International Civil Aviation Organization

MIDANPIRG/22 & RASG-MID/12 Meetings

(Doha, Qatar, 4 – 8 May 2025)

Agenda Item 3.3: Air Navigation Subjects of interest to RASG-MID

SUMMARY OF RVSM OPERATIONS AND MONITORING ACTIVITIES IN THE MID REGION

(Presented by the Secretariat)

SUMMARY

This paper presents the activities of the MIDRMA including the results of the Safety Monitoring report 2024.

Action by the meeting is at paragraph 3

REFERENCE

- MIDANPIRG/21 & RASG-MID/11 (ABU DHABI, UAE, 4 – 8 MARCH 2024) meeting report
- MIDRMA Board/20 (Muscat, Oman, 11 – 12 November 2024) meeting report

1. INTRODUCTION

1.1 The Middle East Regional Monitoring Agency (MIDRMA) issues the MID RVSM Safety Monitoring Report (SMR) on an annual basis, with endorsement from the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG).

1.2 The report aims to present evidence that all safety objectives outlined in the MID RVSM Safety Policy, in accordance with ICAO Doc 9574 (2nd Edition), continue to be met in operational services. Noting that, for the SMR 2024, the MIDRMA did not receive the required traffic data sample from Sudan, forcing MIDRMA to exclude Khartoum FIR from the RVSM risk analysis.

2. DISCUSSION

2.1 The meeting may wish to note that the results of the MID RVSM SMR 2024 reflect the success in achieving the three RVSM safety objectives within the MID Region, as follows:

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 **2.5 x10^{-9}** fatal accidents per flight hour.

The value computed for technical height risk is estimated at **7.184 x 10^{-11},** which meets RVSM Safety Objective 1.

Objective 2 The overall risk of collision due to all causes, which includes the technical risk and all risks 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 at **6.6399×10^{-10},** which 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.

Middle East RVSM Airspace **Average Aircraft Speed = 464.44 kts**			
Risk Type	**Risk Estimation**	**ICAO TLS**	**Remarks**
Technical Risk	**7.184×10^{-11}**	**$2.5x10^{-9}$**	**Below ICAO TLS**
Overall Risk	**6.6399×10^{-10}**	**$5x10^{-9}$**	**Below ICAO TLS**

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

Scope of SMR 2024						
Amman	Bahrain	Beirut	Baghdad	Cairo	Damascus	Emirates
Jeddah	Kuwait	Khartoum*	Muscat	Sana'a	Tehran	Tripoli
			Doha			

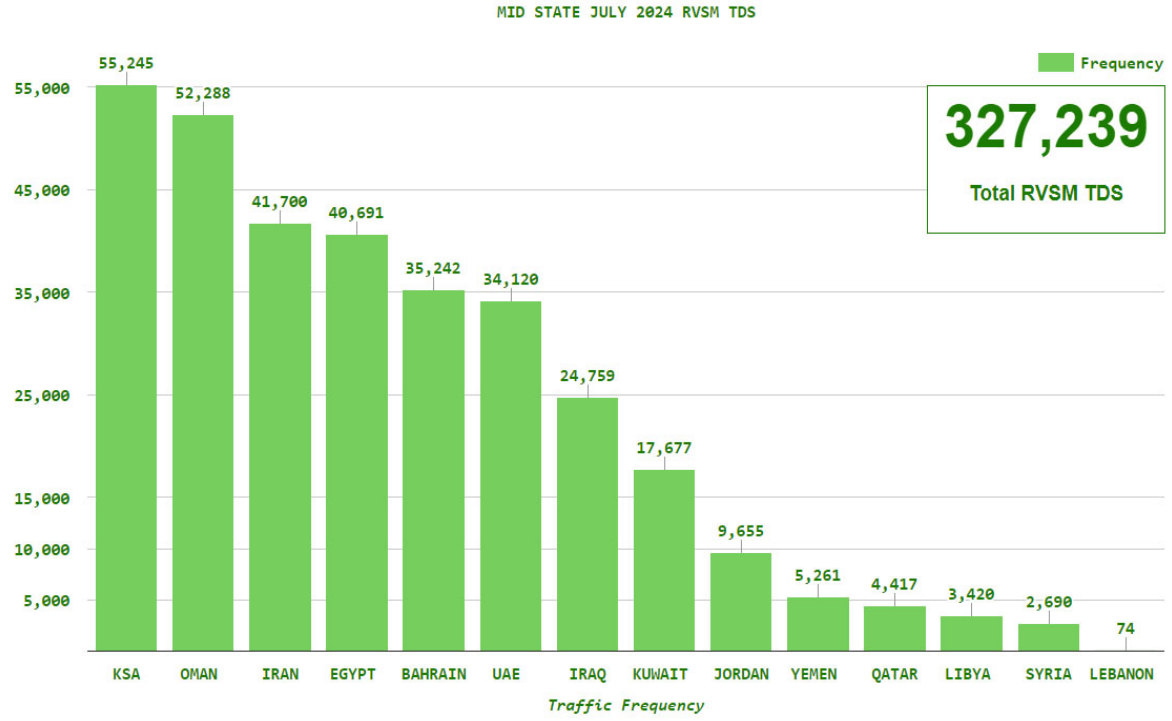
FIRs of the Middle East RVSM Airspace

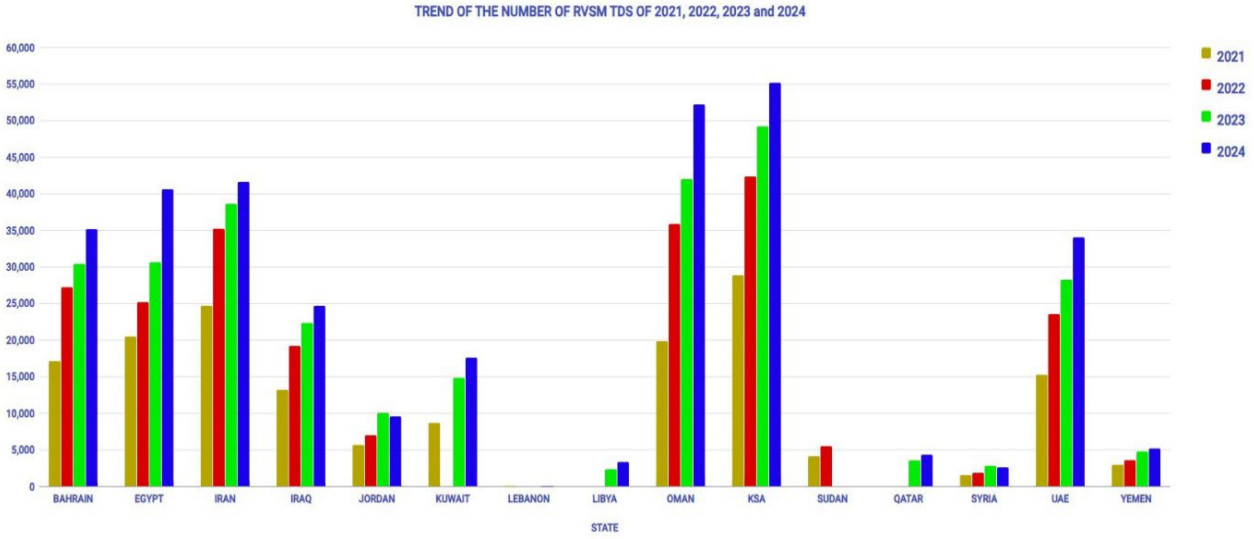
***Note:** **Khartoum FIR excluded from the RVSM safety analysis due to lack of data**

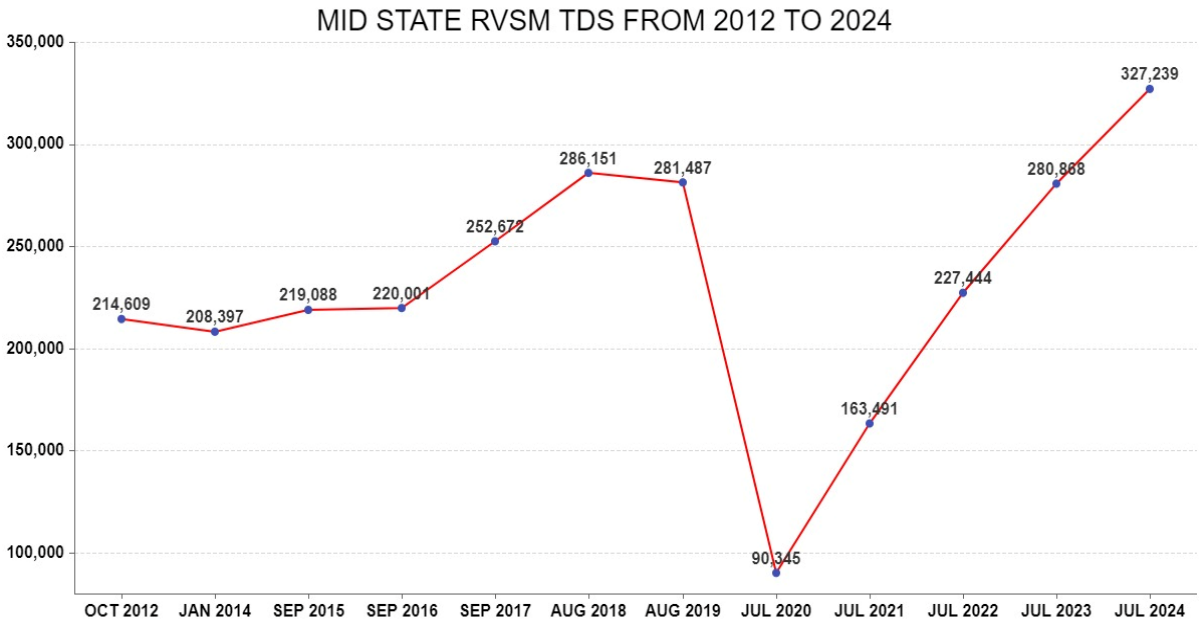
2.3 The Data Sampling periods covered by SMR 2024 according to the MIDANPIRG/21 conclusion were as displayed in the table below:

Report Elements	**Time Period**
Traffic Data Sample	15/05/2024 - 15/06/2024
Operational & Technical Errors	01/01/2024 - 31/12/2024

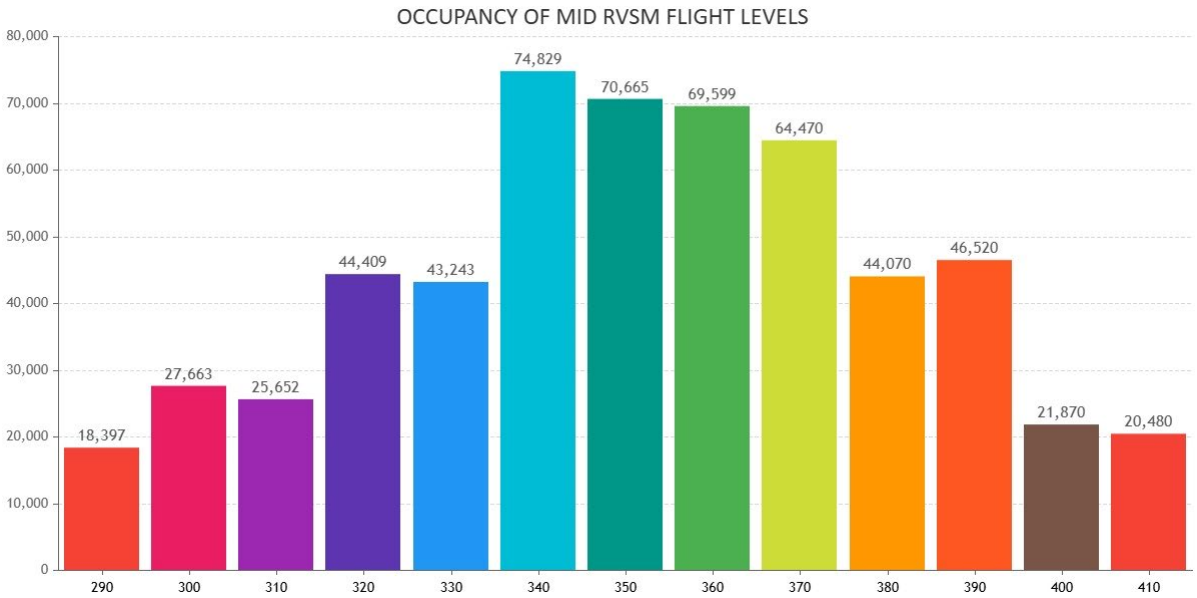
2.4 The descriptions of the traffic data collected from each MIDRMA Member State are depicted in the graph below:


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
OMAN
KSA
SUDAN
QATAR
SYRIA
UAE
YEMEN
STATE



Note: compared to SMR 2023, SMR 2024 reported 16.5% additional flights.



POINT	FIRs	FREQUENCY
TASMI	BAGHDAD/KUWAIT	**10557**
DAVUS	BAHRAIN/KUWAIT	**9337**
SIDAD	BAGHDAD/KUWAIT	**8204**
TUMAK	BAHRAIN/EMIRATES	**7831**
RATVO	BAGHDAD/ANKARA	**7566**
NINVA	BAGHDAD/ANKARA	**7370**
MENSA	EMIRATES/MUSCAT	**7327**

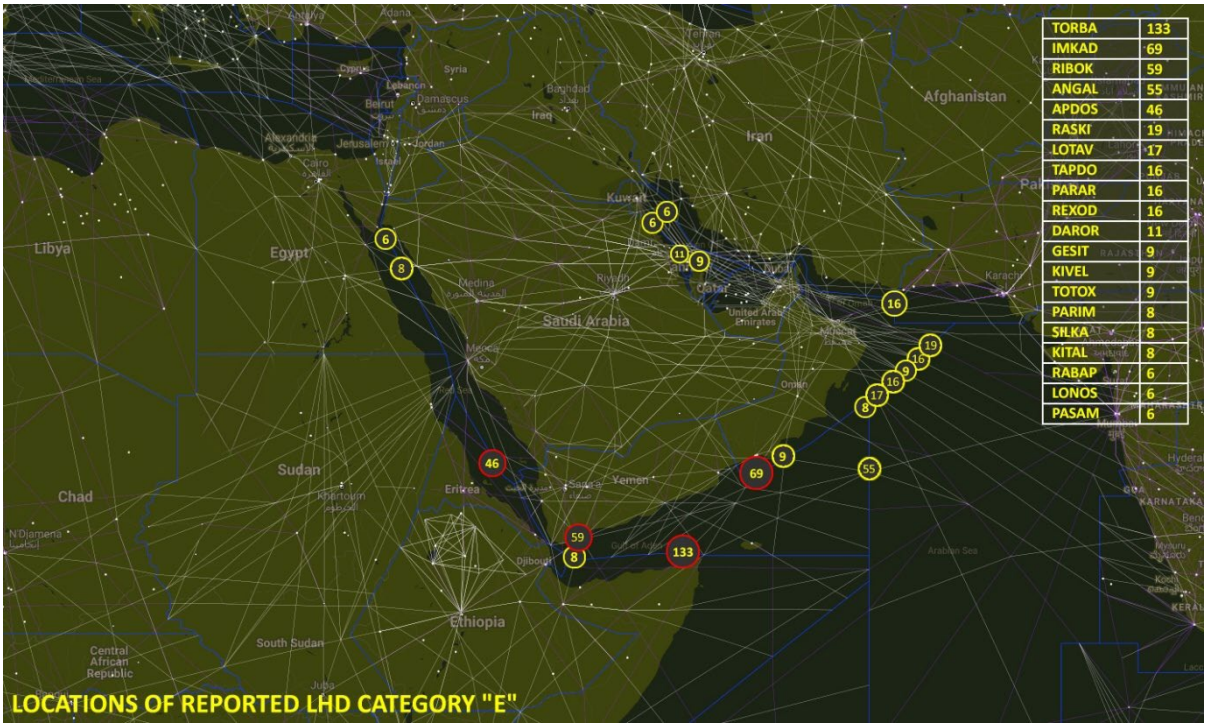
RASKI	MUSCAT/MUMBAI	**6431**
GABKO	EMIRATES/TEHRAN	**6329**
ULADA	BAHRAIN/JEDDAH	**6222**
PASAM	CAIRO/JEDDAH	**6145**
ULINA	CAIRO/AMMAN	**5741**
ALPOB	BAHRAIN/EMIRATES	**5626**
DAROR	BAHRAIN/JEDDAH	**5561**
NALPO	BAHRAIN/EMIRATES	**5323**
SODEX	EMIRATES/MUSCAT	**5276**
TONVO	EMIRATES/MUSCAT	**5140**
BONAM	TEHRAN/ANKARA	**5014**
LONOS	BAHRAIN/KUWAIT	**4996**
PASOV	EMIRATES/MUSCAT	**4762**

Waypoints usage

2.5 The meeting may wish to recall, that to enable the estimation of total risk, the MIDRMA had to incorporate the results of Safety Objective 1 and the evaluated risk arising from varouis factors referred to as operational risk by analyzing the operational incident reports (LHDs) submitted by the States. however, the MIDRMA continues to receive decreased number of LHD Reports, particularly from those states with high traffic volumes. The MIDRMA received uring the sampling period of LHD (1 January to 31 December 2024 a total of 294 LHD Report from within the Region and a total of 240 on the interface, as follows:

MID FIRs	No. of Reported LHDs	No. of Related LHDs
Bahrain	26	18
Baghdad	17	1
Amman	-	1
Tehran	-	5
Beirut	-	-
Cairo	12	14
Damascus	-	11
Khartoum	-	-
Kuwait	-	14
Doha	**23**	1
Muscat	**136**	61
Jeddah/ Riyadh	**23**	**143**
Tripoli	-	1
Emirates	-	7
Sana'a	**358**	17

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



2.6 The meeting may wish to note, that two safety protocols are still open at the interface of the MID Region, between Muscat and Mumbai and for Sanaa FIR and its adjacent FIRs. Despite the efforts of the relevant States and the MIDRMA, including enhanced and timely LHD reporting, internal investigation mechanisms ongoing coordination including the establishment and testing of the AIDC connection.

2.7 The details of the technical details will be discussed in details in WP/44.

2.8 The meeting may wish to note the RVSM height monitoring activities conducted by the MIDRMA, summarized as follows:

a. Monitoring of 17 RVSM approved Aircraft register in Saudi Arabia,
b. Monitoring of 15 RVSM approved Aircraft register in Iraq,
c. Monitoring of 23 RVSM approved Aircraft register in Libya,
d. Monitoring of 30 RVSM approved Aircraft register in Iran, after the obtaining of OFAC license in July 2024, valid for two years.

2.9 The meeting may wish to recall the MIDRMA duties in safeguarding the safety of

RVSM Airspace, by conducting systematic reviews to ensure operators compliance with the State RVSM approval requirements and to identify any aircraft operating within the RVSM airspace without the required approvals. Accordingly, the MIDRMA continues to monitor the compliance, based on the data collected, and provides a list of non-compliance Aircraft operating within RVSM Airspace. And invited the States to exercise proactive oversight to address any approval deficiencies in a timely manner, and to present the report any detected unauthorized operations within their relevant FIR.

2.10 The meeting may wish to note, that the MIDRMA continues to collect and distribute the current list of MMR, also accessible thought the MIDRMA website: www.midrma.com, the current MMR list for the MID States is as follows:

STATE	RVSM APPROVED A/C	HAVE RESULTS /COVERED	NOT COVERED	NOT COVERED IN %	A/C MMR
Bahrain	72	71	1	1%	1
Egypt	163	148	15	9%	9
Iran	199	125	74	37%	40
Iraq	55	53	12	22%	2
Jordan	47	46	1	2%	1
KSA	358	357	1	0%	1
Kuwait	72	68	4	6%	3
Lebanon	29	29	0	0%	0
Libya	48	29	19	40%	16
Oman	67	66	1	1%	1
Qatar	304	304	0	0%	0
Sudan	16	1	15	94%	11
Syria	17	11	6	35%	2
UAE	603	568	35	6%	19
Yemen	8	1	7	88%	4
TOTAL	**2058**	**1877**	**191**	**9%**	**110**

MIDRMA Member States ICAO RVSM Minimum Monitoring Requirement (MMR) Table, valid as of 01 March 2025

2.11 The meeting may wish to recall the MIDANPIRG Decision 21/16, related to the MID ADS-B Height Monitoring System (MID AHMS). The meeting may wish to note that the MIDRMA has completed the capacity building of the MIDRMA personnel to gain the technical expertise required for the ADS-B data processing and analysis; by completing a training programme, to enable accurate and efficient monitoring using the ADS-B data. And started experimental monitoring using archived ADS-B data provided by Bahrain. The MIDRMA is currently developing the training and operating manuals and in the process of obtaining the analysis software in cooperation with NARMO and FAA. The MIDRMA invites the meeting to urge State to provide ADS-B data, training the engineers on extracting the data and ensure regular submission of the data.

2.12 The meeting may wish to note that the MIDRMA continues to provide the MID FIR RVSM Airspace Hotspots diagrams and Airways occupancy frequency, to be reviewed by the States and include in their ATS route network evaluation, if required.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper;

b) discuss the subject of decreased number of LHD Reporting;

c) Urge States to provide the ADS-B data required for the MID AHMS.

- END -