and Guidance material for continued RVSM safety monitoring of the MID Region	MIDRMA to develop the MIDRMA Training Manual based on the related ICAO SARPs.	Training manuals were developed, training plan is on going for the newly

				provided team members
10		Use of advanced technologies for height monitoring	MIDRMA to continue monitoring industry trends, emerging technologies, and evolving regulatory requirements, to explore and incorporate these technologies into its software development initiatives and further augment its capabilities to address specific needs, which meet the technical requirements.	Introduction of ADS-B Height Monitoring System (AHMS) and using ADS-B data for risk analysis. AI implementation within the new version of the MIDRAS tool.

List of acronyms

MIDRMA Business Continuity and Sustainability Strategic Plan
(2024 -2030)
Draft Version 0.6

Introduction

I. The aviation industry plays a critical role in connecting people and economies across the globe. To ensure safe and efficient air travel, it is essential to implement robust measures and standards. In the Middle East region, the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG) has approved to establish the Middle East Regional Monitoring Agency (MIDRMA) with the primary responsibility of supervising the implementation of Reduced Vertical Separation Minima (RVSM) within the Middle East airspace. The purpose of this Business Continuity and Sustainability Strategic Plan is to ensure the continued operation and long-term success of the MIDRMA. This plan outlines strategies and measures for the period 2024 to 2030 to enhance resilience and promote sustainability, ensuring the uninterrupted provision of services and the agency's ability to adapt to changing circumstances.

II. The MIDRMA Board/18 meeting, through Decision 18/2, established the MIDRMA Sustainability Action Group (MSAG), to develop Strategic Plan for the MIDRMA to ensure sustainability and business continuity:

MIDRMA DECISION 18/2: MIDRMA SUSTAINABILITY ACTION GROUP

That:

a) the MIDRMA Sustainability Action Group is established to develop a Strategic Plan for the MIDRMA to ensure business continuity and sustainability; and

b) the Action Group is composed of members designated by:

i. Bahrain;
ii. Jordan;
iii. Oman;
iv. UAE (Rapporteur);
v. MIDRMA; and
vi. ICAO MID.

III. The MSAG has conducted several virtual meetings, and developed this document, including the anticipated technical and managerial issues for the coming 6 years (period from 2024 to 2030). The Group agreed to the following Layout/Table of Content of the MIDRMA Strategic Plan:

MIDRMA Business continuity and sustainability, Strategic Plan (2024 - 2030)		
1	**Duties and responsibilities**	
	1.1	Global RMAs duties and responsibilities
	1.2	MIDRMA duties and responsibilities

	1.3	Host State responsibilities (MoA)
	1.4	MIDRMA Board responsibilities (ToR)
	1.5	MIDRMA Member States duties and responsibilities
2	**Financial**	
	2.1	Funding mechanism
	2.2	Incomes and expenses
	2.3	Wages
3	**MIDRMA Human Resources**	
	3.1	Assessment of staffing needs
	3.2	Manpower/Succession Plan (Retirement, Recruitment, retention and training)
4	**Technical**	
	4.1	MIDRMA Tools
	4.2	MIDRMA Operating manual
	4.3	Use of advanced technologies for heigh monitoring
	4.4	Guidance material for continued RVSM safety monitoring of the MID Region

IV. The MIDRMA Sustainability Action Group (MSAG) recognizes the significance of RVSM as a key enabler for enhancing airspace capacity and optimizing flight operations within the Middle East region. By reducing the vertical separation between aircraft. RVSM promotes increased airspace efficiency, leading to reduced fuel consumption and emissions. MIDRMA's Business Continuity and Sustainability Strategic Plan leverages this foundational pillar of RVSM implementation to build a comprehensive framework that addresses operational continuity and safety enhancement.

V. The strategic plan emphasizes on the integration of business continuity and sustainability principles, recognizing the interconnectedness between these two critical aspects. Maintaining a resilient aviation system is not limited to ensuring uninterrupted operations but also entails a commitment to continuously enhancing safety and fostering sustainable growth. By aligning business continuity and sustainability objectives, MIDRMA seeks to create a cohesive approach that promotes the long-term viability of the Middle East airspace while safeguarding the RVSM Airspace within the MID Region.

VI. It is important to highlight that the MIDRMA is working and will continue to work closely with regional aviation stakeholders, including national aviation authorities, neighboring Regional Monitoring Agencies (RMAs), airlines, air traffic service providers, and other industry partners. Through collaborative efforts and knowledge exchange, the MIDRMA aims to facilitate the implementation of RVSM standards, share best practices, and enhance regional cooperation. By fostering a culture of continuous improvement and innovation, the aim is to position the Middle East airspace as a global benchmark for operational efficiency, safety, and sustainability.

VII. Vision: To be a leading RVSM Regional Monitoring Agency, ensuring safe and efficient airspace operations through continuous monitoring and effective collaboration.

1. Duties and Responsibilities

1.1 Global RMAs Duties and Responsibilities:

The duties and responsibilities of all regional monitoring agencies are listed in the **ICAO Doc 9574 (Operating Procedures and Practices for Regional Monitoring Agencies in Relation to the Use of a 300 m (1 000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive),** as follows:

1. Establish and maintain a database of aircraft approved by the respective State authorities for operations within RVSM airspace in that region.

2. Receive reports of height deviations of aircraft observed to be non-compliant based on the following criteria:

    a) TVE ≥ 90 m (300 ft);
    b) ASE ≥ 75 m (245 ft);
    c) AAD ≥ 90 m (300 ft);

3. Take the necessary action with the relevant State and operator to:

    a) determine the likely cause of the height deviation; and
    b) verify the approval status of the relevant operator.

4. Recommend, wherever possible, remedial action.

5. Analyze data to detect height deviation trends and, hence, take action as in 4;

6. Undertake such data collections as are required by the PIRG to:

    a) investigate height-keeping performance of the aircraft in the core of the distribution;
    b) establish or add to a database on the height-keeping performance of:

        — the aircraft population.
        — aircraft types or categories; and
        — individual airframes.

7. monitor the level of risk as a consequence of operational errors and in-flight contingencies as follows:

    a) establish a mechanism for collation and analysis of all reports of height deviations of 90 m (300 ft) or more resulting from the above errors/actions.
    b) determine, wherever possible, the root cause of each deviation together with its size and duration.
    c) calculate the frequency of occurrence.
    d) assess the overall risk (technical combined with operational and in-flight contingencies) in the system against the overall safety objectives (see Doc 9574); and
    e) initiate remedial action as required.

8. initiate checks of the "approval status" of aircraft operating in the relevant RVSM airspace, identify non-approved operators and aircraft using RVSM airspace, and notify the appropriate State of Registry/State of the Operator accordingly.

9. circulate regular reports on all height-keeping deviations, together with such graphs and tables necessary to relate the estimated system risk to the TLS, employing the criteria detailed in Doc 9574, for which formats are suggested in Appendix A to Doc 9574; and

10. Submit annual reports to the PIRG.

1.2 MIDRMA Duties and Responsibilities

1.2.1 The Middle East Regional Monitoring Agency (MIDRMA) has the following duties and responsibilities, which were endorsed by MIDANPIRG/11 (Cairo, Egypt 9-13 February 2009) APPENDIX 5.2F:

1. To establish and maintain a central registry of State RVSM approvals of operators and aircraft using the Middle East Region airspace where RVSM is applied.

2. To initiate checks of the "approval status" of aircraft operating in the relevant RVSM airspace, identify non-approved operators and aircraft using RVSM airspace and notify the appropriate State of Registry/State of the Operator and other RMAs, accordingly.

3. To establish and maintain a database containing the results of height-keeping performance monitoring and all altitude deviations of 300 ft or more within Middle East Region airspace, and to include in the database the results of MIDRMA requests to operators and States for information explaining the causes of observed large height deviations.

4. Provide timely information on changes of monitoring status of aircraft type classifications to State Authorities and operators.

5. To assume overall responsibility for assessing compliance of operators and aircraft with RVSM height, keeping performance requirements in conjunction with RVSM introduction in the Middle East Region.

6. To facilitate the transfer of approval data to and from other RVSM Regional Monitoring Agencies.

7. To establish and maintain a database containing the results of navigation error monitoring.

8. To conduct safety analysis for RVSM operations in the MID Region and prepare RVSM Safety Monitoring Reports (SMR) as instructed by MIDANPIRG and the MIDRMA Board.

9. To conduct readiness and safety assessments to aid decision-making in preparation for RVSM implementation in those FIRs where RVSM is not yet implemented.

10. To carry out post-implementation safety assessments, as appropriate.

11. Based on information provided by States related to planned changes to the ATS routes structure, advise States and MIDANPIRG on the effects of such changes on the safe RVSM operations in the MID Region.

12. To liaise with other Regional Monitoring Agencies and organizations to harmonize implementation strategies.

1.2.2 Comparison between the duties and responsibilities in Doc 9574 and the ones endorsed by MIDANPIRG/11:

The MIDRMA is aligned with the global duties and responsibilities of all RMAs as mentioned in ICAO Doc 9574. Additional duties and responsibilities have been assigned to RMAs recently; based on that, the MIDRMA requested the inclusion of three additional responsibilities related to Performance-Based Communication and Surveillance (PBCS), as agreed by the ICAO SASP and included in ICAO 9869, and accepted by the Regional Monitoring Agency Coordination Group (RMACG). This was endorsed by MIDANPIRG/18 through Conclusion 18/3. Therefore, the following three responsibilities should be added to the list of MIDRMA duties and responsibilities:

13. Receive reports of non-compliance (Performance-Based Communication and Surveillance (PBCS) Manual (Doc 9869) refers) with RSP 180 and RCP 240 from other RMAs and transmitting reports to the respective State of the operator/aircraft.

14. Receive and maintain records of RCP and RSP approvals issued by States of Operator/Registry associated with current State responsibility and incorporating into expanded RVSM/PBCS approvals database and follow-up as appropriate instances of non-approved aircraft being identified in PBCS Airspace. This would be determined by augmenting the existing monthly RVSM approvals check to incorporate a similar check against PBCS Approvals where these have been included in the flight plan, but no approvals record is held by RMAs.

15. Share records of RCP and RSP approvals between RMAs in line with current sharing practices of RVSM approvals for the ability of States/ANSPs to verify that aircraft operators filing PBCS capabilities in the flight plan are authorized to do so.

Note: The final version of the amended duties and responsibilities of the MIDRMA is attached to this document in **Appendix A** and should be presented to MIDANPIRG for endorsement.

	Proposed action	Champion	Timeline
	The revised version of the MIDRMA duties and responsibilities (including three additional responsibilities related to PBCS) to be presented for approval to the MIDRMA Board and endorsement by the MIDANPIRG as at **Appendix A**.	MIDRMA	MIDRMA Board/19 (Manama, Bahrain; October 2023) MIDANPIRG/21 (2024)

1.3 Host State Responsibilities (MoA):

1.3.1 As per the MIDRMA Memorandum of Agreement (**Appendix B**), the Member States accepted that Bahrain:

1. To host the MIDRMA operations and pay for the initial setup of the MIDRMA without waiting for MID State contributions. The advance payment made by Bahrain shall be recovered through state's contributions in compliance with the agreed funding mechanism.

2. To provide the offices, equipment, and local personnel needed for the MIDRMA operations.

3. To monitor the progress of MIDRMA, maintain financial accounting, and provide general support and timely reporting.

The provisions and support the MIDRMA received and continues to receive from Bahrain CAA are very satisfactory. Looking ahead to the next six years, no challenges are foreseen considering Bahrain's high-level commitment and continuous support.

Note: The manpower responsible for running the MIDRMA are funded through the MIDRMA budget.

	Proposed action	Champion	Timeline
	No action required	--	--

1.4 MIDRMA Board Terms of Reference (ToR)

1.4.1 The following ToRs of the MIDRMA Board were endorsed by MIDANPIRG/11 (Appendix 5.2E) in February 2009:

1. The Board is responsible for the overall supervision, direction, and management of the MIDRMA project. The Board shall elect a Chairperson.

2. The elected Chairperson acts as the contact point/coordinator on behalf of the MIDRMA Board members to oversee the MIDRMA project in coordination with ICAO.

3. The Board shall review and update the MIDRMA work plan on a yearly basis and/or whenever required.

4. The Board shall meet at least once a year or when deemed necessary to review/update, consider, and approve:

    i. the MIDRMA safety reports.
    ii. matters related to funding mechanism, costs, accounting, etc., and
    iii. the duties, responsibilities, and scope of the MIDRMA.

5. The Board meetings should be hosted by Participating States on rotation basis.

6. The MIDRMA Board reports its activity to MIDANPIRG through the ATM/SAR/AIS Subgroup.

1.4.2 The current MIDRMA Board ToR need to be reviewed and modified to reflect the present status and what is needed for the upcoming six-years period, including the inclusion of the responsibilities of the Chairperson, Member States and ICAO MID; in the ToRs. The proposed revised MIDRMA Board ToRs at **Appendix C** should be presented to the MIDRMA Board and MIDANPIRG for review and endorsement.

	Proposed action	Champion	Timeline
	Revised ToR to be presented to the Board meeting for review and to MIDANPIRG for endorsement, as at **Appendix C**.	MIDRMA Board	MIDANPIRG/21 (2024)

1.5 Member States Responsibilities

1.5.1 During the past years, it was noticed that many States did not provide the required data to the MIDRMA in a timely manner and required standard format. In addition, there was an increased number of aircraft in the MMR list. Therefore, the MIDRMA faced huge challenges in the development of the annual RVSM Safety Monitoring Reports (SMR); this led also sometimes to the exclusion of some States from the SMR for lack of data/information, in accordance with MIDANPIRG Conclusion 14/35. In other occasions, the results were impacted with the limited/reduced number of LHD reports. This will hinder the MIDRMA from providing representative data/analysis in the SMRs.

1.5.2 2.4.2 Therefore, Member States should provide the MIDRMA in a timely manner with all the necessary data and information to support the ongoing RVSM safety monitoring in the MID Region in accordance with MIDANPIRG conclusion 14/35:

CONCLUSION 14/35: PROVISION OF REQUIRED DATA TO THE MIDRMA

That, considering the on-going requirement for RVSM safety monitoring in the MID Region:

a) States provide the required data to the MIDRMA on a regular basis and in a timely manner. The data is to include, but is not necessarily limited to:

i) approval of operators and aircraft for RVSM operations (on monthly basis or whenever there's a change);

ii) Large Height Deviations (LHD) (on monthly basis);

iii) traffic data (as requested by the MIDRMA Board);

iv) radar data as, when and where required; and v) airway structure (above FL 290) and waypoints.

b) States not providing the required data to the MIDRMA on a regular basis and in a timely manner:

i) be included in the MIDANPIRG list of air navigation deficiencies; and

ii) might not be covered by the MID RVSM Safety Monitoring Report (SMR).

1.5.3 Additionally, MIDRMA member States should:

1. Investigate and respond to relevant LHD reports filed related to its FIR.
2. Comply with MIDANPIRG Conclusions concerning the withdrawal of RVSM approvals for their airline operators who are not compliant with RVSM height monitoring.
3. Monitor their Minimum Monitoring Requirements (MMR) through the MIDRMA online system available on the MIDRMA website.
4. Update the MIDRMA and the ICAO MID Office regarding any changes in the appointed focal points for ATC and Airworthiness; and ensure that the newly appointed focal points provide a comprehensive briefing to their successors, explaining the tasks and responsibilities involved, and actively participate in the MIDRMA events.
5. Ensure the payments of the financial annual contributions to the MIDRMA in a timely manner, and avoid pending arrears.

	Proposed action	Champion	Timeline
	Reiterate MIDANPIRG Conclusion 14/35 and include the Member States' list of responsibilities in the ToR of the MIDRMA Board, as at **Appendix C**.	MIDRMA Board	Oct. 2023

2. Financial

2.1 Funding mechanism

2.1.1 The present MIDRMA funding mechanism was endorsed by MIDANPIRG through Conclusion 15/4:

CONCLUSION 15/4: MIDRMA FUNDING MECHANISM

That,

a) the activities of the MIDRMA be ensured through contributions from all MIDRMA Member States, which could be recovered in accordance with ICAO Policies on charges for Airports and Air Navigation Services (Doc 9082), in coordination with IATA;
b) the MIDRMA Member States pay their contributions on a yearly basis not later than two (2) months after the issuance of the invoices by ICAO;
c) ICAO issue the invoices related to States contribution to the MIDRMA Project on a yearly basis as decided by the MIDRMA Board or its Chairperson;
d) the annual amounts to be paid by the MIDRMA Member States are, as follows:

i) Bahrain, Egypt, Iran, Oman Saudi Arabia and UAE annual contribution is US$ 30,000 each; and

ii) Iraq, Jordan, Kuwait, Lebanon, Libya, Qatar, Sudan, Syria and Yemen annual contribution is US$ 10,000 each;

e) UAE is exempted from the payment of contributions to the MIDRMA for the first ten (10) years of operation (up-to end of 2015);

f) the MIDRMA Member States comply with the payment instructions contained in the invoices sent by ICAO HQ (Project code, fund number, invoice number, Bank information, etc);

g) in case a MIDRMA Member State does not pay the contribution to the MIDRMA Project in a timely manner, the MIDRMA Board might consider to take penalty measures against this State (exclusion from the MID RVSM Safety Monitoring Report, review of the Membership, etc);

h) the MIDRMA Board Chairperson, in compliance with the Custodian Agreement and based on the agreed funding mechanism and the estimation of the yearly operating budget of the MIDRMA, be delegated the authority to certify on behalf of the MIDRMA Member States the requests for advance payment from the MIDRMA account managed by ICAO HQ to the MIDRMA Bank account in Bahrain, as decided by the MIDRMA Board;

i) the bills related to the MIDRMA expenses be certified by the MIDRMA Board Chairperson and reviewed by the MIDRMA Board at each of its meetings;

j) the MIDRMA funding mechanism be revised by the MIDRMA Board, when necessary.

2.1.2 The MIDRMA Funding mechanism endorsed by the MIDRMA Board and MIDANPIRG is based on 2 main criteria: the volume of RVSM traffic in a Flight Information Region and the number of RVSM approved aircraft registered in each Member State. Since the above Conclusion was endorsed in 2015, the Region observed some changes with regard to fleet and volume of traffic in some FIRs. It is therefore crucial to reassess the workload for each member State in light of the current circumstances, considering the number of movements within their respective FIRs and the number of RVSM approved aircraft. Consequently, the Table below provides a comparison between the member States' status in years 2011, 2015 and 2023 (2011 and 2015 are the dates when Conclusions related to the MIDRMA Funding Mechanism were endorsed by MIDANPIRG)

Member States	Comparison between Years 2011, 2015 and 2022/2023					
	RVSM ACFT Jan 2011	**RVSM TDS Jan 2011**	**RVSM ACFT Jan 2015**	**RVSM TDS Sep 2015**	**RVSM ACFT April 2023**	**RVSM TDS June 2023**
Bahrain	58	**24285**	50	**25676**	62	**30479**
Egypt	128	**19229**	125	**29172**	151	**25262***
Iran	123	**10479**	205	**39185**	213	**35302***
Iraq	14	**-**	38	**3296**	47	**22420**
Jordan	24	**8554**	46	**5241**	45	**10131**

Kuwait	36	**3570**	50	**2139**	68	**14912**
Lebanon	33	**2949**	24	**52**	32	**85 for 2021**
Libya	-	**-**	-	**-**	40	**-**
Oman	30	**22520**	51	**37080**	74	**35947***
Qatar	107	**-**	205	**-**	297	**-**
KSA	260	**19228**	205	**40250**	281	**42433***
Sudan	-	**-**	9	**6297**	15	**5582***
Syria	9	**9774**	6	**1911**	21	**2894**
UAE	328	**15868**	549	**25622**	580	**28327**
Yemen	12	**3490**	9	**-**	6	**3666***
Total	**1162**	**139946**	**1572**	**215921**	**1911**	**236279**

***TDS for June 2022**

Based on the data included in the above Table, it is obvious that the volume of RVSM traffic in Baghdad FIR has increased significantly to reach the levels of traffic registered by Bahrain, Egypt and UAE. Also, the number of RVSM approved aircraft registered in Qatar reached 297, and became the second biggest fleet in the Region after UAE.

Additionally, after follow up with the Libyan CAA, Libya signed the MIDRMA MoU on 8 August 2023 and joined officially the MIDRMA project. The Board will discuss the payment of contributions by Libya.

3.1.4 Current financial situation:

As of 31 August 2023, the MIDRMA bank accounts balance are as follows:

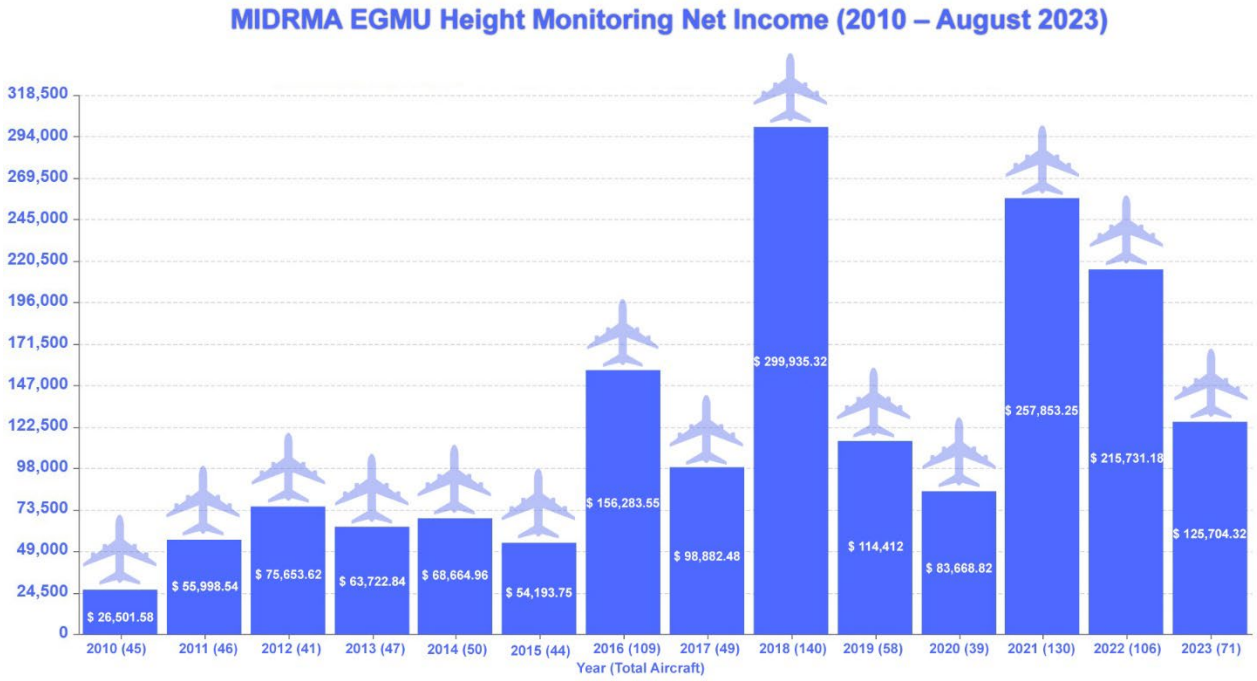
Bank account	**Amount USD**
MIDRMA Bank account in Bahrain (as of 31 August 2023)	**355,583**
MIDRMA Bank account in Montreal (**RAB05802)** (as of 30 June 2023)	**635,487**
Total	**991,070**

The Total of arrears (States' contributions) as of September 2023 is **460,000 USD**.

2.2 Incomes and Expenses

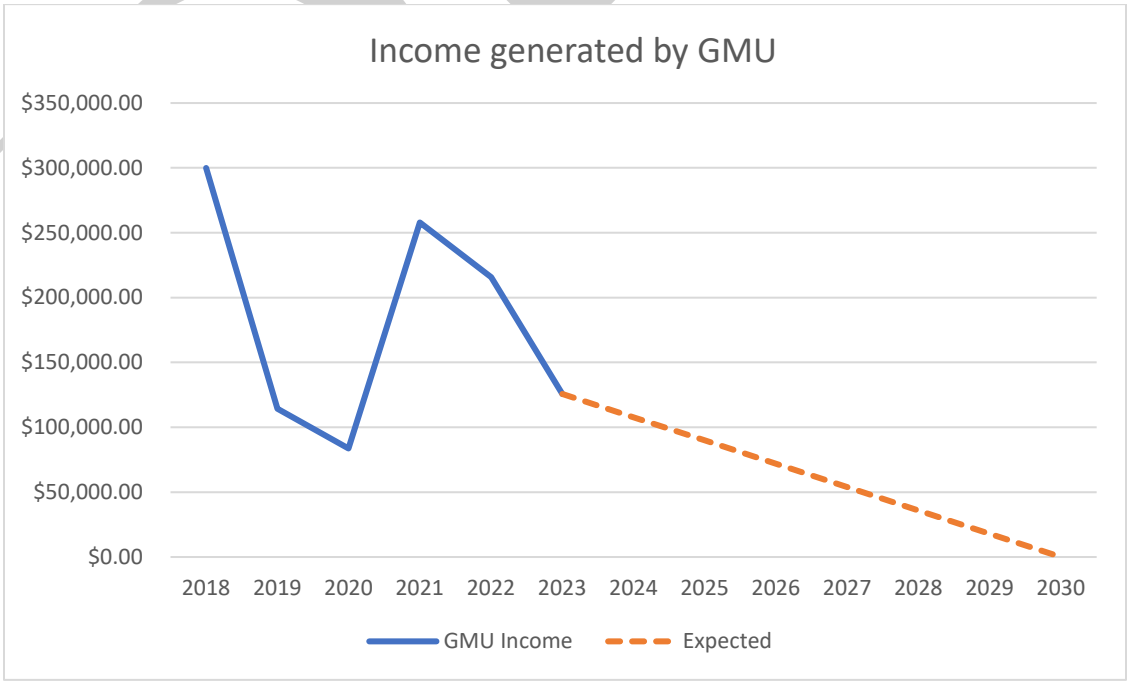
2.2.1 Incomes

The total income from the annual contributions (6 States category 1 and 9 States category 2) is 270,000 USD. The income from performing the required ICAO RVSM height monitoring using E2GMU for the past years is as follows:



Income from height monitoring using E2GMU, as of 31 August 2023

Considering the emergence of ADS-B as a main method for RVSM height monitoring, an important reduction in income from GMU monitoring is expected for the coming years. The reduction in income may eventually reach 100% once all Middle East-registered aircraft are equipped with ADS-B out. For the purpose of this Strategic Plan, and the development of a financial outlook up-to 2030, it is estimated that the incomes from GMU monitoring will be decreasing linearly to reach 0 by 2023, date at which almost 100% of the fleet in the Region will be equipped with ADS-B out.



2.2.2 Expenses

The yearly MIDRMA expenses include fixed and variable costs, such as annual maintenance, utility subscription rent, dedicated Web domain server, MS Office, emails, ~~insurance~~, software upgrades, salaries, duty travels, and insurance fees.

Fixed costs are those that do not vary based on the production level, while variable costs change depending on the inputs or outputs of the required MIDRMA tasks. Software upgrades, maintenance, staff duty travel, seminars, and workshop fees typically fall under variable costs. They may change from year to year or depending on the usage level and its specific requirements.

Based on the current hardware and newly upgraded software specifications, they will likely run smoothly for the next coming six years.

The yearly estimated fixed costs are USD 18,730 with an increase of 5% margin that can be adjusted based on factors such as inflation and market conditions.

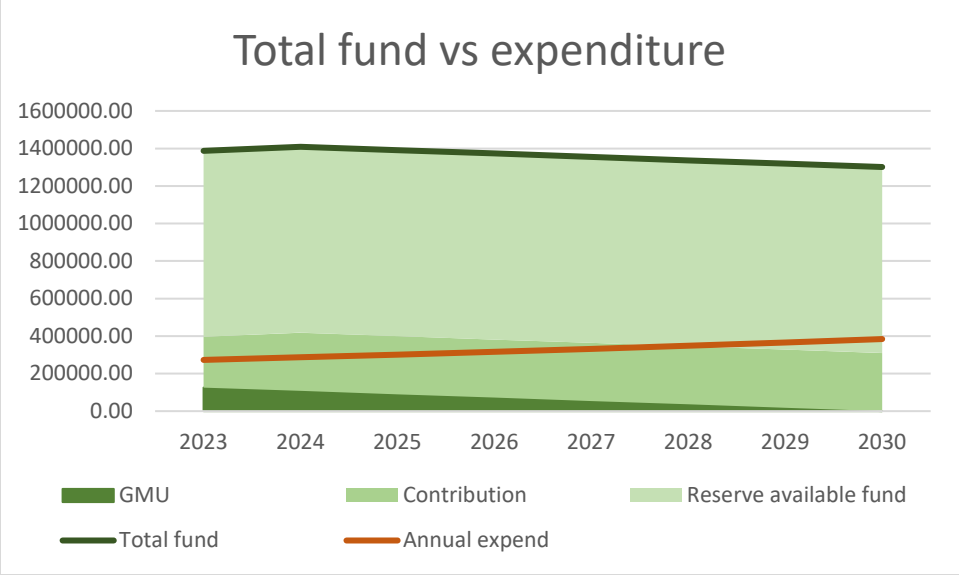
The yearly estimated variable costs are USD 20,300; these costs may increase or decrease depending on the inputs or outputs of the required MIDRMA tasks.

2.3 Wages

Through the MIDRMA Board/13 DRAFT CONCLUSION 13/4, the MIDRMA Board agreed that as of 1st May 2014, the salaries of the MIDRMA staff are paid as monthly lump sums with a 5% increment of the salaries granted to the MIDRMA staff on an annual and regular basis on 1st January of each year. MIDRMA runs by three full-time staff (MIDRMA Manager/Team leader, MIDRMA Officer/Administrator, and MIDRMA Data Analyst/Secretary), and this is the minimum overloaded staffing that can run RMA tasks only. Their yearly wages are USD 233,710.32 with a 5% increment of the salaries granted to the MIDRMA staff annually and regularly on 1st January of each year.

2.4 Financial Risk

The financial risk associated with non-payment of annual contributions by certain MIDRMA Member States could pose a significant challenge to covering the annual budget. If these member States fail to fulfill their financial obligations, it may result in a deficit that hampers MIDRMA's ability to sustain its operations effectively. With the implementation of ADS-B height monitoring, there are no additional income sources available to offset this potential shortfall. Thus, it becomes crucial for all member States to fulfill their commitments promptly, ensuring the continued smooth functioning of the MIDRMA. Proactive measures, such as enforcing payment timelines and fostering financial accountability, will be essential to mitigate this financial risk and maintain the financial stability of the MIDRMA.



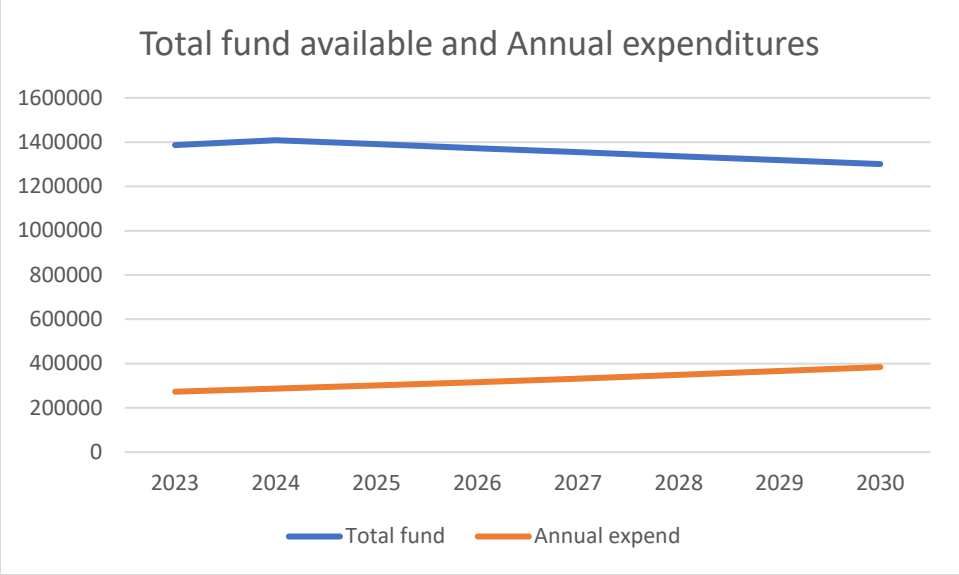
2.5 Conclusion Concerning Financial Issues

2.5.1 The MIDRMA Funding mechanism endorsed by the MIDRMA Board and MIDANPIRG is based on 2 main criteria: the volume of RVSM traffic in a Flight Information Region and the number of RVSM approved aircraft registered in each Member State. The experience shows that this mechanism has been working very well during the past 17 years of operation of the MIDRMA. Therefore, it is proposed that the same logic will be maintained.

2.5.2 Based on the analysis of the current data related to volume of traffic and number of RVSM approved aircraft, it is proposed to move Qatar and Iraq from Category 2 to Category 1 as follows :

> The annual amounts to be paid by the MIDRMA Member States are, as follows:
>
> a. **Category 1: Bahrain, Egypt, Iran, Iraq, Oman, Qatar, Saudi Arabia and UAE** annual contribution is US$30,000 each; and
>
> b. **Category 2: Jordan, Libya, Kuwait, Lebanon, Sudan, Syria and Yemen** annual contribution is US$10,000 each;

2.5.3 Considering, the current financial status of the MIDRMA Project (available funds in the MIDRMA Bank accounts: **991,070 USD**) and the expected expenditures, by moving Qatar and Iraq to Category 1, the total annual contribution from all member States will be increased to **310,000 USD;** the financial sustainability of the MIDRMA will be ensured up-to 2030 and beyond, as reflected in the MIDRMA Financial Outlook below:



Note: The MIDRMA has pending arrears as of September 2023: **460,000USD**.

	Proposed action	Champion	Timeline
	Revised funding mechanism Conclusion to be presented to the Board meeting for review and endorsement.	MSAG MIDRMA ICAO MID	MIDRMA Board/19 (Oct. 2023)

3. MIDRMA Human Resources

3.1 Assessment of staffing needs

The MIDRMA Strategic Plan (2024-2030) places a strong emphasis on business continuity and sustainability. As part of this strategic vision, the assessment of staffing needs has been carefully considered. After thorough evaluation, it has been determined that the agency can effectively fulfill its responsibilities and carry out its work with a lean staff consisting of only three staff members. This decision is rooted in the objective of optimizing efficiency while also taking into account the imperative to save costs for the next six years. By maintaining a small but dedicated team, MIDRMA can streamline its operations, ensure effective communication and coordination, and maintain a focus on the core objectives of the agency. This staffing approach not only contributes to the financial sustainability of the organization but also aligns with the overarching goal of delivering high-quality services and support to member states in the most efficient manner possible. Through careful resource allocation and a strategic approach to staffing, MIDRMA is well-positioned to achieve its long-term objectives while maximizing the prudent utilization of resources.

	Proposed action	Champion	Timeline
	No action required.	--	--

3.2 Manpower/Succession Plan (retirement, recruitment, retention, and training)

The MIDRMA strongly focuses on ensuring a robust Manpower/Succession Plan to address retirement, recruitment, retention, and training needs. Recognizing the importance of maintaining a skilled and capable workforce, MIDRMA has implemented comprehensive measures to manage workforce transitions effectively and ensure a smooth transition for key personnel.

Air traffic Controllers candidates provided by Bahrain CAA will be selected through rigorous recruitment evaluation to attract talented professionals who align with MIDRMA's mission and vision. By combining effective manpower planning, comprehensive succession strategies, and the automation of routine tasks, MIDRMA is well-positioned to ensure a skilled, motivated, and sustainable workforce that can effectively contribute to the agency's long-term goals and the advancement of aviation safety and efficiency in the Middle East region.

Succession Plan for Air Traffic Controllers at Middle East Regional Monitoring Agency (MIDRMA):

Objective: Our aim is to train two air traffic controllers part-time for two to three years, so they can eventually lead at MIDRMA. This plan will make sure the shift in leadership and responsibilities goes smoothly while keeping up the high-quality operation.

Phase 1: Identification and Selection (Months 1-3)

a. Identify Potential Candidates: The HR department, in consultation with current leadership, will identify two promising air traffic controllers who exhibit strong leadership qualities, technical competence, and commitment to MIDRMA's mission.

b. Assessment and Evaluation: Conduct assessments, including interviews, performance reviews, and competency evaluations, to confirm the suitability of the selected candidates for leadership roles.

c. Training Needs Analysis: Develop a comprehensive training needs analysis (TNA) for the selected candidates to determine specific areas of development required for leadership roles.

Phase 2: Part-Time Training (Months 4-30)

a. Individual Development Plans (IDPs): Create tailored IDPs for each candidate based on the Training Needs Assessment (TNA), outlining the training modules, goals, and milestones to be achieved during the part-time training.

b. Training Curriculum: Collaborate with external training institutions and internal mentors to design a curriculum that covers leadership, management, regulatory aspects, and the intricacies of MIDRMA operations.

c. Part-Time Training: The selected candidates will undergo part-time training, balancing their regular air traffic control duties with leadership training. This phase will span two to three years to ensure thorough development.

d. Mentorship: Assign experienced mentors from within MIDRMA to guide and support the candidates throughout their training.

Phase 3: Transition to Leadership Roles (Months 31-36)

a. Gradual Transition: Transition of the trained candidates into leadership roles gradually. Initially, they will work alongside current leadership to gain practical experience and exposure to managerial responsibilities.

b. Continuous Assessment: Conduct periodic performance evaluations and feedback sessions to monitor progress and address any development areas.

Phase 4: Ongoing Monitoring and Support (Months 37 and Beyond)

a. Leadership Roles: Once the candidates have demonstrated their readiness, officially appoint them to leadership roles within MIDRMA.

b. Continued Mentorship: Maintain mentorship and support systems to ensure the candidates' success in their new roles.

c. Monitoring and Evaluation: Regularly assess the leadership team's performance and provide coaching or additional training as needed.

d. Succession Continuity: Develop a succession plan for future leaders to ensure a continuous pipeline of talent.

e. Team Collaboration: Encourage seamless collaboration between the outgoing and incoming leadership teams to facilitate knowledge transfer and a smooth transition.

By implementing this succession plan, MIDRMA will prepare two capable air traffic controllers for carrying out their duties and responsibilities but also establish a framework for ongoing preparations and succession planning within MIDRMA. This approach will help maintain operational excellence and ensure the agency's long-term success.

Conclusion

In conclusion, the MIDRMA has taken a strategic approach to its human resources, focusing on business continuity, sustainability, and cost-effectiveness. Through a carefully staffing needs evaluation, the agency has determined that a lean team of three individuals can efficiently carry out its responsibilities and achieve its objectives for the next six years. This staffing approach aligns with the goal of optimizing efficiency while delivering high-quality services to member States. The MIDRMA has also proactively automated operations to enhance efficiency and reduce reliance on manual processes. With these comprehensive strategies in place, the MIDRMA is well-prepared to maintain a skilled and motivated workforce, advancing aviation safety and efficiency in the Middle East region effectively.

	Proposed action	Champion	Timeline
	Encourage Bahrain (Host) to provide candidates to support the MIDRMA Succession Plan.	MIDRMA Chairperson	As soon as practicable.

4. Technical

4.1 MIDRMA Tools

1- **MID RVSM Risk Analysis Software (MIDRAS AI):** is a cutting-edge AI-powered tool designed for RVSM airspace risk analysis. It offers unparalleled precision in identifying risks in the Middle East Region by analyzing extensive data and utilizing advanced AI algorithms. MIDRAS includes advanced simulation capabilities, enabling the creation of virtual traffic scenarios to assess potential risks and develop mitigation strategies. Moreover, it features autocorrect functionality, automatically detecting and rectifying inaccurate traffic data, saving time, and ensuring reliable risk analysis based on accurate information.

2- **Large Height Deviation (LHD) Online Reporting System**: MIDRMA's online reporting software is designed for Large Height Deviation Reports (LHD) and is a robust platform for member states to submit and manage LHD incidents efficiently. It streamlines reporting with a user-friendly interface and automates report distribution to relevant stakeholders, enabling swift investigations and responses. The software's advanced database offers historical reference and trend analysis available for all users.

3- **Minimum Monitoring Requirement (MMR) Online System**: An online application developed by MIDRMA to assist the MID Airworthiness Authorities and Airline operators in following up their RVSM Minimum Monitoring Requirements for each Member State and Operator. This application is updated regularly from the received RVSM approvals, MIDRMA EGMU Height Monitoring, and RMAs HMU ASE results.

4- **Online MIDRMA Bulletin:** MIDRMA developed this website for publishing the RMA bulletin, which lists all non-RVSM approved Aircraft observed within the MIDRMA area of responsibility. This application access is restricted to State Authorities.
Access link: https://bulletin.midrma.com/bulletin

5- **Global RVSM Approvals Database – Search Engin Tool:** This search function is developed to verify the RVSM approval status of any Aircraft registered around the world. The consolidated RVSM records from all RMAs across the globe have been used for support. This application access is restricted to State Authorities in the MIDRMA website and updated in a regular basis.

6- **Post Flight Processing GrafNav Software:** GrafNav is a software package developed by NovAtel, a leading manufacturer of Global Navigation Satellite System (GNSS) products. GrafNav is designed for post-processing of GNSS data collected from various receivers, allowing users to achieve level positioning accuracy. The software allows users to post-process raw GNSS data to obtain precise positioning solutions and calculate accurate ASE results.

7- **ADSB 7- ADSB Height Monitoring System (AHMS) Software**: This software was jointly developed by the FAA and the Australia Airspace Monitoring Agency (AMAA) for processing ADSB data to calculate aircraft Altimetry System Error (ASE).

8- add also a bullet on the EGMU Units

Conclusion:

In conclusion, MIDRMA is well-equipped with a comprehensive suite of tools and software to effectively monitor and manage the RVSM airspace. With these advanced tools and software at their disposal, MIDRMA is well-prepared to carry out its tasks and goals efficiently. The only potential challenge on the

horizon is the installation or equipage of ADSB out in the MID RVSM approved aircraft. While the current percentage of compliance is high and continues to rise, mandating the equipage of ADSB out in all Middle East RVSM approved aircraft is a critical step that the RMA is considering. However, with the existing tools and software, the MIDRMA is well-positioned to address this challenge and navigate any other evolving aviation technologies that may arise in the future. Therefore, the RMA is set to proceed confidently in the next six years and beyond without significant hindrances to achieving its objectives.

	Proposed action	Champion	Timeline
	No action required.	--	--

4.2 MIDRMA Operating Manual and Guidance material for continued RVSM safety monitoring of the MID Region

Following the guidelines outlined in the ICAO Document 9937, which pertains to the Operating Procedures and Practices for Regional Monitoring Agencies (RMAs), holds significant importance for the successful implementation of Reduced Vertical Separation Minimum (RVSM) procedures. This manual serves as a comprehensive resource that educates and guides RMAs in fulfilling their duties and responsibilities effectively.

The ICAO Document 9937 provides a standardized framework that enables RMAs to establish and maintain a consistent approach to RVSM implementation. It offers a wealth of information regarding the technical, operational, and administrative aspects of monitoring and managing RVSM operations. By adhering to the guidelines outlined in this document, RMAs can ensure a harmonized and synchronized approach across different regions and member States. Moreover, the manual serves as a valuable tool for educating RMAs about their roles and responsibilities. It provides a clear understanding of the functions, processes, and best practices associated with the effective operation of an RMA. By following these guidelines, RMAs can improve their capability to identify, monitor, and address any deviations or non-compliance with RVSM standards promptly.

The ICAO Document 9937 serves as a reference manual that empowers RMAs to enhance their overall operational efficiency. It covers a wide range of topics, including airspace management, data processing, safety oversight, and collaborative decision-making processes. By utilizing this comprehensive resource,

RMAs can optimize their workflows, streamline their procedures, and ensure consistent and accurate reporting.

Furthermore, adhering to the ICAO Document 9937 demonstrates a commitment to international standards and promotes a harmonized approach to RVSM implementation. It enables RMAs to align their practices with global aviation regulations and ensures the seamless integration of regional monitoring efforts into the broader international aviation community.

In conclusion, the MIDRMA, like other Regional Monitoring Agencies (RMAs), relies extensively on the ICAO Document 9937 for the successful execution of its tasks and daily operations. This document serves as a comprehensive guide that encompasses all the necessary procedures, practices, and guidelines for RVSM implementation and oversight. Given the thoroughness and comprehensiveness of this document, RMAs such as MIDRMA do not need to develop separate manuals or documents. The ICAO Document 9937 provides a consolidated resource that effectively educates, informs, and equips RMAs with the knowledge and tools required to carry out their responsibilities. By fully embracing and adhering to this document, MIDRMA can confidently execute its routine daily works and ensure a consistent, harmonized approach to RVSM implementation in line with international standards and best practices.

The MIDRMA recognizes the importance of providing comprehensive manuals for all its software applications. These manuals serve as essential resources for new users, guiding them through the functionalities and operations of each software. MIDRMA ensures that these manuals are readily available, offering clear instructions and explanations to facilitate a smooth onboarding process.

Moreover, MIDRMA understands the dynamic nature of technology and the need for continuous improvement. As new versions of the software are developed, MIDRMA is committed to reviewing and updating the corresponding manuals to reflect the latest features, enhancements, and changes. This proactive approach ensures that the manuals remain up to date, relevant, and accurate, aligning with the evolving capabilities of the software.

By providing accessible and regularly updated manuals, MIDRMA enables new users to quickly familiarize themselves with the software and maximize its potential. The manuals offer step-by-step instructions, screenshots, and detailed explanations, ensuring that users can effectively navigate and utilize the software's functionalities.

The availability and ongoing review of the manuals showcase MIDRMA's dedication to transparency, efficiency, and effective knowledge transfer. By equipping users with detailed guidance on the utilization of the agency's software applications, MIDRMA fosters a culture of proficiency, enabling users to harness the full potential of these tools in their daily work.

In conclusion, the MIDRMA prioritizes the availability and continuous review of manuals for its software applications. These manuals serve as indispensable resources for new users, providing them with the necessary guidance to navigate and utilize the software effectively. With regular updates and revisions, MIDRMA ensures that the manuals remain current and reflect the latest features and improvements in the software. By facilitating easy access to comprehensive manuals, MIDRMA supports user proficiency, operational excellence, and the successful implementation of its software solutions.

MIDRMA Training Manual

MIDRMA developed a comprehensive operating manual that provides concise explanations and essential guidance for the daily tasks and responsibilities of its staff. This manual was meticulously compiled, reviewed, and is subject to ongoing revisions to ensure it remains up-to-date and reflects the latest best practices. MIDRMA is committed to clarity and effectiveness in its guidance, offering staff members clear, step-by-step instructions on task execution. The MIDRMA team is actively working on the inclusion of images and instructional videos within the manual to simplify the comprehension and execution of complex tasks.

	Proposed action	Champion	Timeline
	MIDRMA to further work on the MIDRMA Training Manual …	MIDRMA	TBD

4.3 Use of advanced technologies for height monitoring

The MIDRMA Strategic Plan (2024-2030) recognizes the significance of incorporating advanced technologies into RVSM height monitoring practices. One such evolving method that holds great promise is the utilization of Automatic Dependent Surveillance-Broadcast Out (ADSB-Out) data. This method is expected to become the primary approach for RVSM height monitoring across all RMAs, including MIDRMA, due to its cost-effectiveness and practicality.

The adoption of ADSB-Out data for RVSM height monitoring offers several advantages. Firstly, it eliminates the need for costly ground-based infrastructure, such as height monitoring units or EGMU, as it relies on aircraft broadcasting their information directly.

Furthermore, the use of ADSB-Out data improves the efficiency of height monitoring. Real-time information allows for prompt detection of any deviations from RVSM height standards, enabling immediate intervention and corrective actions. By leveraging this technology, MIDRMA can enhance safety, minimize disruptions to airspace operations, and optimize airspace utilization

Additionally, the practicality of ADSB-Out data for RVSM height monitoring cannot be overstated. The widespread adoption of ADSB technology by aircraft and the continuous advancements in its implementation make it a reliable and scalable solution. As more aircraft become equipped with ADSB transponders, the coverage and accuracy of height monitoring will improve, further enhancing the effectiveness of MIDRMA's oversight.

In conclusion, the immense potential of advanced technologies, particularly the utilization of ADSB-Out data, for RVSM height monitoring is recognized. Embracing this evolving method offers MIDRMA numerous benefits, including real-time monitoring capabilities and improved efficiency. By embracing the use of ADSB-Out data, MIDRMA can lead the way in implementing this cost-effective and practical solution, ensuring enhanced safety and compliance with RVSM height standards across the Middle East airspace.

Note: the current aircraft equipment (ADS-B out) and the percentage of the compatible fleet within the MID Region will be added. and any other end users challenges.

Conclusion

The MIDRMA places significant importance on utilizing advanced technologies and user-friendly tools to enhance the continuous monitoring of safety in the RVSM airspace. The development of the Minimum Monitoring Requirement Tool and the MIDRMA Risk Analysis Software AI (MIDRAS AI) demonstrates the agency's commitment to harnessing the power of technology for accurate risk analysis and streamlined reporting processes. Additionally, the implementation of ADSB-Out height monitoring showcases forward-thinking approach to promoting safety and cost-effectiveness. By adhering to international guidelines outlined in the ICAO Document 9937, MIDRMA ensures a harmonized and standardized approach to RVSM implementation. With a focus on continuous improvement, MIDRMA actively updates and maintains comprehensive manuals for its software applications, fostering proficiency and knowledge transfer among users.

	Proposed action	Champion	Timeline
	MIDRMA to continue monitoring industry trends, emerging technologies, and evolving regulatory requirements, to explore and incorporate these technologies into its software development initiatives and further augment its capabilities to address specific needs.	MIDRMA	continuous

Appendix A: Duties and Responsibilities

Duties and Responsibilities of the MIDRMA

The Middle East Regional Monitoring Agency (MIDRMA) has the following duties and responsibilities:

1. To establish and maintain a central registry of State RVSM approvals of operators and aircraft using the Middle East Region airspace where RVSM is applied.

2. To initiate checks of the "approval status" of aircraft operating in the relevant RVSM airspace, identify non-approved operators and aircraft using RVSM airspace and notify the appropriate State of Registry/State of the Operator and other RMAs, accordingly.

3. To establish and maintain a database containing the results of height keeping performance monitoring and all altitude deviations of 300 ft or more within Middle East Region airspace, and to include in the database the results of MIDRMA requests to operators and States for information explaining the causes of observed large height deviations.

4. Provide timely information on changes of monitoring status of aircraft type classifications to State Authorities and operators.

5. To assume overall responsibility for assessing compliance of operators and aircraft with RVSM height keeping performance requirements in conjunction with RVSM introduction in the Middle East Region.

6. To facilitate the transfer of approval data to and from other RVSM Regional Monitoring Agencies.

7. To establish and maintain a database containing the results of navigation error monitoring.

8. To conduct safety analysis for RVSM operations in the MID Region and prepare RVSM Safety Monitoring Reports (SMR) as instructed by MIDANPIRG and the MIDRMA Board.

9. To conduct readiness and safety assessments to aid decision-making in preparation for RVSM implementation in those FIRs where RVSM is not yet implemented.

10. To carry out post-implementation safety assessments, as appropriate.

11. Based on information provided by States related to planned changes to the ATS routes structure, advise States and MIDANPIRG on the effects of such changes on the safe RVSM operations in the MID Region.

12. To liaise with other Regional Monitoring Agencies and organizations to harmonize implementation strategies.

13. Receive reports of non-compliance (Performance-Based Communication and Surveillance (PBCS) Manual (Doc 9869) refers) with RSP 180 and RCP 240 from other RMAs and transmitting reports to the respective State of the operator/aircraft.

14. Receive and maintain records of RCP and RSP approvals issued by States of Operator/Registry associated with current State responsibility and incorporating into expanded RVSM/PBCS approvals database and follow-up as appropriate instances of non-approved aircraft being identified in PBCS airspace. This would be determined by augmenting the existing monthly RVSM approvals check to incorporate a similar check against PBCS Approvals where these have been included in the flight plan, Still, no approvals record is held by RMAs.

15. Share records of RCP and RSP approvals between RMAs in line with current sharing practices of RVSM approvals for the ability of States/ANSPs to verify that aircraft operators filing PBCS capabilities in the flight plan are authorized to do so.

Appendix B (MoA)

Between ICAO and the member States

(To be added)

Appendix C: ToR

MIDDLE EAST REGIONAL MONITORING AGENCY (MIDRMA) BOARD

TERMS OF REFERENCE

The Terms of reference was developed in line with the composition of the MIDRMA Board members (para 2 refers) to assign the relevant tasks and responsibilities to the concerned parties.

I. Board responsibilities

1. The Board is responsible for the overall supervision, direction, and management of the MIDRMA project, to ensure an efficient functioning of the MIDRMA and its sustainability.

2. Develop and continue monitoring the MIDRMA sustainability plan in periodic manner, not more than 3 years, or when deemed necessary.

3. The Board shall elect a Chairperson.

4. The Board shall review and update the MIDRMA work plan on a yearly basis and/or whenever required.

5. The Board shall meet at least once a year or when deemed necessary to review/update, consider, and approve:

    i. the MIDRMA safety reports;
    ii. matters related to the financial management of the MIDRMA project (funding mechanism, annual contributions, incomes, expenditures, etc.); and
    iii. the duties, responsibilities, and scope of the MIDRMA.

6. The Board meetings should be hosted by the member States on rotation basis.

7. The outcomes of the Board meeting related to technical subjects should be reported to MIDANPIRG for final review and endorsement; whereas, the financial and managerial subject related to the MIDRMA are handled by the Board and do not necessitate MIDANPIRG endorsement.

8. The Board shall promote effective communication channels between the MIDRMA and the Member States.

9. The Board shall promote collaboration and cooperation among member states, encouraging the sharing of best practices, experiences, and lessons learned in RVSM operations and monitoring.

10. The Board shall facilitate capacity building initiatives, including training programs and workshops, to enhance the technical expertise of member States related to RVSM operations, risk analysis and monitoring.

11. The Board shall promote compliance with applicable international standards, recommended practices, and procedures related to RVSM, taking into account the evolving regulatory framework and technological advancements.

II. Composition

The MIDRMA Board shall consist of focal points nominated by each Participating MID Region State as signatories on their behalf with ICAO Technical Cooperation Bureau (TCB) in relation with the MIDRMA project.

The MIDRMA Board meetings will be attended by:

- The Board Members;
- ICAO Regional Office, as permanent observer; and
- Other Organizations (EUROCONTROL, IATA, etc.) as observes on ad-hoc basis and as required.

III. Chairperson responsibilities

The elected Chairperson should:

1. Act as the contact point/coordinator on behalf of the MIDRMA Board members to manage the MIDRMA operational and financial activities.
2. Call, organize and Chair Board meetings.
3. Ensure that the Agenda of the Board meetings meets the objectives to improve MIDRMA activities and keep focus on high priority items.
4. Ensure meeting Agendas, documentation and meeting Reports/Summaries are provided to Member States.
5. Promote consensus among the member States.
6. Coordinate MIDRMA activities closely with the Secretariat and follow-up meeting outcomes and Action items.
7. Present annual financial statement to the board meetings.
8. Coordinate relevant subjects with ICAO, Host State (Bahrain) and Board members, as deemed necessary.

IV. Member States responsibilities

Each MIDRMA member State should:

1. Designate a MIDRMA Board Member/ Alternate, an ATC and Airworthiness/Flight OPS Focal Points. The designated representatives should be familiar with the MIDRMA Objectives and able to support its activities.

2. Provide update to the MIDRMA and the ICAO MID Office regarding any changes in the appointed focal points for ATC and Airworthiness; and ensure that the newly appointed focal point(s) are provided with a comprehensive briefing by their predecessors, explaining the assigned tasks and responsibilities.

3. Regularly attend the MIDRMA events.

4. Ensure the payment of the financial annual contributions to the MIDRMA in a timely manner, and avoid pending arrears.

5. Provide the required data to the MIDRMA on regular basis and in a timely manner; the data include, but is not limited to:

    a) approval of operators and aircraft for RVSM operations (on monthly basis or whenever there's a change);
    b) Large Height Deviations (LHD) (on monthly basis);
    c) traffic data (TDS and ADS-B…) as requested by the MIDRMA Board;
    d) airway route structure (above FL 290) and list of waypoints.

6. Investigate and respond to relevant LHD reports filed related to its FIR, through the MIDRMA online reporting tool.

7. Withdraw the RVSM approvals for their airline operators who are not compliant with RVSM height monitoring, and notify the MIDRMA; accordingly.

8. Monitor the relevant Minimum Monitoring Requirements (MMR) through the MIDRMA online system available on the MIDRMA website (add link).

V. MID Office Secretariat Responsibilities

The Secretariat will support the Chairperson by providing administrative, coordination and technical support to the MIDRMA Board. In particular, the Secretariat will:

1. Coordinate meeting logistics with the relevant parties.

2. Develop meetings Agenda.

3. Ensure meeting Reports/Summaries and related documents are posted in a timely manner on the ICAO MID Regional Office website.

4. Monitor and follow-up on the implementation of the Board Conclusions and Decisions and provide status reports to the Board meetings.

5. In coordination with the MIDRMA, report the outcomes of the Board meetings to MIDANPIRG and/or its subsidiary bodies, as appropriate.

6. Maintain communication with the Chairperson, MIDRMA and Member States.

7. Coordinate with ICAO HQ/CDI for the issuance of payment requests and follow up on the arrears.

PRELIMINARY RESULTS OF THE MID RVSM SMR 2024

SUMMARY

This working paper details the preliminary results of the MID RVSM Safety Monitoring Report 2024 and tries to demonstrate according to the data used that the key safety objectives of the SMR in accordance with ICAO Doc 9574 second edition so far were met in operational service but with some reservations. The technical risk of en-route mid-air collision in RVSM airspace is estimated to be **7.2614×10^{-11}** fatal accidents per flight hour which satisfies the Target Level of Safety and Safety Objective 1. The overall risk of en-route mid-air collision in RVSM airspace is estimated to be **9.1872×10^{-11}** fatal accidents per flight hour which satisfies the Target Level of Safety and Safety Objective 2. However, the final conclusions of the processed data have been significantly limited by the continued NIL reporting of Large Height Deviations (LHDs) from some member states, and the absence of valid LHD reports in the categories contributing to the overall risk calculations, which undermines confidence in this result.

Action by the meeting is in paragraph 3.

REFERENCES

- MIDRMA Board/19 Report
- MIDANPIRG/20 & RASGMID/10 Report

1. INTRODUCTION

1.1 The Middle East Regional Monitoring Agency (MIDRMA) produces the MID RVSM Safety Monitoring Report (SMR) annually, which is submitted to the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG) for endorsement. The report's purpose is to demonstrate, through data and analysis, that the safety objectives specified in the MID RVSM Safety Policy (in line with ICAO Doc 9574 second edition) continued to be satisfied.

1.2 However, for the 2024 SMR, challenges remain due to delays in receiving Traffic Data Samples (TDS) from some member states. In some cases, the submitted data did not adhere to the required format or were insufficient for risk analysis, in addition the lack of LHD reports received so far for the first ten months indicated that the calculations for the overall risk does not support high confidence. Despite these challenges, the initial calculations indicate that the MID RVSM airspace continues to meet the ICAO Target Levels of Safety (TLS) for overall risk.

2. PRELIMINARY results of the MID RVSM SMR 2024 (first draft version):

2.1 The implementation of RVSM (Reduced Vertical Separation Minimum) must be supported by a safety assessment that confirms compliance with the safety objectives defined by the MID RVSM Safety Policy in ICAO Doc 9574. This ensures the continued safe operation of RVSM airspace within the ICAO Middle East Region.

2.1.2 The initial results from the 2024 SMR provide evidence that the safety objectives have been met, based on the available data and methodologies. However, the lack of consistent LHD reporting from several member states, particularly those with high traffic volumes, undermines the confidence in these results. The MIDRMA will await additional data as the SMR reporting cycle completes by the end of 2024.

Objective 1 The risk of collision in MID RVSM airspace due solely to technical height-keeping performance meets the ICAO target level of safety (TLS) of $2.5x10^{-9}$ fatal accidents per flight hour.

The value computed for technical height risk is estimated **7.2614×10^{-11}** this meets RVSM Safety Objective 1.

Objective 2 The overall risk of collision due to all causes which includes the technical risk and all risk due to operational errors and in-flight contingencies in the MID RVSM airspace meets the ICAO overall TLS of **$5x10^{-9}$** fatal accidents per flight hour.

The value computed for the overall risk is estimated **9.1872×10^{-11}** this is below the ICAO overall TLS.

Objective 3 Address any safety-related issues raised in the SMR by recommending improved procedures and practices; and propose safety level improvements to ensure that any identified serious or risk-bearing situations do not increase and, where possible, that they decrease. This should set the basis for a continuous assurance that the operation of RVSM will not adversely affect the risk of en-route mid-air collision over the years.

Technical risk: The risk of collision due solely to technical height-keeping performance within MID RVSM airspace is in compliance with the ICAO TLS of 2.5×10^{-9} fatal accidents per flight hour. The current estimated technical risk stands at **7.2614×10^{-11}**, well below the ICAO threshold, meeting Safety Objective 1.

Overall risk: The overall risk of collision, which includes technical risks as well as operational errors and in-flight contingencies, also meets the ICAO TLS of 5×10^{-9} fatal accidents per flight hour. The estimated overall risk is **9.1872×10^{-11} ,** which is below the allowable limit. These results emphasize the importance of addressing identified safety issues through improved procedures to ensure continuous improvement in airspace safety.

Middle East RVSM Airspace Average Aircraft Speed = **440.3 kts**			
Risk Type	**Risk Estimation**	**ICAO TLS**	**Remarks**
Technical Risk	**7.2614×10^{-11}**	**$2.5x10^{-9}$**	**Below ICAO TLS**
Overall Risk	**9.1872×10^{-11}**	**$5x10^{-9}$**	**Below ICAO TLS**

Conclusions:

(i) The estimated risk of collision associated with aircraft height- keeping performance is **7.2614 x 10^{-11}** and meets the ICAO TLS of **2.5 x 10^{-9}** fatal accidents per flight hour (RVSM Safety Objective1).

(ii) The estimated overall risk of collision due to all causes which includes the technical risk and all risk due to operational errors and in-flight contingencies is **9.1872 x 10^{-11}** this value is below the ICAO overall TLS of 5**x10^{-9}** fatal accidents per flight hour (RVSM Safety Objective 2).

(iii) The minimal difference between the Technical and Overall risk values is due to the very limited number of LHD reports submitted by MIDRMA member states, which directly impacts RVSM operations within the RVSM airspace.

(iv) based on currently available information (Except for Khartoum FIR), there is no evidence available to MIDRMA that the continued operations of RVSM adversely affects the overall vertical risk of collision in the first 10 months of the reporting cycle.

(v) The vertical risk estimation due to atypical errors has been demonstrated to be the major contributor in the overall vertical-risk estimation for the MID RVSM airspace, The final conclusions of the data processed so far have been severely limited by the continued NIL reporting of Large Height Deviations (LHDs) from some members which does not support a high confidence in the result, the MIDRMA is reiterating the importance of submitting such reports especially from FIRs with high volume of traffic.

2.1.3 MIDRMA has consistently emphasized the need for all member states to submit the required data for proper assessment and calculation of safety parameters. Despite addressing this issue last year and in nearly every SMR, some states continue to submit traffic data late or provide corrupted data, causing significant delays in calculating the SMR safety parameters. This ongoing problem remains frustrating, as little improvement has been made.

2.1.4 Scope:

The geographic scope of the MID RVSM Safety Monitoring Report covers the MID RVSM airspace, which comprises the following FIRs/UIRs:

Amman	Bahrain	Beirut	Baghdad	Cairo	Damascus	Doha
Emirates	Jeddah	Kuwait	Khartoum*	Muscat	Sana'a	Tehran
			Tripoli			

T-1: FIRs/UIRs of the Middle East RVSM Airspace

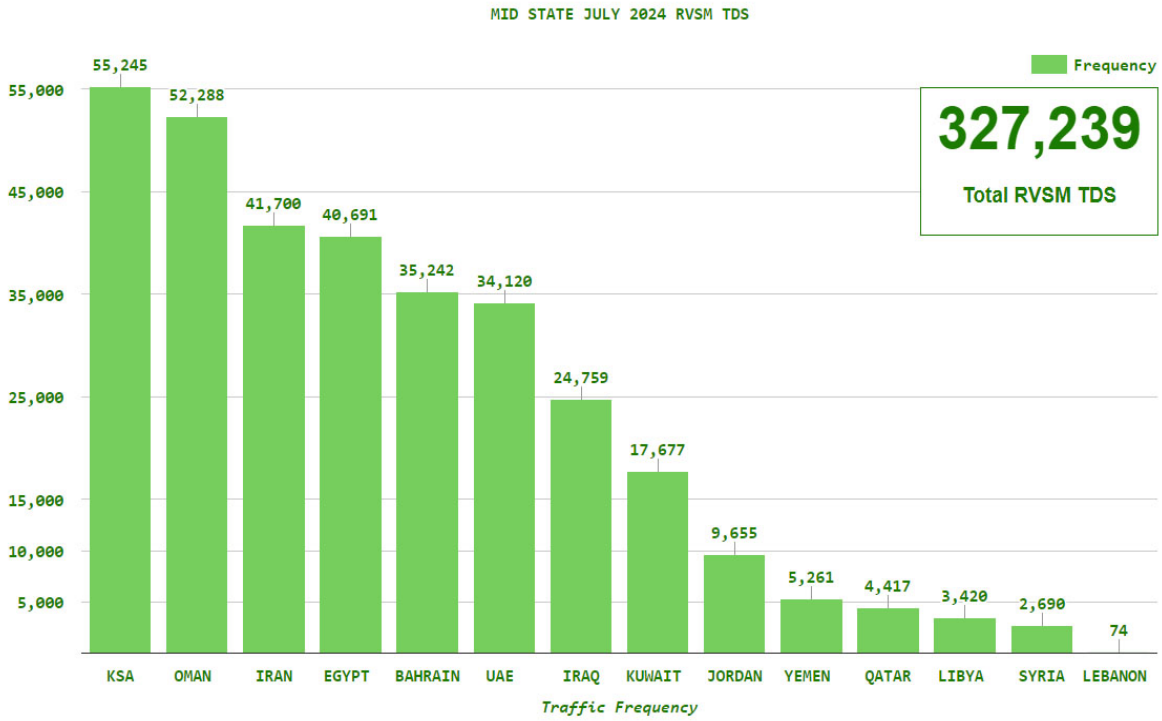
**Note: Khartoum FIR excluded from the RVSM safety analysis due to lack of TDS and LHD reports.*

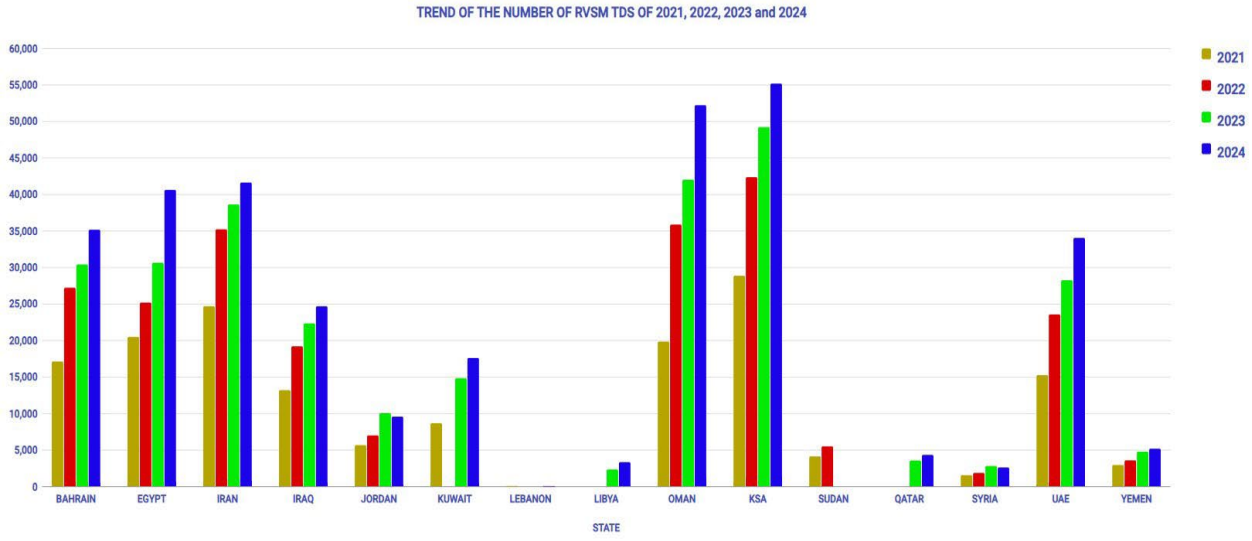
2.1.5 The Data Sampling periods covered by SMR 2024 are as displayed in the below table:

Report Elements	Time Period
Traffic Data Sample	15/05/2024 - 15/06/2024
Operational & Technical Errors	01/01/2024 - 31/10/2024

2.1.6 The descriptions of the traffic data collected from each MIDRMA Member State are depicted in table below:

MID States	No. of Flights	Received Date	Status
BAHRAIN	**35242**	7/11/2024	
EGYPT	**40691**	7/15/2024	
IRAN	**41700**	7/20/2024	
IRAQ	**24759**	6/23/2024	
JORDAN	**9655**	7/18/2024	
KUWAIT	**17677**	6/19/2024	
LEBANON	**74**	7/10/2024	
LIBYA	**3420**	7/14/2024	
OMAN	**52288**	8/1/2024	
KSA	**55245**	7/10/2024	
QATAR	**4417**	7/4/2024	
SUDAN	**-**	-	No Data Submitted
SYRIA	**2690**	6/26/2024	
UAE	**34120**	7/10/2024	
YEMEN	**5261**	7/15/2024	
Total	**327239**		


MID STATE JULY 2024 RVSM TDS
Frequency
327,239
Total RVSM TDS
55,245
52,288
41,700
40,691
35,242
34,120
24,759
17,677
9,655
5,261
4,417
3,420
2,690
74
55,000
45,000
35,000
25,000
15,000
10,000
5,000
KSA
OMAN
IRAN
EGYPT
BAHRAIN
UAE
IRAQ
KUWAIT
JORDAN
YEMEN
QATAR
LIBYA
SYRIA
LEBANON
Traffic Frequency


TREND OF THE NUMBER OF RVSM TDS OF 2021, 2022, 2023 and 2024
2021
2022
2023
2024
60,000
55,000
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
BAHRAIN
EGYPT
IRAN
IRAQ
JORDAN
KUWAIT
LEBANON
LIBYA
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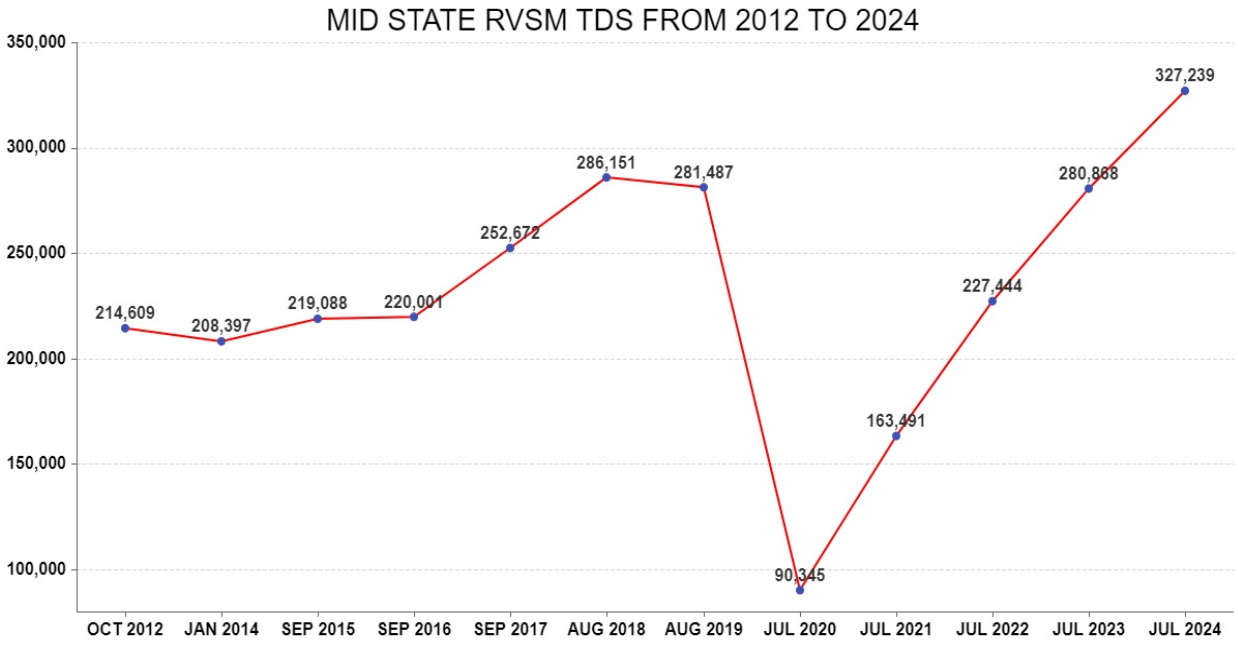
SYRIA
UAE
YEMEN
STATE



2.2 Large Height Deviation (LHD) reports 2024

2.2.1 The estimation of total risk, which includes Safety Objective 2, incorporates the results of Safety Objective 1 and evaluates risks arising from various other factors. This important component, commonly referred to as operational risk, depends on numerous factors such as airspace configuration, traffic density, ATC procedures, actions of individual controllers and pilots, and the specific operational characteristics of sectors. The assessment of operational risk is based on the analysis of event magnitude and duration, derived from operational incident reports, which are then transformed into Large Height Deviation (LHD) reports.

2.2.2 MIDRMA has noted a significant and alarming decrease in Large Height Deviation (LHD) reporting from certain member states, particularly those with high traffic volumes. This reduction persists despite the ongoing issuance of monthly reminders to all member states. The lack of comprehensive reporting is especially concerning in relation to LHD categories that involve loss or breakdown in separation between aircraft, which have been highlighted in nearly every report as critical safety risks. Without accurate and timely reporting, the integrity and reliability of safety assessments are compromised, undermining the trust in the overall results. The table below shows the reports received from all member states for the period from January 1 to October 17, 2024.

MID FIRs	No. of Reported LHDs	No. of Related LHDs
Bahrain	26	17
Baghdad	5	1
Amman	-	1
Tehran	-	6
Beirut	-	-
Cairo	13	14
Damascus	-	-
Khartoum	-	-
Kuwait	-	14

Doha	23	1
Muscat	**109**	37
Jeddah/ Riyadh	21	**61**
Tripoli	-	1
Emirates	-	8
Sana'a	**208**	15

MID FIRs	Related to other Adjacent FIRs	No. of Related LHDs
Sana'a	Addis Ababa	85
Sana'a	Asmara	8
Sana'a	Djibouti	10
Cairo	Athens	2
Muscat	Karachi	16
Muscat	Mumbai	118
Baghdad	Ankara	1

2.2.3 **Critical observations on LHD reporting gaps and their impact on safety assessments**

a. Member States failing to report LHDs:

As shown in the table in section 2.2.2, several member states, such as Kuwait and Iran, have not reported any Large Height Deviations (LHD) for an extended period. Notably, Emirates ATC has not reported any LHD since the beginning of 2024. This lack of reporting is a serious concern as it suggests a potential underreporting of critical safety incidents, particularly in airspaces with significant traffic.

b. Results of safety objective No. 2 with low level of reporting LHDs:

Although the number of LHD reports submitted by MIDRMA member states so far has been low, there remains the potential for changes in the results for Safety Objective No. 2. With three months left in the SMR (Safety Monitoring Report) cycle, it is possible that critical LHD reports, if submitted, could significantly alter the safety risk assessment. The current low reporting, therefore, may not fully reflect the actual operational risks, particularly if key incidents are being missed.

c. Nature of reported LHDs:

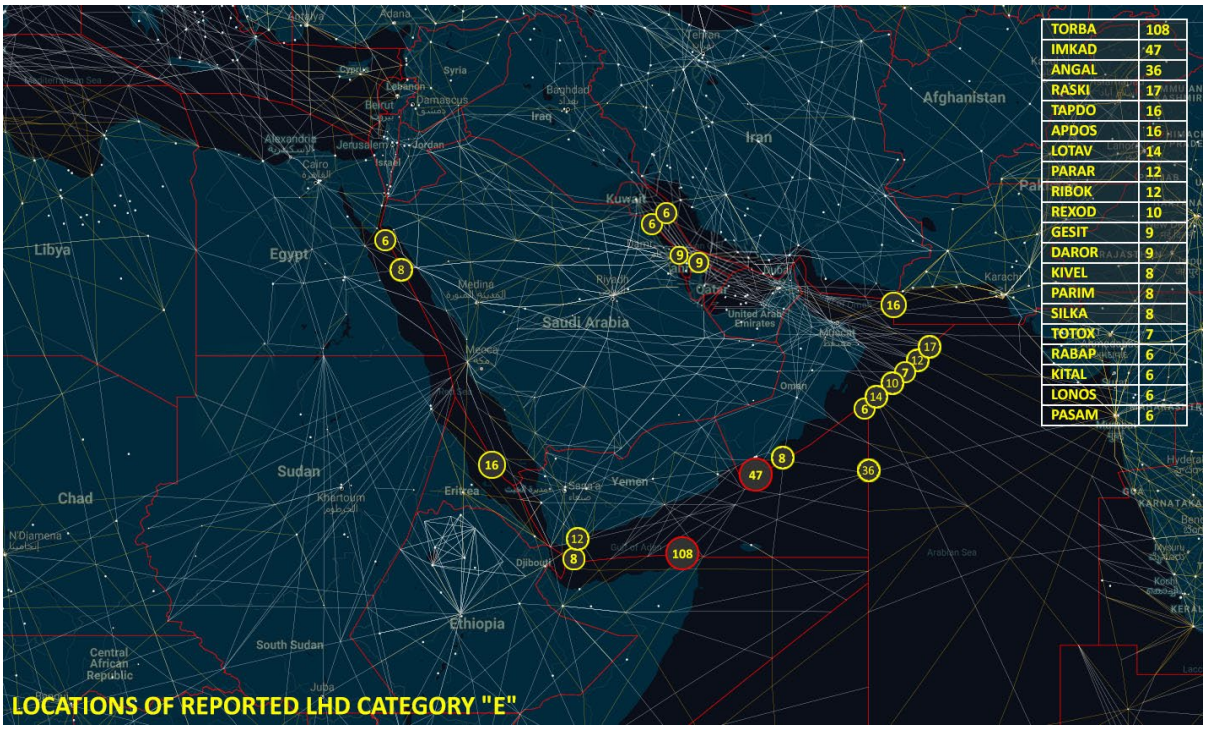
The vast majority of LHD reports received to date are related to ATC transfer of control coordination errors (Category E), largely due to human factors. While these reports are essential, they have not had a severe impact on RVSM airspace operations. However, the ongoing lack of reporting for more critical LHD categories, such as loss or breakdown of separation between aircraft, TCAS resolution advisories, level busts, and other safety-critical events, further exacerbates concerns. These types of LHDs, which have been repeatedly highlighted in annual reports as significant safety risks, have not been reported by some member states for an extended period, raising doubts about the completeness and accuracy of the overall safety assessments.

2.2.4 The table below provides a summary of operational risk associated with Large Height Deviation (LHD) reports, categorized by LHD categories. These reports are used to calculate the overall vertical collision risk, which is presented for Safety Objective No. 2.

Note: The LHD reports in this table are what validated so far for the first 10 months of the SMR 2025 reporting cycle:

LHD Cat.	Large Height Deviation (LHD) Categories	No. of LHDs	LHD Duration (Sec.)
A	Flight crew fails to climb or descend the aircraft as cleared	-	-
B	Flight crew climbing or descending without ATC clearance	-	-
C	Incorrect operation or interpretation of airborne equipment	-	-
D	ATC system loop error	-	-
E	ATC transfer of control coordination errors due to human factors	**3**	**390**
F	ATC transfer of control coordination errors due to technical issues	-	-
G	Aircraft contingency leading to sudden inability to maintain level	-	-
H	Airborne equip. failure and unintentional or undetected FL change	-	-
I	Turbulence or other weather-related cause	**1**	**30**
J	TCAS resolution advisory and flight crew correctly responds	-	-
K	TCAS resolution advisory and flight crew incorrectly responds	-	-
L	ACFT being provided with RVSM separation is not RVSM approved	-	-
M	Other	-	-
	Total	**4**	**420**

Summary of Operational Risk associated with Large Height Deviation Reports for the First 10 Months of SMR 2024 Reporting Cycle



2.2.5 RVSM Safety Protocol at the Eastern Boundaries of Muscat FIR and the increased Number of LHD reports submitted by Mumbai ATCU related to Muscat ATCU:

2.2.5.1 The table below provides a comparison of the number of LHD reports submitted by Mumbai and Muscat ATCUs related to each other in 2022, 2023 and 2024 (till October)

2.2.5.2 Despite the concerted efforts and measures taken since the initiation of the safety protocol at the eastern boundary of Muscat Flight Information Region (FIR), there has been no visible improvement in the reduction of Large Height Deviation (LHD) reports between Muscat and Mumbai ATC units. In fact, as shown in the table below, the number of reported LHDs has steadily increased, which poses a serious and escalating risk to air traffic safety in this region.

YEAR	LHD Reported by Muscat	LHD Reported by Mumbai
2022	**16**	**41**
2023	**25**	**79**
2024	**75**	**98**

2.2.5.3 This increasing trend is extremely concerning and highlights the urgent need for immediate attention and action from both Muscat and Mumbai ATC units. The measures implemented so far, while well-intentioned, have not been sufficient to mitigate the risks posed by these LHD occurrences. We must focus on strengthening coordination, enhancing real-time reporting mechanisms, and ensuring that corrective actions are not only implemented but also monitored for effectiveness. Given the seriousness of the situation, it is imperative that both ATC units take decisive steps to address the root causes of these LHD incidents to prevent further risk to airspace safety.

2.2.5.4 The meeting may wish to note that Oman has made significant progress in addressing the Large Height Deviation (LHD) issues between Muscat and Mumbai ACCs. Following the investigation of LHD occurrences over the RASKI waypoint, Oman CAA implemented several corrective measures as reported in IP/5 during MIDRMA Board/19:

1. **Timely LHD reporting**: Mumbai ACC now sends monthly LHD reports directly to Muscat ACC via email, ensuring timely reporting and enabling faster responses to address issues. This bypasses the previous delays caused by routing reports through the Monitoring Agency of Asia Region (MAAR) and the MIDRMA.

2. **Internal investigation mechanism**: Oman CAA has developed an internal process for regularly investigating LHD reports and following up on corrective actions with the relevant parties.

3. **AIDC connection testing**: Automated Interfacility Data Communication (AIDC) tests were conducted between Muscat and Mumbai ACCs in September 2019, March 2021, February 2023, and August 2023. The most recent test showed success in all parameters except ABI (Airborne Initiation). The next phase of AIDC testing is pending Mumbai ACC's readiness. Once fully implemented, AIDC is expected to significantly reduce LHD occurrences by improving flight information exchange.

4. **Ongoing coordination**: Oman CAA and India's Airports Authority (AAI) have agreed to hold regular coordination meetings to address LHD issues and take timely corrective actions to mitigate the root causes.

2.2.5.5 Attachment A of this working paper presents a detailed overview of the Large Height Deviation (LHD) reports submitted by both Air Traffic Control Units (ATCUs) from January to October 2024. Notably, there has been a sharp and significant increase in LHD reports from both ATC Units related to each other during this period.

2.3 As a Regional Monitoring Agency (RMA) under the guidelines of ICAO Docs 9937 and 9574, the MIDRMA plays a crucial role in safeguarding the safety of RVSM airspace in the ICAO Middle East Region. One of its primary responsibilities is conducting systematic reviews to ensure that operators comply with State RVSM approval requirements. Through these reviews, the MIDRMA identifies any aircraft operating in RVSM airspace without the required approvals.

2.3.1 The tables in Attachment B of this working paper reflect the MIDRMA Bulletin of Non-RVSM Approved aircraft observed operating within the ICAO MID RVSM airspace and within the RVSM airspace of other RMAs.

2.4 The hotspots and the airways occupancy of all MIDRMA member states are available for review in Attachment C of this working paper.

Attachment A

LHD Reports Submitted by Muscat related to Mumbai

#	ID	Date of Occ	Reported By	Related to	Location	nature of the occurrence:	Category
1	11560	07-1-2024	Muscat	Mumbai	KITAL	ACFT Entered FIR Without Coordination	E
2	11561	07-1-2024	Muscat	Mumbai	PARAR	Revised FL Not Coordinated	E
3	11562	10-1-2024	Muscat	Mumbai	RASKI	ACFT Entered FIR Without Coordination	E
4	11563	11-1-2024	Muscat	Mumbai	PARAR	ACFT Entered FIR Without Coordination	E
5	11564	07-1-2024	Muscat	Mumbai	PARAR	Revised FL Not Coordinated	E
6	11565	19-1-2024	Muscat	Mumbai	PARAR	ACFT Entered FIR Without Coordination	E
7	11566	23-1-2024	Muscat	Mumbai	RASKI	Revised FL Not Coordinated	E
8	11567	24-1-2024	Muscat	Mumbai	PARAR	Revised FL Not Coordinated	E
9	11568	24-1-2024	Muscat	Mumbai	TOTOX	Revised FL Not Coordinated	E
10	11569	31-1-2024	Muscat	Mumbai	ASPUX	Revised FL Not Coordinated	E
11	11615	04-2-2024	Muscat	Mumbai	RASKI	ACFT Entered FIR Without Coordination	E
12	11616	13-2-2024	Muscat	Mumbai	KITAL	ACFT Entered FIR Without Coordination	E
13	11617	13-2-2024	Muscat	Mumbai	REXOD	ACFT Entered FIR Without Coordination	E
14	11618	13-2-2024	Muscat	Mumbai	RASKI	ACFT Entered FIR Without Coordination	E
15	11619	20-2-2024	Muscat	Mumbai	TOTOX	Revised FL Not Coordinated	E
16	11620	24-2-2024	Muscat	Mumbai	REXOD	Revised FL Not Coordinated	E
17	11635	22-2-2024	Muscat	Mumbai	REXOD	ACFT Entered FIR Without Coordination	E
18	11636	24-2-2024	Muscat	Mumbai	TOTOX	Revised FL Not Coordinated	E
19	11637	24-2-2024	Muscat	Mumbai	LOTAV	Revised FL Not Coordinated	E
20	11638	24-2-2024	Muscat	Mumbai	RASKI	Revised FL Not Coordinated	E
21	11639	28-2-2024	Muscat	Mumbai	RASKI	Revised FL Not Coordinated	E
22	11671	01-3-2024	Muscat	Mumbai	ASPUX	Revised FL Not Coordinated	E
23	11672	01-3-2024	Muscat	Mumbai	LOTAV	Revised FL Not Coordinated	E
24	11673	02-3-2024	Muscat	Mumbai	PARAR	Revised FL Not Coordinated	E
25	11674	05-3-2024	Muscat	Mumbai	RASKI	Revised FL Not Coordinated	E
26	11675	04-4-2024	Muscat	Mumbai	REXOD	ACFT Entered FIR Without Coordination	E
27	11676	05-4-2024	Muscat	Mumbai	PARAR	ACFT Entered FIR Without Coordination	E
28	11677	07-4-2024	Muscat	Mumbai	TOTOX	Revised FL Not Coordinated	E
29	11678	08-4-2024	Muscat	Mumbai	REXOD	Revised Estimate Not Coordinated	E
30	11679	11-4-2024	Muscat	Mumbai	KITAL	Revised FL Not Coordinated	E
31	11680	13-4-2024	Muscat	Mumbai	RASKI	ACFT Entered FIR Without Coordination	E
32	11681	13-4-2024	Muscat	Mumbai	PARAR	Revised FL Not Coordinated	E
33	11682	20-4-2024	Muscat	Mumbai	LOTAV	ACFT Entered FIR Without Coordination	E
34	11683	20-4-2024	Muscat	Mumbai	KUTVI	ACFT Entered FIR Without Coordination	E
35	11684	23-4-2024	Muscat	Mumbai	PARAR	Revised FL Not Coordinated	E
36	11833	03-6-2024	Muscat	Mumbai	LOTAV	ACFT Entered FIR Without Coordination	E

37	11887	03-6-2024	Muscat	Mumbai	LOTAV	ACFT Entered FIR Without Coordination	E
38	11888	03-6-2024	Muscat	Mumbai	REXOD	ACFT Entered FIR Without Coordination	E
39	11889	07-6-2024	Muscat	Mumbai	RASKI	Revised FL Not Coordinated	E
40	11890	05-6-2024	Muscat	Mumbai	RASKI	Revised FL Not Coordinated	E
41	11891	08-6-2024	Muscat	Mumbai	LOTAV	Revised FL Not Coordinated	E
42	11892	09-6-2024	Muscat	Mumbai	TOTOX	Revised FL Not Coordinated	E
43	11893	09-6-2024	Muscat	Mumbai	RASKI	ACFT Entered FIR Without Coordination	E
44	11894	10-6-2024	Muscat	Mumbai	REXOD	ACFT Entered FIR Without Coordination	E
45	11895	11-6-2024	Muscat	Mumbai	RASKI	Revised FL Not Coordinated	E
46	11896	12-6-2024	Muscat	Mumbai	PARAR	Revised FL Not Coordinated	E
47	11897	14-6-2024	Muscat	Mumbai	RASKI	Revised FL Not Coordinated	E
48	11898	14-6-2024	Muscat	Mumbai	KITAL	ACFT Entered FIR Without Coordination	E
49	11899	14-6-2024	Muscat	Mumbai	LOTAV	Revised FL Not Coordinated	E
50	11900	15-6-2024	Muscat	Mumbai	TOTOX	ACFT Entered FIR Without Coordination	E
51	11901	15-6-2024	Muscat	Mumbai	KITAL	ACFT Entered FIR Without Coordination	E
52	11902	16-6-2024	Muscat	Mumbai	REXOD	Revised FL Not Coordinated	E
53	11903	16-6-2024	Muscat	Mumbai	TOTOX	ACFT Entered FIR Without Coordination	E
54	11904	16-6-2024	Muscat	Mumbai	LOTAV	ACFT Entered FIR Without Coordination	E
55	11905	19-6-2024	Muscat	Mumbai	LOTAV	ACFT Entered FIR Without Coordination	E
56	11906	27-6-2024	Muscat	Mumbai	REXOD	ACFT Entered FIR Without Coordination	E
57	11907	30-6-2024	Muscat	Mumbai	RASKI	ACFT Entered FIR Without Coordination	E
58	11908	02-6-2024	Muscat	Mumbai	IMKAD	ACFT Entered FIR Without Coordination	E
59	11909	02-6-2024	Muscat	Mumbai	IMKAD	ACFT Entered FIR Without Coordination	E
60	11910	02-6-2024	Muscat	Mumbai	IMKAD	ACFT Entered FIR Without Coordination	E
61	11911	07-6-2024	Muscat	Mumbai	IMKAD	Revised FL Not Coordinated	E
62	11912	08-6-2024	Muscat	Mumbai	IMKAD	Revised FL Not Coordinated	E
63	11954	03-7-2024	Muscat	Mumbai	RASKI	Revised FL Not Coordinated	E
64	11955	07-7-2024	Muscat	Mumbai	LOTAV	ACFT Entered FIR Without Coordination	E
65	11956	13-7-2024	Muscat	Mumbai	LOTAV	Revised FL Not Coordinated	E
66	11957	14-7-2024	Muscat	Mumbai	PARAR	Revised FL Not Coordinated	E
67	11958	14-7-2024	Muscat	Mumbai	PARAR	Revised FL Not Coordinated	E
68	11959	15-7-2024	Muscat	Mumbai	PARAR	ACFT Entered FIR Without Coordination	E
69	11960	16-7-2024	Muscat	Mumbai	KITAL	Revised FL Not Coordinated	E
70	11961	16-7-2024	Muscat	Mumbai	LOTAV	ACFT Entered FIR Without Coordination	E
71	11962	16-7-2024	Muscat	Mumbai	RASKI	Revised FL Not Coordinated	E
72	11963	16-7-2024	Muscat	Mumbai	RASKI	Revised FL Not Coordinated	E
73	11964	19-7-2024	Muscat	Mumbai	REXOD	Revised FL Not Coordinated	E
74	11965	22-7-2024	Muscat	Mumbai	LOTAV	ACFT Entered FIR Without Coordination	E
75	11966	23-7-2024	Muscat	Mumbai	LOTAV	Revised FL Not Coordinated	E

LHD Reports Submitted by Mumbai related to Muscat

#	ID	Date of Occ	Reported By	Related to	Location	nature of the occurrence:	Category
1	LHD002404	1-1-2024	Mumbai	Muscat	PARAR	No or late estimate time revision	E
2	LHD002405	5-1-2024	Mumbai	Muscat	PARAR	No or late FL revision	E
3	LHD002406	6-1-2024	Mumbai	Muscat	LOTAV	No or late estimate time revision	E
4	LHD002407	7-1-2024	Mumbai	Muscat	TOTOX	No or late estimate time revision	E
5	LHD002408	7-1-2024	Mumbai	Muscat	RASKI	No transfer information (i.e. 'negative transfer')	E
6	LHD002409	7-1-2024	Mumbai	Muscat	PARAR	No or late estimate time revision	E
7	LHD002410	8-1-2024	Mumbai	Muscat	PARAR	No or late FL revision	E
8	LHD002411	9-1-2024	Mumbai	Muscat	PARAR	No or late estimate time revision	E
9	LHD002412	9-1-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
10	LHD002413	10-1-2024	Mumbai	Muscat	KITAL	No transfer information (i.e. 'negative transfer')	E
11	LHD002414	11-1-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
12	LHD002415	13-1-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
13	LHD002416	14-1-2024	Mumbai	Muscat	PARAR	No or late FL revision	E
14	LHD002417	16-1-2024	Mumbai	Muscat	RASKI	No transfer information (i.e. 'negative transfer')	E
15	LHD002418	19-1-2024	Mumbai	Muscat	RASKI	No transfer information (i.e. 'negative transfer')	E
16	LHD002419	20-1-2024	Mumbai	Muscat	PARAR	No or late FL revision	E
17	LHD002420	21-1-2024	Mumbai	Muscat	PARAR	No or late FL revision	E
18	LHD002421	29-1-2024	Mumbai	Muscat	TOTOX	No or late FL revision	E
19	LHD002422	29-1-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
20	LHD002456	5-2-2024	Mumbai	Muscat	PARAR	No or late FL revision	E
21	LHD002457	8-2-2024	Mumbai	Muscat	PARAR	No or late FL revision	E
22	LHD002458	11-2-2024	Mumbai	Muscat	LOTAV	No or late FL revision	E
23	LHD002459	12-2-2024	Mumbai	Muscat	TOTOX	No or late FL revision	E
24	LHD002460	19-2-2024	Mumbai	Muscat	TOTOX	No or late FL revision	E
25	LHD002461	22-2-2024	Mumbai	Muscat	LOTAV	No or late FL revision	E
26	LHD002462	24-2-2024	Mumbai	Muscat	KITAL	No or late FL revision	E
27	LHD002463	24-2-2024	Mumbai	Muscat	LOTAV	No or late FL revision	E
28	LHD002466	26-2-2024	Mumbai	Muscat	KITAL	No or late FL revision	E
29	LHD002468	22-2-2024	Mumbai	Muscat	LOTAV	No or late FL revision	E
30	LHD002519	1-3-2024	Mumbai	Muscat	KITAL	No or late FL revision	E
31	LHD002521	9-3-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
32	LHD002522	11-3-2024	Mumbai	Muscat	LOTAV	No or late FL revision	E

33	LHD002523	12-3-2024	Mumbai	Muscat	TOTOX	No or late FL revision	E
34	LHD002524	13-3-2024	Mumbai	Muscat	RASKI	No transfer information (i.e. 'negative transfer')	E
35	LHD002525	14-3-2024	Mumbai	Muscat	LOTAV	No or late FL revision	E
36	LHD002526	14-3-2024	Mumbai	Muscat	PARAR	No or late FL revision	E
37	LHD002527	16-3-2024	Mumbai	Muscat	PARAR	No or late FL revision	E
38	LHD002528	17-3-2024	Mumbai	Muscat	LOTAV	No or late FL revision	E
39	LHD002529	17-3-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
40	LHD002530	20-3-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
41	LHD002531	23-3-2024	Mumbai	Muscat	PARAR	No or late FL revision	E
42	LHD002532	23-3-2024	Mumbai	Muscat	PARAR	No or late FL revision	E
43	LHD002533	24-3-2024	Mumbai	Muscat	LOTAV	No or late FL revision	E
44	LHD002534	25-3-2024	Mumbai	Muscat	LOTAV	No or late FL revision	E
45	LHD002574	1-4-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
46	LHD002575	2-4-2024	Mumbai	Muscat	LOTAV	No or late FL revision	E
47	LHD002576	4-4-2024	Mumbai	Muscat	TOTOX	No or late FL revision	E
48	LHD002577	4-4-2024	Mumbai	Muscat	REXOD	No or late FL revision	E
49	LHD002578	7-4-2024	Mumbai	Muscat	REXOD	No or late FL revision	E
50	LHD002579	10-4-2024	Mumbai	Muscat	PARAR	No transfer information (i.e. 'negative transfer')	E
51	LHD002580	10-4-2024	Mumbai	Muscat	LOTAV	No or late FL revision	E
52	LHD002581	13-4-2024	Mumbai	Muscat	TOTOX	No or late FL revision	E
53	LHD002582	14-4-2024	Mumbai	Muscat	LOTAV	No transfer information (i.e. 'negative transfer')	E
54	LHD002583	14-4-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
55	LHD002584	15-4-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
56	LHD002585	18-4-2024	Mumbai	Muscat	PARAR	No or late FL revision	E
57	LHD002586	27-4-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
58	LHD002605	2-5-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
59	LHD002606	5-5-2024	Mumbai	Muscat	PARAR	No transfer information (i.e. 'negative transfer')	E
60	LHD002607	7-5-2024	Mumbai	Muscat	TOTOX	No or late FL revision	E
61	LHD002608	9-5-2024	Mumbai	Muscat	REXOD	No or late FL revision	E
62	LHD002609	11-5-2024	Mumbai	Muscat	RASKI	No transfer information (i.e. 'negative transfer')	E
63	LHD002610	15-5-2024	Mumbai	Muscat	ASPUX	No or late FL revision	E
64	LHD002611	16-5-2024	Mumbai	Muscat	REXOD	No or late FL revision	E
65	LHD002612	19-5-2024	Mumbai	Muscat	TOTOX	No or late FL revision	E
66	LHD002613	27-5-2024	Mumbai	Muscat	PARAR	No or late FL revision	E

67	LHD002614	27-5-2024	Mumbai	Muscat	REXOD	No transfer information (i.e. 'negative transfer')	E
68	LHD002615	28-5-2024	Mumbai	Muscat	PARAR	No transfer information (i.e. 'negative transfer')	E
69	LHD002616	30-5-2024	Mumbai	Muscat	TOTOX	No or late FL revision	E
70	LHD002617	30-5-2024	Mumbai	Muscat	KITAL	No transfer information (i.e. 'negative transfer')	E
71	LHD002618	31-5-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
72	LHD002644	1-6-2024	Mumbai	Muscat	KITAL	No or late FL revision	E
73	LHD002645	1-6-2024	Mumbai	Muscat	TOTOX	No or late FL revision	E
74	LHD002646	3-6-2024	Mumbai	Muscat	PARAR	No or late FL revision	E
75	LHD002648	8-6-2024	Mumbai	Muscat	ASPUX	No transfer information (i.e. 'negative transfer')	E
76	LHD002649	8-6-2024	Mumbai	Muscat	LOTAV	No transfer information (i.e. 'negative transfer')	E
77	LHD002650	8-6-2024	Mumbai	Muscat	TOTOX	No or late FL revision	E
78	LHD002651	8-6-2024	Mumbai	Muscat	LOTAV	No or late FL revision	E
79	LHD002652	9-6-2024	Mumbai	Muscat	PARAR	No or late FL revision	E
80	LHD002653	13-6-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
81	LHD002655	19-6-2024	Mumbai	Muscat	PARAR	No or late FL revision	E
82	LHD002656	20-6-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
83	LHD002657	21-6-2024	Mumbai	Muscat	REXOD	No or late FL revision	E
84	LHD002658	28-6-2024	Mumbai	Muscat	RASKI	No transfer information (i.e. 'negative transfer')	E
85	LHD002680	1-7-2024	Mumbai	Muscat	REXOD	No or late FL revision	E
86	LHD002681	2-7-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
87	LHD002682	7-7-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
88	LHD002683	9-7-2024	Mumbai	Muscat	PARAR	No or late FL revision	E
89	LHD002684	11-7-2024	Mumbai	Muscat	ASPUX	No transfer information (i.e. 'negative transfer')	E
90	LHD002685	12-7-2024	Mumbai	Muscat	TOTOX	No or late FL revision	E
91	LHD002687	13-7-2024	Mumbai	Muscat	TOTOX	No transfer information (i.e. 'negative transfer')	E
92	LHD002688	16-7-2024	Mumbai	Muscat	KITAL	No or late FL revision	E
93	LHD002689	19-7-2024	Mumbai	Muscat	PARAR	No or late FL revision	E
94	LHD002690	31-7-2024	Mumbai	Muscat	LOTAV	No transfer information (i.e. 'negative transfer')	E
95	LHD002734	1-8-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
96	LHD002735	3-8-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
97	LHD002736	5-8-2024	Mumbai	Muscat	RASKI	No or late FL revision	E
98	LHD002737	17-8-2024	Mumbai	Muscat	PARAR	No or late FL revision	E

Attachment B

Non-RVSM approved Aircraft – Responsibility of MIDRMA MEMBER STATES

#	ACFT Registration	ICAO Type	First Observed on	STATE Responsible
1	5ALEX	BE200	09-07-2022	LIBYA
2	STALL	CRJ1	11-06-2022	SUDAN

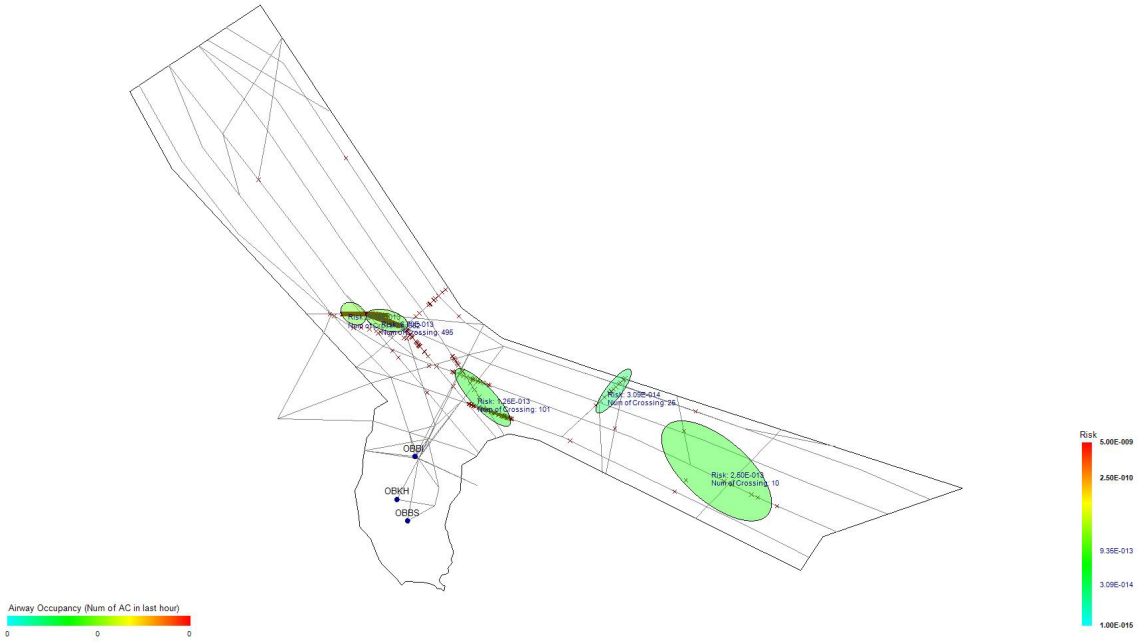
Non-RVSM approved Aircraft – Responsibility of other RMAs

#	Registration	ICAO Type	First Observed on	RMA Responsible
1	5HONE	GLF5	15-05-2024	AFIRMA
2	5HTCP	B39M	19-05-2024	AFIRMA
3	5HTCQ	B39M	15-05-2024	AFIRMA
4	5NADM	B744	28-05-2024	AFIRMA
5	5NBBN	B772	18-05-2024	AFIRMA
6	5NBYJ	E290	6-6-2024	AFIRMA
7	5NHMM	B744	15-05-2024	AFIRMA
8	5YFQA	B734	15-05-2024	AFIRMA
9	5YFQC	B734	20-05-2024	AFIRMA
10	9SPRR	IL76	9-6-2024	AFIRMA
11	TTDAB	H25B	31-05-2024	AFIRMA
12	XTEBO	IL76	7-6-2024	AFIRMA
13	N27GA	FA50	30-05-2024	NAARMO
14	N505MS	C55B	3-6-2024	NAARMO
15	N779CK	B77W	8-6-2024	NAARMO
16	N788DP	B737	25-02-2024	NAARMO
17	40001A	C17	25-01-2020	AAMA
18	60208A	C17	30-03-2020	AAMA
19	PKBGZ	B738	13-12-2022	AAMA
20	PKBKM	A320	30-11-2022	AAMA
21	PKLSU	B739	27-11-2022	AAMA
22	PKLSV	B739	21-12-2022	AAMA
23	PKLSW	B739	8-3-2023	AAMA
24	PKLVF	B739	20-01-2023	AAMA
25	PKSJH	A320	6-11-2022	AAMA
26	PKSTD	A320	19-01-2023	AAMA
27	PKSTH	A320	27-11-2022	AAMA
28	5NBOD	GLF4	28-01-2022	AFIRMA
29	5YFAN	CRJ2	15-07-2020	AFIRMA

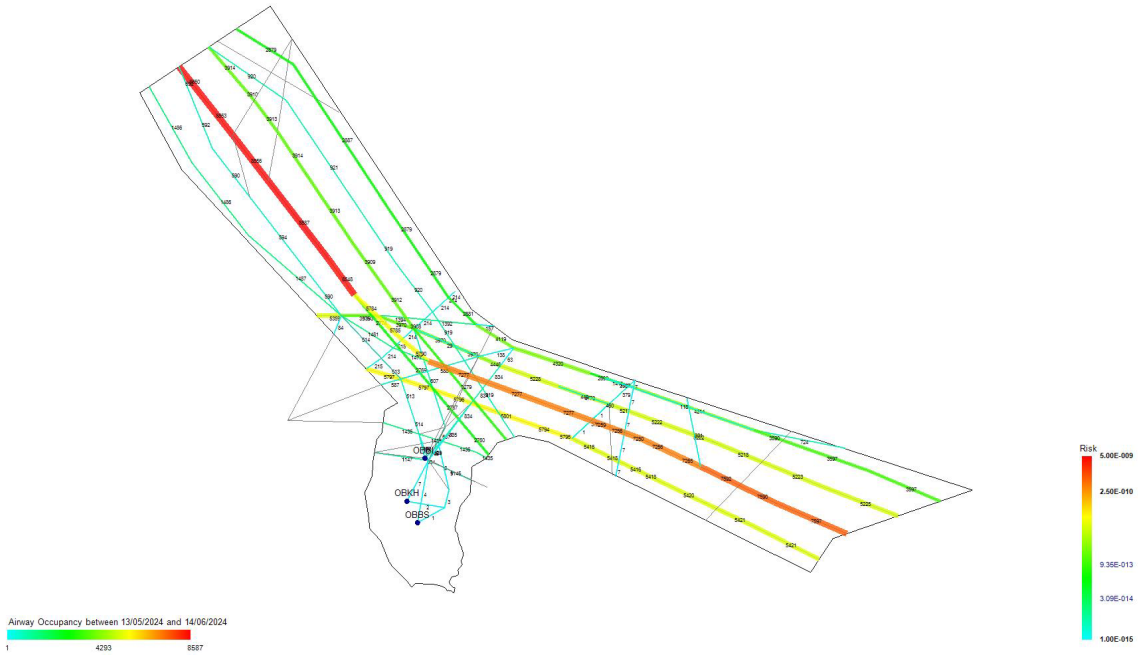
30	5YWBH	C56X	14-07-2020	AFIRMA
31	ETATF	B350	8-7-2020	AFIRMA
32	ZSCQP	CRJ9	7-7-2020	AFIRMA
33	CCBGV	B789	8-6-2022	CARSAM
34	FAB2857	KC39	22-05-2022	CARSAM
35	21140	IL76	19-06-2022	CHINARMA
36	EW550TH	IL76	4-12-2021	EURRMA
37	ICJSN	C25C	15-05-2023	EURRMA
38	UR11316	AN12	22-07-2020	EURRMA
39	URAZN	B753	1-2-2022	EURRMA
40	URAZO	B753	1-2-2022	EURRMA
41	URAZR	B77W	3-2-2022	EURRMA
42	URFSA	IL76	9-5-2021	EURRMA
43	URFSC	IL76	5-12-2021	EURRMA
44	URFSD	IL76	24-12-2021	EURRMA
45	URFSE	IL76	11-12-2022	EURRMA
46	URSQO	B738	2-12-2021	EURRMA
47	80002A	C17	23-07-2020	MAAR
48	CB8001	C17	29-07-2020	MAAR
49	CB8004	C17	24-07-2020	MAAR
50	IN307	IL38	3-12-2020	MAAR
51	K3604	E35L	17-07-2020	MAAR
52	KJ3452	IL76	3-8-2020	MAAR
53	KJ3454	IL76	16-03-2020	MAAR
54	N1112B	B350	16-07-2020	NAARMO
55	N145DB	E35L	22-01-2022	NAARMO
56	N298RB	GLF4	14-05-2021	NAARMO
57	N320MK	GLF3	24-09-2022	NAARMO
58	N411VP	EA50	1-5-2022	NAARMO
59	N44UA	CL60	7-6-2020	NAARMO
60	N46HB	F9000	22-08-2022	NAARMO
61	N604DT	CL60	26-02-2022	NAARMO
62	N605AS	PC12	11-4-2022	NAARMO
63	N651CV	C650	21-11-2022	NAARMO
64	N685MF	GLF4	8-12-2021	NAARMO
65	N800AJ	CL60	10-2-2023	NAARMO
66	N890DA	GLF5	25-02-2023	NAARMO
67	N981DB	H25B	5-4-2022	NAARMO
68	XAASP	CL60	17-11-2022	NAARMO

Attachment C

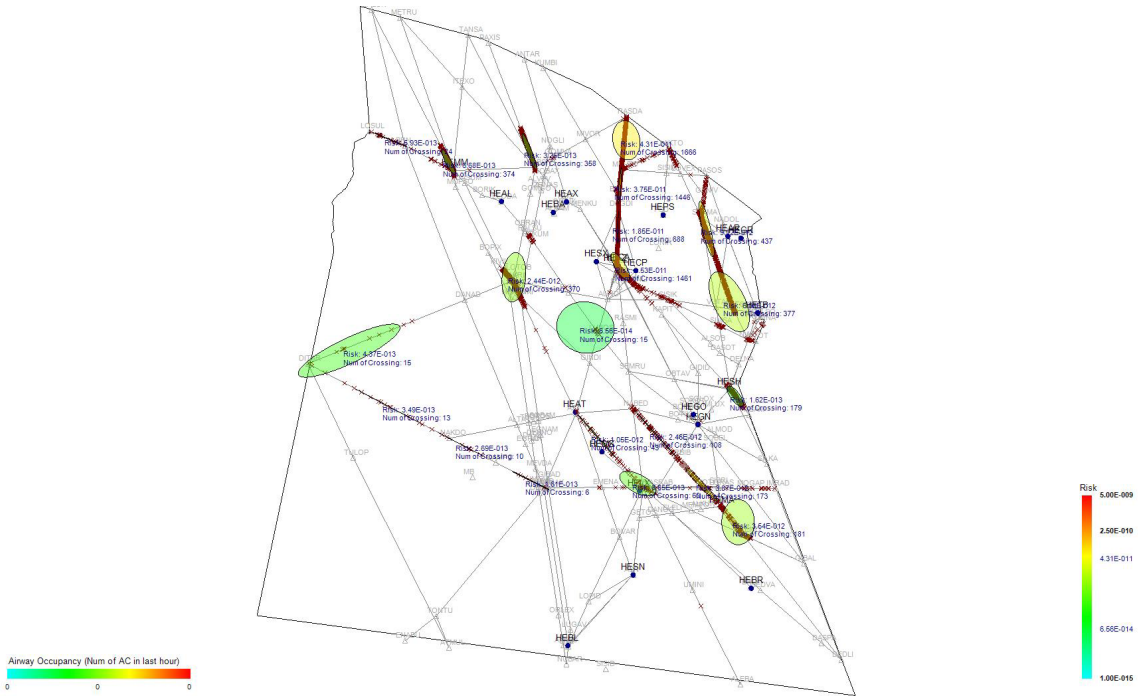
MIDRMA Member States FIRs Hotspots and Airways Occupancy



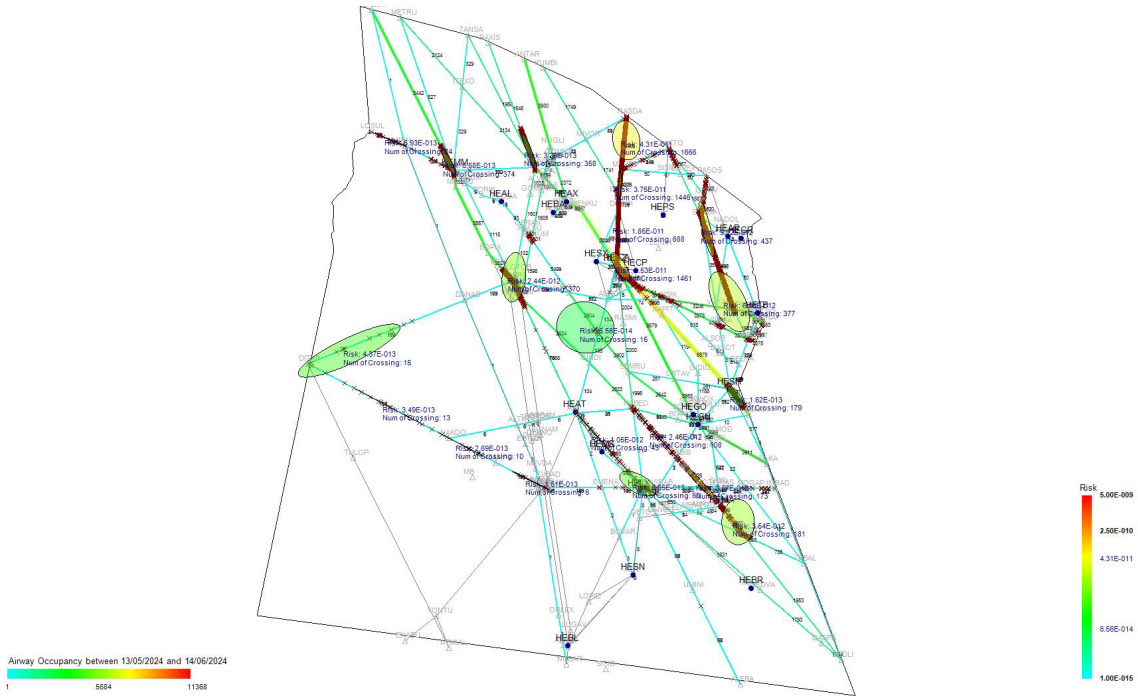
Bahrain FIR SMR 2024 Hotspots



Bahrain FIR SMR 2024 AWYs Occupancy



Cairo FIR SMR 2024 Hotspots



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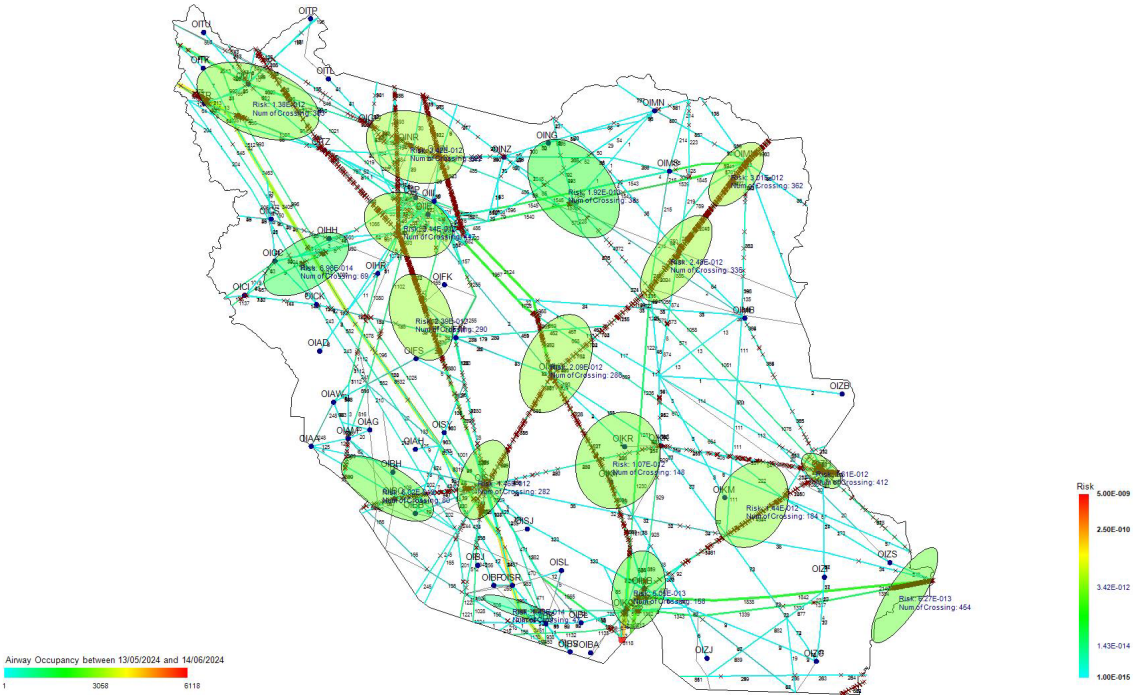
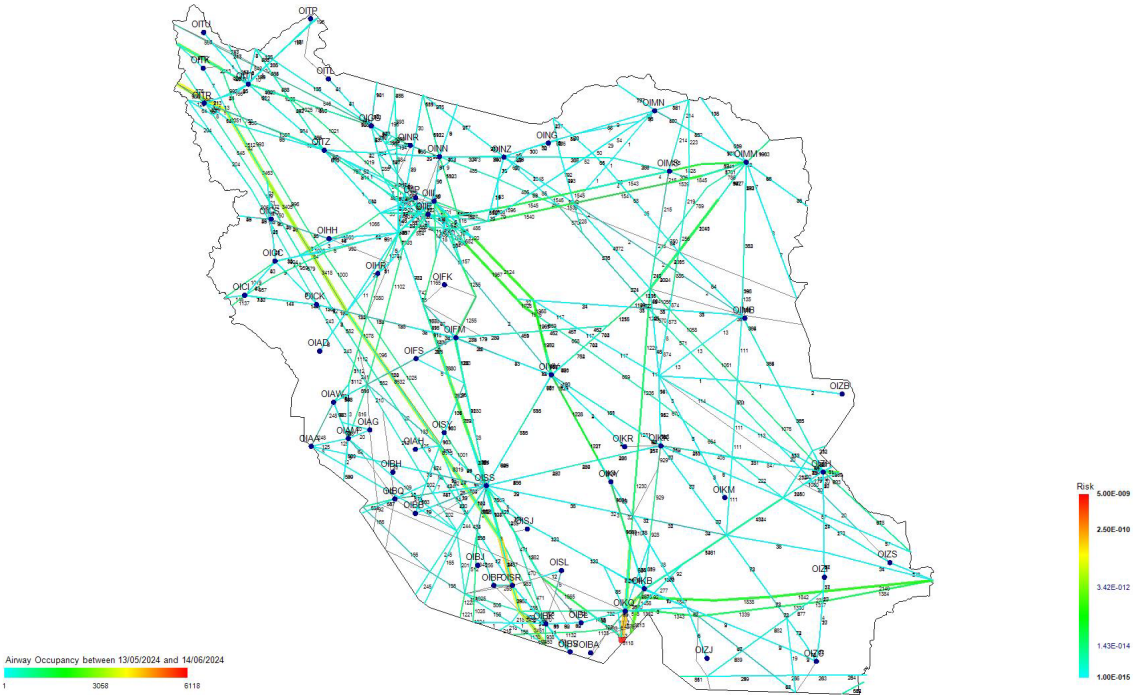
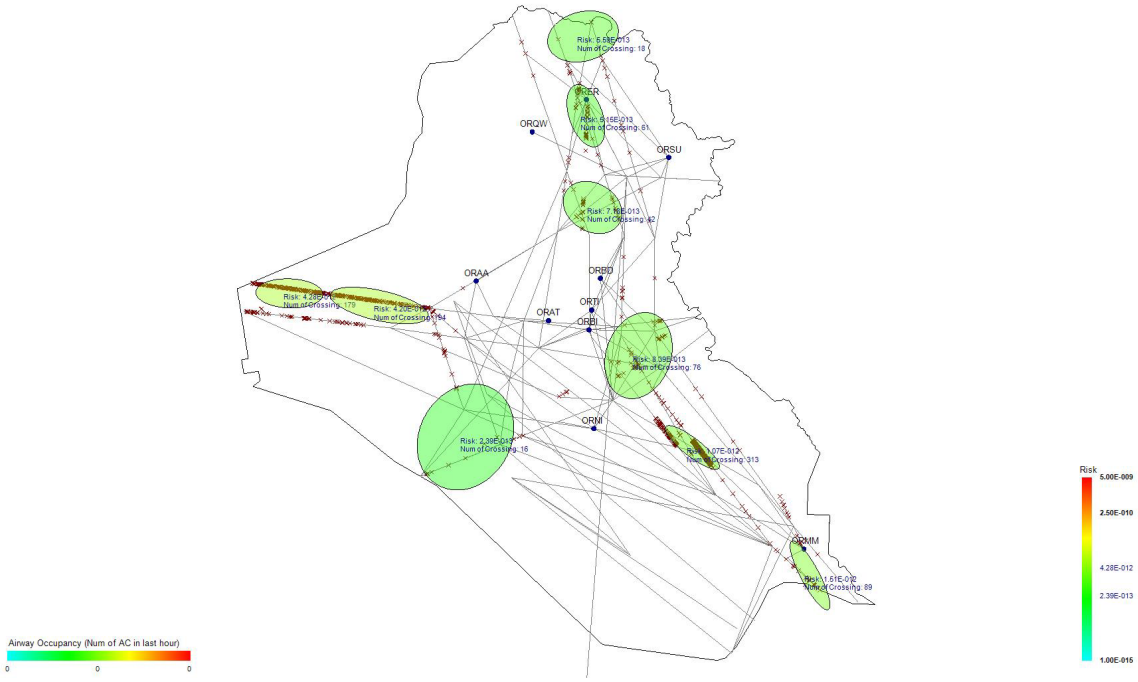


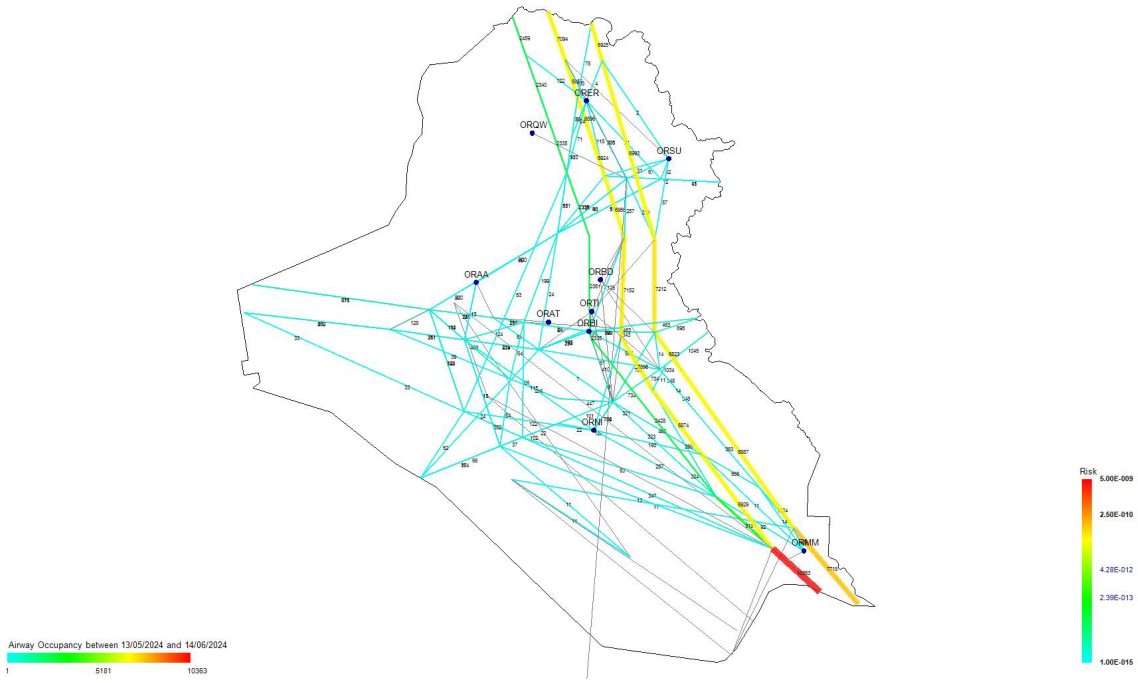
Tehran FIR SMR 2024 Hotspots



Tehran FIR SMR 2024 AWYs Occupancy



Baghdad FIR SMR 2024 Hotspots



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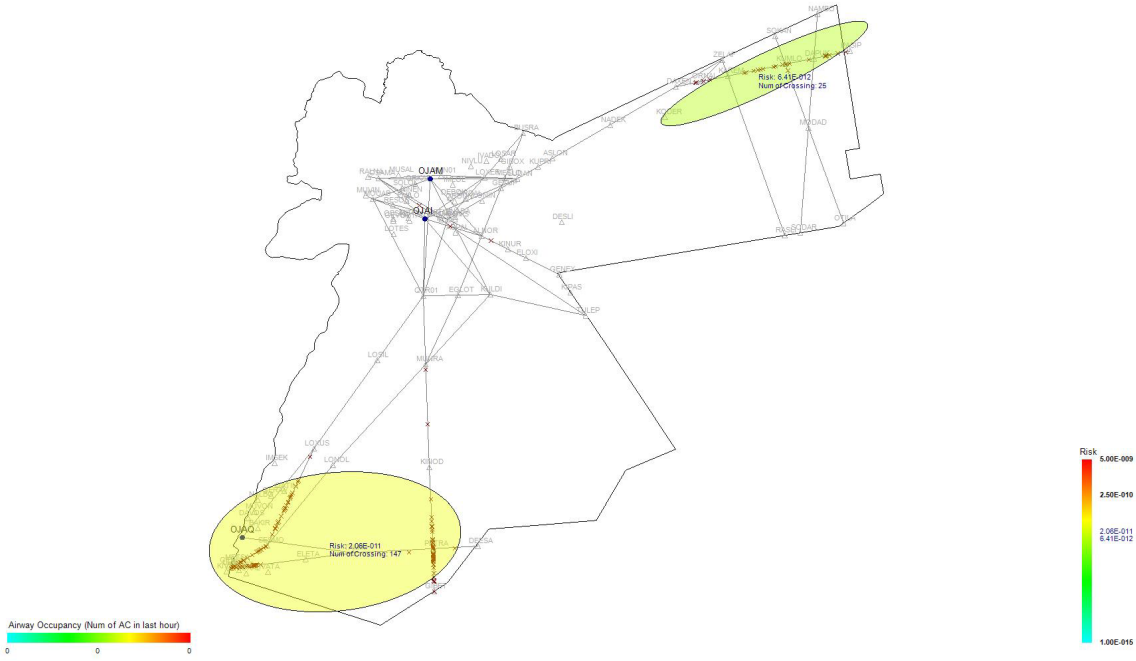
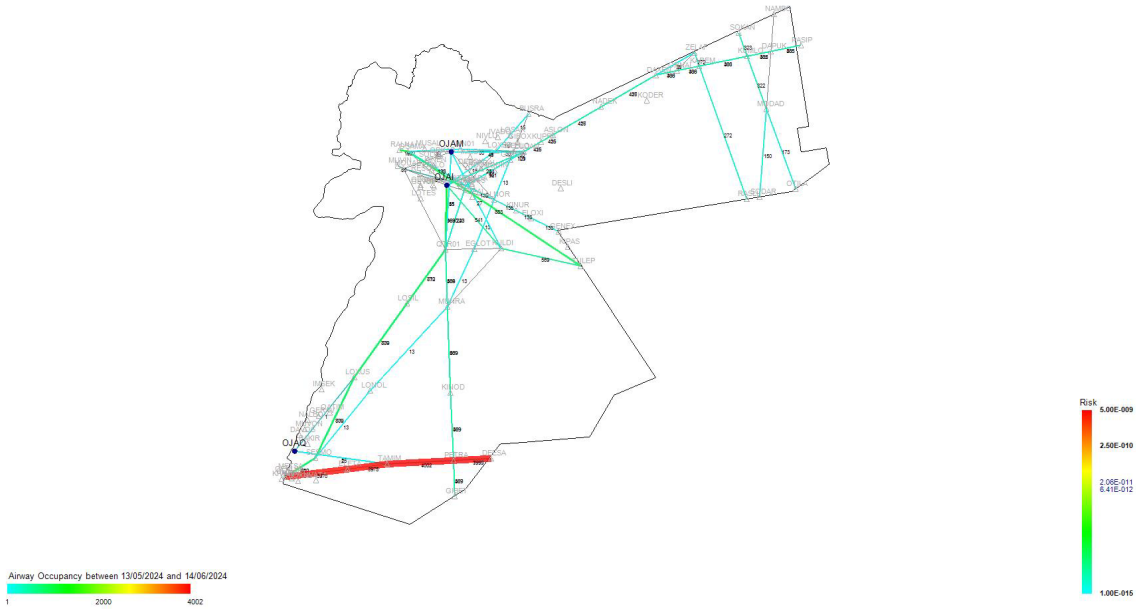


Amman FIR SMR 2024 Hotspots



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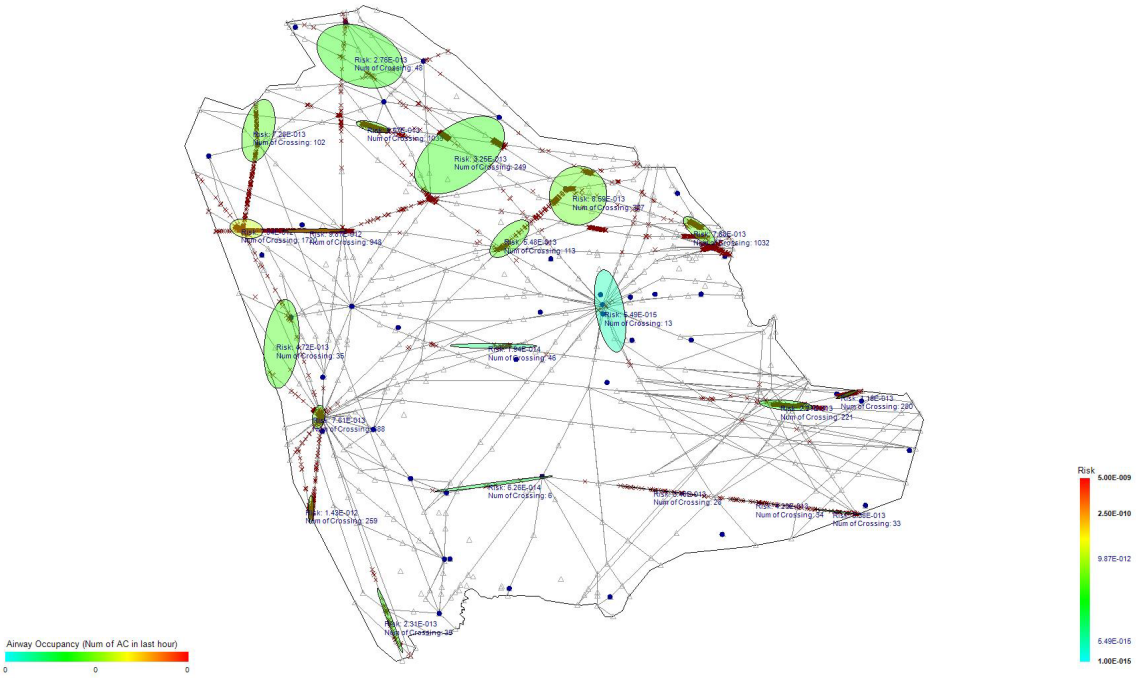
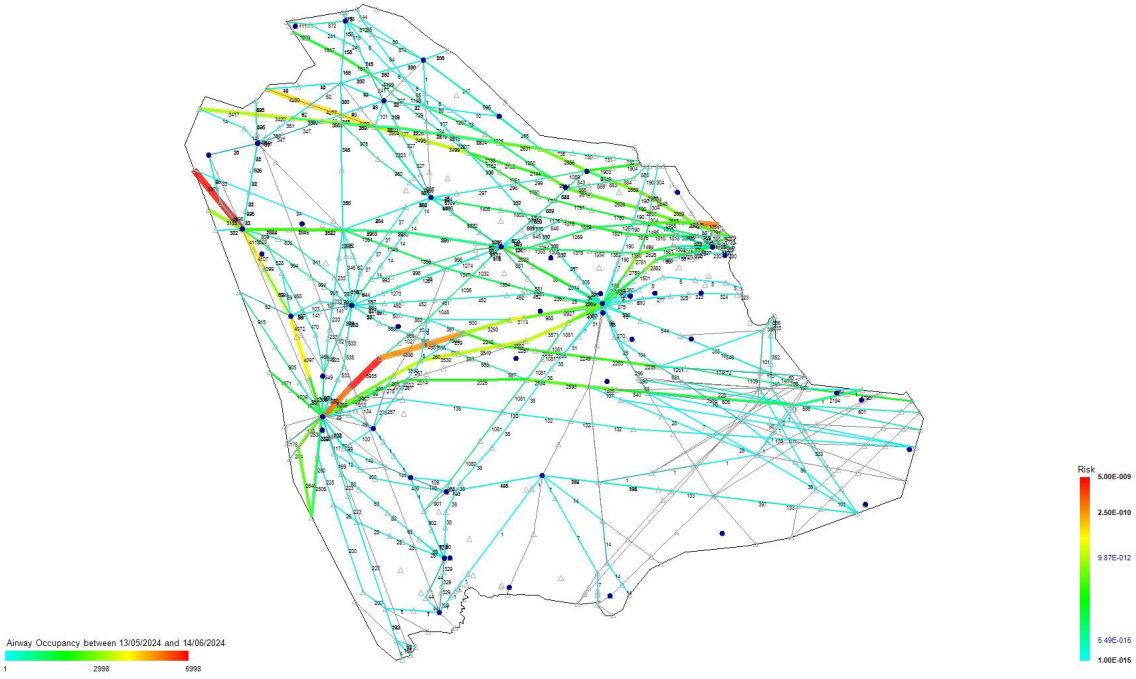


Jeddah FIR SMR 2024 Hotspots



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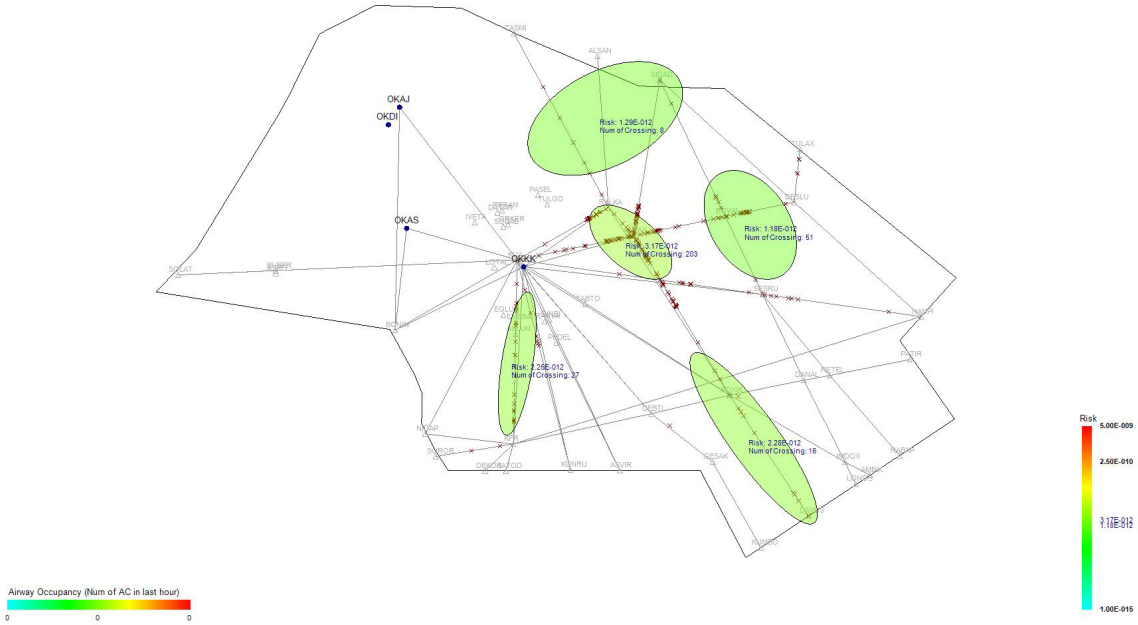
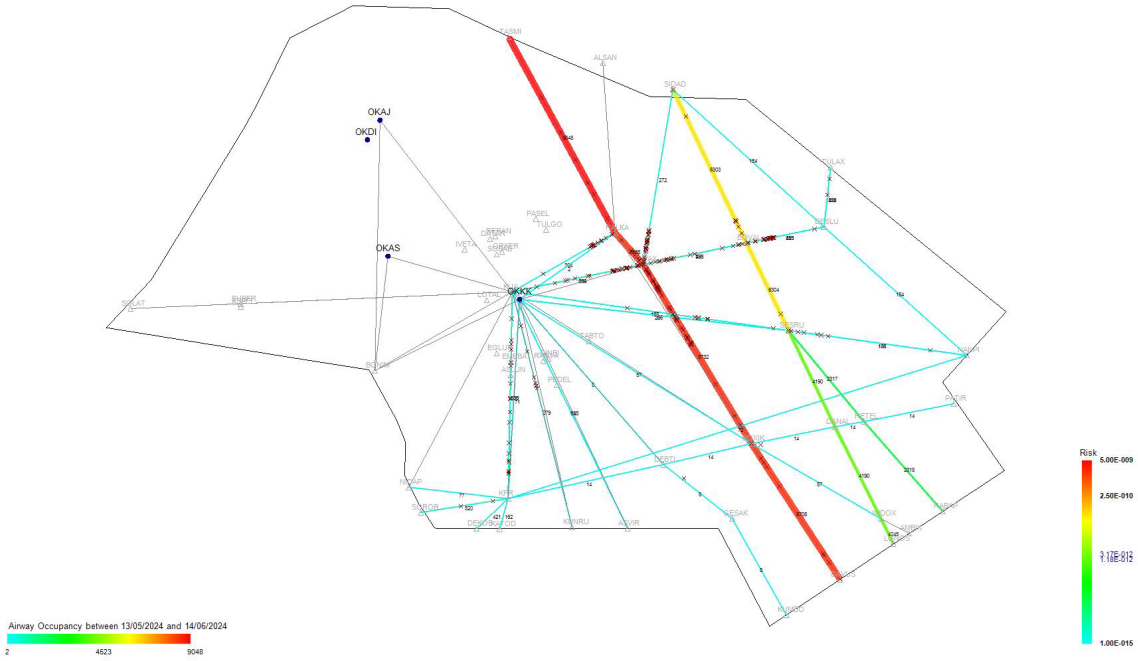
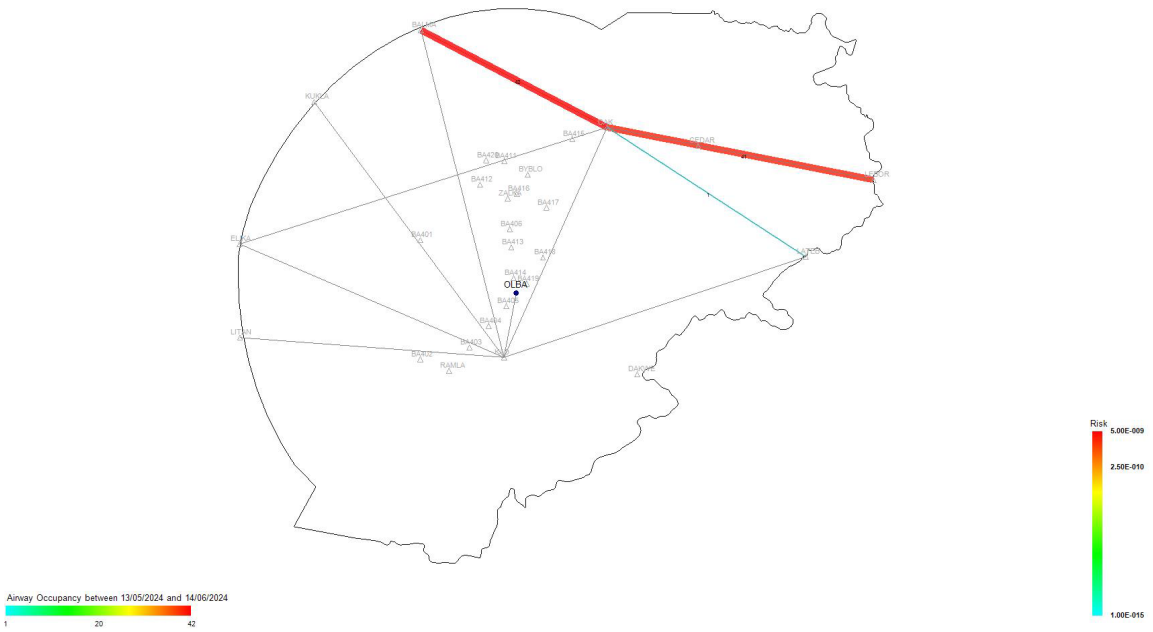


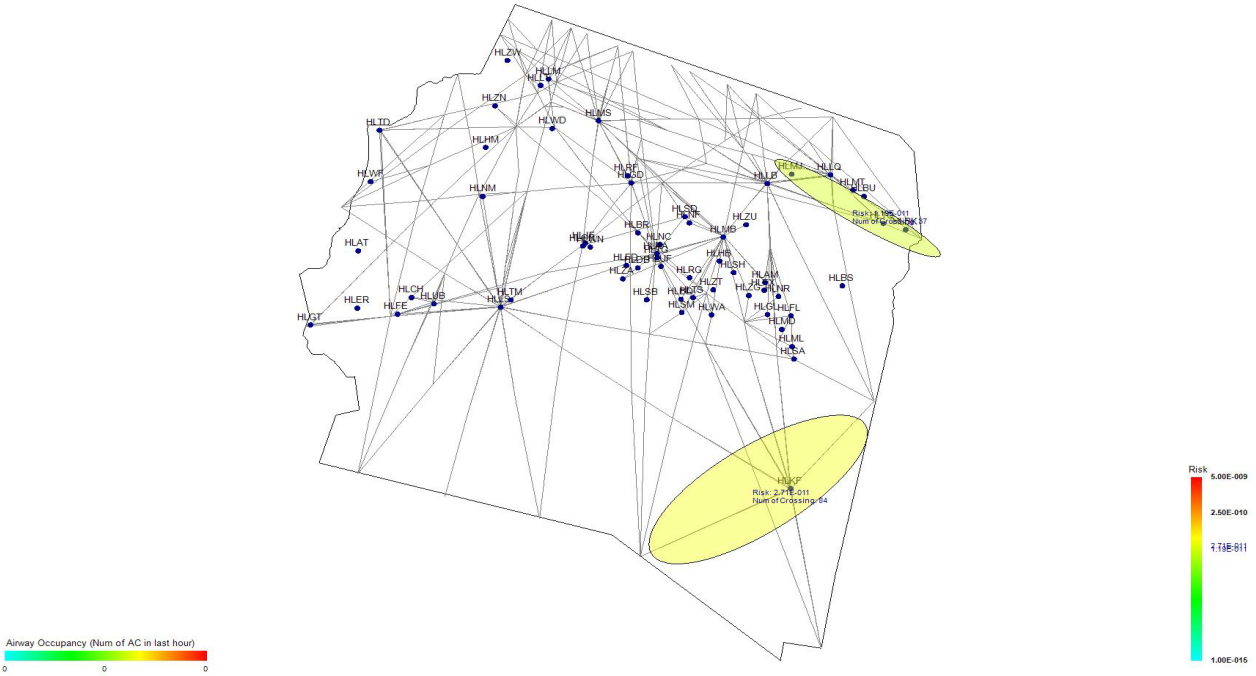
Kuwait FIR SMR 2024 Hotspots



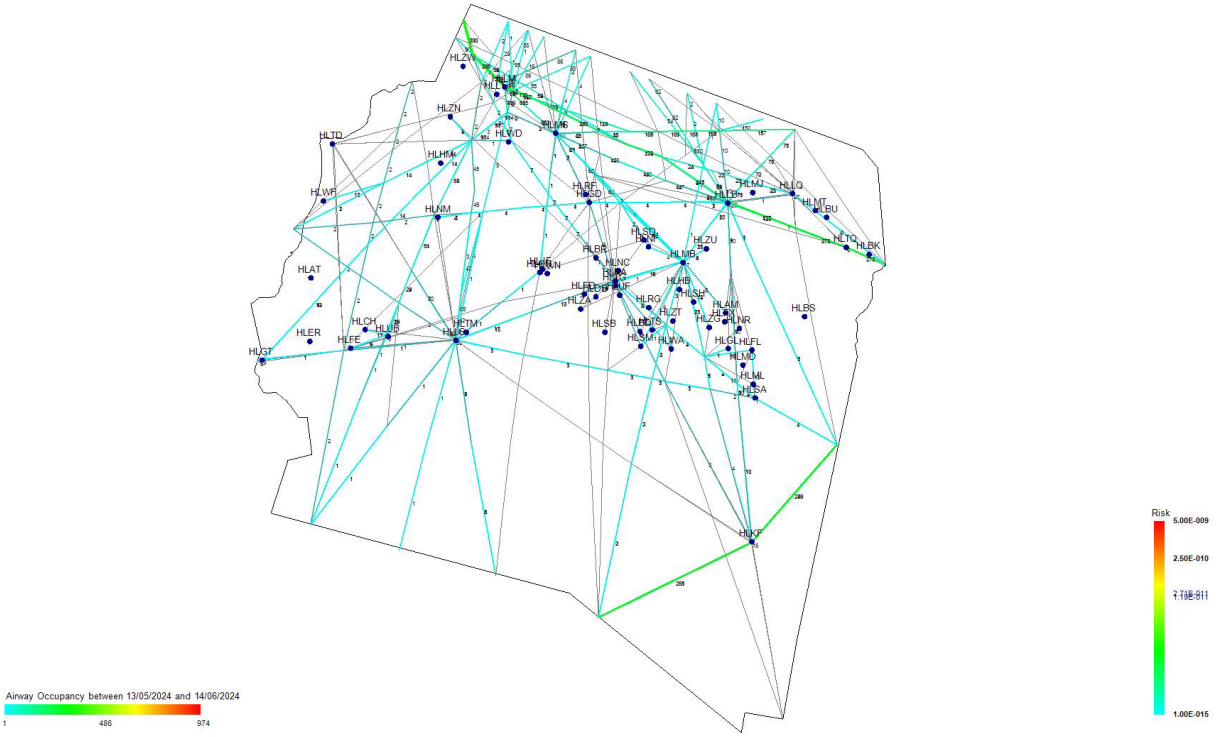
Kuwait FIR SMR 2024 AWYs Occupancy



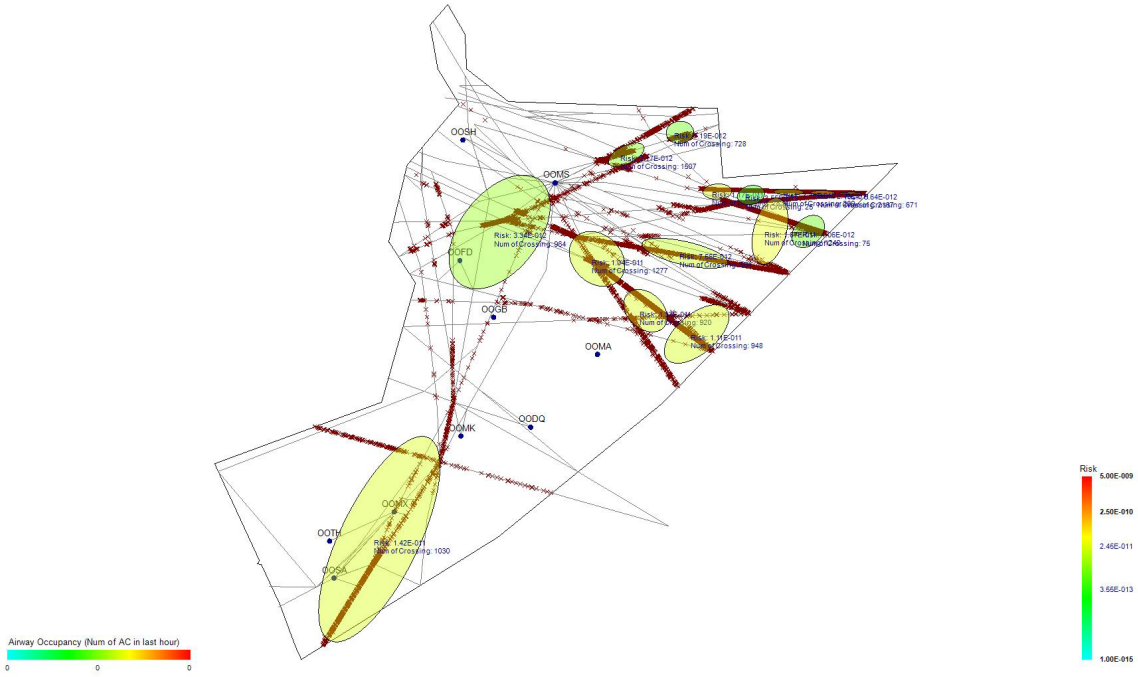
Beirut FIR SMR 2024 AWYs Occupancy



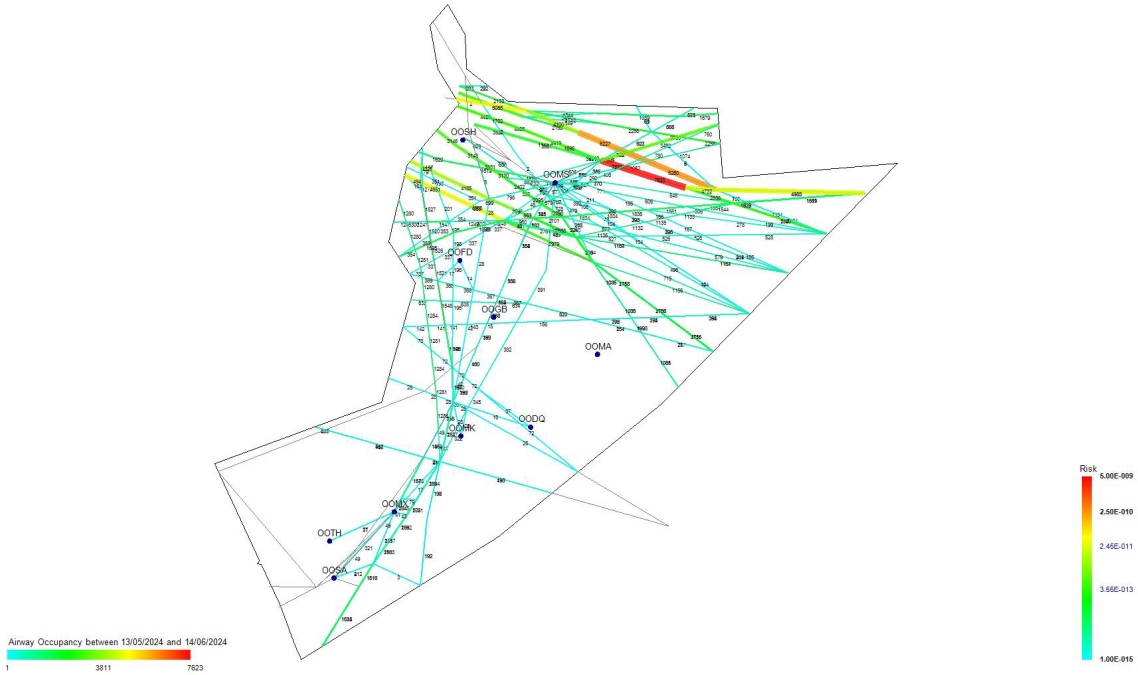
Tripoli FIR SMR 2024 Hotspots



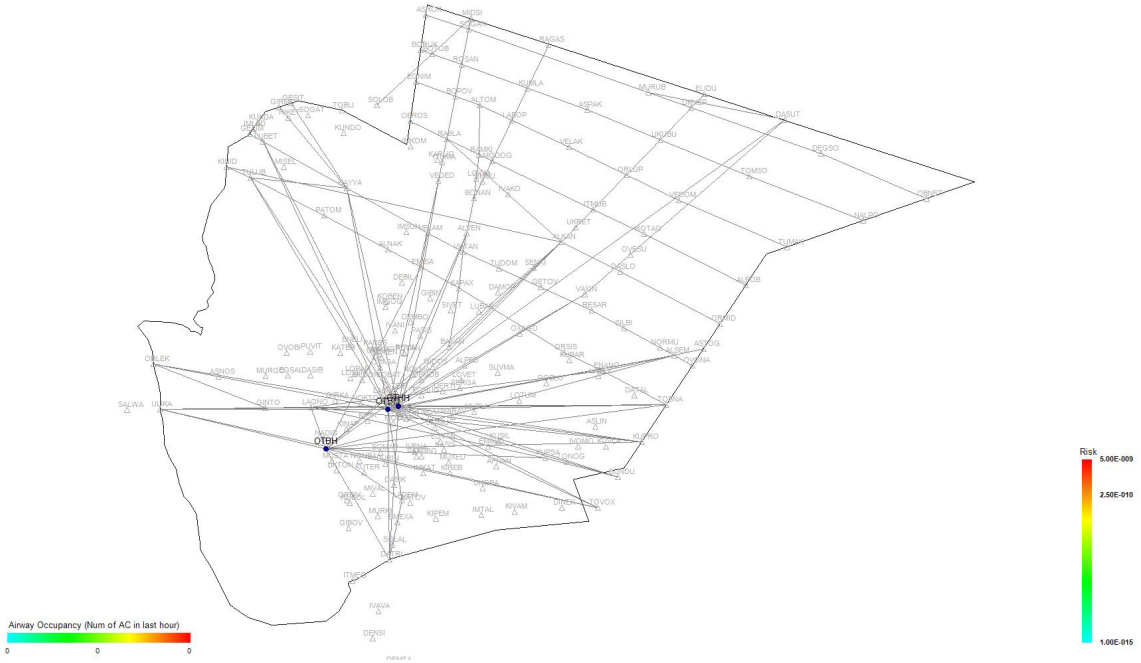
Tripoli FIR SMR 2024 AWYs Occupancy



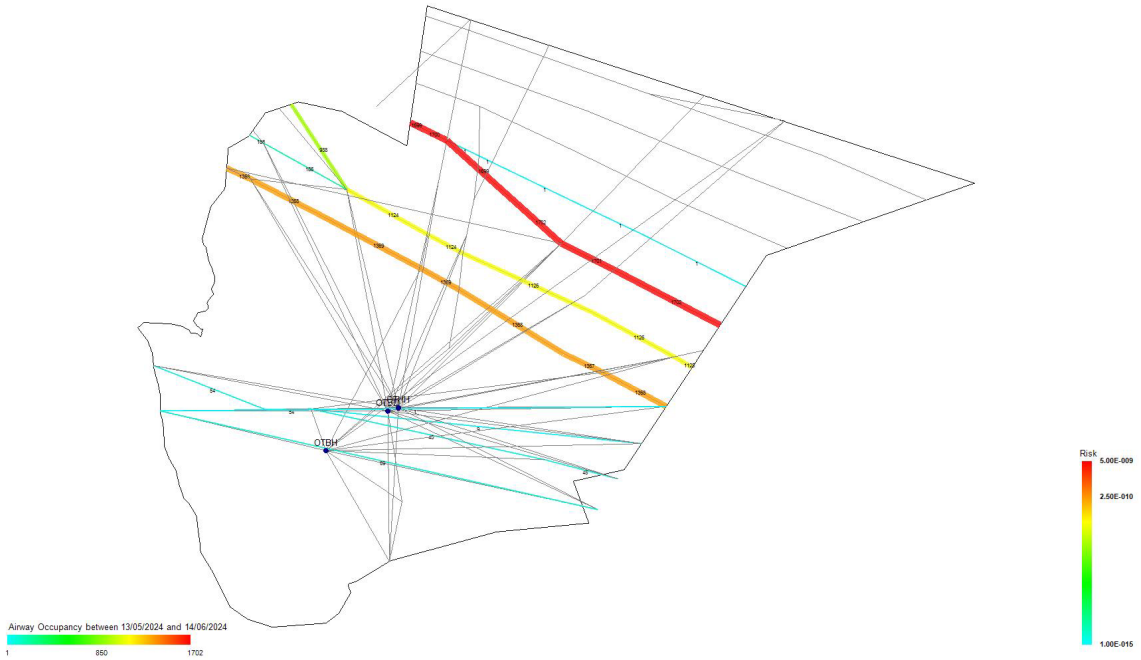
Muscat FIR SMR 2024 Hotspots



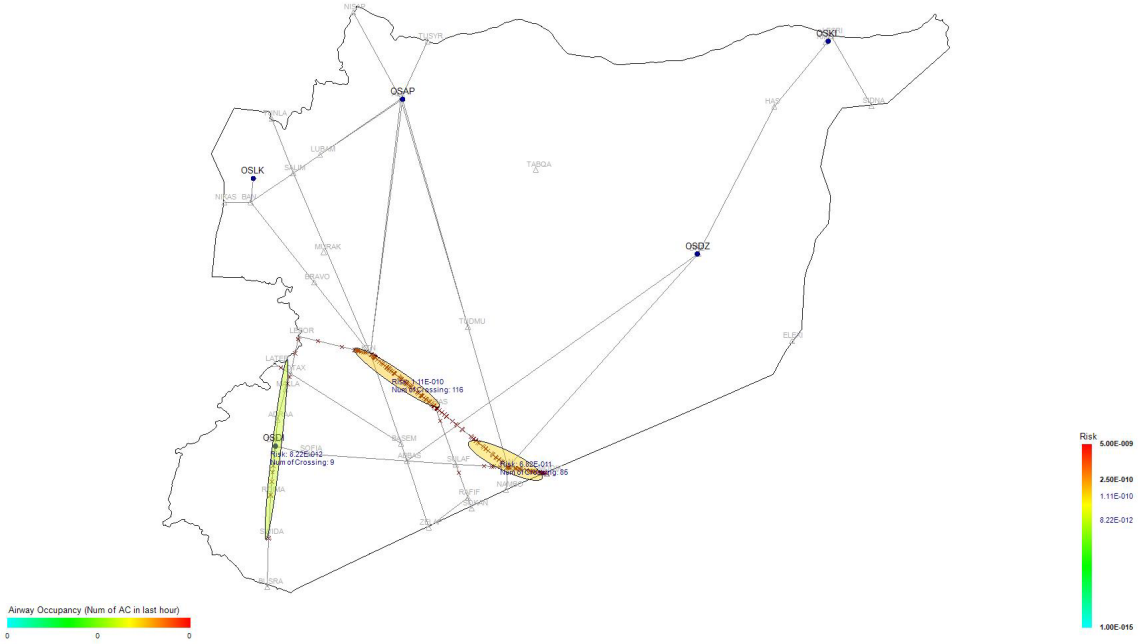
Muscat FIR SMR 2024 AWYs Occupancy



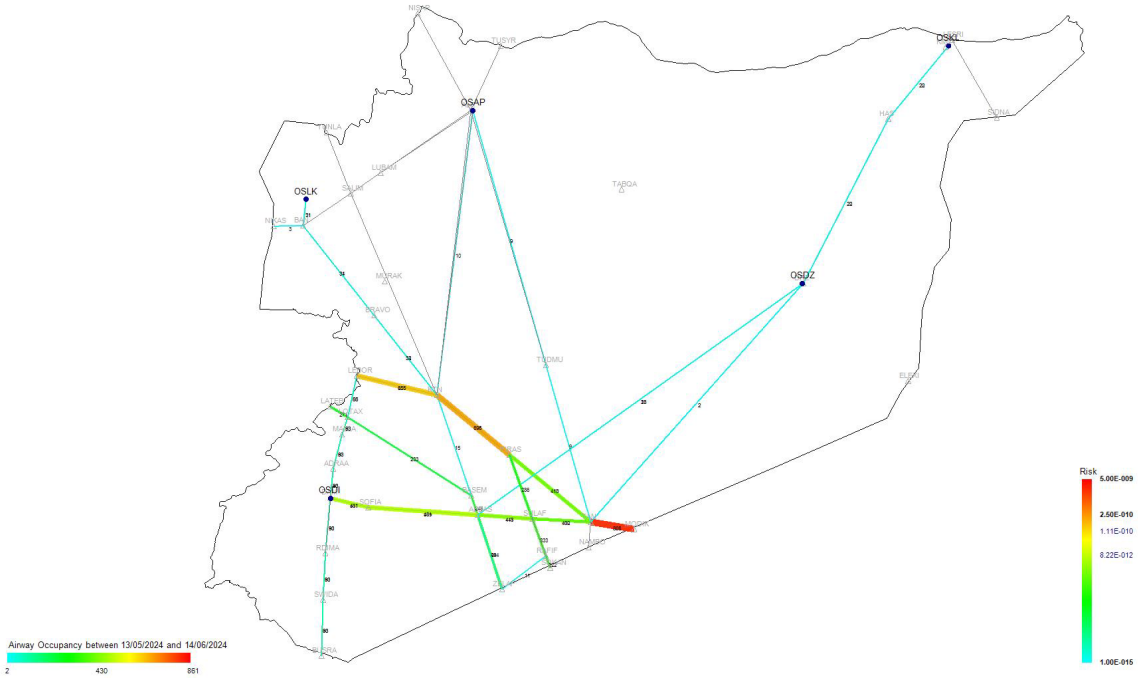
Doha FIR SMR 2024 Hotspots



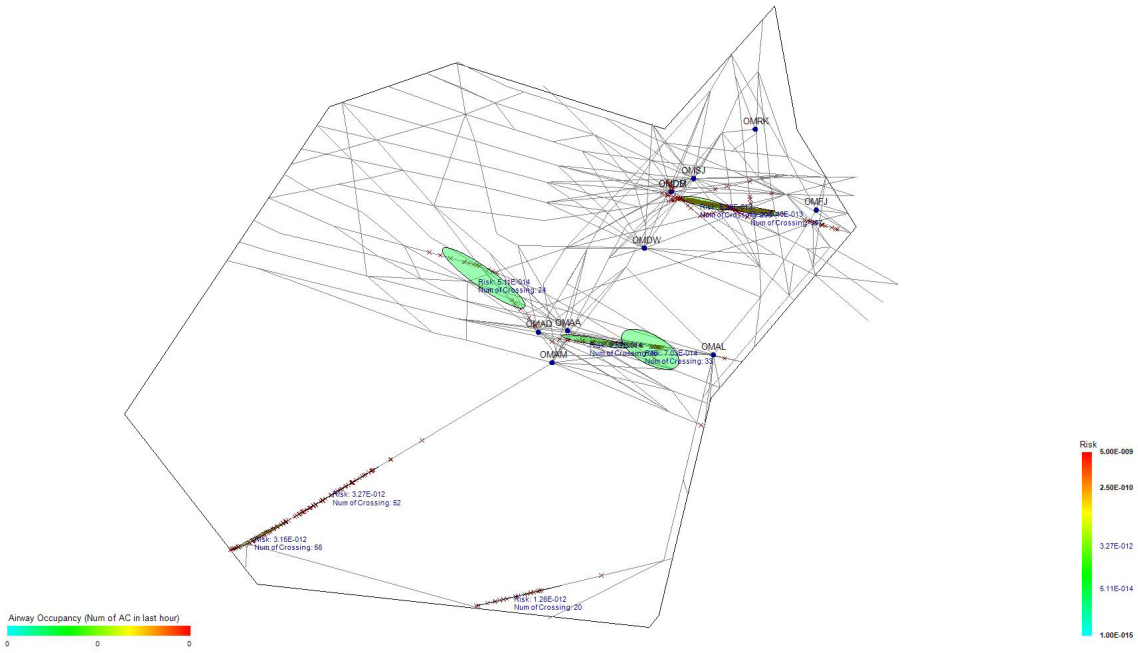
Doha FIR SMR 2024 AWYs Occupancy



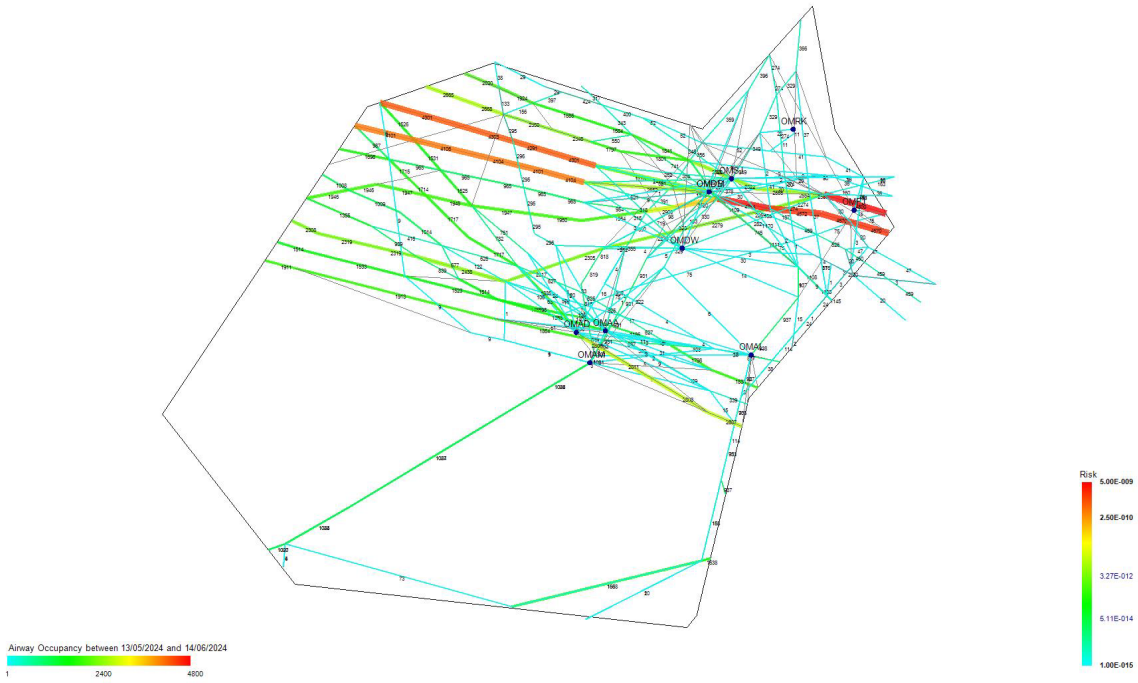
Damascus FIR SMR 2024 Hotspots



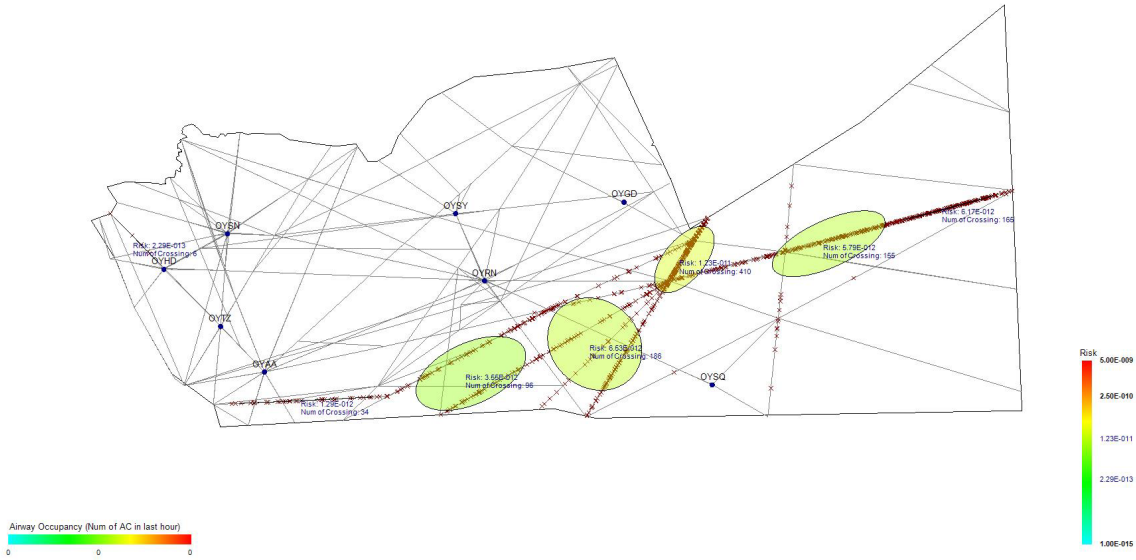
Damascus FIR SMR 2024 AWYs Occupancy



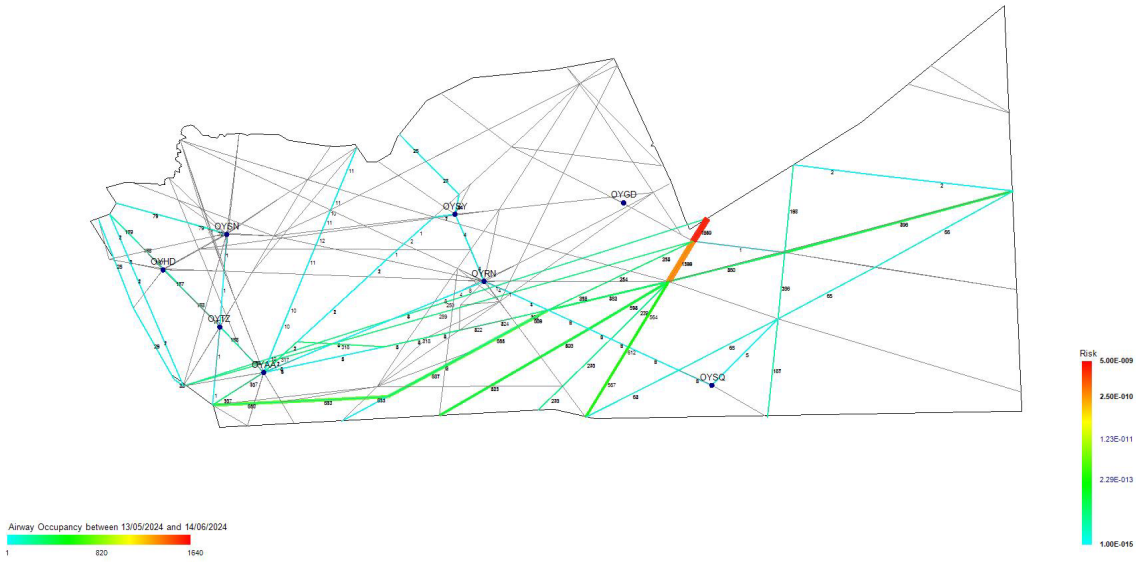
Emirates FIR SMR 2024 Hotspots



Emirates FIR SMR 2024 AWYs Occupancy



Sana'a FIR SMR 2024 Hotspots



Sana'a FIR SMR 2024 AWYs Occupancy

STATE	OPERATOR	GROUP	TOTAL	MMR-OLD	MMR	% Difference
BAHRAIN	GULF AIR	A20N	20	12	2	60%
EGYPT	AIR CAIRO	A20N	19	12	2	63%
	EGYPTAIR AIRLINES	A20N	15	9	2	60%
IRAQ	IRAQI AIRWAYS	B38M	6	4	2	67%
	IRAQI AIRWAYS	BCS1	5	3	2	60%
KSA	FLYNAS	A20N	53	32	2	60%
	FLYADEAL	A20N	24	15	2	63%
	SAUDI ARABIAN AIRLINES	B78X	8	5	2	63%
	SAUDI ARABIAN AIRLINES	A20N	7	5	2	71%
KUWAIT	JAZEERA AIRWAYS	A20N	11	7	2	64%
	KUWAIT AIRWAYS	A20N	9	6	2	67%
	KUWAIT AIRWAYS	GLF6	4	3	2	75%
LEBANON	MIDDLE EAST AIRLINES	A20N	9	6	2	67%
OMAN	OMAN AIR	B38M	13	8	2	62%
	SALAM AIR	A20N	13	8	2	62%
QATAR	QATAR AIRWAYS	A350	58	35	2	60%
	QATAR EXECUTIVE	GLF6	15	9	2	60%
	QATAR AIRWAYS	B38M	9	6	2	67%
	QATAR EXECUTIVE	GLF7	4	3	2	75%
UAE	FLY DUBAI	B38M	56	34	2	61%
	WIZZ AIR ABUDHABI	A20N	12	8	2	67%
	AIR ARABIA	A20N	6	4	2	67%
	ETIHAD	A350	5	3	2	60%
	ETIHAD	A20N	5	3	2	60%
TOTAL			**386**	**240**	**48**	**20%**

MIDDLE EAST REGIONAL MONITORING AGENCY (MIDRMA) BOARD

TERMS OF REFERENCE

The Terms of reference was developed in line with the composition of the MIDRMA Board members (para 2 refers) to assign the relevant tasks and responsibilities to the concerned parties.

I. Board responsibilities

1. The Board is responsible for the overall supervision, direction, and management of the MIDRMA project, to ensure an efficient functioning of the MIDRMA and its sustainability.

2. Develop and continue monitoring the MIDRMA sustainability plan in periodic manner, not more than 3 years, or when deemed necessary.

3. The Board shall elect a Chairperson.

4. The Board shall review and update the MIDRMA work plan on a yearly basis and/or whenever required.

5. The Board shall meet at least once a year or when deemed necessary to review/update, consider, and approve:

    i. the MIDRMA safety reports;
    ii. matters related to the financial management of the MIDRMA project (funding mechanism, annual contributions, incomes, expenditures, etc.); and
    iii. the duties, responsibilities, and scope of the MIDRMA.

6. The Board meetings should be hosted by the member States on rotation basis.

7. The outcomes of the Board meeting related to technical subjects should be reported to MIDANPIRG for final review and endorsement; whereas, the financial and managerial subject related to the MIDRMA are handled by the Board and do not necessitate MIDANPIRG endorsement.

8. The Board shall promote effective communication channels between the MIDRMA and the Member States.

9. The Board shall promote collaboration and cooperation among member states, encouraging the sharing of best practices, experiences, and lessons learned in RVSM operations and monitoring.

10. The Board shall facilitate capacity building initiatives, including training programs and workshops, to enhance the technical expertise of member States related to RVSM operations, risk analysis and monitoring.

11. The Board shall promote compliance with applicable international standards, recommended practices, and procedures related to RVSM, taking into account the evolving regulatory framework and technological advancements.

II. Composition

The MIDRMA Board consists of focal points nominated by each Participating MID Region State as signatories on their behalf with ICAO Technical Cooperation Bureau (TCB) in relation with the MIDRMA project.

The MIDRMA Board meetings will be attended by:

- The Board Members;
- ICAO Regional Office, as permanent observer; and
- Other Organizations (EUROCONTROL, IATA, etc.) as observes on ad-hoc basis and as required.

III. Chairperson responsibilities

The elected Chairperson should:

1. Act as the contact point/coordinator on behalf of the MIDRMA Board members to manage the MIDRMA operational and financial activities.
2. Call, organize and Chair Board meetings.
3. Ensure that the Agenda of the Board meetings meets the objectives to improve MIDRMA activities and keep focus on high priority items.
4. Ensure meeting Agendas, documentation and meeting Reports/Summaries are provided to Member States.
5. Ensure timely sharing of information related to the board documentation (financial, technical) two weeks before the meeting.
6. Promote consensus among the member States.
7. Coordinate MIDRMA activities closely with the Secretariat and follow-up meeting outcomes and Action items.
8. Present annual financial statement to the board meetings.
9. Coordinate relevant subjects with ICAO, Host State (Bahrain) and Board members, as deemed necessary.

IV. Member States responsibilities

Each MIDRMA member State should:

1. Designate a MIDRMA Board Member/ Alternate, an ATC and Airworthiness/Flight OPS Focal Points. The designated representatives should be familiar with the MIDRMA Objectives and able to support its activities.

2. Provide update to the MIDRMA and the ICAO MID Office regarding any changes in the appointed focal points for ATC and Airworthiness; and ensure that the newly appointed focal point(s) are provided with a comprehensive briefing by their predecessors, explaining the assigned tasks and responsibilities.

3. Regularly attend the MIDRMA events.

4. Ensure the payment of the financial annual contributions to the MIDRMA in a timely manner, and avoid pending arrears.

5. Provide the required data to the MIDRMA on regular basis and in a timely manner; the data include, but is not limited to:

   a) approval of operators and aircraft for RVSM operations (on monthly basis or whenever there's a change);

   b) Large Height Deviations (LHD) (on monthly basis);

   c) traffic data (TDS and ADS-B…) as requested by the MIDRMA Board;

   d) airway route structure (above FL 290) and list of waypoints.

6. Investigate and respond to relevant LHD reports filed related to its FIR, through the MIDRMA online reporting tool.

7. Withdraw the RVSM approvals for their airline operators who are not compliant with RVSM height monitoring, and notify the MIDRMA; accordingly.

8. Monitor the relevant Minimum Monitoring Requirements (MMR) through the MIDRMA online system available on the MIDRMA website (add link).

V. MID Office Secretariat Responsibilities

The Secretariat will support the Chairperson by providing administrative, coordination and technical support to the MIDRMA Board. In particular, the Secretariat will:

1. Coordinate meeting logistics with the relevant parties.

2. Develop meeting Agenda.

3. Ensure meeting Reports/Summaries and related documents are posted in a timely manner on the ICAO MID Regional Office website.

4. Monitor and follow-up on the implementation of the Board Conclusions and Decisions and provide status reports to the Board meetings.

5. In coordination with the MIDRMA, report the outcomes of the Board meetings to MIDANPIRG and/or its subsidiary bodies, as appropriate.

6. Maintain communication with the Chairperson, MIDRMA and Member States.

7. Coordinate with ICAO HQ/CDI for the issuance of payment requests and follow up on the arrears.

LIST OF MIDRMA BOARD MEMBERS/ALTERNATES AND FOCAL PONTS

Chairman: Mr. Abdulla Al Qadhi (Bahrain)

STATE	MIDRMA BOARD MEMBER	ALTERNATE	ATC FOCAL POINT	AIRWORTHINESS/FLIGHT OPERATIONS FOCAL POINT
BAHRAIN	~~**Mr. Ahmed Mohammed Bucheery**~~ ~~Chief Air Traffic Management~~ ~~Civil Aviation Affairs~~ ~~P.O. Box 586 BAHRAIN~~ ~~Fax: +973 17 329977~~ ~~Tel: +973 17 321117~~ ~~Mobile: +973 39522696~~ ~~E-mail: a.ali@mtt.gov.bh~~	**Mr. Isa Al-Khamiri** Safety Manager Civil Aviation Affairs P.O. Box 586 – BAHRAIN Fax: +973 17 329977 Tel: +973 17 321118 Mobile: +973 3644768 E-mail: ialkhamiri@mtt.gov.bh	**Same as MEMBER**	**Eng. Abdulrazzaq Abdulwahid** Aircraft Registration Specialist Civil Aviation Affairs P.O. Box 586 BAHRAIN Tel: +973 17 32 9031 E-mail: a.mohammed@mtt.gov.bh
EGYPT	**Mr. Tayseer Mohamed Abdelkareem** General Manager of ATS Egyptian Civil Aviation Authority (ECAA) General Manager of ATS Cairo - Egypt Fax: +202 2268 7849 Tel: +202 2267 8883 Mobile: +20100 522 8675 E-mail: tayseerkasem73@gmail.com tayseer.mohamed@civilaviation.gov.eg	**Mr. Ehab Raslan Mohamed** General Manager R&D National Air Navigation Services Company (NANSC) Cairo Airport Road Cairo - EGYPT Office: +20222680929 / ext: 6690 Mobile: +201011 2699 0000 Email: ehab.raslan@nansceg.net	**Mr. Ahmed Farouk Sayed Ali** ATC National Air Navigation Services Company (NANSC) Cairo Airport Road Cairo - EGYPT Mobile: +20100 654 7752 Email: ahmedfarouk.atc@gmail.com ---------- **ALTERNATE** **Mr. Mohamed Zakaria Elsayed** ATC National Air Navigation Services Company (NANSC) Cairo Airport Road Cairo - EGYPT Mobile: +20100 3080555 Email: mohamedzakaria88@gmail.com	**Eng. Ahmed Abdelaziz Mohamed** …….. Egyptian Civil Aviation Authority Cairo Airport Road Cairo - EGYPT Mobile: +20100 272750 Email: ahmed.salama@civilaviation.gov.eg ---------- **ALTERNATE** **Eng. Ahmed Mohamed Ead** Airworthiness Senior Inspector Egyptian Civil Aviation Authority Cairo Airport Road Cairo - EGYPT Mobile: +20100 3765057 Email: ahmed.ead@civilaviation.gov.eg

STATE	MIDRMA BOARD MEMBER	ALTERNATE	ATC FOCAL POINT	AIRWORTHINESS/FLIGHT OPERATIONS FOCAL POINT
IRAN	**Mr. Mohammad Shahbazi** Vice President in Flight Standards Tehran Mehrabad International Airport P.O. Box 13445-1798 Tehran – IRAN Fax: (+9821) 66078730 Tel: (+9821) 66078700 Ext 133 Mobile: (+98)9124369921 E-mail: m-shahbazi@caa.gov.ir	**Mr. Alireza Nikouee** Head of Airworthiness Audit Group I.R. Iran Civil Aviation Authority Tehran Mehrabad International Airport P.O. Box 13445-1798 Tehran-IRAN Fax: (+9821) 4464 9274 Tel: (+9821) 66078700 9 (Ext. 369) Mobile: (+98)9125708066 Email: a-nikouee@caa.gov.ir	**Mr. Alireza Adnan** ATC Experts Iran CAA Fax: +9821 660 78719 Mob: +989227024263 E-mail : Ar-adnan@caa.gov.ir alirezaadnan@yahoo.com ---------- **Mr. Ahad Daei Kouzehkanany** Safety and Security Oversight and ANS, AIG Expert Civil Aviation Authority Islamic Republic of Iran Fax+9821 66025045 Tel: +9821 66036552 Mobile: +989371939205 Email: a-daei@caa.gov.ir	**Mr. Alireza Hosseinian Amiri** Airworthiness Inspector Airworthiness Department (CAO) Tehran Mehrabad International Airport P.O. Box 13445-1798 Tehran – IRAN Fax: (+9821) 66078730 Tel: (+9821) 66078700 Mobile: (+98) 9111140700 E-mail: a-hosseinian@caa.gov.ir ---------- **ALTERNATE** **Mr. Hussein Zare Toosi** Pilot, Flight Operations Department (CAO) Tehran Mehrabad International Airport P.O. Box 13445-1798 Tehran – IRAN Fax : (+9821) 4464 9274 Tel : (+9821) 61022128 Mobile : (+98) 912 423 7891 E-mail : h-zare@caa.gov.ir

STATE	MIDRMA BOARD MEMBER	ALTERNATE	ATC FOCAL POINT	AIRWORTHINESS/FLIGHT OPERATIONS FOCAL POINT
IRAQ	**Mrs. Fatimah Hasan Mohammed** ANS section/ flight safety Iraq Civil Aviation Authority Baghdad , Iraq Mobile: (964) 7737334481 Email: fatimah_hm_87@yahoo.com fatima@icaa.gov.iq	**Mr. Ahmed Saad Almukhtar** Safety Manager General Company for Air Navigation Services (GCANS) Baghdad – Iraq Mobile: +964 77 02621873 Email: ahmed.almukhtar.atc@gmail.com	**Mr. Mohanad Ali Mohamed Jawad** ATM Coordinator General Company for Air Navigation Services (GCANS) Baghdad – Iraq Mobile: +964 770 881 7030 Email: mohanad_ali1986@yahoo.com	**Mr. Ali Kumail** Airworthiness Inspector Iraq Civil Aviation Authority Mobile :00964 7703663075 Email : Alikumail@icaa.gov.iq ---------- **Mr. Ahmed Abdulkhaliq** Airworthiness Inspector Iraq Civil Aviation Authority Mobile :00964 7800947433 Email : Ahmedam@icaa.gov.iq
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ICAO	ICAO MID	Mr.	Ahmad Kaveh	ATM Officer

- END -