



International Civil Aviation Organization

MIDANPIRG/19 and RASG-MID/9 Meetings

(Riyadh, Saudi Arabia, 14-17 February 2022)

Agenda Item 5.7: Air Navigation Planning and Implementation - ATM

ATFM FWC2022

(Presented by the Secretariat)

SUMMARY

This paper presents the outcomes of the FWC 2022 TF and ATM SG/7 meetings related to the progress made for the development and implementations of a collaborative Action Plan to accommodate the expected high increase in traffic during the FWC 2022 event, in a safe and efficient manner.

Action by the meeting is at paragraph 3.

REFERENCES

- MIDANPIRG/18 & RASG-MID/8 Report (Virtual Meetings, 15 – 22 February 2021)
- FWC 2022 TF/5 Report (Virtual, 23 – 24 Mar 2021)
- ATM SG/7 Report (Virtual Meeting, 15 – 18 November 2021)
- FWC 2022 TF/6 Report (Virtual, 7 – 8 Feb 2022)

1. INTRODUCTION

1.1 The meeting may wish to recall that the FIFA World Cup 2022 Task Force was established by MIDANPIRG/16 through Decision 16/18.

1.2 The meeting may wish to recall MIDANPIRG Conclusion 18/30:

MIDANPIRG CONCLUSION 18/30: MID REGION RVSM AIRSPACE SAFETY ASSESSMENT RELATED TO THE FWC 2022

That, the MIDRMA conduct a MID Region RVSM airspace safety assessment, to ensure that the overall risk is meeting the ICAO TLS; and identify the peak periods, hotspots, bottlenecks, etc., based on a worst case scenario, using the forecasted traffic during the FWC 2022 period and all historical LHD reports available within the MIDRMA database.

2. DISCUSSION

2.1 The FWC 2022 TF/5 meeting noted the development of the MID Region RVSM Airspace Safety Assessment related to the FWC 2022 by the MIDRMA, using all the available historical LHD Data and traffic forecast during the event provided by Qatar, based on the worst case scenario, as at **Appendix A**.

2.2 The meeting may wish to note that the Safety Assessment developed by the MIDRMA demonstrated that the ICAO Target Level of Safety (TLS) will continue to be met (using the worst case scenario).

2.3 The ATM SG/7 meeting also noted the capacity enhancement projects planned by Qatar to facilitate the traffic movements during the FIFA World Cup 2022 event within Doha TMA.

2.4 The meeting noted the initial FWC 2022 ATFM implementation plan during the period of the event, based on the MID Region ATFM CONOPS V1.0, and noted the web-based tool for exchanging data, which will enable the measurement of demand vs capacity, and providing the ATFM measures.

2.5 Based on the above, the ATM SG/7 meeting encouraged the FWC 2022 Chairman and Qatar, to share relevant information and plans with the concerned stakeholders (States and Airspace users), to allow them to actively participate in the implementation and to allow sufficient time for training; and agreed that the details be reviewed by the FWC 2022 TF/6 meeting (Virtual, 7 – 8 Feb 2022) before presentation to MIDANPIRG/19 for endorsement.

2.6 Accordingly, the FWC2022 TF/6 meeting reviewed the details of the FWC 2022 Roadmap and Operational plan presented by Qatar; and noted the projects details planned to be implemented by Qatar, mainly addressing the airspace management and the introduction of ATFM.

2.7 The meeting noted that an exceptional demand is expected on the MID Region FIRs/Airspace/Route network during the period 16 Nov – 20 Dec 2022; the traffic forecast is estimated to be 1000 movements per day and could reach 1600 movements per day on the peak periods.

2.8 The meeting noted that to enable Qatar to implement the Roadmap and Operational Plan, many regional activates involving the other States and ANSPs are required as follows:

- close coordination with the neighbouring States/ANSPs;
- temporary LoA agreements;
- regular briefing for operational plans and data exchange;
- agreements with nearby Airports for the usage of offload parking (Drop-and-Go Policy);
- ATFM implementation (CONOPS, Tools and training);
- contingency procedures (weather, incidents...) to include:
 - a) airborne/enroute holding patterns;
 - b) diversions to alternates; and
 - c) provisions of ATS services.
- Airspace users consultation and requirements.

2.9 The meeting noted that the FWC 2022 ATFM Implementation, using a web-based data exchange tool, will support the measurements of the demand and implementation of the measures. However, considering the current status of the MID ATFM Implementation Plan (currently on phase of

training and building capacity activities), it was found that training might be required for the MID States' specialists to support this implementation.

2.10 Based on the above, Qatar offered the use of their ATFM tool during the event in two parts:

- Part 1: related to traffic movements bound to Doha, which will support the traffic management within Doha TMA.
- Part 2: related to the overall traffic within the FIR of the participating State, to support the State in managing its FIR.

2.11 Accordingly, training programme is hosted by Qatar based on the State intention to participate.

2.12 Additionally, Egypt, Kuwait and Saudi Arabia presented to the FWC 2022 TF/6 meeting an update on their Airspace enhancement projects planned to be implemented to address the hotspots highlighted by the MID Region RVSM Airspace Assessment within their FIRs, to ensure preparation and readiness of their route structure during the event.

2.13 Based on the above, the meeting reviewed and updated the FWC 2022 Action Plan as at **Appendix B**, and agreed to support the Action Plan with the checklist at **Appendix C**; including the details from the Roadmap and Operational Plan to ensure all projects implementations are tracked and harmonized.

2.14 The ATM SG/7 meeting reviewed the proposed changes to the ToR of the FWC 2022 as at **Appendix D**, and agreed accordingly to the following Draft Decision:

DRAFT DECISION 7/7: TERMS OF REFERENCE OF THE FWC 2022 TF

*That, the Terms of Reference of the FWC 2022 TF be updated, as at **Appendix D**.*

3. ACTION BY THE MEETING:

3.1 The meeting is invited to:

- a) review and agree on the FWC 2022 Action Plan and Checklist at **Appendices A** and **B**, respectively;
- b) endorse the Draft Decision in para. 2.14, and
- c) urge States to support the implementation of the FWC 2022 Action Plan and take all necessary measures in a collaborative manner to accommodate the expected high increase in traffic during the FWC 2022 event, in a safe and efficient manner.



MID Region RVSM Airspace Safety Assessment Related to the Expected Traffic Growth During FWC 2022

Prepared by the Middle East Regional Monitoring Agency (MIDRMA)

SUMMARY

The aim of this study is to present to the FWC 2022 TF the expected hotspots/bottlenecks generated from the predicted RVSM traffic data for FIRs expected to be affected by the traffic growth during the FWC 2022 event.

1.Introduction:

1.1 With reference to the MIDANPIRG Conclusion 17/24 related to the MID Region RVSM Airspace safety assessment during the period of the FWC 2022 event (November – December 2022), the meeting noted that the subject has been followed up by the MIDRMA Board, the FWC 2022 TF and the ATM SG; and it was found that, the MIDRMA would be able to assess the technical risk, while the operational risk would need LHD reports, which could not be available beforehand. Therefore, it would not be possible to meet the mandate given by MIDANPIRG, through Conclusion 17/24, to identify the peak periods, hotspots, bottlenecks, etc.

1.2 MIDANPIRG was informed that, as a follow-up action and in order to find a way forward to meet the mandate given by MIDANPIRG, the ICAO MID Office organized coordination meetings with the FWC2022 TF Chairman, Qatar, the MIDRMA and the MIDRAS Developer. It was agreed that it is possible to use artificial intelligence and the available historical data related to LHD, forecasted traffic and the ATS Route Network Structure to provide probabilistic/predicted LHD reports, which will enable the MIDRMA to use the current version of the MIDRAS software to conduct the required safety assessment, as per MIDANPIRG Conclusion 17/24. MIDANPIRG/18 (Virtual, 15 – 22 Feb 2021) meeting reviewed the project proposal by the MIDRAS Developer (Cost # 25,600 USD). No consensus was reached to proceed with the proposal. Based on a proposal by the MIDRMA, the meeting agreed that the MID Region RVSM Airspace safety assessment related to the FWC 2022, be developed based on a worst case scenario (using all available historical LHD reports) for the assessment of the risk of collision due to operational errors. And agreed on MIDANPIRG Conclusion 18/30: MID Region RVSM Airspace Safety assessment related to the FWC 2022

That, the MIDRMA conduct a MID Region RVSM airspace safety assessment, to ensure that the overall risk is meeting the ICAO TLS; and identify the peak periods, hotspots, bottlenecks, etc., based on a worst case scenario, using the forecasted traffic during the FWC 2022 period and all historical LHD reports available within the MIDRMA database.

2. Discussion:

2.1 According to the proposal presented by MIDRMA to MIDANPIRG/18 to conduct the assessment based in a worst case scenario, the MIDRMA requested from Qatar the forecasted traffic for landing/departing all the airports in Qatar, these data will be supplemented with the forecasted RVSM traffic for all the surrounding FIRs to Qatar including Bahrain FIR which is the most affected FIR by the event.

2.2 The MIDRMA accepted the final version of Qatar predicted traffic data on 14th March 2021 which is only 8 days to hand over the assessment to ICAO MID Office for presenting it during the FWC2022 TF/5, Virtual, 23 - 24 Mar 2021. Although the time was not enough to finalize this assessment, the MIDRMA decided to proceed with the study by close coordination with the ICAO MID ATM Officer to avoid further delay.

2.3 Forecasted TDS Received from Qatar

- a- The total predicted movements received from Qatar were **30,916**, distributed as **15,541** Departures from Qatar airports and **15,375** as Arrivals.
- b- Out of the **15,541** departures from Qatar airports MIDRMA found **8,190** flights will be exiting Bahrain FIR below RVSM airspace and will not be included in the assessment for Bahrain FIR but will be used for further en-route analysis beyond Bahrain FIR, the remaining **7,351** flights were used for the analysis.
- c- Out **15,375** arrivals for Qatar airports MIDRMA found **7,037** movements entering Bahrain FIR below the RVSM airspace and will not be used in the assessment for Bahrain but these movements will be used in the previous FIRs, the remaining **8,338** movements were used for the assessment.
- d- The total movements to/from Qatar airports used for the assessment :
$$7351 + 8338 = \mathbf{15,689}$$
 movements
- e- MIDRMA had to correct some errors found in the received data such as wrong exit/entry flight levels and points.

2.4 Forecasted TDS Used for RVSM Airspace Safety Assessment

- a- MIDRMA decided to use the archived RVSM TDS which was received to develop SMR 2019 as the TDS for SMR 2020 was not reflecting the actual/normal traffic level for the MID Region because of the Corona Pandemic.
- b- After a careful review of the traffic flow of FWC 2022, MIDRMA found that most FIRs that will be affected by this event are: Bahrain, Baghdad, Kuwait, Muscat, Jeddah, Tehran

and Emirates FIRs, while other FIRs may be affected but not as severe as those mentioned due to its proximity to Qatar.

- c- MIDRMA developed a software to generate the forecasted TDS taking into consideration the following:
 - i. Annual traffic growth of 13%.
 - ii. Traffic growth for the event was calculated per day/hour/minute at each entry/exit points including departure/arrival aerodromes.
 - iii. Distribution of entry/exit flight levels.
 - iv. Distribution of entry/exit times with logic longitudinal spacing.
- d- MIDRMA merged the forecasted TDS received from Qatar with the forecasted TDS developed for each FIR (after applying 39% traffic growth) based in the entry/exit points and linked all the TDS for the continuity of traffic flow in the neighboring FIRs.

2.5 Operational Error Reports – Large Height Deviations (LHDs)

- a- In order to calculate the overall risk for RVSM airspace during the FWC 2022 event, the archived LHD reports received from the most affected FIRs mentioned in Para 2.4 for last three years were used to obtain the results for the worst case scenario.
Note: The level of reporting LHD in the MID region for SMR 2018 reporting period was very low.
- b- Calculated technical and overall TLS for each FIR:

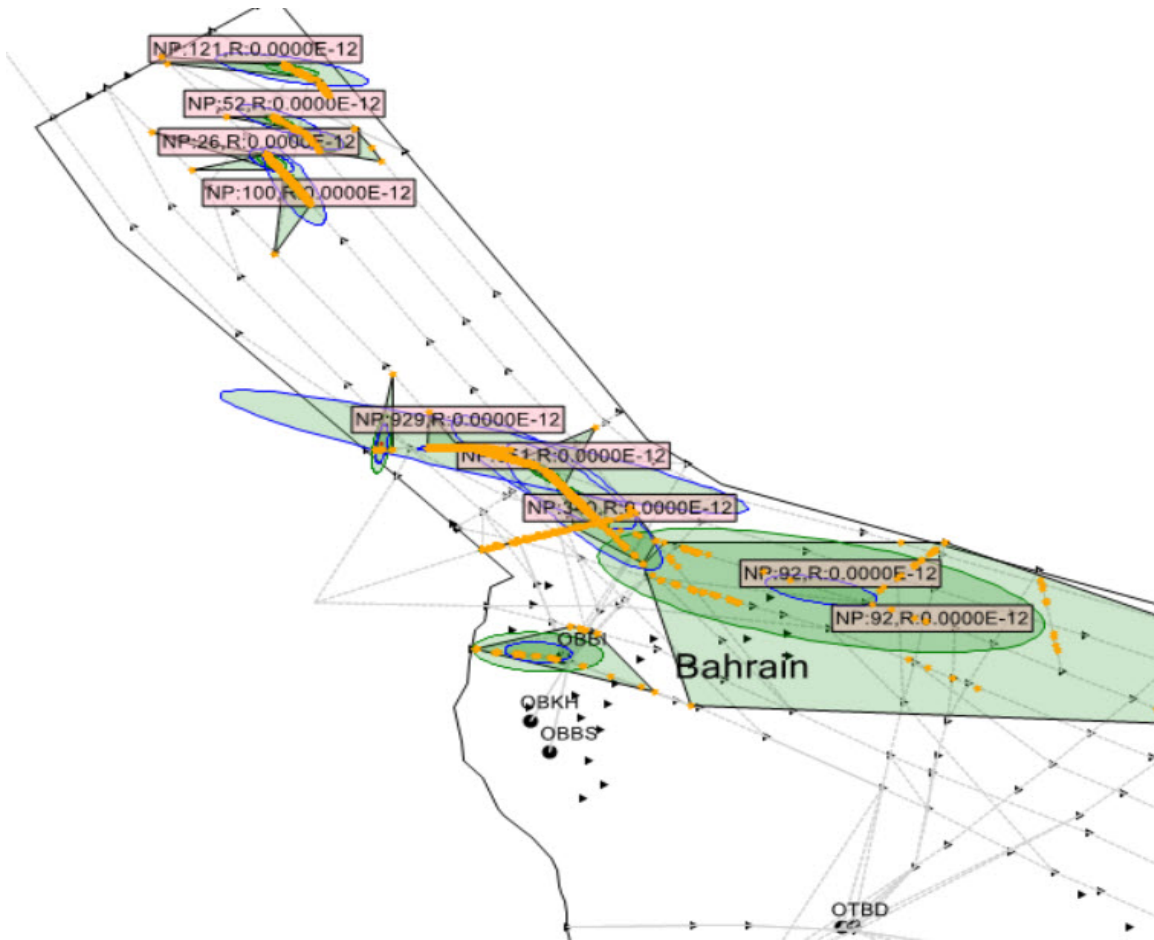
FIR	Technical Risk Values ICAO TLS 2.5×10^{-5}	Overall Risk Values ICAO TLS 5×10^{-5}	Remarks
Bahrain	1.856×10^{-16}	2.916×10^{-10}	Both Values Above ICAO TLS
Baghdad	3.87×10^{-12}	1.949×10^{-10}	Both Values Above ICAO TLS
Kuwait	7.144×10^{-17}	4.672×10^{-13}	Both Values Above ICAO TLS
Muscat	5.617×10^{-15}	5.762×10^{-10}	Both Values Above ICAO TLS
Jeddah	2.681×10^{-14}	1.067×10^{-10}	Both Values Above ICAO TLS
Tehran	8.358×10^{-14}	2.008×10^{-10}	Both Values Above ICAO TLS
Emirates	2.715×10^{-14}	3.13×10^{-13}	Both Values Above ICAO TLS

- c- The above results reflect ICAO's TLS for assessing RVSM safety based on forecasted traffic without knowing whether the traffic volumes will return back to normal or not as the MID region lost approximately 68% of RVSM traffic during the SMR 2020 reporting period compared to SMR 2019 due to the Corona pandemic.
- d- The calculated results could be severely affected if more LHD reports are received for the next period which could increase the risk values. Therefore, the above mentioned results should be considered as hypothetical results without giving any guarantee in case these results deteriorate or even improve.

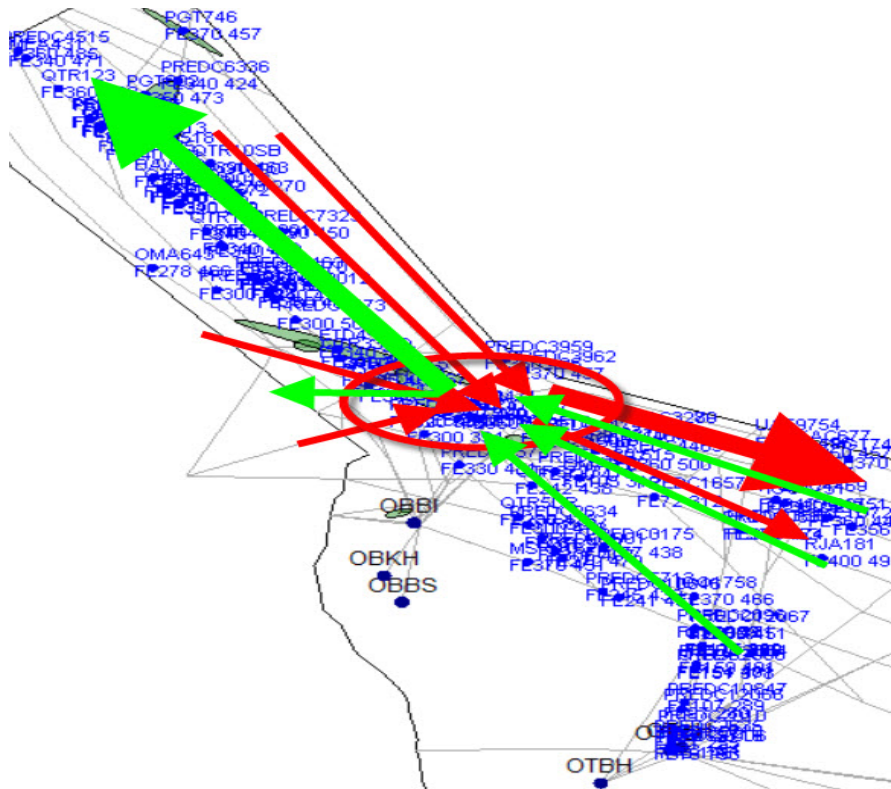
3. MIDRMA Observations for the ICAO MID RVSM Airspace ONLY.

3.1 Bahrain FIR

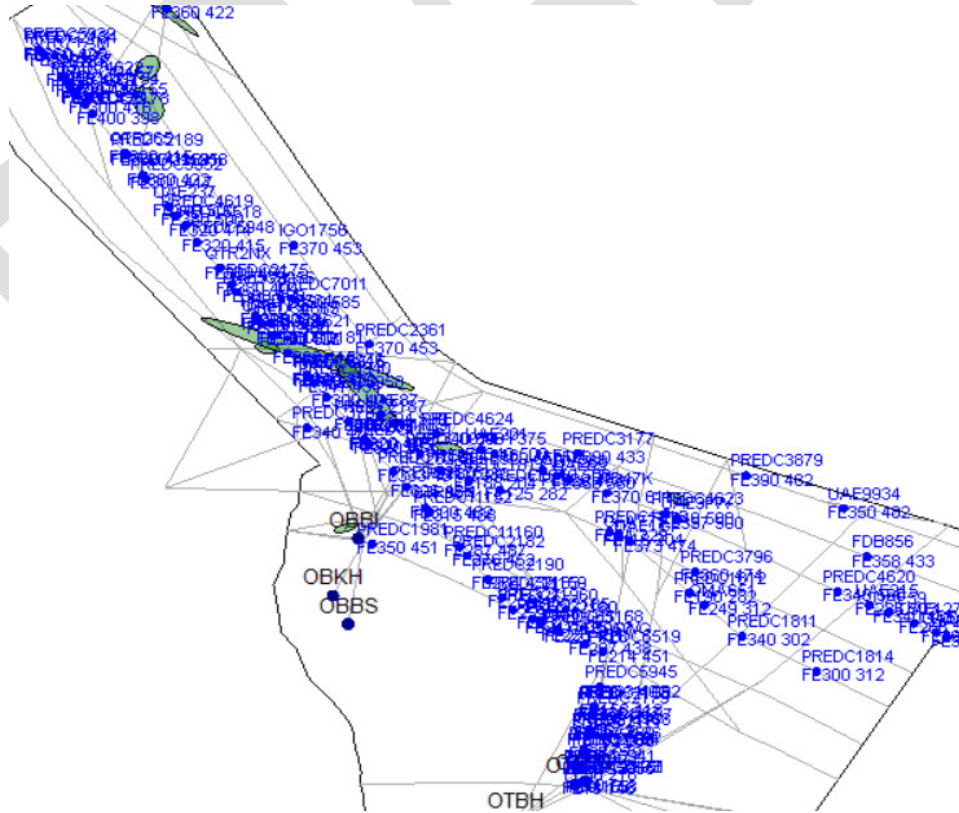
- a. Bahrain FIR considered to be the most affected FIR in the Middle East region during the FWC 2022 event because large number of Qatar airports landers/departures will be either descending/climbing phase and will be mixed with departures/arrivals for adjacent aerodromes such as Bahrain and Dammam which will cause air traffic congestion below the RVSM airspace and might have serious impact to RVSM airspace as well.
- b. The RVSM airspace to the north and north east of Bahrain VOR is the converging /diverging airspace of nearly all the overflying traffic within Bahrain FIR, this airspace formed one of the most complicated hotspots observed in this study (also detected during the annual MID RVSM SMRs) which caused the passing frequency to increase well above the normal figures for the annual SMRs.
- c. Map 1 below reflects the hotspots of Bahrain FIR which are marked by orange color along the traffic congestion.



Bahrain FIR Hotspots – Map 1



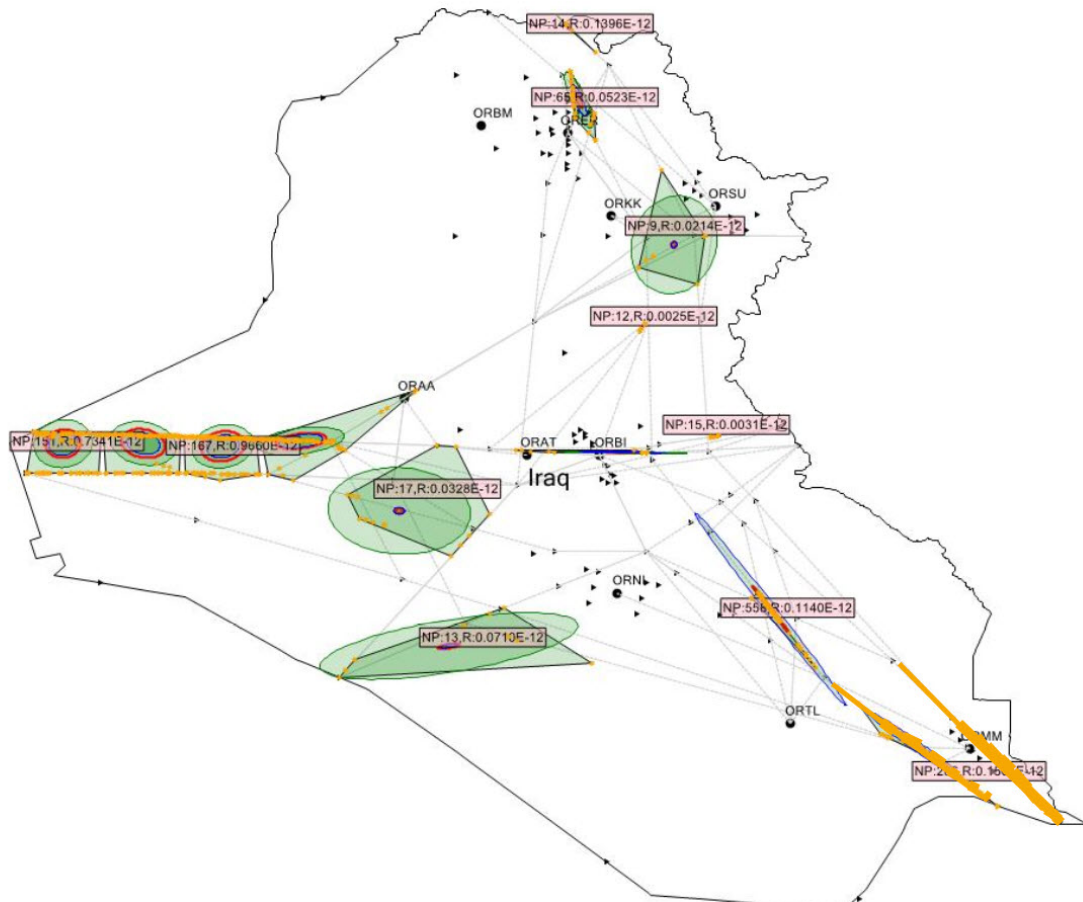
Bahrain FIR - Traffic Flow Simulation 1



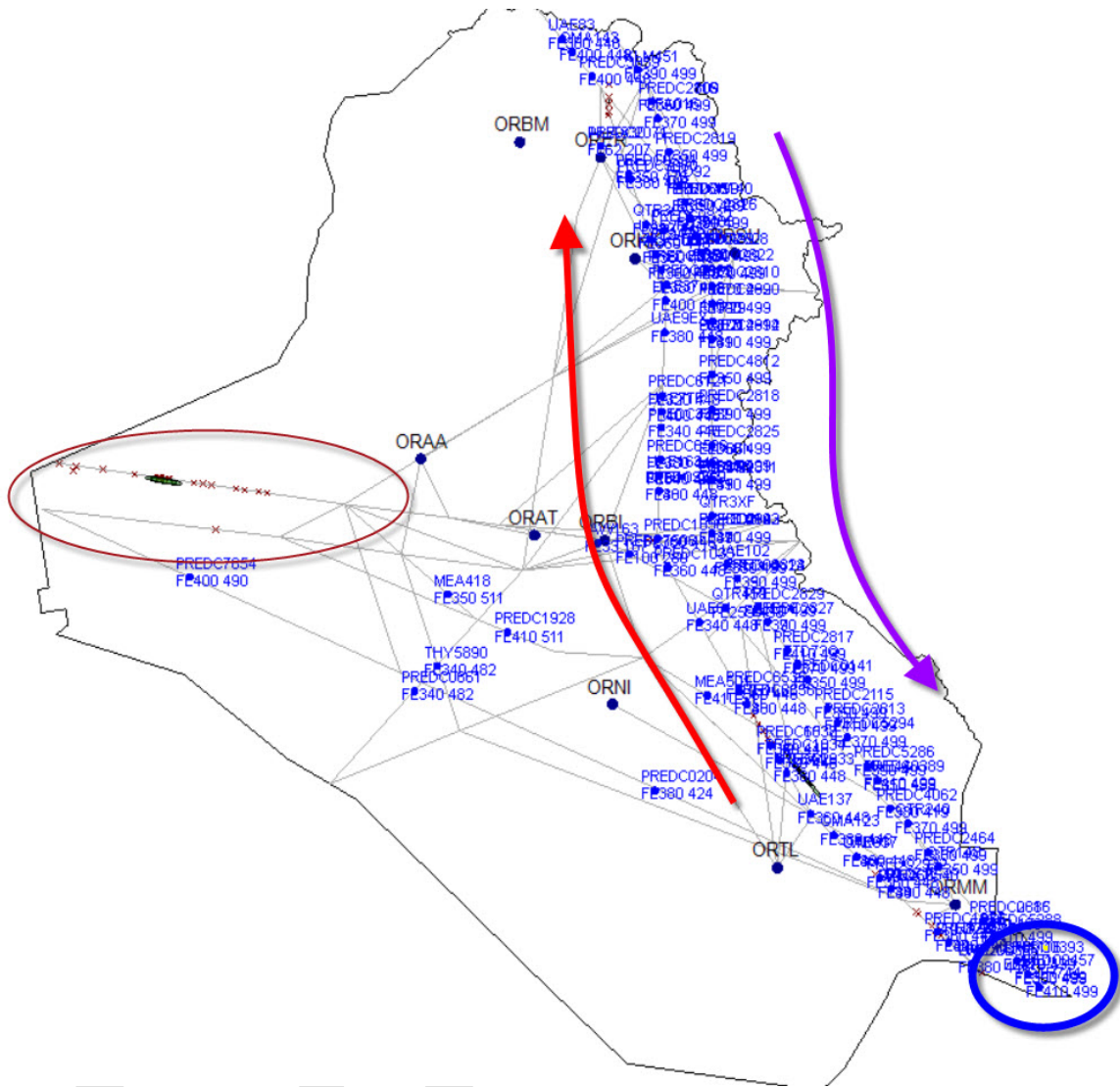
Bahrain FIR - Traffic Flow Simulation 2

3.2 Baghdad FIR

- a- The extreme majority of the traffic flow in Baghdad FIR are flowing North to South and vice versa with some considerable number of traffic crossing this flow from East to West and vice versa which is causing the Technical Risk Value to be lower than all the other FIRs in this study, this reduction is still well above the ICAO TLS and acceptable for RVSM operations.
- b- The passing frequency between RAPLU and MODIK increased very high and reached to a level that will require the ATM Authority in Iraq to review the flow in this airway.
- c- MIDRMA suggests to split this airway into two different airways (east and west).
- d- Baghdad FIR entry point TASMI at the southern FIR boundary with Kuwait is the most congested point in the Middle East RVSM airspace and so as SIDAD the exit point into Kuwait FIR, these two points cannot take any more of traffic growth and it is time for Iraq ATM to establish another points adjacent to SIDAD as an exit point and another one close to TASMI as an entry point to reduce the traffic congestion.



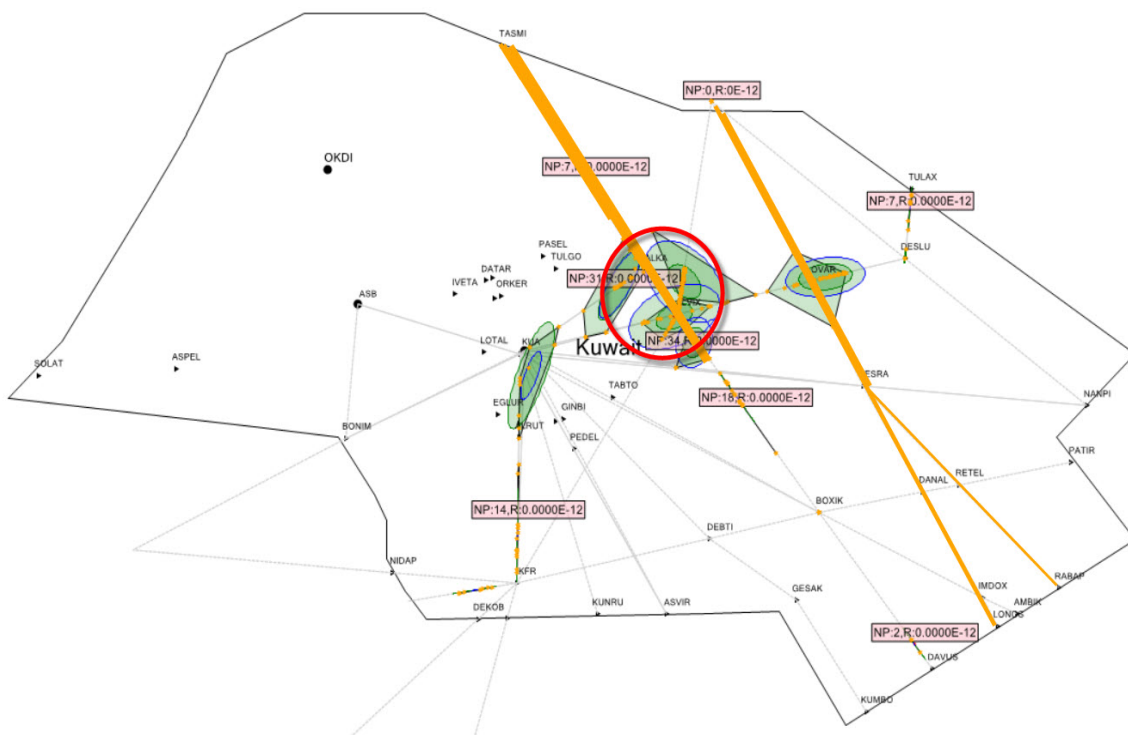
Baghdad FIR Hotspots – Map 2



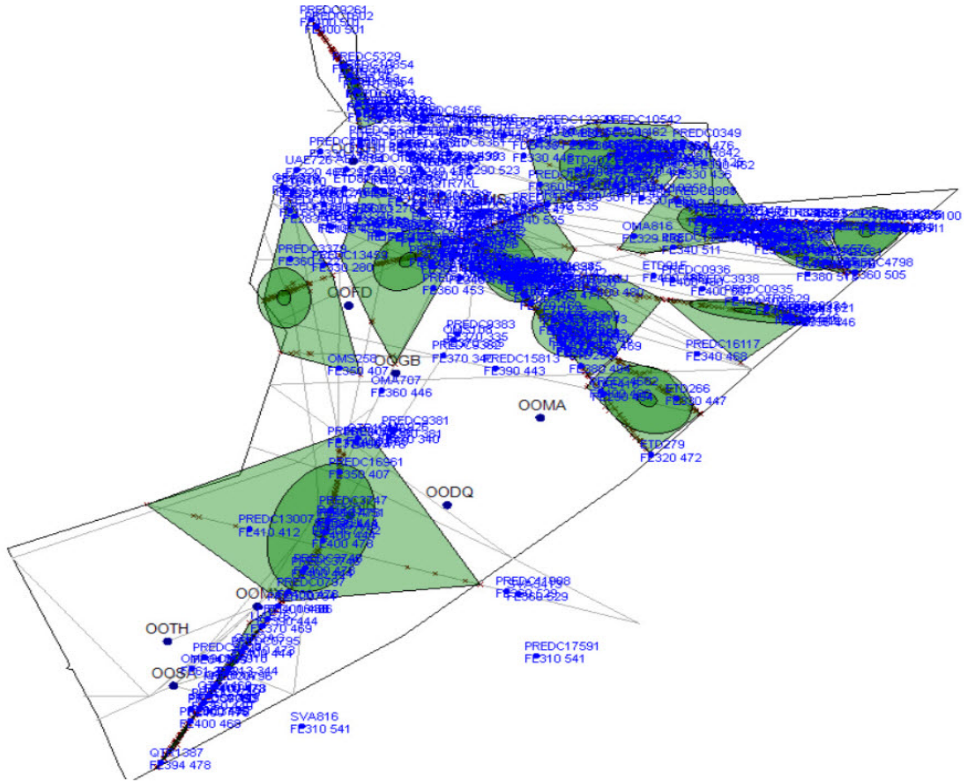
Baghdad FIR - Traffic Flow Simulation 1

3.3 Kuwait FIR

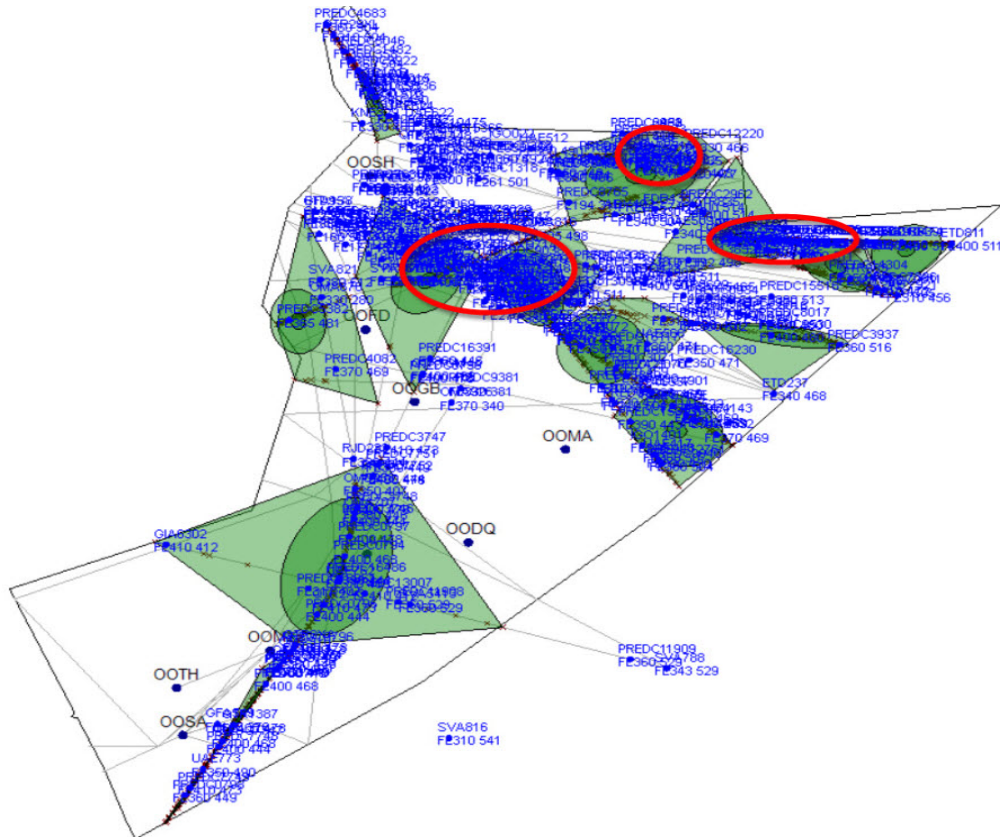
- a- The traffic flow in Kuwait FIR mostly linked with Baghdad and Bahrain FIRs, and flows north and south bound with small number of traffic crossing east and west bound.
- b- Traffic congestion was clearly demonstrated between TASMI and RALKA as a northbound flow and between SIDAD and SESRA as a southbound traffic flow supporting MIDRMA's proposal to establish two more points to reduce this traffic congestion.
- c- The main hotspot observed in Kuwait FIR found between points ALVIX and RALKA were 63% of the crossing traffic occurred at this portion of the airspace, the passing frequency is not very high but it's worth reviewing the airway structure to the east and north east of KUA and explore better flow options to reduce the congestion between these two points.



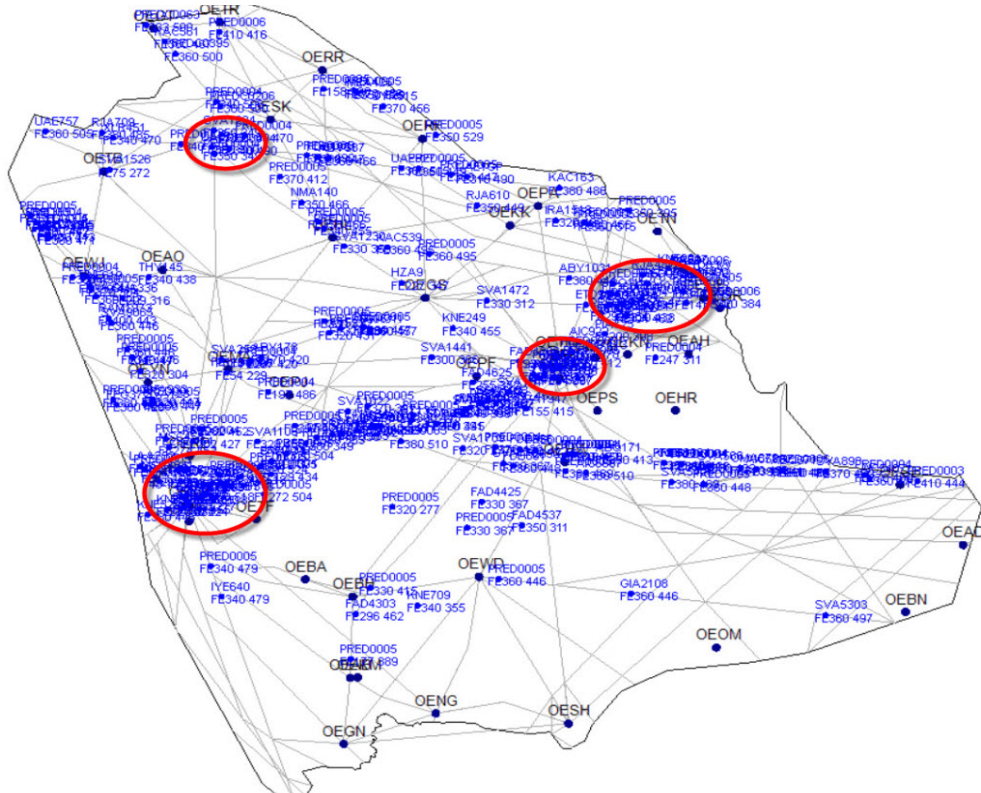
Kuwait FIR Hotspots – Map 3



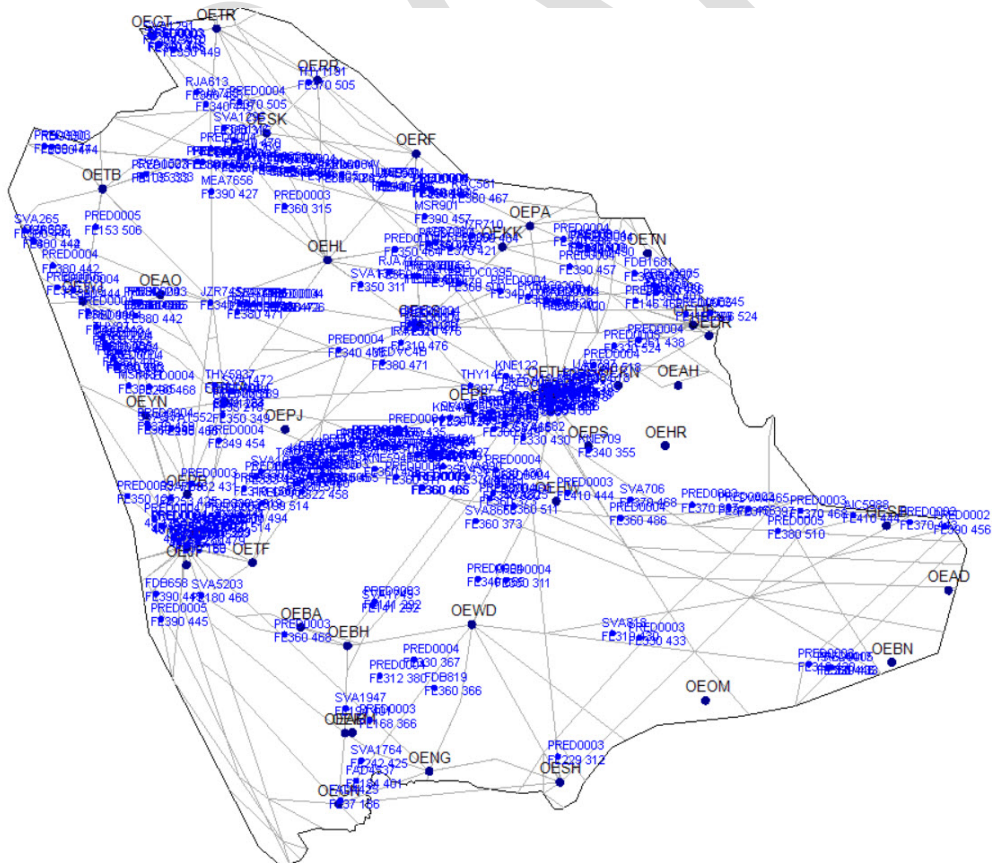
Muscat FIR Fast Simulation 1



Muscat FIR Fast Simulation 2



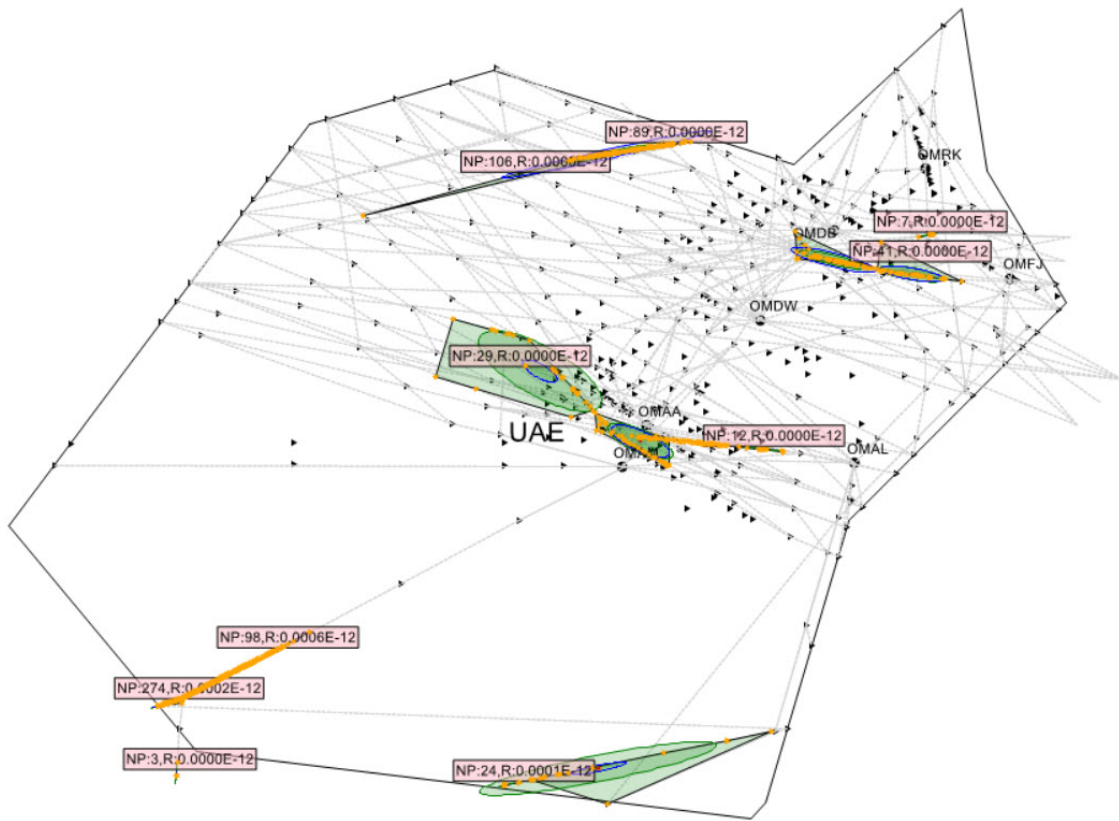
Jeddah FIR Fast Simulation 1



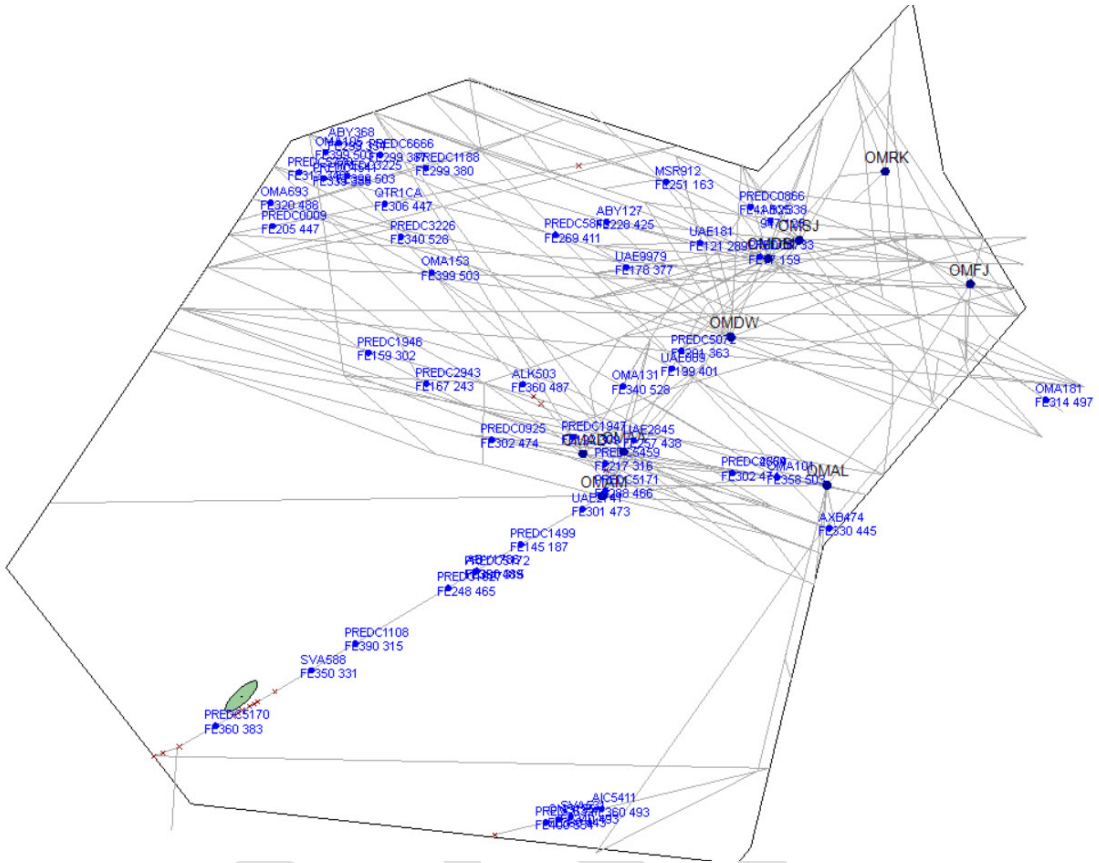
Jeddah FIR Fast Simulation 2

3.7 Emirates FIR

- a- Emirates FIR is expected to be extremely busy during the FWC 2022 event below the RVSM airspace as it will receive all the traffic bound from/to Muscat, Tehran, Bahrain FIRs and due to the location of the Emirates FIR the majority of the RVSM traffic will be either in the descend/climb phase with more in level flight overflying the Emirates FIR.
- b- The two hotspots detected to the N/W of OMAA recorded normal passing frequency and without risk as they were formed due to increased traffic.
- c- The portion of AWY M318 between GOLGU and ESROM is bidirectional were RVSM traffic are either crossing at their flight levels or initiating descend from the RVSM airspace or going through the RVSM layer for their cruise levels.



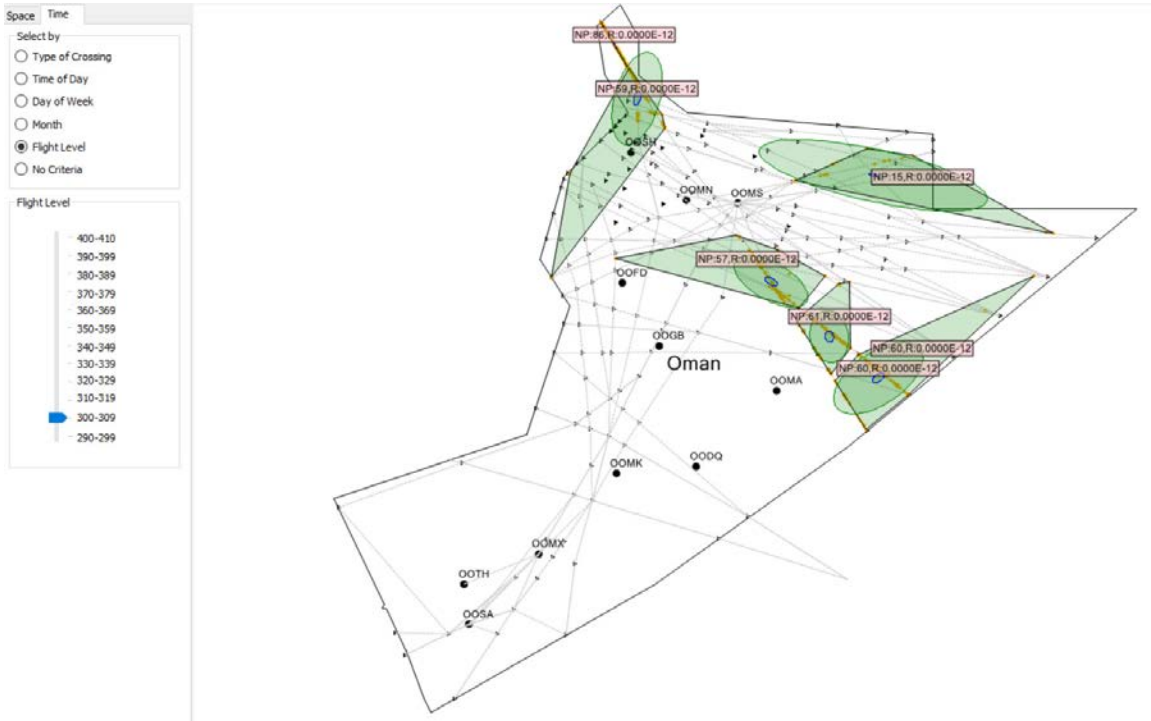
Emirates FIR Hotspots – Map 7



Emirates Fast Simulation 1

Appendix "A" – Analysis of RVSM Flight Levels

Muscat FIR



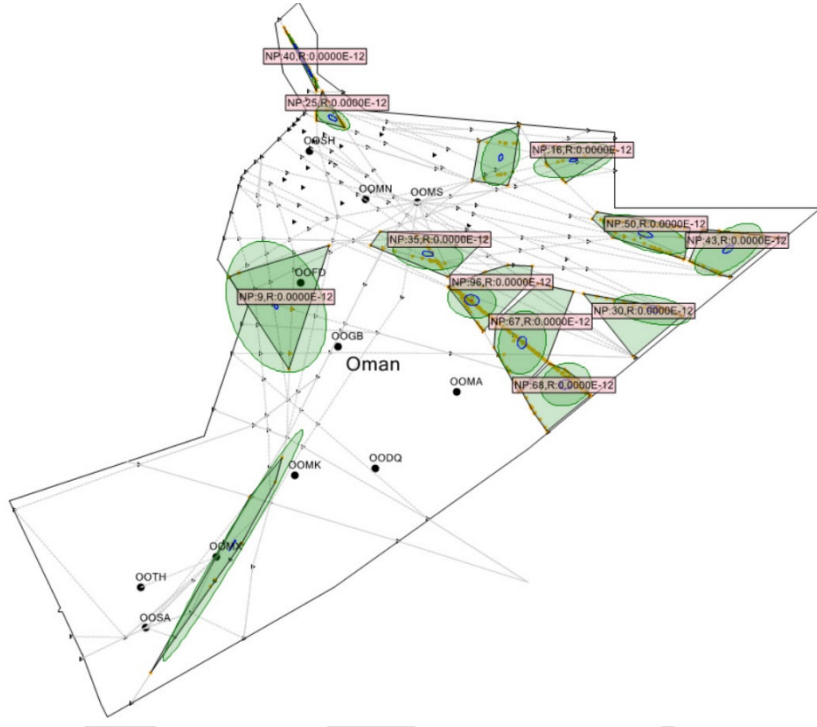
Space Time

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- Type of Crossing
- Time of Day
- Day of Week
- Month
- Flight Level
- No Criteria

Flight Level

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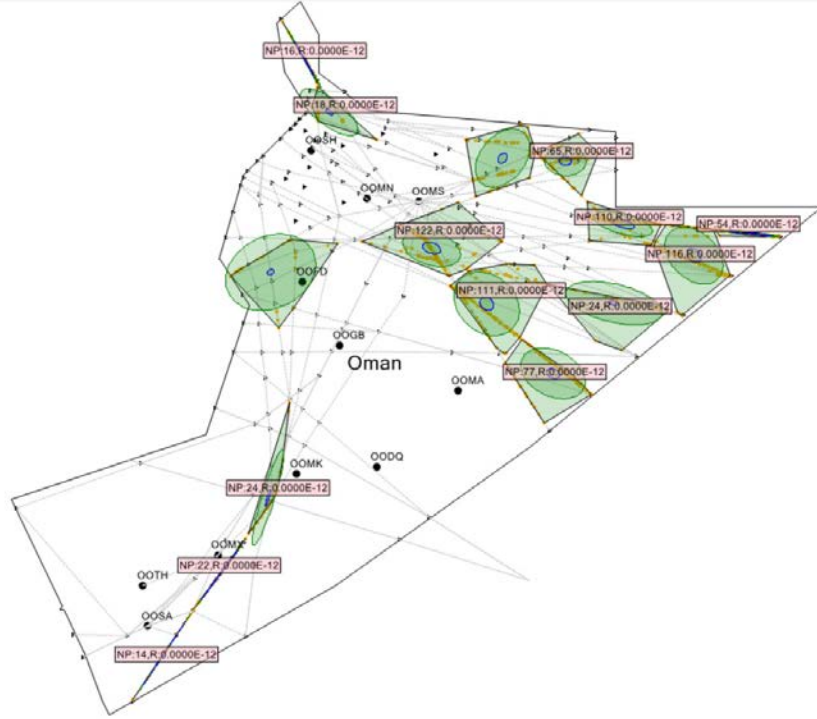
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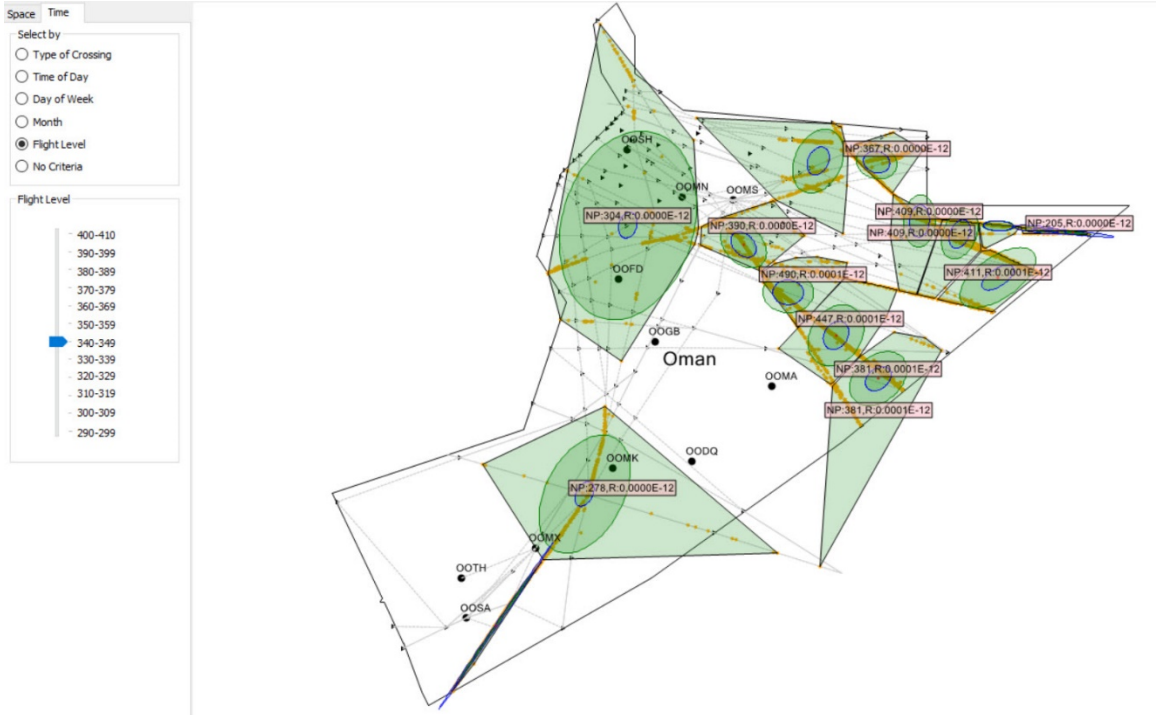
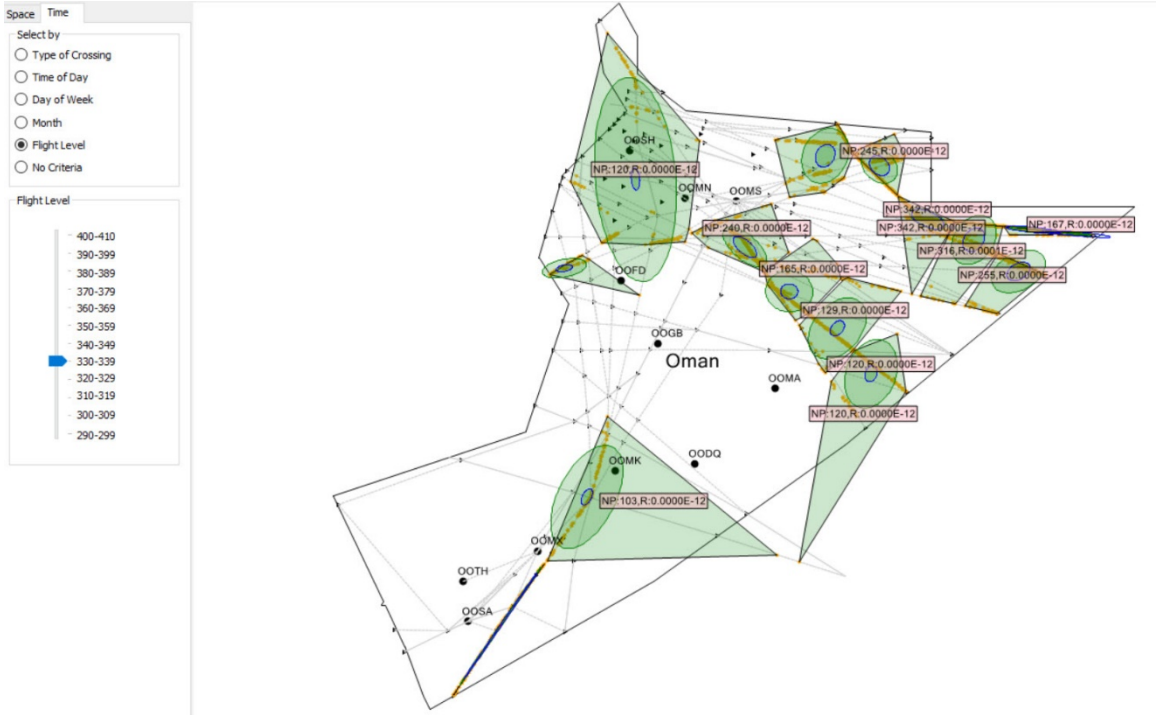
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Space Time

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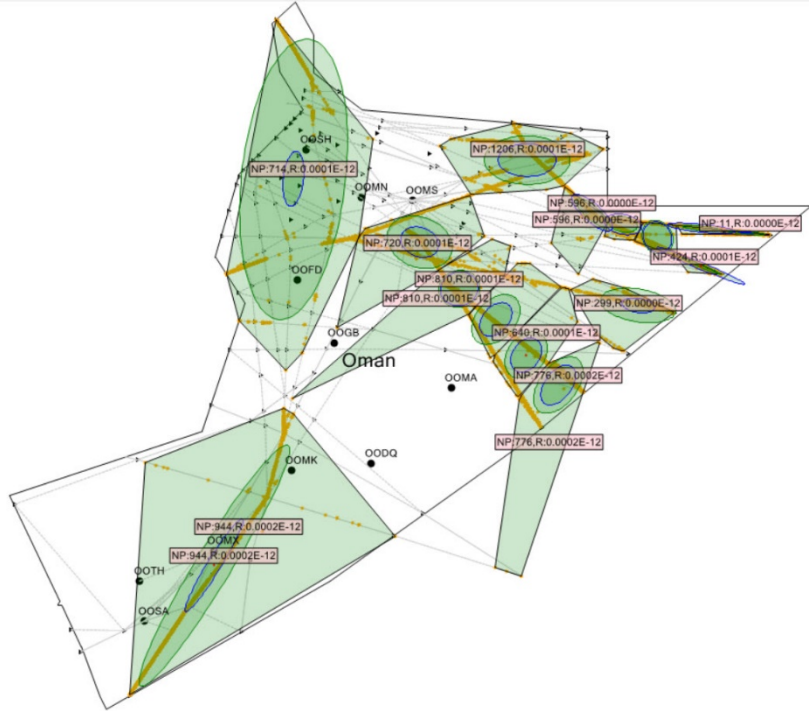
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Space Time

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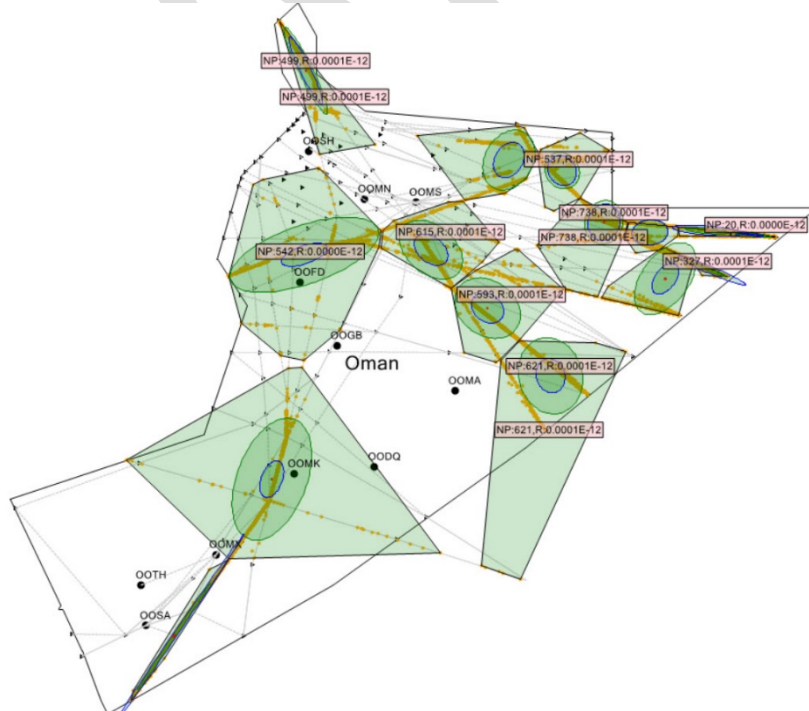
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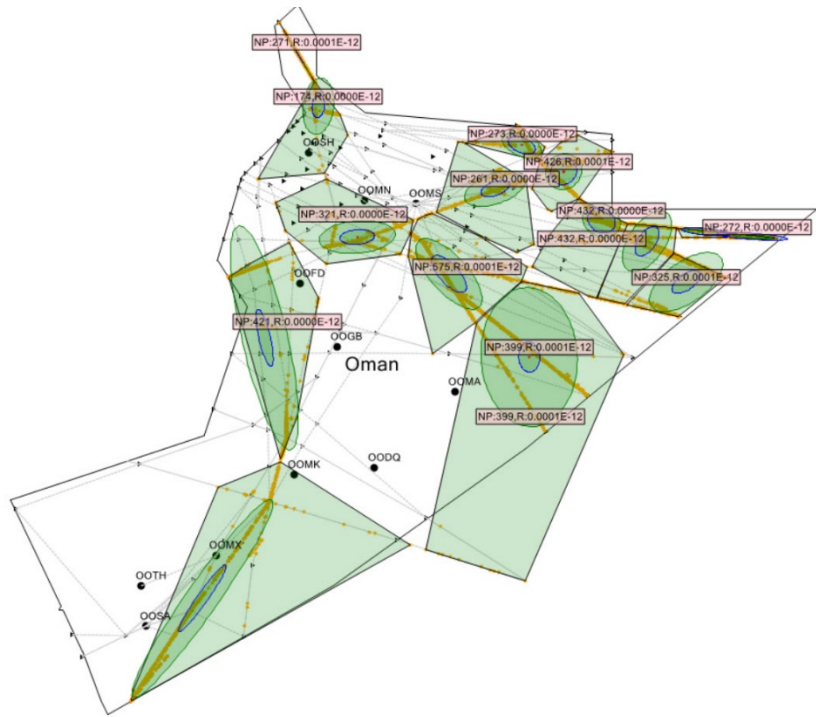
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Space | Time

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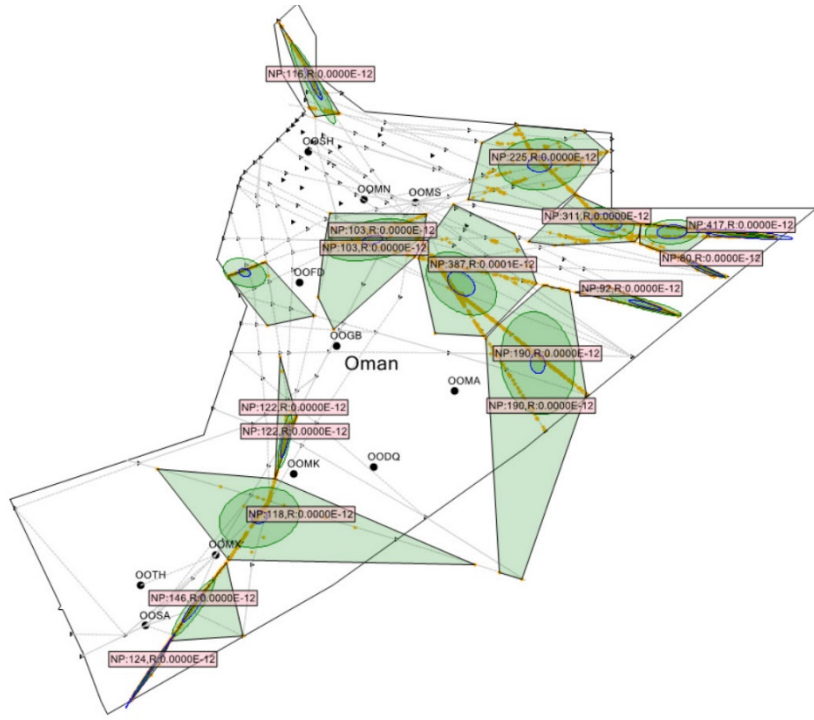
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Flight Level

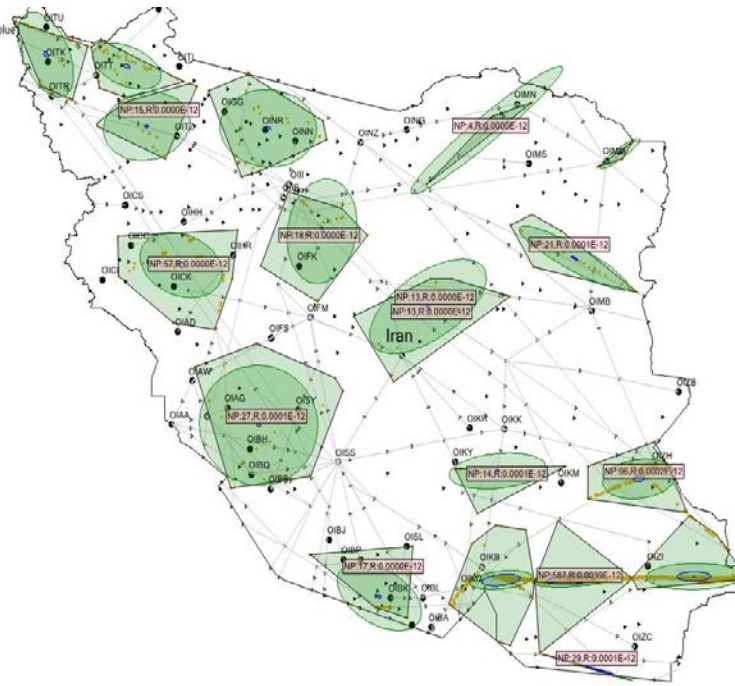
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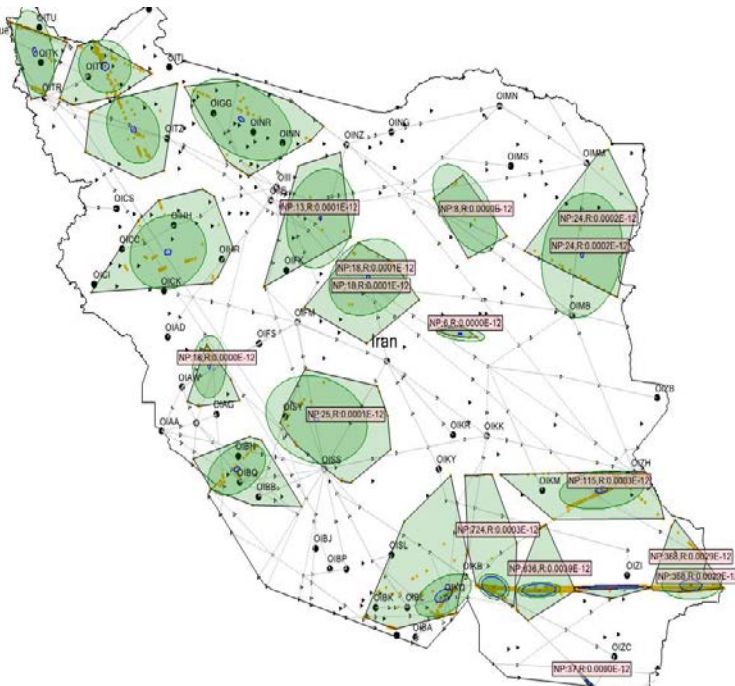
DRAFT

Tehran FIR

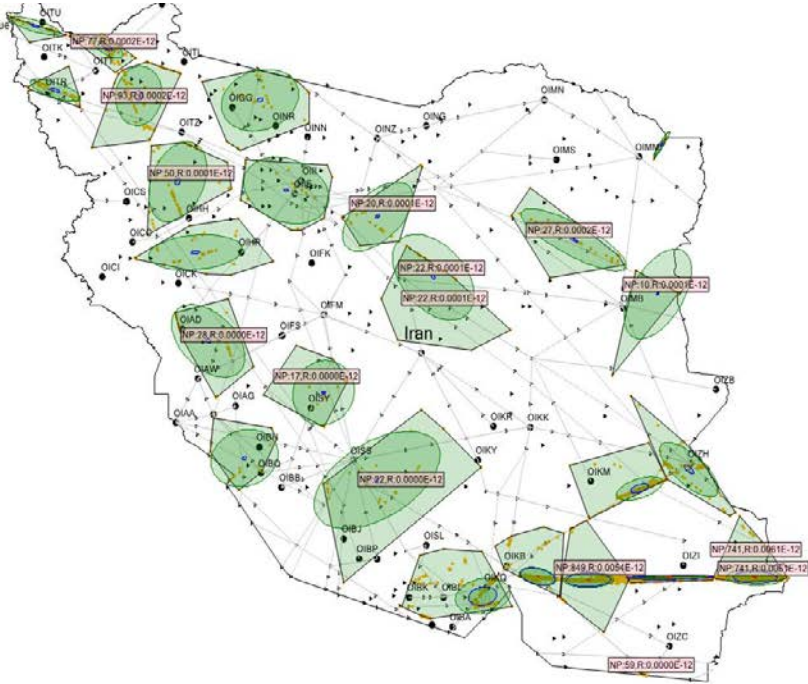
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FL330-FL340



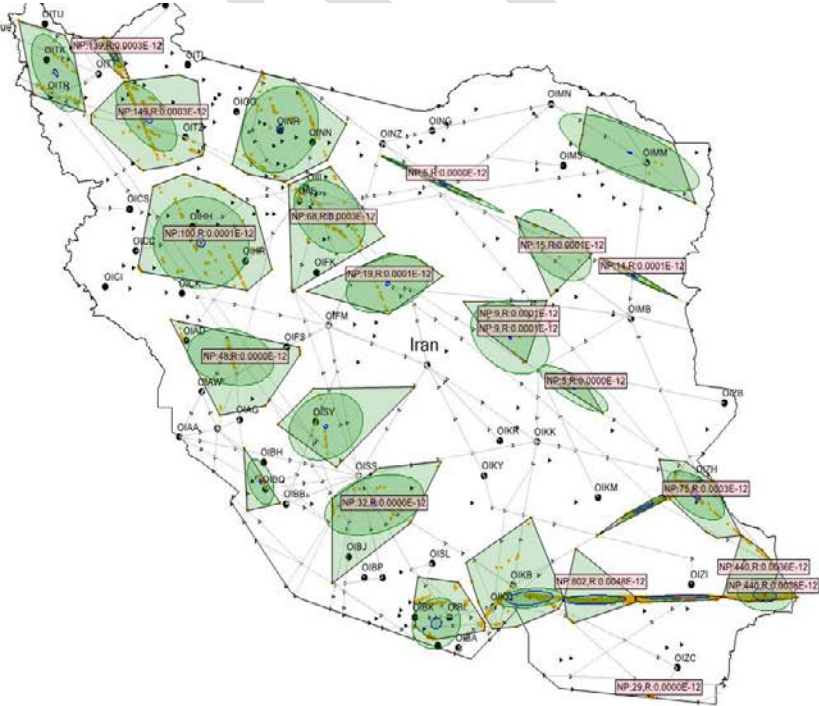
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FL340-FL350



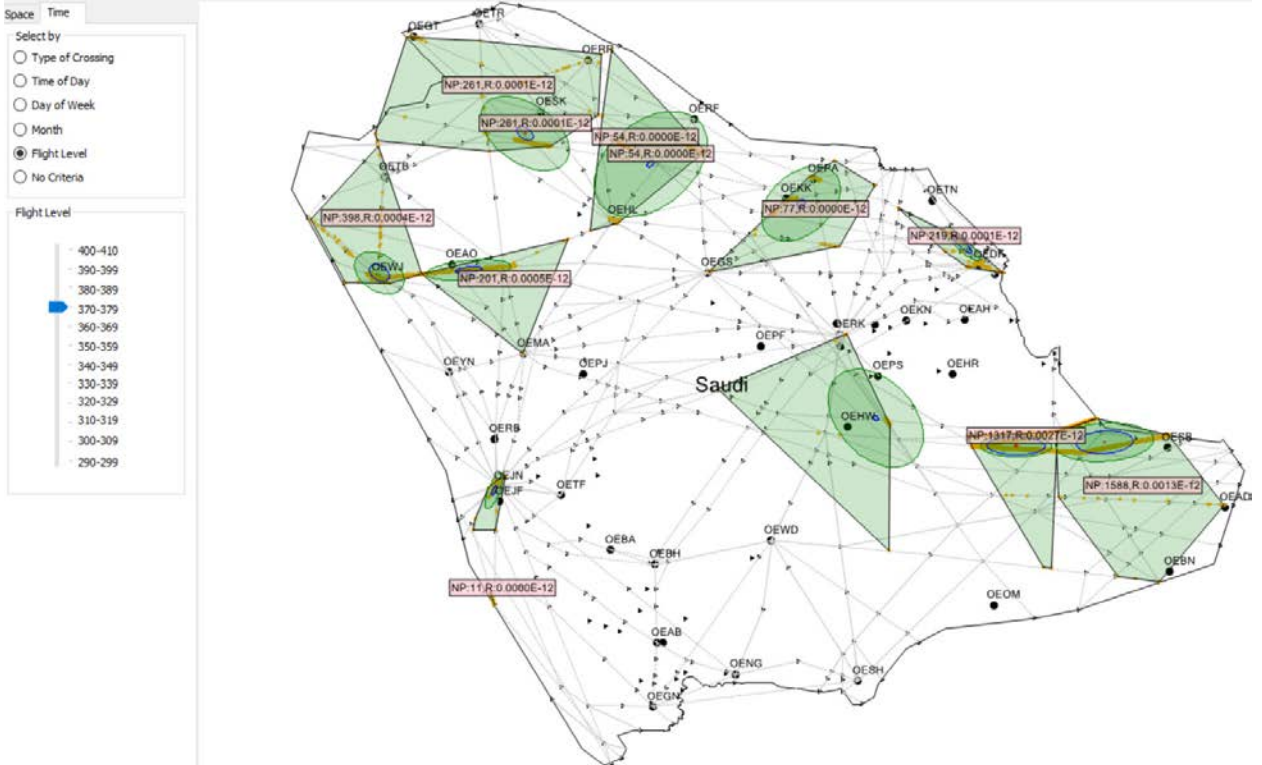
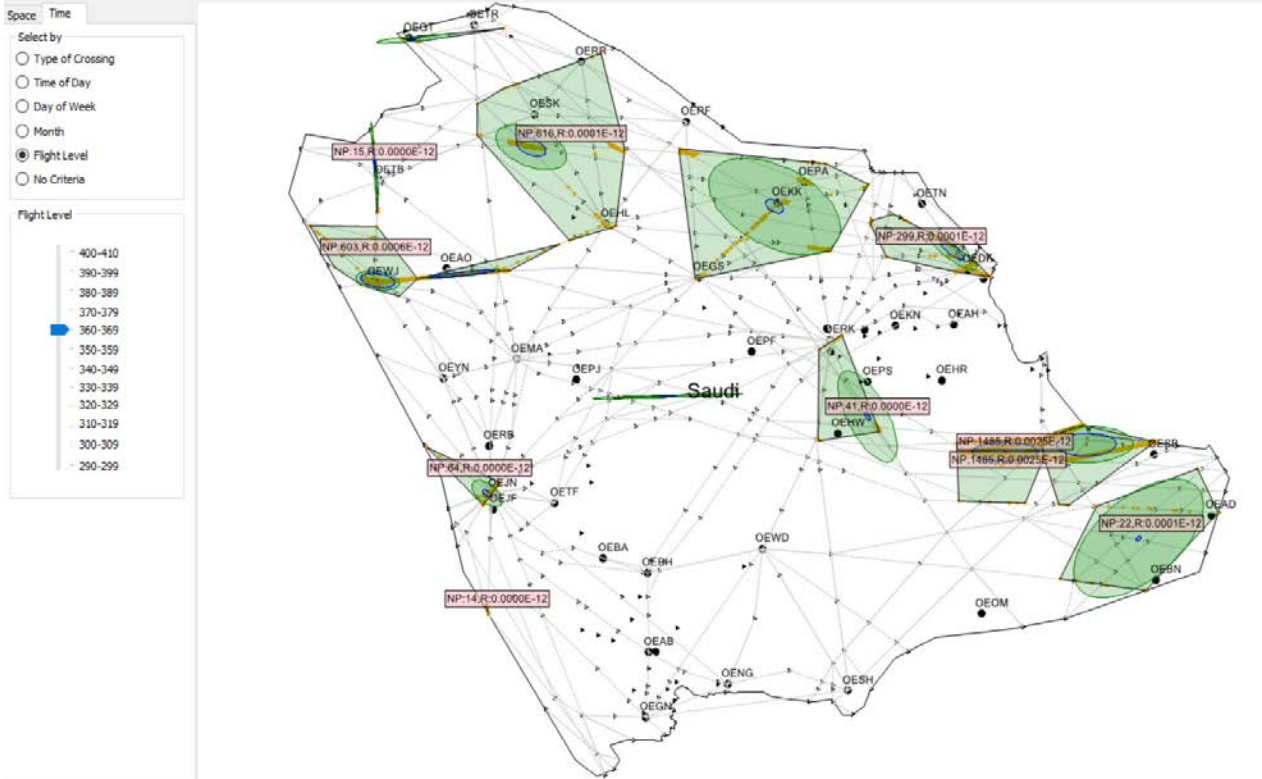
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FL350-FL360

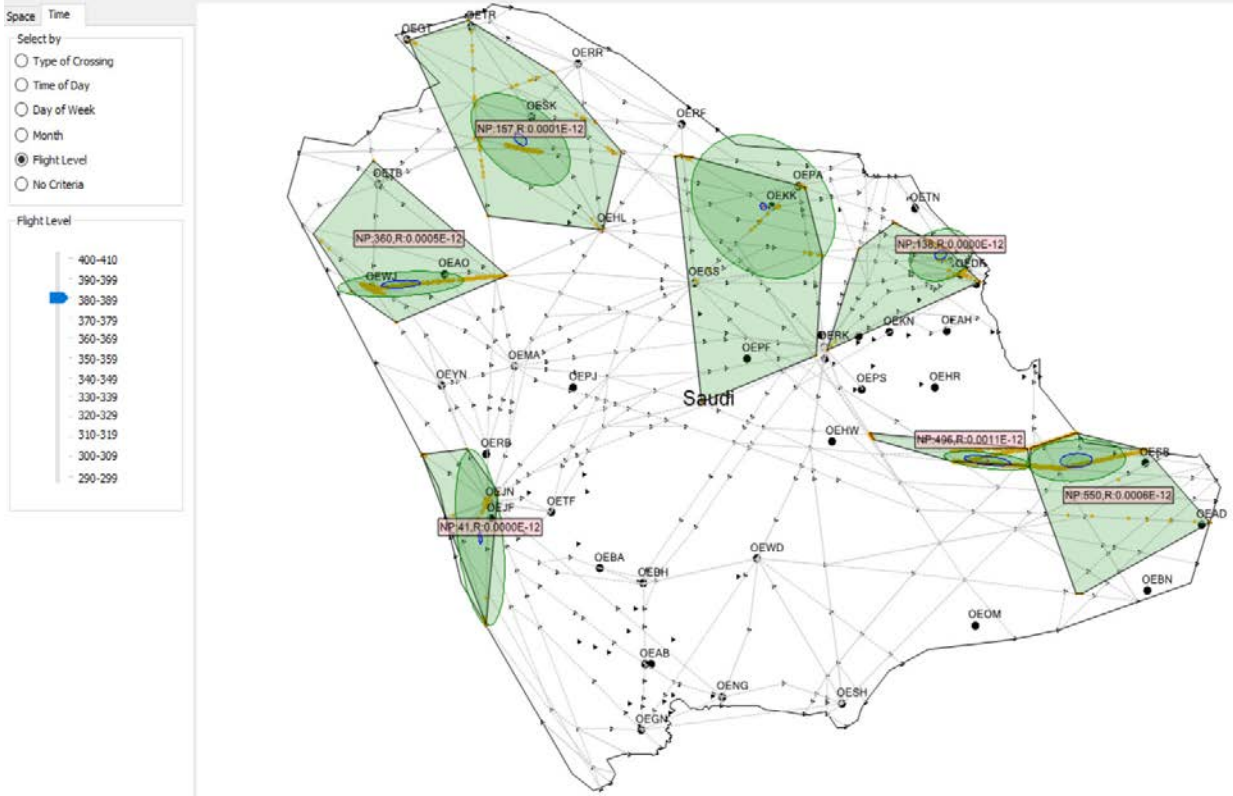


Method: KMean
Scale: Scaled with Risk (red) and Num Points (blue)
Selection: Flight level
FL360-FL370



Jeddah FIR





FWC2022 ACTION PLAN

ACTION		Target date	Deliverable	Champion	Supported by	Status / remarks
No.	Description					
1.	Prepare a working paper on the outcome of the FWC2022 to MIDANPIRG/17	30 Mar 2019	WP to MIDANPIRG Combined with ATFM WP	Secretariat	Chairman	Completed
2.	Task the MIDRMA to carry out an airspace assessment for the MID Region based on the anticipated traffic flow during the FWC2022	18 Apr 2019	MIDANPIRG Conclusion	MIDANPIRG	ICAO MID	Completed Conclusion 17/24
3.	Initial FWC2022 Roadmap and Operation plan principles to be presented on FWC2022 TF/4 meeting	22 Sep 2020		Qatar		Completed
4.	Airspace assessment study and tool developer meeting to review the offer and agree on the details	1 Oct 2020	Detailed requirements, deliverables and timelines. Legal and financial responsibilities	Qatar, MIDRMA	ICAO MID	Completed
5.	Provide the forecasted FWC2022 FPL/Traffic data to the MIDRMA using the Traffic Data Sample template	15 Oct 2020 <u>15 Mar 2021</u>	Forecasted FWC2022 FPL/Traffic data for at least 10 days	Qatar	MIDRMA	Completed, Revised version on progress
6.	Assess the potential impact on traffic flows within the RVSM Airspace based on the projected Traffic Data and projected LHD reports	<u>23</u> Mar 2021	FWC2022 RVSM Airspace assessment	MIDRMA	Qatar	On-going <u>Completed</u>
7.	Present the results of the airspace assessment to the FWC2022 TF/5 meeting	23 – 24 Mar 2021	WP/PPT	MIDRMA	ICAO MID	On-going <u>Completed</u>
8.	Prepare an initial FWC2022 Roadmap and Operational Plan to be shared with ATFM Core Team that includes all required procedures, action plan, contingency measures, etc.	31 Oct 2020	Initial FWC2022 Roadmap and Operational Plan	Qatar	Core team	Completed
9.	draft FWC2022 Roadmap and Operational Plan to be presented to the FWC2022 TF/5 meeting	23 – 24 Mar 2021	WP/PPT Draft FWC2022 Roadmap and Operational Plan	FWC2022 Chairman		On-going <u>Completed</u>

10.	Enhance the draft FWC2022 Roadmap and Operational Plan to be reviewed by ATM SG/7	15 Dec 2021	Enhanced the draft FWC2022 Roadmap and Operational Plan	Core Team		<u>On going</u>
11.	Present FWC2022 Roadmap, Operational Plan and Airspace structure assessment to MIDANPIRG/19	Feb 2022	WP	Chairman	ICAO <u>MID</u>	
<u>12.</u>	<u>Implementation of FWC 2022 Roadmap and Operational Plan (checklist)</u>	<u>Q3 2022</u>	<u>List of Activities:</u> <u>-Airspace management</u> <u>-ATFM Implementation</u> <u>-Temporary LoAs</u> <u>-Users consultancy</u>	<u>FWC TF Chair</u>	<u>ICAO MID</u>	
<u>13.</u>	<u>Trial period</u>	<u>Q3 2022</u>	<u>Training and experimental period</u>	<u>Qatar</u>	<u>ICAO MID</u>	
<u>14.</u>	<u>Wrap up and evaluation</u>	<u>FWC TF/7</u> <u>Oct 2022</u>	<u>Operational evaluation and assessment</u>	<u>Doha, Qatar</u>		
<u>12.1</u>	Conduct familiarization visit(s) to State(s) or Organizations that would be managing major events	TBD	Familiarization visit(s) <u>webinar(s)</u>	Qatar and Members of FWC2022 TF, as required	FAA EUROCONTROL CANSO AEROTHAI	
<u>16.</u>	<u>Post implementation and closing</u>	<u>TBD</u>	<u>Lessons learned, Best practices and post implementation reporting</u>	<u>ICAO MID</u>	<u>MID States and Airspace users</u>	

FWC 2022 Operational Plan and Road map, Checklist

	Key Activity	Rationale / Sub activates	Champion / Support	Target Date	Status	
1	Airspace management:					
	1.1 Temporary Doha TMA Terminal flight procedures	Accommodate the demand	Qatar	Cycle Jun 2022	On going	
	1.2 CMC/FUA implementations	Increase Airspace capacity	Qatar	TBD	On going	
	1.3 Saudi Arabia implementations:	-Routing -Hasa Airport accessibility -Routing options	Saudi Arabia	Cycle 10 (6 Oct 2022)	On going	
	1.4 Egypt	-ATS routes	Egypt	TBD, by Cycle 10	On going	
	1.5 Kuwait (Parallel routes)	-ATS Route establishments	Kuwait	TBD, by Cycle 10		
2	ATFM Implementation:					
	2.1 Development of FWC 2022 CONOPS	Principles of ATFM implementations	Qatar	April 2022	On going	
	2.2 Deployment of the ATFM system/tools	Automated web-based tool to assess demand and measures	Qatar	April 2022	On going	
	2.3 General ATFM tool Training (Harmony)	All States are encouraged to participate	Qatar, All MID States	Mar 2022		Pre-requests of the attendees
	2.4 Advanced ATFM Tool Training (Harmony)	Interested States	Qatar, interested States	Q3 2022		Pre-requests of the attendees
3	Temporary LoAs amendment:					
	3.1 Coordination meeting(s)	To agree on the different amendments	Qatar adjacent States	1. MIDANPIRG/19 2. Further one to one meeting (virtually)		
	3.2 Airspace Management LoA	Related to Routes, Flight level, hand over and	Concerned States			

	Key Activity	Rationale / Sub activates	Champion / Support	Target Date	Status	
		communication procedures				
	3.3 ATFM LoA	Related to ATFM data and measures	Concerned States			
4	Airspace users:					
	4.1 IATA MENA RCG briefing	Airspace users briefing	IATA, TF Chairman, Qatar team.	1 – 2 Mar 2022		
	4.2 ATFM data requirements	Exchange of operational data	IATA, Airspace users			
5	Trial and evaluation period:					
	5.1 Dry run	Simulation sessions	Qatar, MID States	July 2022		
	5.2 Evaluation and reporting	Identify shortages		FWC TF/7 Oct 2022		

**TERMS OF REFERENCE (TOR) OF THE
MIDANPIRG FIFA WORLD CUP 2022 TASK FORCE
(FWC2022 TF)**

1. OBJECTIVES AND SCOPE

- 1.1 The Task Force will be expected to apply the performance-based approach through a collaborative manner to address the most strategic decisions to reach the following:
- a) A sufficient coordination between the Air Navigation Service Providers (ANSPs), airports, airspace users and regulators;
 - b) A sufficient coordination at local, regional and inter-regional levels to accommodate safely and efficiently the expected significant increase of traffic; and
 - c) A defragmented approach from an operational perspective to achieve (gate-to-gate, city pairs, and an oriented track system) which leads to more than optimum flight and airport operations efficiency.
- 1.2 The Task Force shall support the MID Region ATFM System once established.

2. TERMS OF REFERENCE OF THE TASKFORCE

- 2.1 Develop and follow-up the implementation of ~~an FWC2022 action~~ Action plan ~~Plan~~ to accommodate the expected high increase of traffic, in a safe and efficient manner, taking into consideration similar experiences from other regions.
- 2.2 Address other major events ~~such as the EXPO 2020 and~~ and develop action plan(s) to accommodate the changes in traffic flows as required.
- 2.3 Define explicit and implicit strategic objectives (e.g. improved safety, increased air traffic capacity, improved efficiency, and mitigation of airspace congestion impact).
- 2.4 Identify operational and technical requirements including proposals for airspace management changes and amendment to the MID ATS Route Network to accommodate the air traffic through the establishment of temporary routes as required.
- 2.5 Develop the concept of collaborative decision-making at the strategic, tactical and pre-tactical levels, which would be implemented before and during the World Cup event.
- 2.6 Suggest methods for increased interaction between airspace providers in order to make sure that the network effects of any trajectory selection are properly incorporated in the decisions.
- 2.7 Develop collaborative regional mechanism for the implementation of ATFM solutions/measures such as Ground Delay Program (GDP), which would be implemented for departures from airports in the region.
- 2.8 Assess the operational performance of the ATM network by its capability to accommodate demand through realistically modeled network nodes, i.e. airports and airspace volumes.
- 2.9 The Task Force shall work in close coordination with the ATFM TF to avoid duplication of efforts.

3. COMPOSITION

- 3.1 The World Cup 2022 Task Force is composed of experts from:
- a) MIDANPIRG Member States;
 - b) India, FAA, AACO, ACAO, AEROTHAI, CANSO, EUROCONTROL and IATA; and
 - c) other representatives from States, Organizations and Industry may be invited on ad-hoc basis, when required.
- 3.2 ICAO MID Office will act as the Secretary of the Task Force.

4. WORKING PROCEDURES

- 4.1 Qatar shall act as the Chairman of the Task Force.
- 4.2 In order to effectively perform its tasks and responsibilities, the Task Force will meet as required in order to achieve its objectives.
- ~~4.3 Coordination will be carried out among the Task Force members and with concerned State(s) through correspondence and teleconferences and, if required, face to face meetings with stakeholders on case by case basis.~~
- 4.44.3 A Core Team might be established to follow-up with the concerned State(s) and air operators the conduct of safety and operational assessments and provide support as appropriate.
- 4.4 The Chairperson, in close co-operation with the Secretary, shall make all necessary arrangements for the most efficient working of the Task Force. The Task Force shall at all times conduct its activities in the most efficient manner possible with a minimum of formality and paper work (paperless meetings). Permanent contact shall be maintained between the Chairpeson, Secretary and Members of the Task Force to advance the work. Best advantage should be taken of modern communications facilities, particularly video-conferencing (Virtual Meetings) and e-mails.
- 4.5 Face-to-face meetings will be conducted when it is necessary to do so.