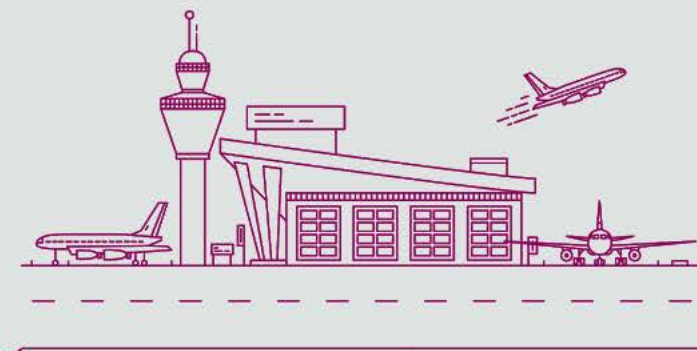


ATM SG/8

The MIDANPIRG Air Traffic Management Sub-Group, Eighth Meeting

Amman, Jordan 7 - 10 November 2022



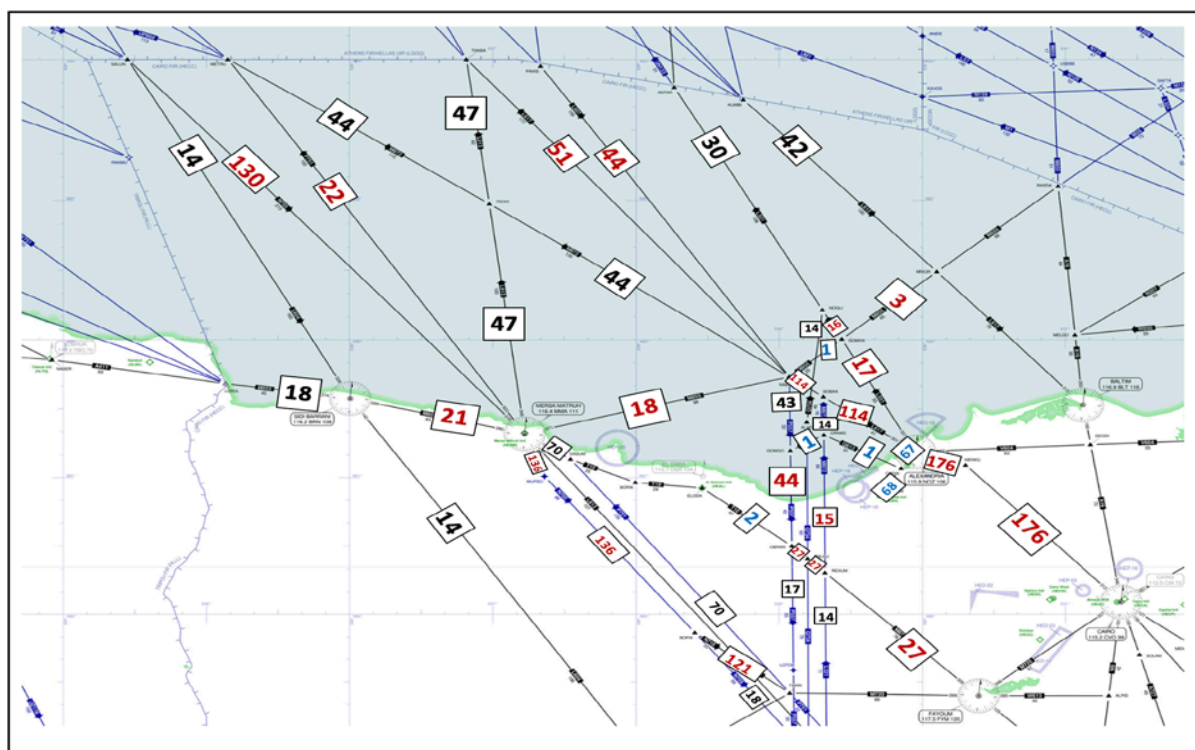
EGYPT ATM UPDATES

ATM SG/8

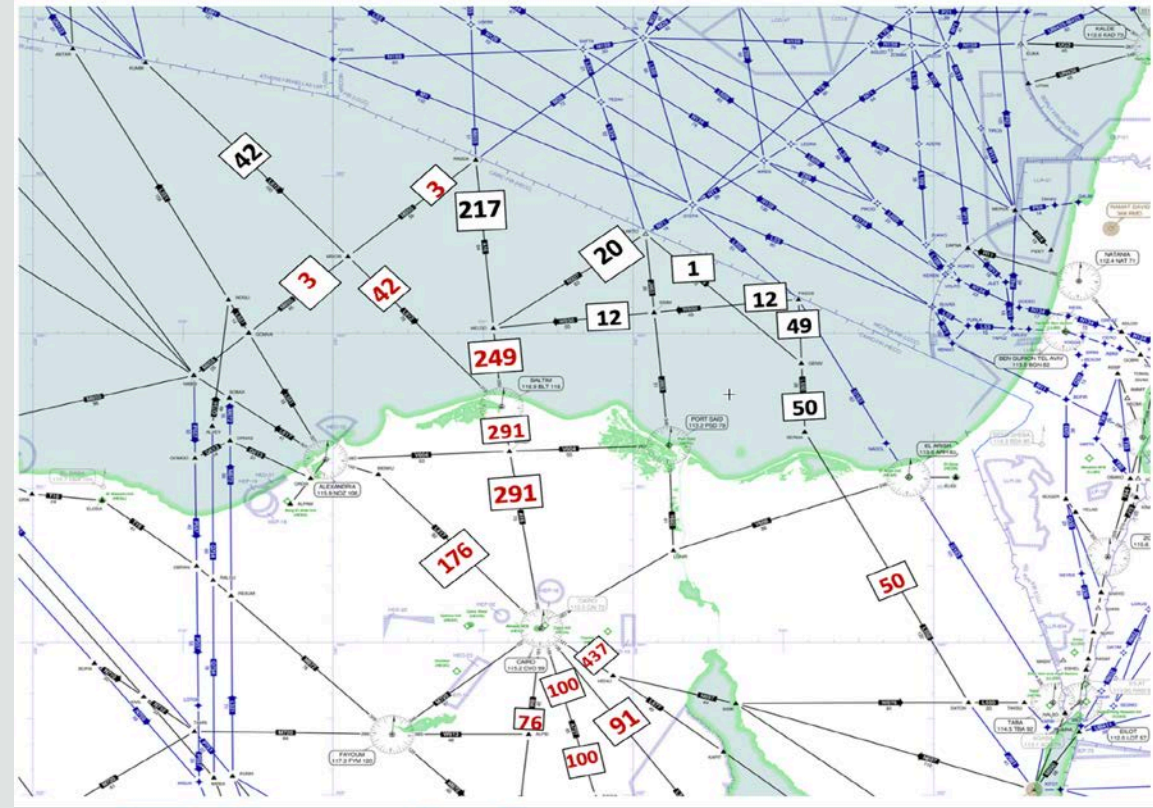
Amman, Jordan, 7 – 10 November 2022

1. Cairo FIR Data Analysis and Evaluation

- Average traffic per day (SECTOR 1)



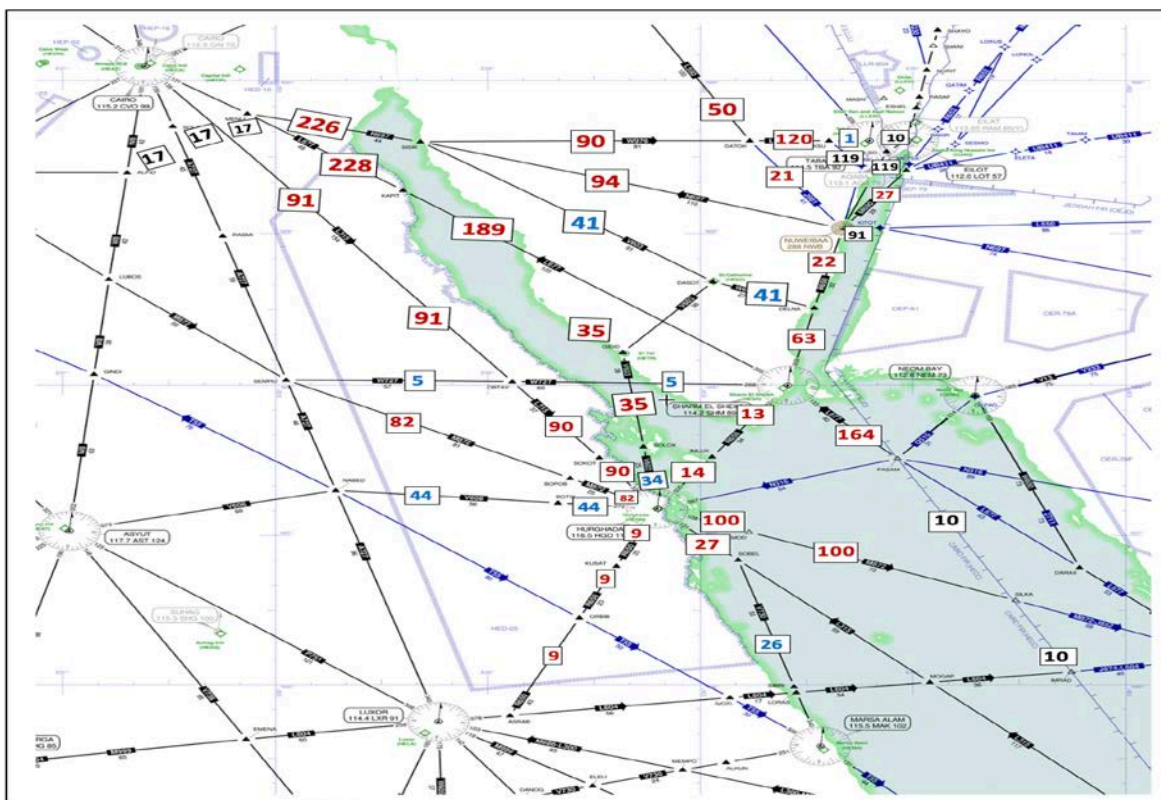
- Average traffic per day (SECTOR 2)



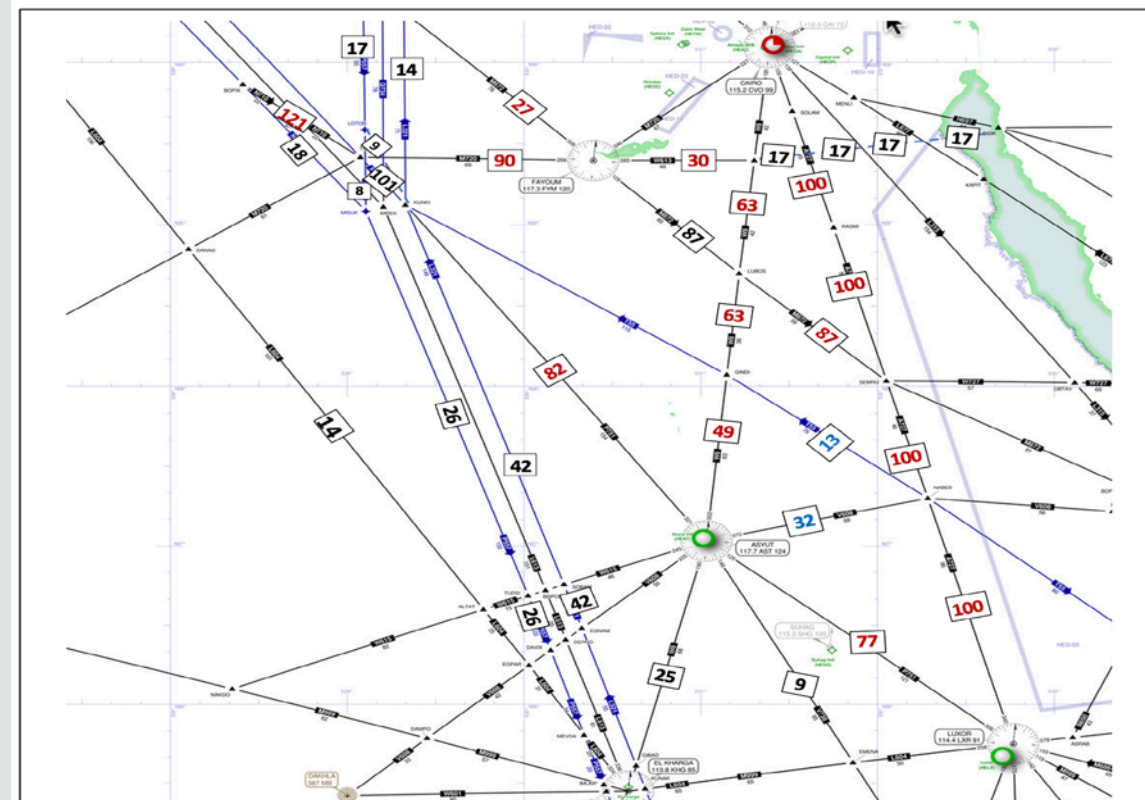
Year of study 2019

1. Cairo FIR Data Analysis and Evaluation

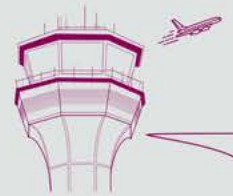
- Average traffic per day (SECTOR 3)



- Average traffic per day (SECTOR 4)

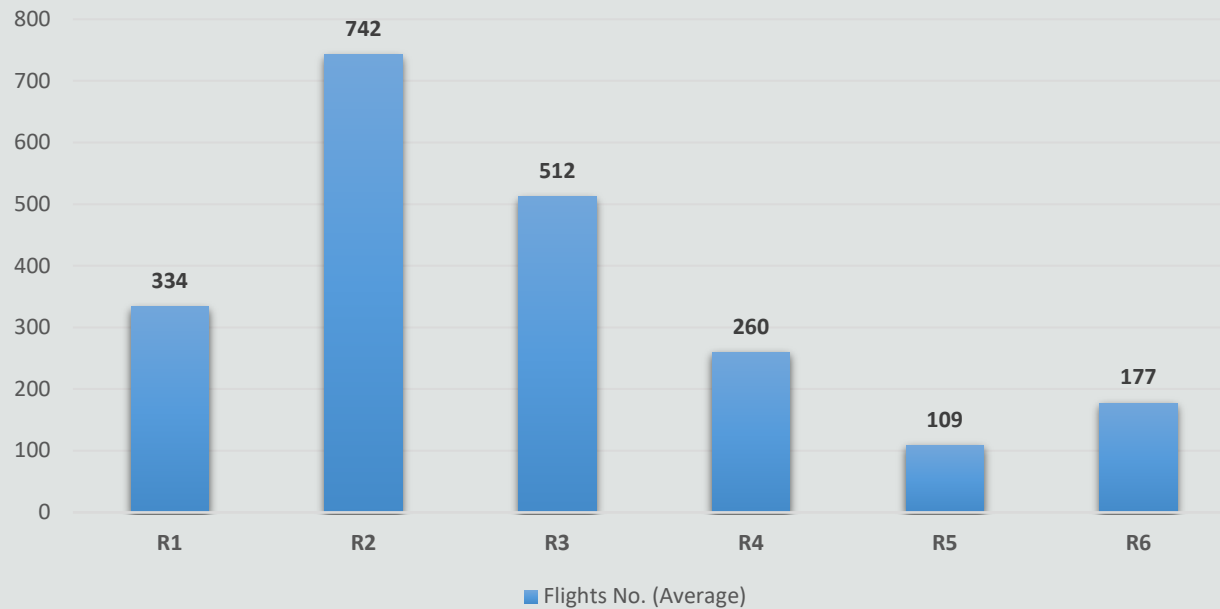


Year of study 2019

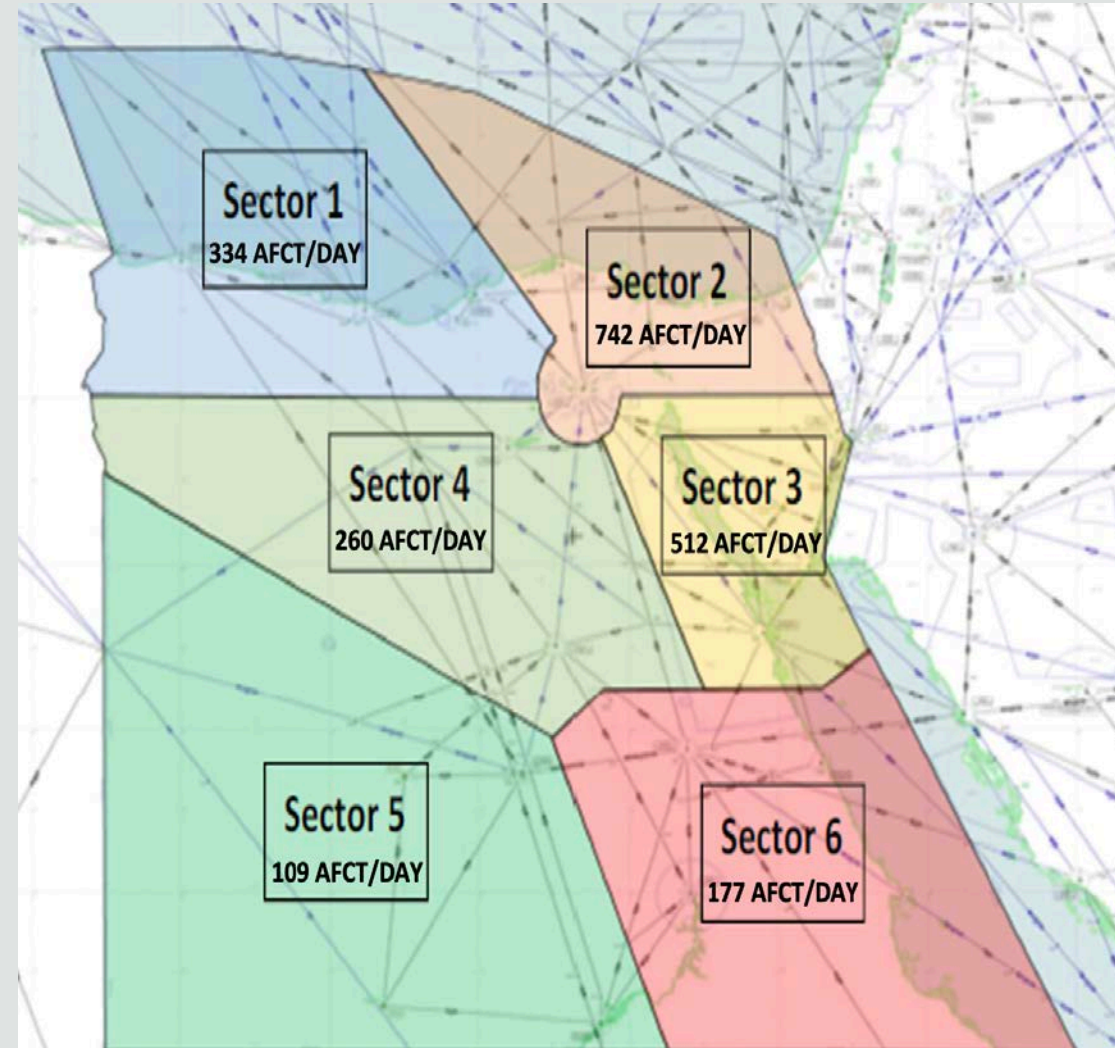


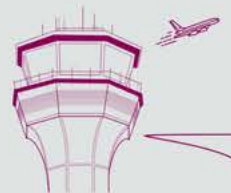
1. Cairo FIR Data Analysis and Evaluation

- Average traffic per day



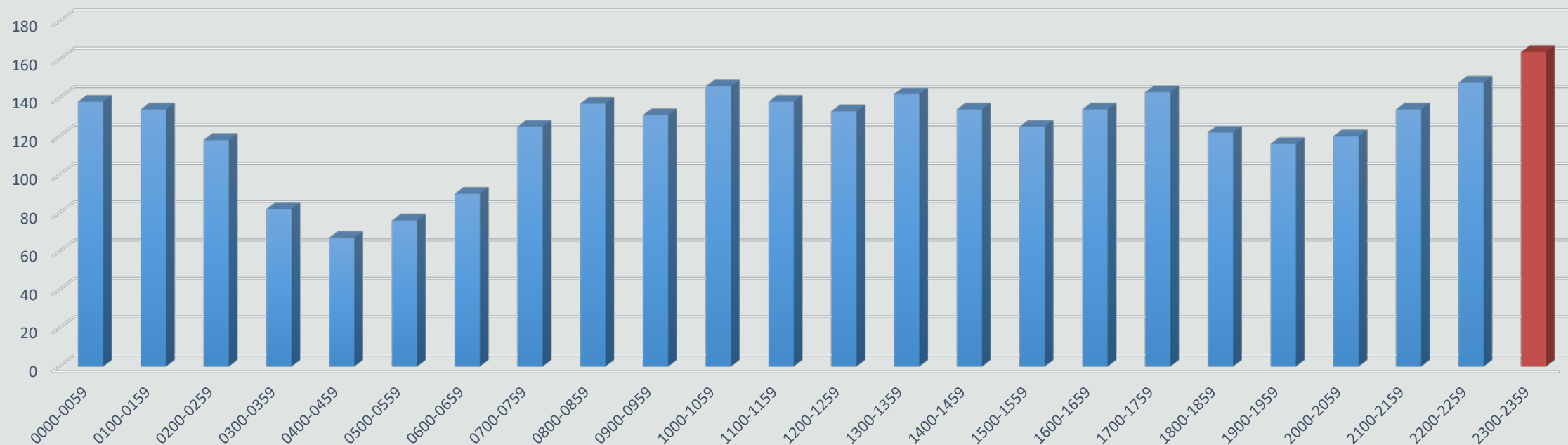
Year of study 2019



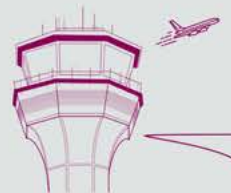


1. Cairo FIR Data Analysis and Evaluation

- traffic per busy day



Year of study 2019



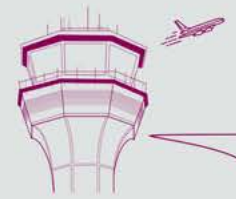
1. Cairo FIR Data Analysis and Evaluation

- traffic per busy Hour

Busy Hour - Traffic per Sector

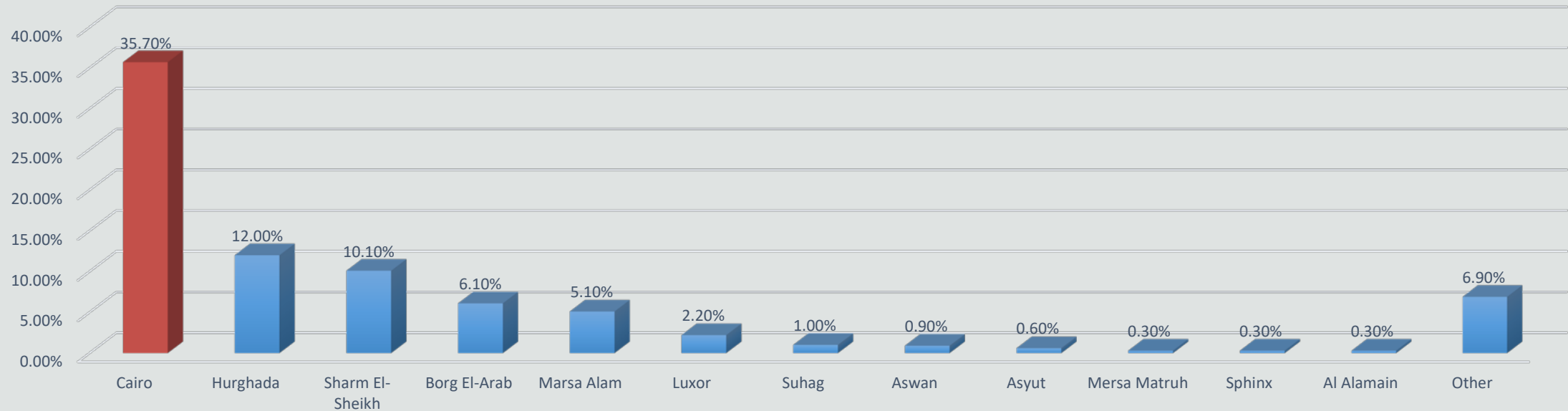


Year of study 2019

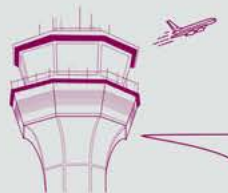


1. Cairo FIR Data Analysis and Evaluation

- traffic per busy day for major Egyptian aerodromes



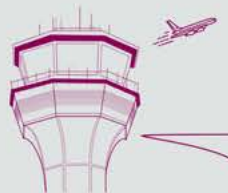
Year of study 2019



1. Cairo FIR Data Analysis and Evaluation

- Whole Cairo FIR analysis

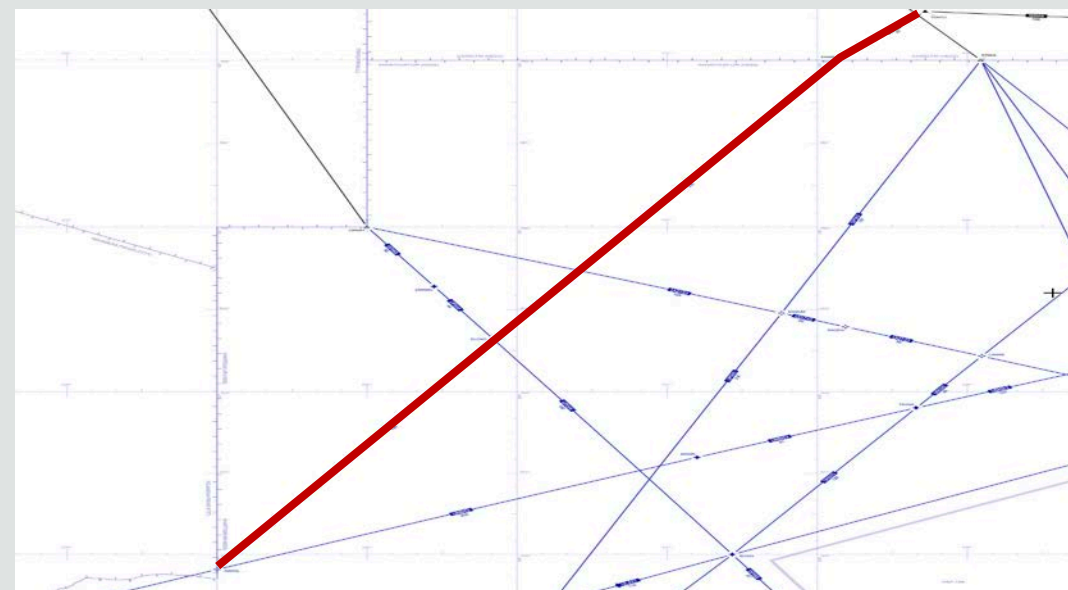
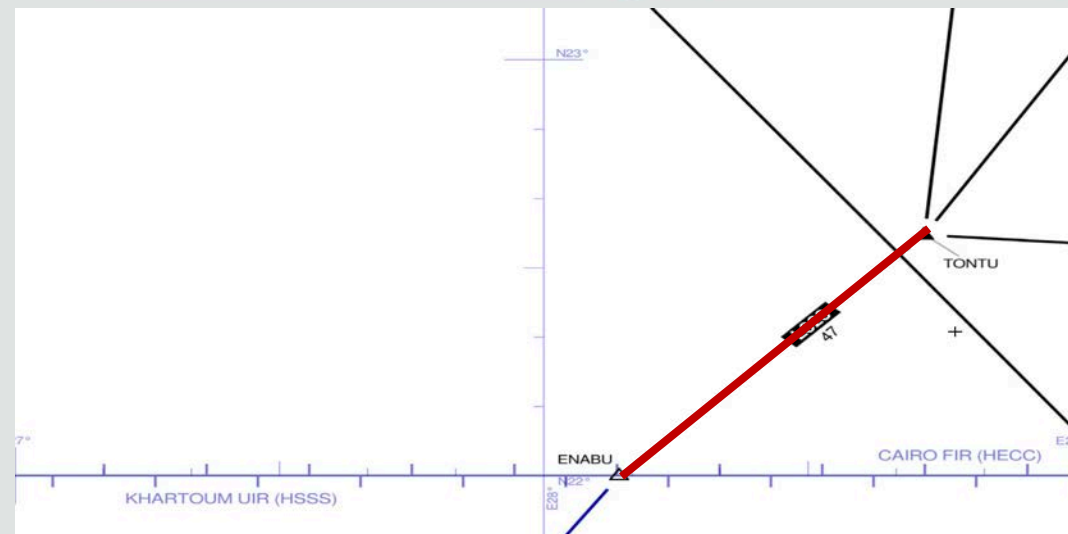


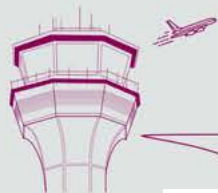


2. Cairo FIR New Routes

- New Route L323 (Regional route between KHARTOUM & CAIRO FIRs)

Route	NM Saving	Time Saving
L323	62 NM	8 min.

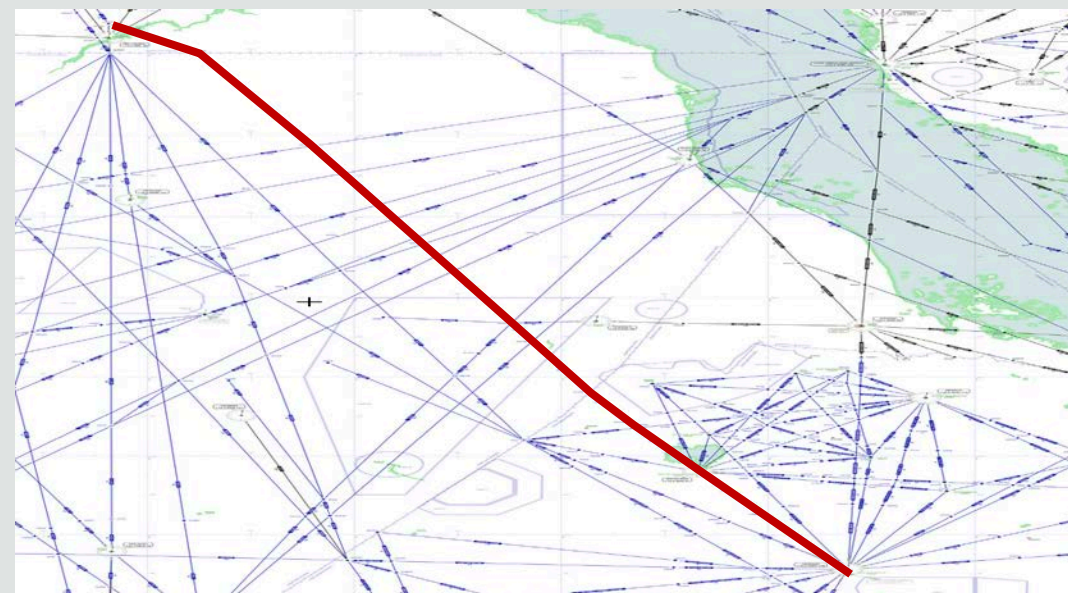
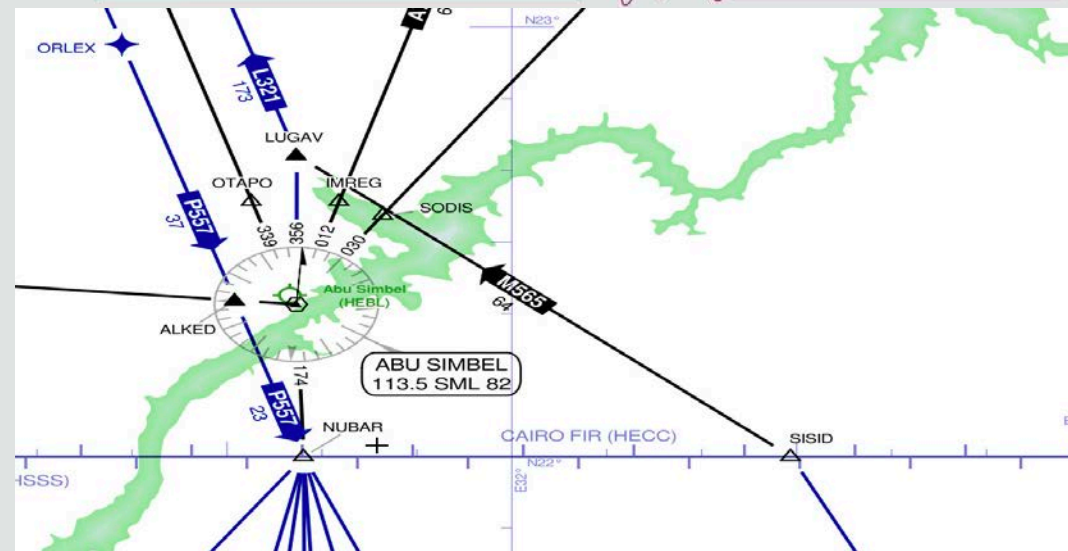


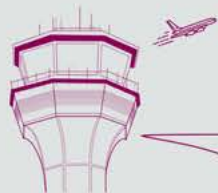


2. Cairo FIR New Routes

- New Route M565 (Regional route between KHARTOUM & CAIRO FIRs)

Route	NM Saving	Time Saving
M565	13 NM	3 min.

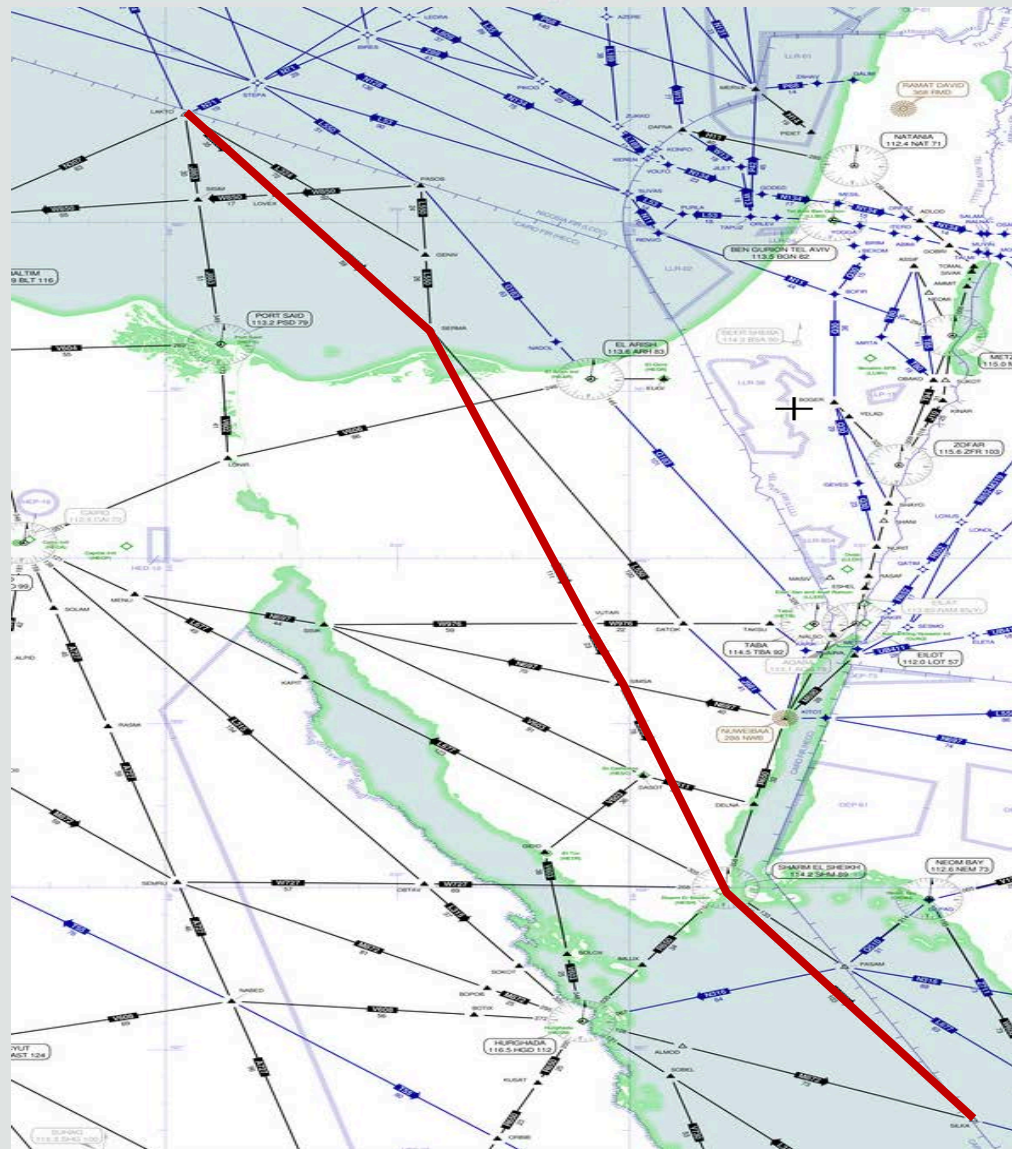




2. Cairo FIR New Routes

- New Route L323 (Regional route between KHARTOUM & CAIRO FIRs)

Route	NM Saving	Time Saving
L560	72 NM	10 min.

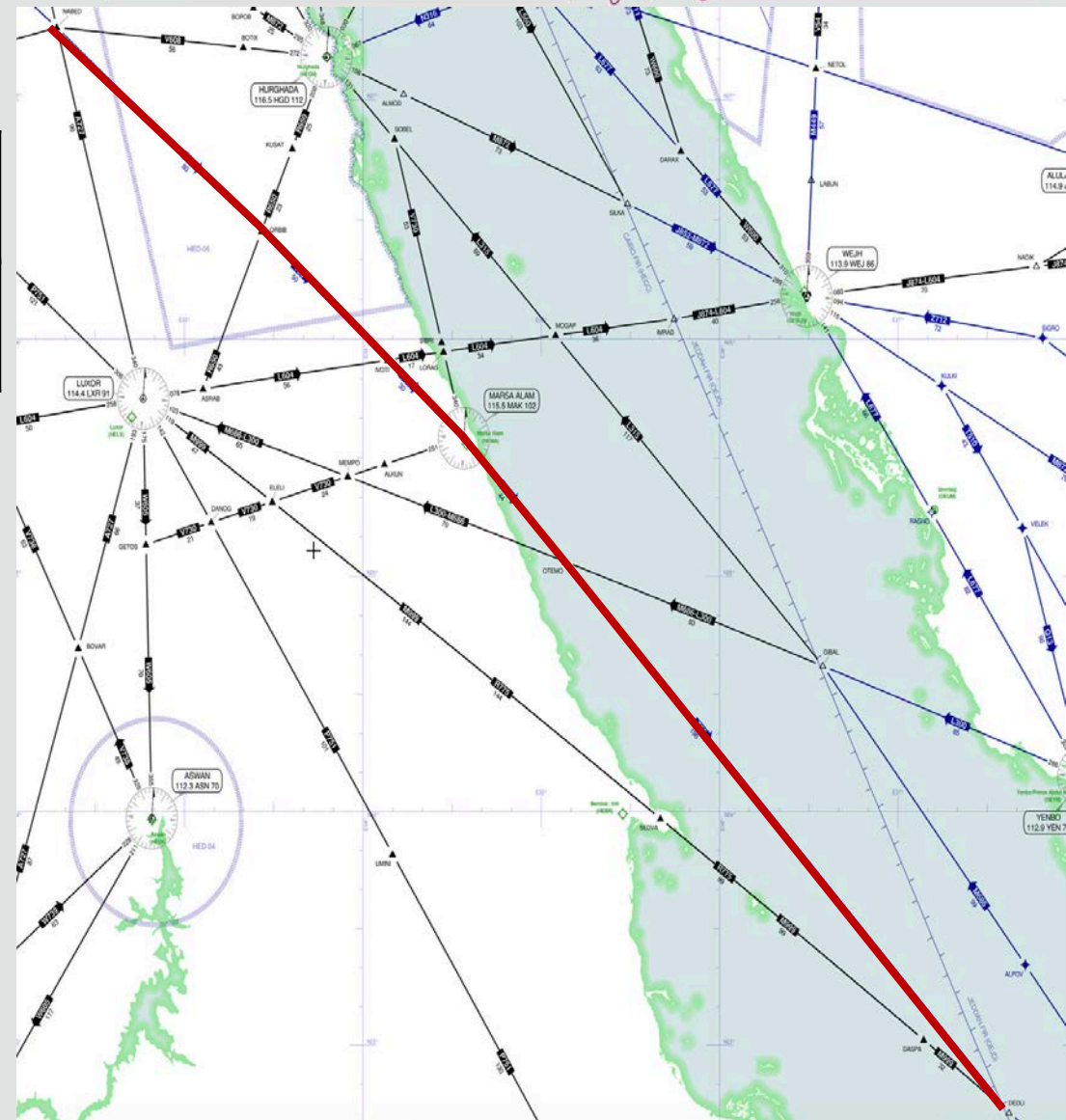


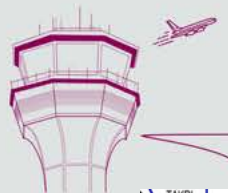


3. Cairo FIR Optimisations

Route	Segment	Operation hours
T55	NABED – ORBIB – IVOTI – MAK – OTEMO - DEDLI	24/7

- Above route segment is eastbound/ unidirectional except for traffic departed HEMA to be used as bidirectional.

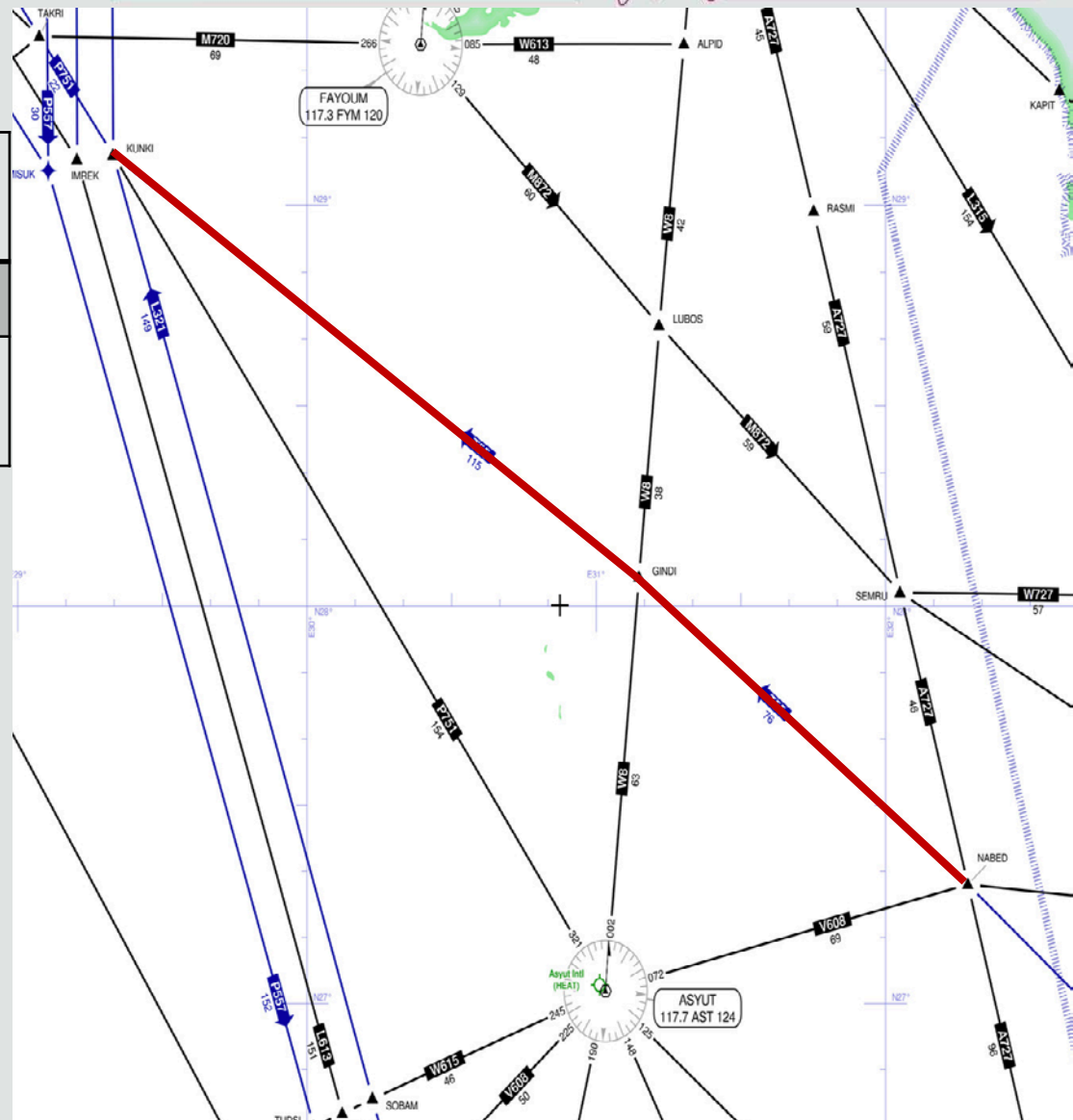




3. Cairo FIR Optimisations

Route	Segment	Operation hours
T55	NABED – GINDI	24/7
T55	GINDI - KUNKI	24/7 till 15 Dec. 2022

- Above route segment is eastbound/ unidirectional except for traffic departed HEMA to be used as bidirectional.



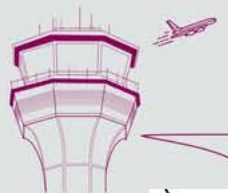


3. Cairo FIR Optimisations

- Approve KUMBI to be entry point to air traffic exit ULINA to meet demands during Qatar World Cup 2022.

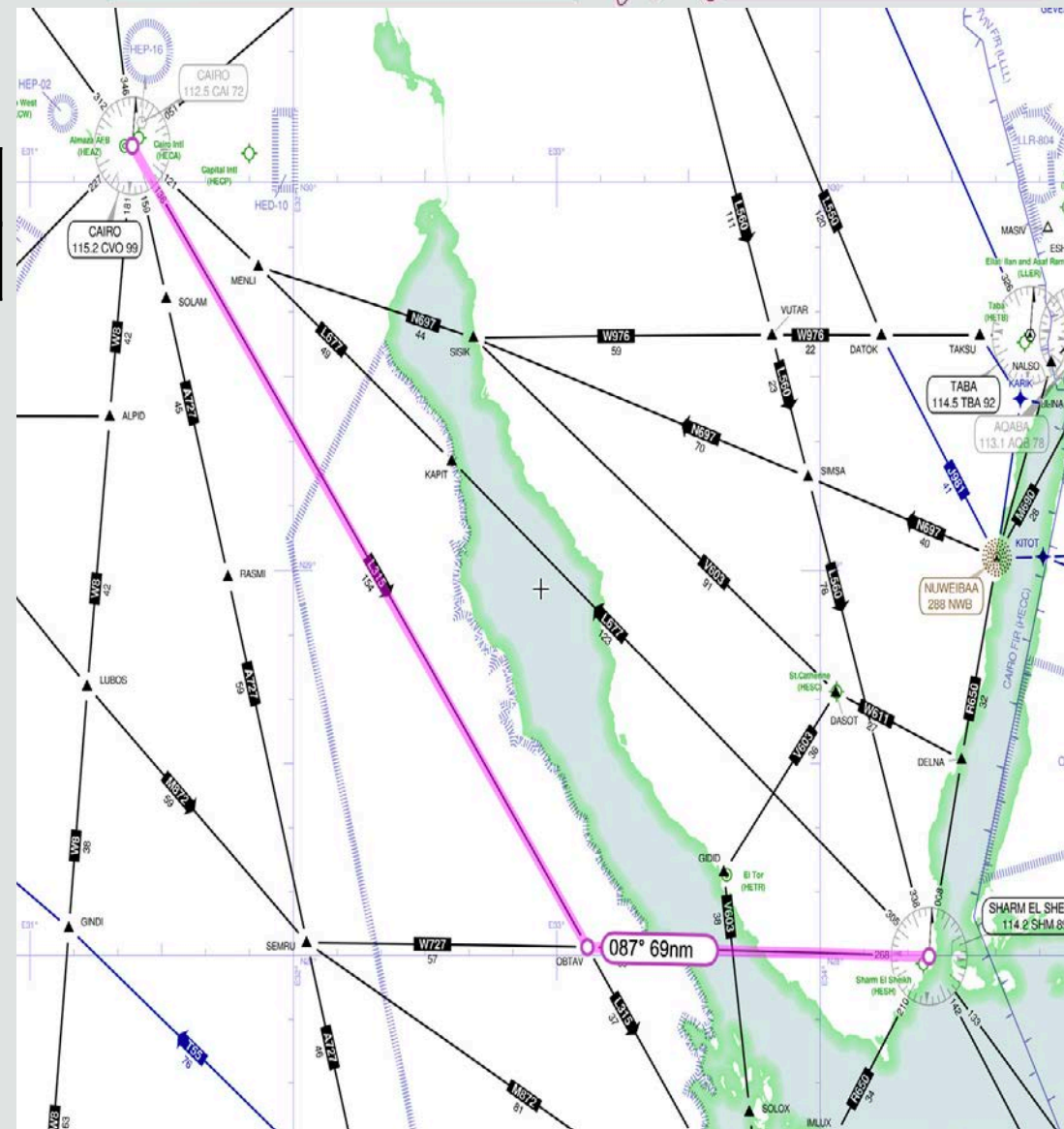
Routes	Segment	Operation hours
L612 – A16 – L677 – N697 – L550 – B411	KUMBI Routes to UNLINA	24/7 Till 15 Dec. 2022

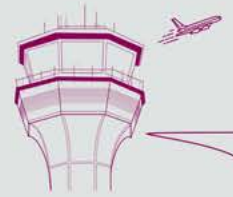




3. Cairo FIR Optimisations

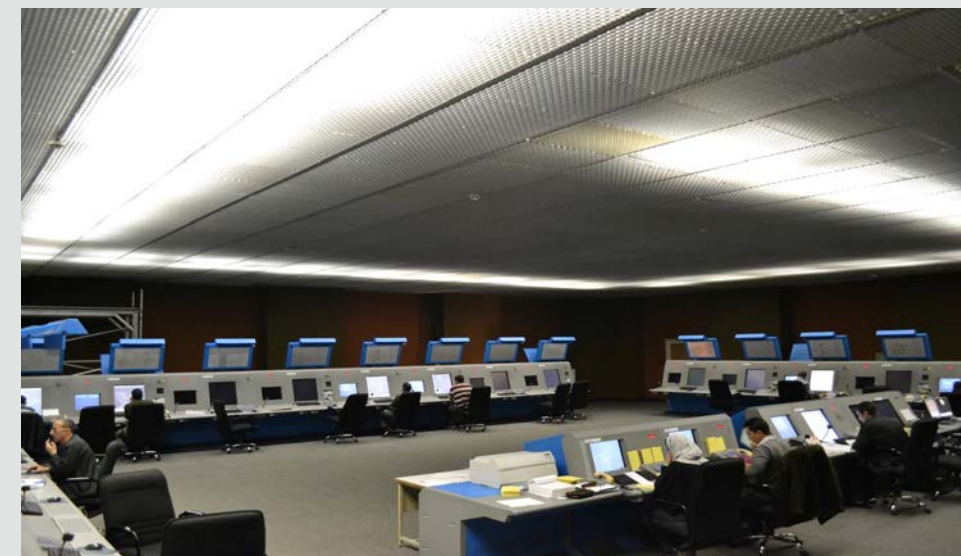
Routes	Operation hours
L315 OBTAV W727 HESH	24/7 Till 20 Nov. 2022

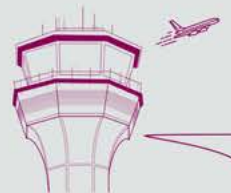




4. ATM Contingency plan

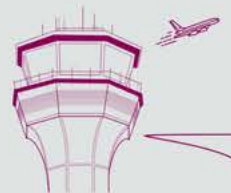
- Cairo ACC has updated ATM contingency plan with approval from ECAA





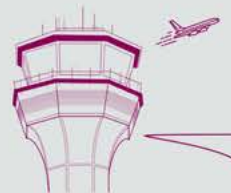
5. MID Air Navigation Strategy

Thread	Element code	Title	Target date
FRTO			
	B1/5	Enhanced Conflict Detection Tools and Conformance Monitoring.	End 2023 upon ATM modernization for Cairo ACC, APP and TWR.
	B1/6	Multi-Sector Planning.	End 2023 upon ATM modernization for Cairo ACC, APP and TWR.
NOPS			
	B1/8	Extended Arrival Management supported by the ATM Network function.	End 2023 upon ATM modernization for Cairo ACC, APP and TWR.



5. MID Air Navigation Strategy

Thread	Element code	Title	Target date
SNET			
	B1/1	Enhanced STCA with aircraft parameters.	End 2023 upon ATM modernization for Cairo ACC, APP and TWR.
	B1/2	Enhanced STCA in complex TMA	End 2023 upon ATM modernization for Cairo ACC, APP.

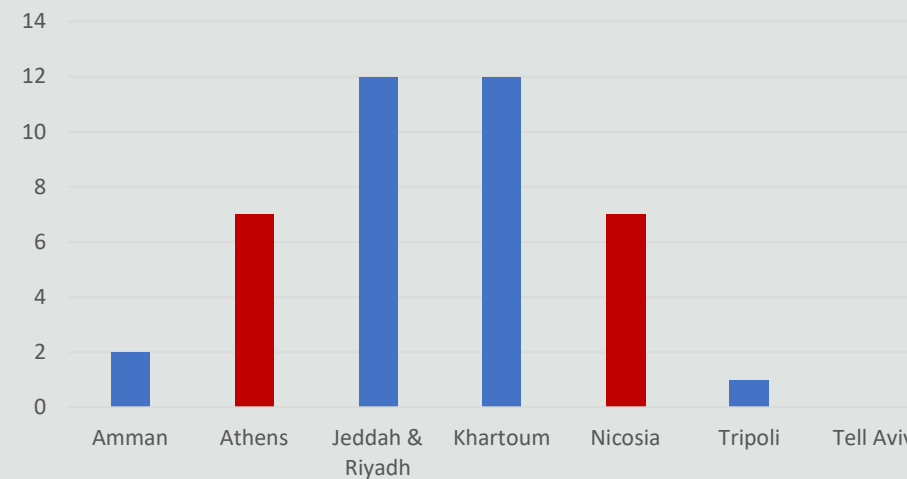


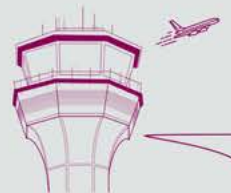
6. Airspace Concept

RVSM implementation progress

- Egypt completed a TDS with new updates for all new PFAs in addition all routes' scenarios.
- 41 reports are submitted by CAIRO FIR (Period 1/11/2021 till 31/10/2022)

CAIRO FIR Submitted Reports



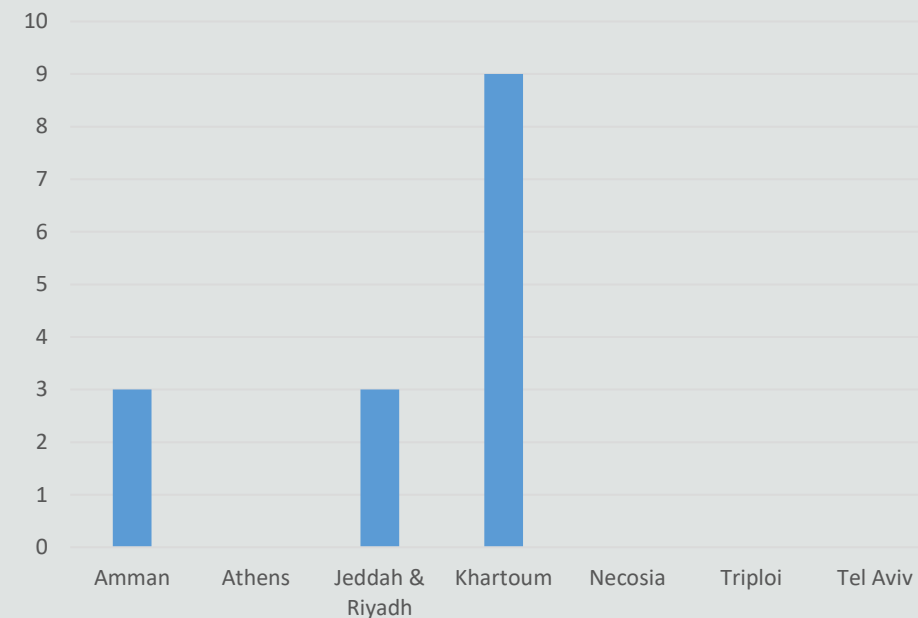


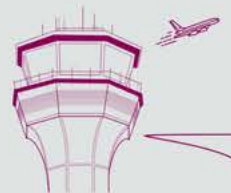
6. Airspace Concept

6.1 RVSM implementation progress

- 15 reports are received by other FIRs related to CAIRO FIR (Period 1/11/2021 till 31/10/2022)

Received Reports by other FIRs

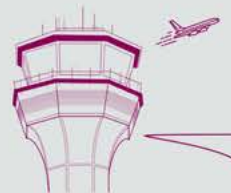




6. Airspace Concept


6.2 PBN En-Route phase of flight

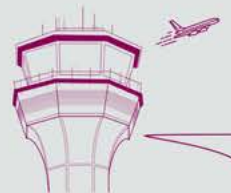
- Whole CAIRO FIR – Routes navigation specification are RNAV5.
- Study started to run Mixed mandate RNAV5/RNAV1 specifications for Cairo FIR to approve an RNAV 1 specification for operation along one set of routes, and RNAV 5 along another set of routes within the Cairo FIR.
- Study of ATS Routes designators to be consistent with PBN concept.
- In the level band FL160/460 (inclusive) all ATS routes are RNAV routes which have no width, but here the width is mentioned to remind the controllers that aircraft vectoring outside the corridor of the AWY is completely forbidden.



6. Airspace Concept


6.3 Implementation of AIDC/OLDI

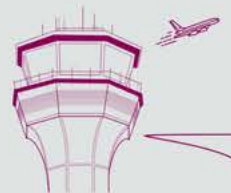
- OLDI active with ATHENS.
- OLDI inactive with NECOSIA due to lack of ATM system interoperability.
- AIDC in progress with KHARTOUM, JEDDAH and RIYADH.
- AIDC status with other adjacent FIRs  No progress



6. Airspace Concept

6.4 Implementation of Continuous Climb Operations (CCO) and Continuous Descent Operations CDO, where appropriate.

- Started a first airspace CDM (mainly between EgyptAir and NANSO) to implement a basic CCDO and CDO.
- New SID/STAR introduced to HESH and HESH with considering basic CCO and CDO  will be completely published by the end of 2023.



6. Airspace Concept

6.5 New surveillance systems concept

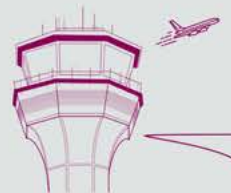
- New Radar stations Mode-s 2023-2024
- First implementation of ADS-B within Cairo FIR by 2023-2024



Source:
https://en.azimut.ru/catalog/catalog_33.html?template=96



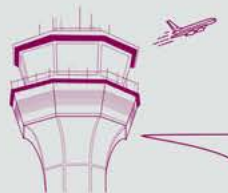
Source:
<https://www.planeandpilotmag.com/article/privacy-lost-in-the-age-of-ads-b/>



6. Airspace Concept

6.6 New LoAs with adjacent FIRs and new separation minima

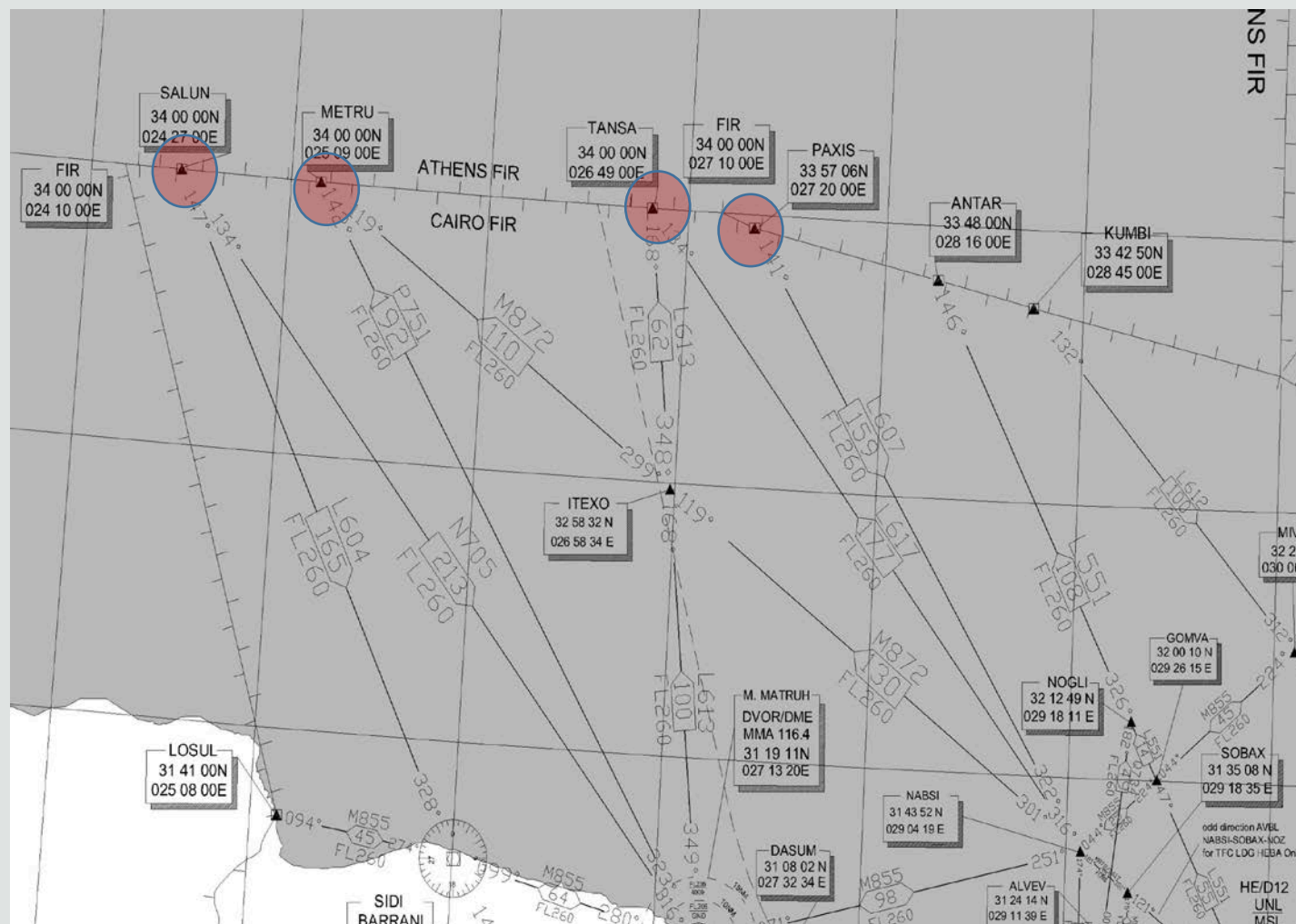
- During 2022 Cairo ACC updated LoAs with Tripoli, Amman and Khartoum according to ICAO LoA new template.
- LoA with Athens updated 2018 but not according to ICAO LoA new template.
- During 2022 Cairo ACC coordinate with Jeddah and Riyadh established with drafting a temporary annex to LoA related to reduction of separation minima upon updating our LoA.
- Nicosia and Tel Aviv still LoAs not updated according to ICAO LoA new template.

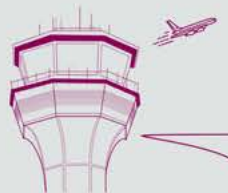


6. Airspace Concept

6.6 New LoAs with adjacent FIRs and new separation minima

6.6.1 15 NM longitudinal Separation between Cairo FIR and Athens FIR over all boundary points

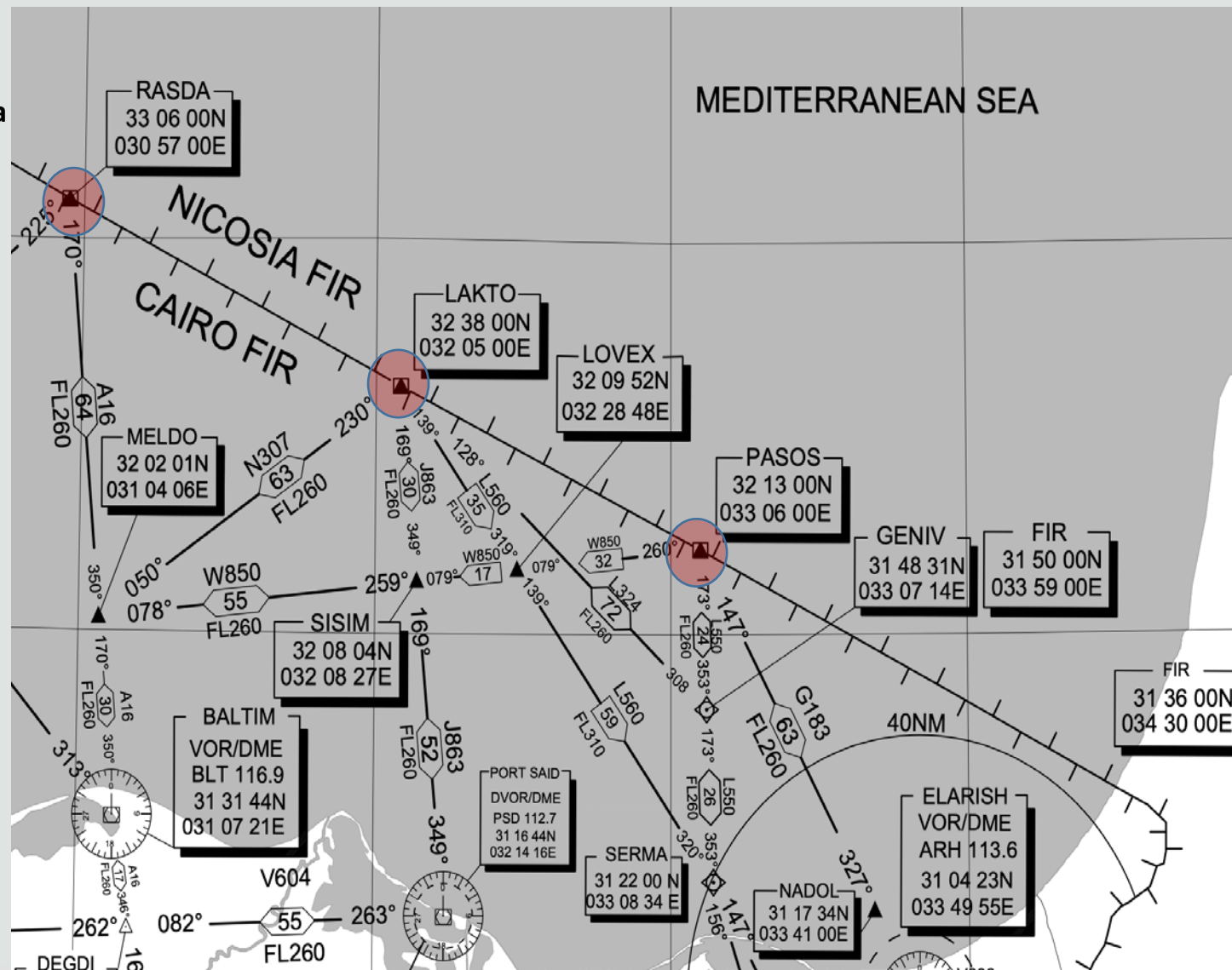


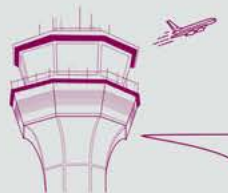


6. Airspace Concept

6.6 New LoAs with adjacent FIRs and new separation minima

6.6.2 20 NM longitudinal Separation between Cairo FIR and Nicosia FIR over all boundary points

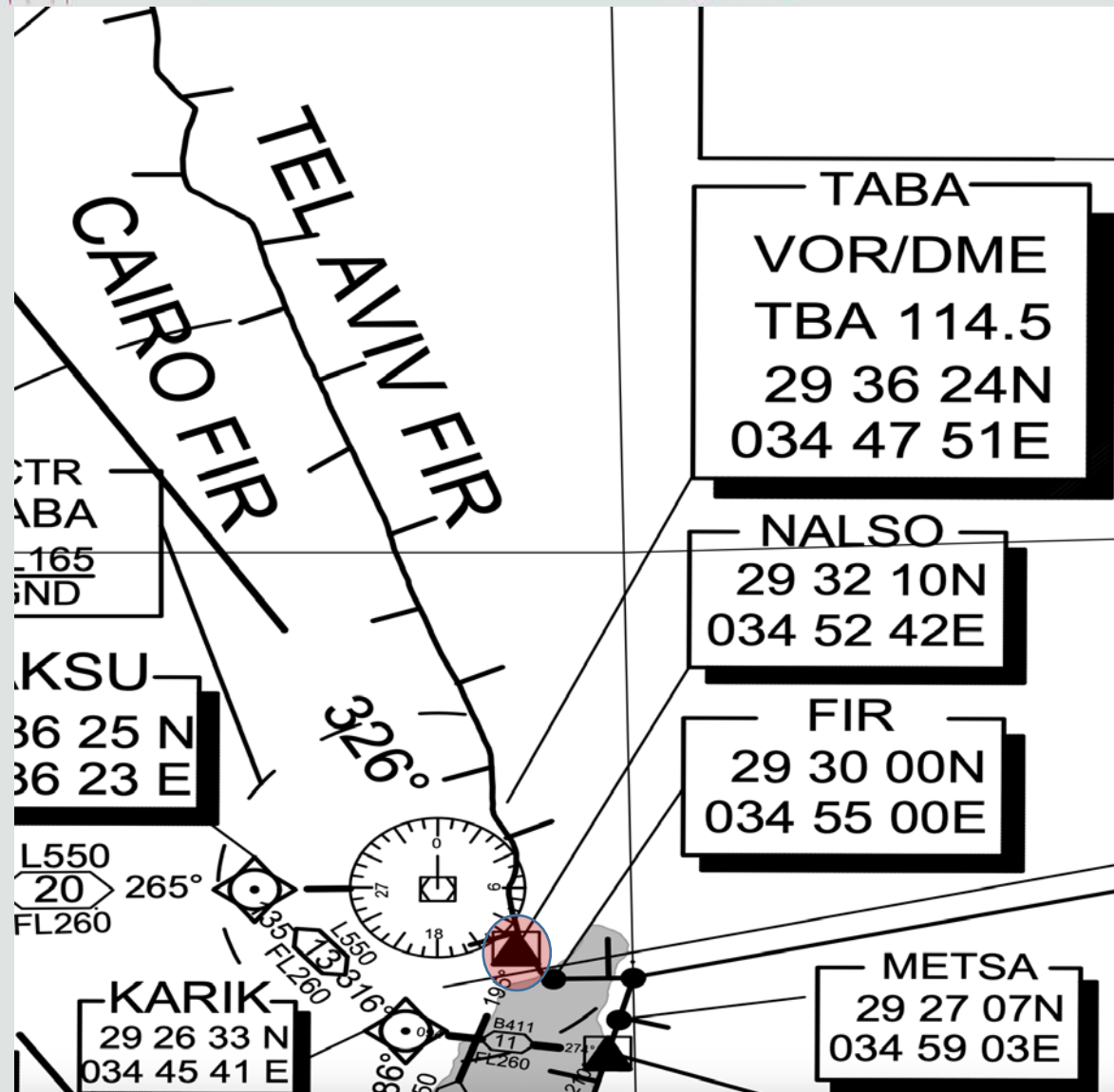




6. Airspace Concept

6.6 New LoAs with adjacent FIRs and new separation minima

6.6.3 20 NM longitudinal Separation between Cairo FIR and Tel Aviv FIR over NALSO.



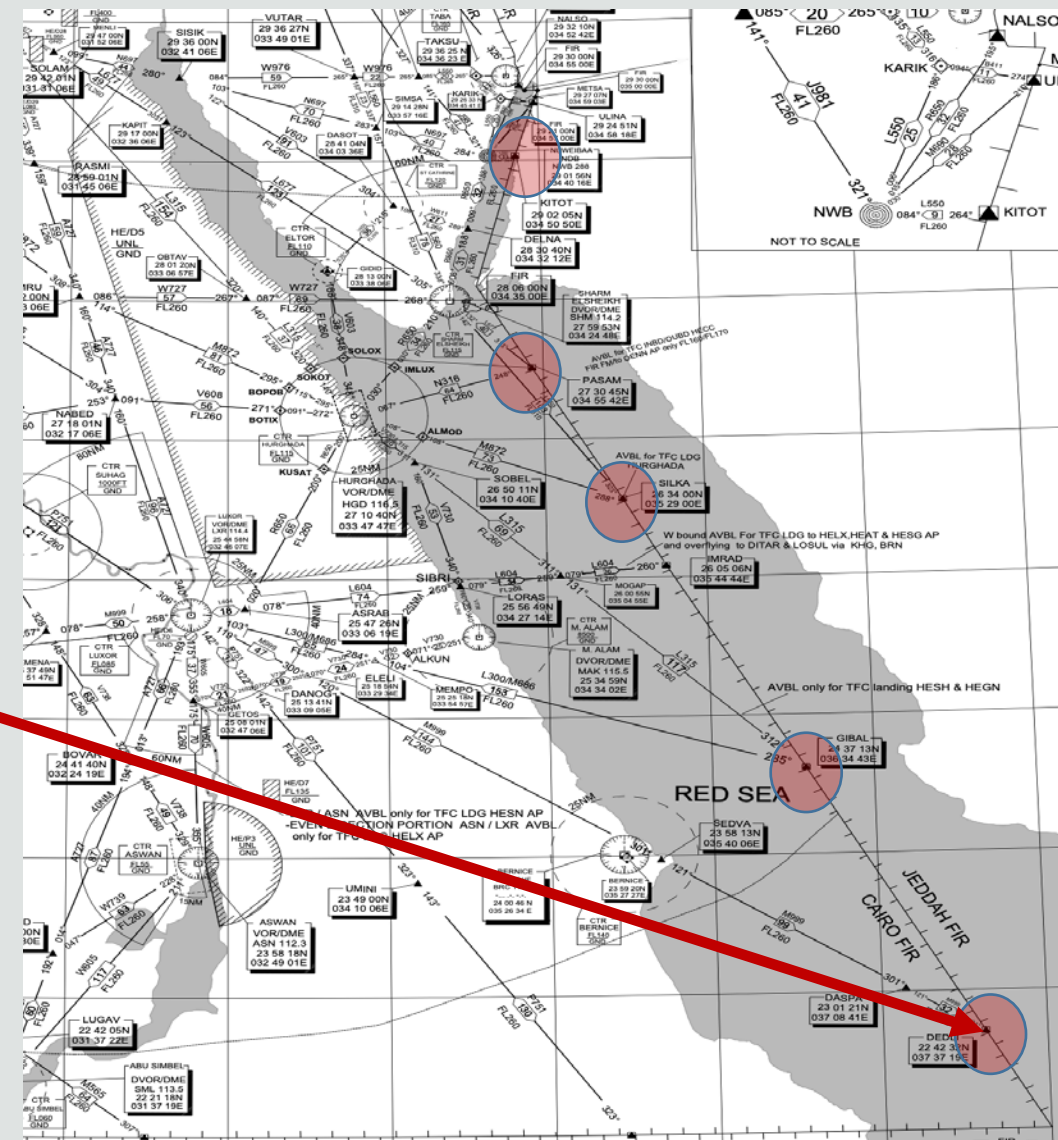


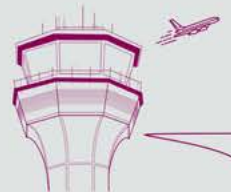
6. Airspace Concept

6.6 New LoAs with adjacent FIRs and new separation minima

6.6.4 15 NM longitudinal Separation between Cairo FIR and JEDDAH & RIYADH FIRs.

Except DEDLI is 10 min. with FL restriction 330 or below.

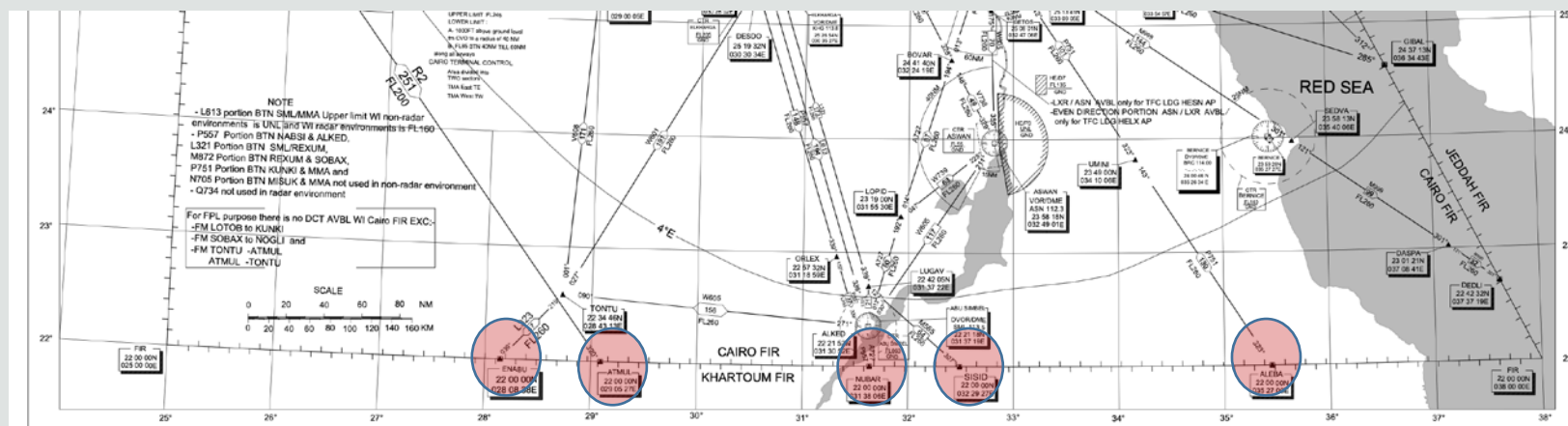


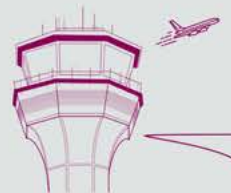


6. Airspace Concept

6.6 New LoAs with adjacent FIRs and new separation minima

6.6.6 30 NM longitudinal Separation between Cairo FIR and Sudan FIR

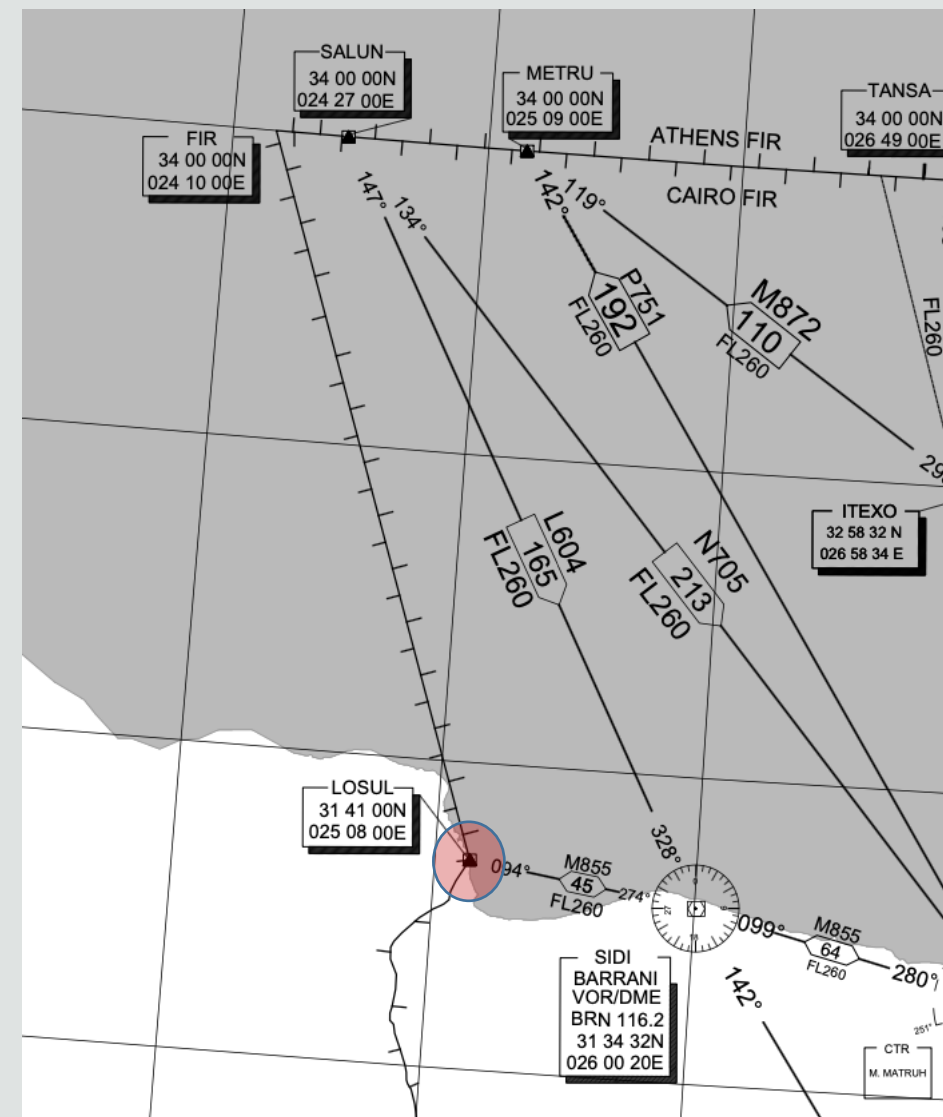


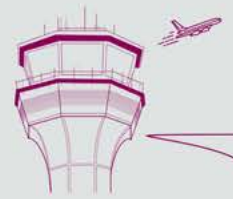


6. Airspace Concept

6.6 New LoAs with adjacent FIRs and new separation minima

6.6.7 5 min longitudinal Separation between Cairo FIR and Tripoli FIR.



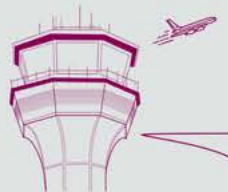


7. Challenges

- Implementation of mixed navigation specifications RNAV1 and RNAV 5 for Enroute phase of flight,
- 20 NM longitudinal separation with Nicosia,
- No LHD reports reply from Nicosia and Athens,
- Lack of system interoperability between Nicosia and Cairo FIRs to implement OLDI,
- Incomplete processes to establish an AIDC links with other adjacent FIRs,
- Absence of NAV. AIDS infrastructure harmonization to support multi sensors within Enroute phase of flight.



ICAO MID



ATM SG/8

The MIDANPIRG Air Traffic Management Sub-Group, Eighth Meeting

Amman, Jordan 7 - 10 November 2022



THANK YOU

