



Seventh Meeting of the PBN SG/7

UAE Update

5-6 December 2022



PBN Implementation Status in Emirates FIR



National PBN Implementation Plan

- ❖ UAE PBN Implementation plan version 01_2018:
 - Short Term – 2014 - 2017
 - Medium Term – 2018 – 2023
 - Long Term – 2023 and beyond

- Short term is fully implemented
 - Mandated the carriage of GNSS equipment with effect from 07 December 2017

- Medium term focusses on transitioning from RNAV-1 (GNSS) to Advanced RNP and the initial introduction of GBAS at selected airports.
 - Mandated ADS-B OUT with effect from 01 January 2020

- Long Term focusses on the use of advanced flight deck automation that integrates CNS capabilities. RNP, RCP, and RSP standards will define these operations.



UAE PBN Implementation Status RNP APCH

International Aerodromes	RWY ends	LNAV		LNAV/ VNAV		RNP AR	
		Published	Planned	Published	Planned	Published	Planned
OMAA	13L,31R, 13R,31L	YES.	<i>N/A</i>	YES.	<i>N/A</i>	YES	<i>N/A</i>
OMAL	01/19	YES	<i>N/A</i>	YES	<i>N/A</i>	NO	<i>NO</i>
OMAD	13/31	YES	<i>N/A</i>	YES	<i>N/A</i>	NO	<i>NO</i>
OMDB	12L/30R 12R/30L	YES	<i>N/A</i>	YES	<i>N/A</i>	NO	<i>NO</i>
OMDW	13/31	YES	<i>N/A</i>	YES	<i>N/A</i>	NO	<i>NO</i>
OMSJ	12/30	YES.	<i>N/A</i>	YES.	<i>N/A</i>	YES	<i>N/A</i>
OMRK	16/34	YES	<i>N/A</i>	YES	<i>N/A</i>	NO	<i>NO</i>
OMFJ	11/29	11 – YES 29 - NO	<i>NO</i>	11 – YES 29 - NO	<i>NO</i>	NO	<i>NO</i>



UAE PBN Implementation Status SIDs/STARs & CCO/CDO

International Aerodromes/TMA	RWY ends	RNAV SID		RNAV STAR		CCO		CDO	
		Published	Planned	Published	Planned	Published	Planned	Published	Planned
OMAA	13L,31R, 13R,31L	YES.	<i>N/A</i>	YES.	<i>N/A</i>	YES	<i>N/A</i>	YES	<i>N/A</i>
OMAL	01/19	YES	<i>N/A</i>	YES	<i>N/A</i>	YES	<i>N/A</i>	YES	<i>N/A</i>
OMAD	13/31	YES	<i>N/A</i>	YES	<i>N/A</i>	YES	<i>N/A</i>	YES	<i>N/A</i>
OMDB	12L/30R 12R/30L	YES	<i>N/A</i>	YES	<i>N/A</i>	YES	<i>N/A</i>	YES	<i>N/A</i>
OMDW	13/31	YES	<i>N/A</i>	YES	<i>N/A</i>	YES	<i>N/A</i>	YES	<i>N/A</i>
OMSJ	12/30	YES.	<i>N/A</i>	YES.	<i>N/A</i>	YES	<i>N/A</i>	YES	<i>N/A</i>
OMRK	16/34	YES	<i>N/A</i>	YES	<i>N/A</i>	YES	<i>N/A</i>	YES	<i>N/A</i>
OMFJ	11/29	YES	<i>N/A</i>	11 – YES 29 - NO	<i>NO</i>	YES	<i>N/A</i>	YES	<i>N/A</i>

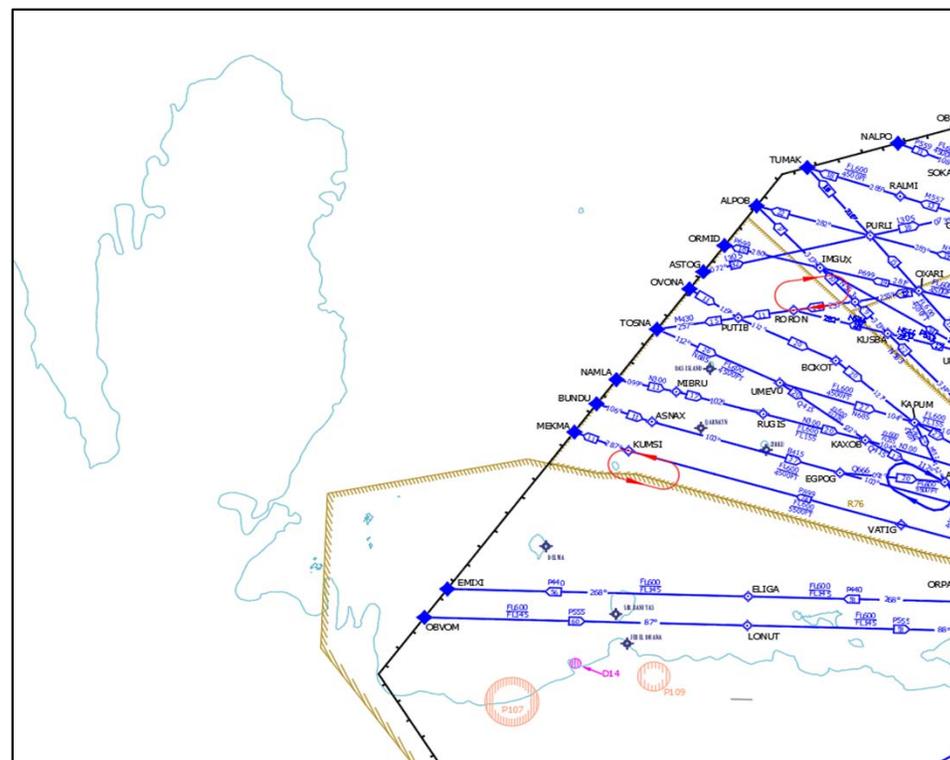


Airspace Enhancements for FWC 2022



Airspace Enhancements for FWC 2022

- ❖ UAE has worked closely with the region through out the FWC 2022 TF meetings
- ❖ Designed and implemented two en-route holds in to:
 - ❖ Support the expected traffic volume increase towards Qatar
 - ❖ Introduce capacity management measures
 - ❖ Balance transiting traffic vs shuttle services within UAE FIR
- ❖ Introduced traffic arrangements with OOMM to handle traffic delays before UAE boundary



RORON Hold	
Levels	10,000 FT – FL160
Capacity	6 aircraft

KUMSI Hold	
Levels	10,000 FT – FL150
Capacity	5 aircraft



Redesigning of P555 & P440 to Facilitate Traffic Between OMAE and OEJD



Redesign 2 Airways to Facilitate Traffic Between OMAE and OEJD

- ❖ Airways M318 & G783 both were used for arrival & departure between OMAE FIR and OEJD FIR. Due the closure of Airway M318, which caused high demand on G783. This proposal was initiated to review and redesign P440 & P555 to facilitate Departure's and Arrival's between OMAE FIR & OEJD FIR to overcome the increased workload on ATC and complexity of traffic on this unidirectional route.
- ❖ This proposal is still in the planning process and it could be promote for FUA



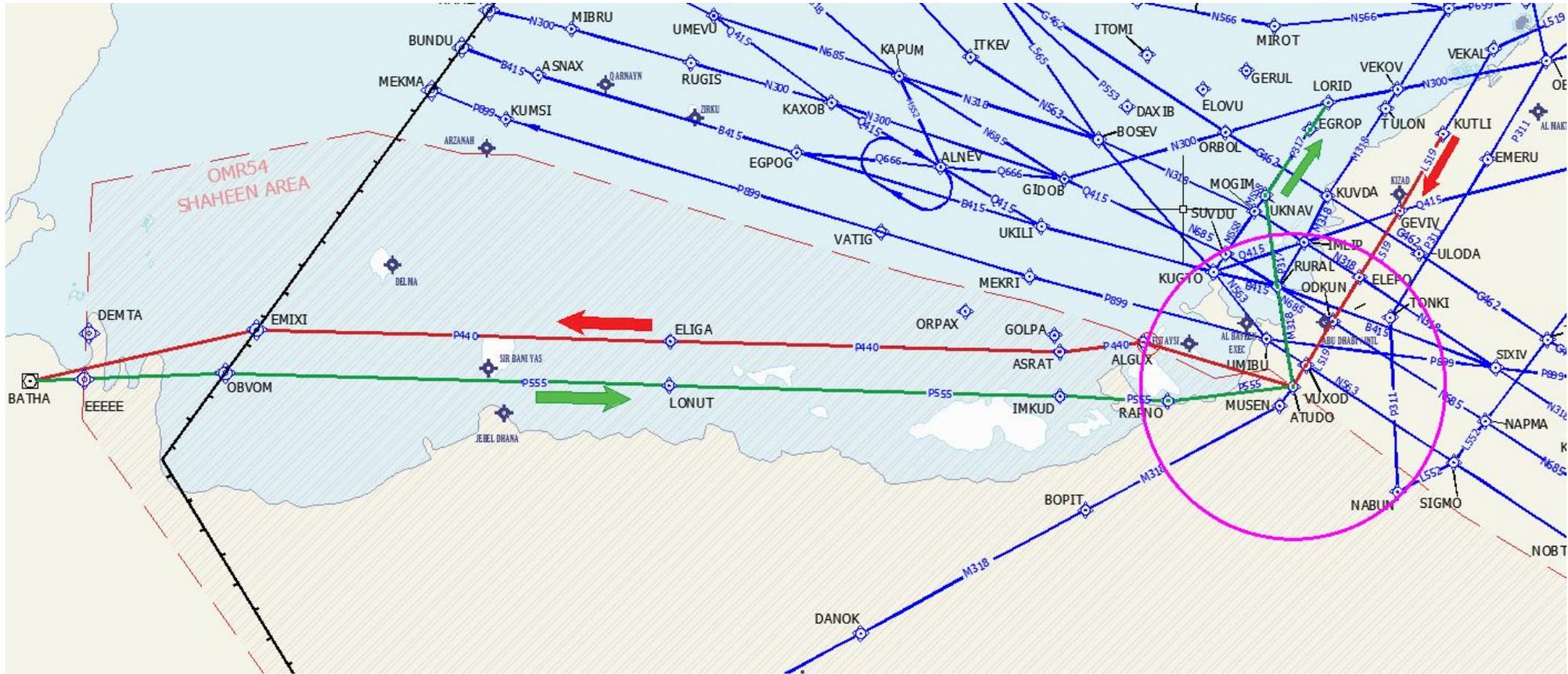
Redesign 2 Airways to Facilitate Traffic Between OMAE and OEJD

Description

- ❖ Redesign existing Airways P555 & P440 for arrival and departure between OMAE and OEJD via the points (EMIXI & OBVEM) and to be connected to BATHA in OEJD FIR.
- ❖ The direction of the two airways would be changed for efficiency/safety:
 - P440 will be the arrival route (eastbound)
 - P555 will be departure route (westbound)
- ❖ Connect the two end's of the Airways to be part of the current M318 Departure's & arrival's SID and STAR from/to airports within OMAE FIR.

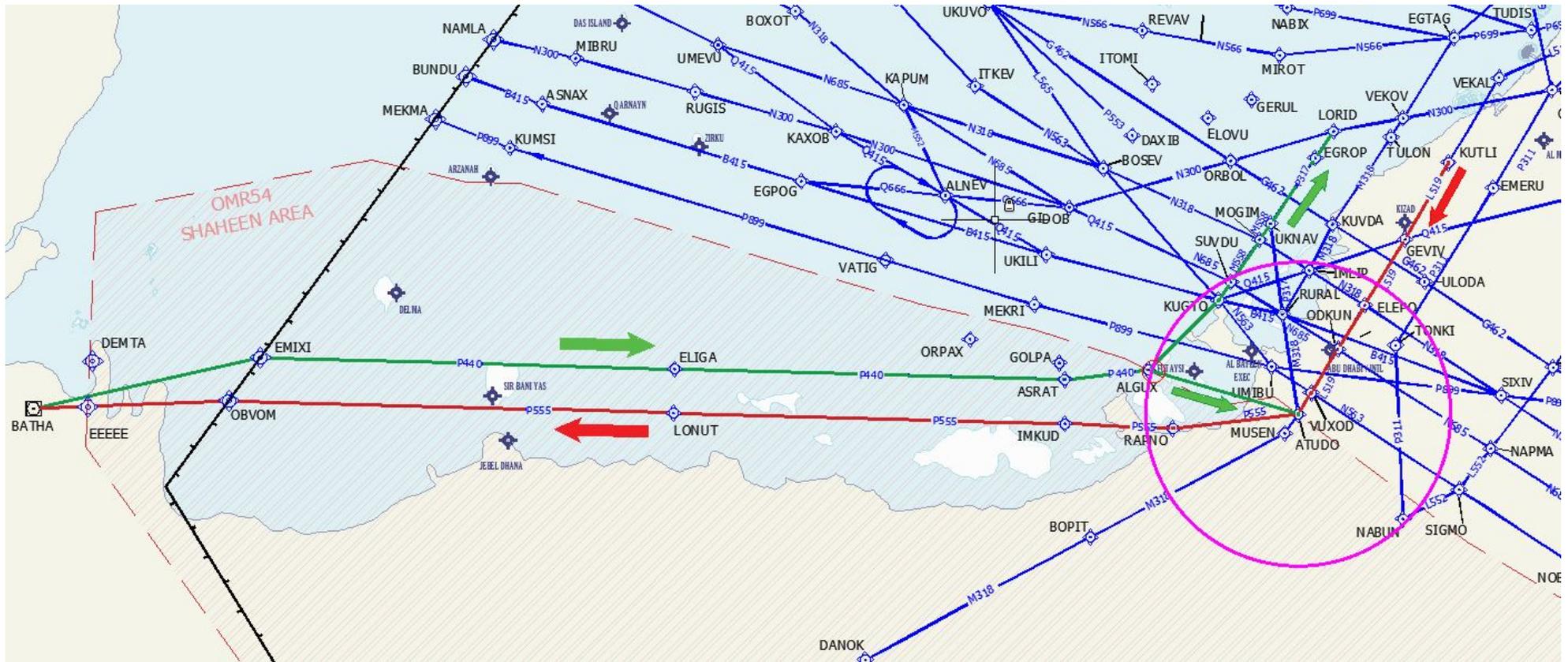


Current situation (MAP)





The Proposal (MAP)





Free Route Airspace (FRA) Plan in OMAE FIR



Free route Airspace (FRA) Plan in OMAE FIR

- ❖ Free Route Airspace (FRA) is a specified airspace within which users may freely plan a route between a defined entry point and a defined exit point. Subject to airspace availability, the route can be planned directly from one to the other or via intermediate (published or unpublished) way points, without reference to the ATS route network. Within this airspace, flights remain subject to air traffic control.
- ❖ The first phase of the implementation will begin for over-filers at FL360 and above
- ❖ Upon assessment, the next phases will allow to study the feasibility to lower the FRA level and introduce additional airspace users

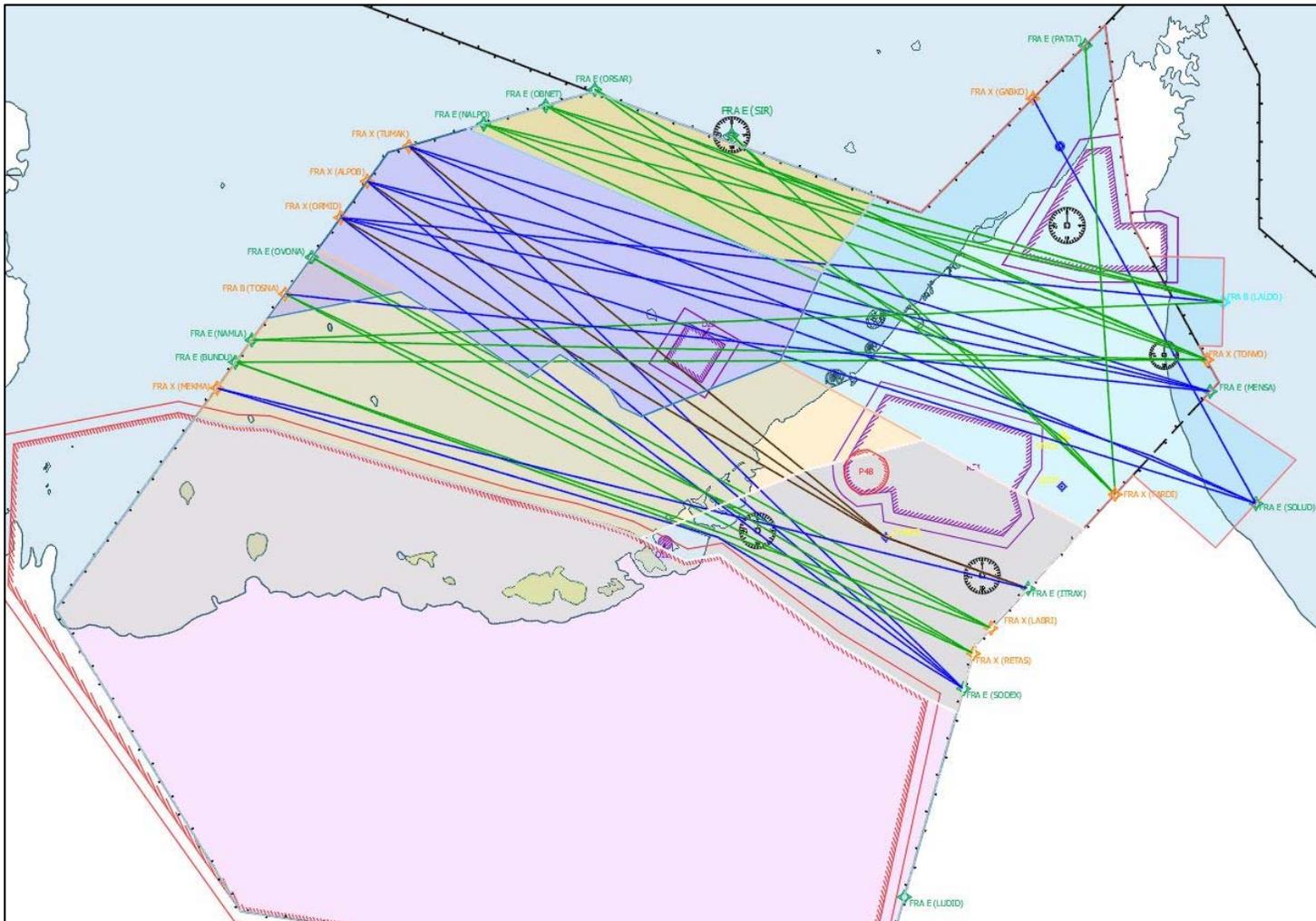


Benefits

- ❖ **Reduced operating expenses** – a decrease in flight times and fuel burn as flight trajectories follow more optimal operating profiles that are aligned with user preferences
- ❖ **Reduced environmental impact** – a reduction in aviation emissions as a consequence of reduced flight times
- ❖ **Optimized payload** – a reduction in the variance between planned-actual routes, reducing fuel carriage requirements that permit higher revenue-generating payloads

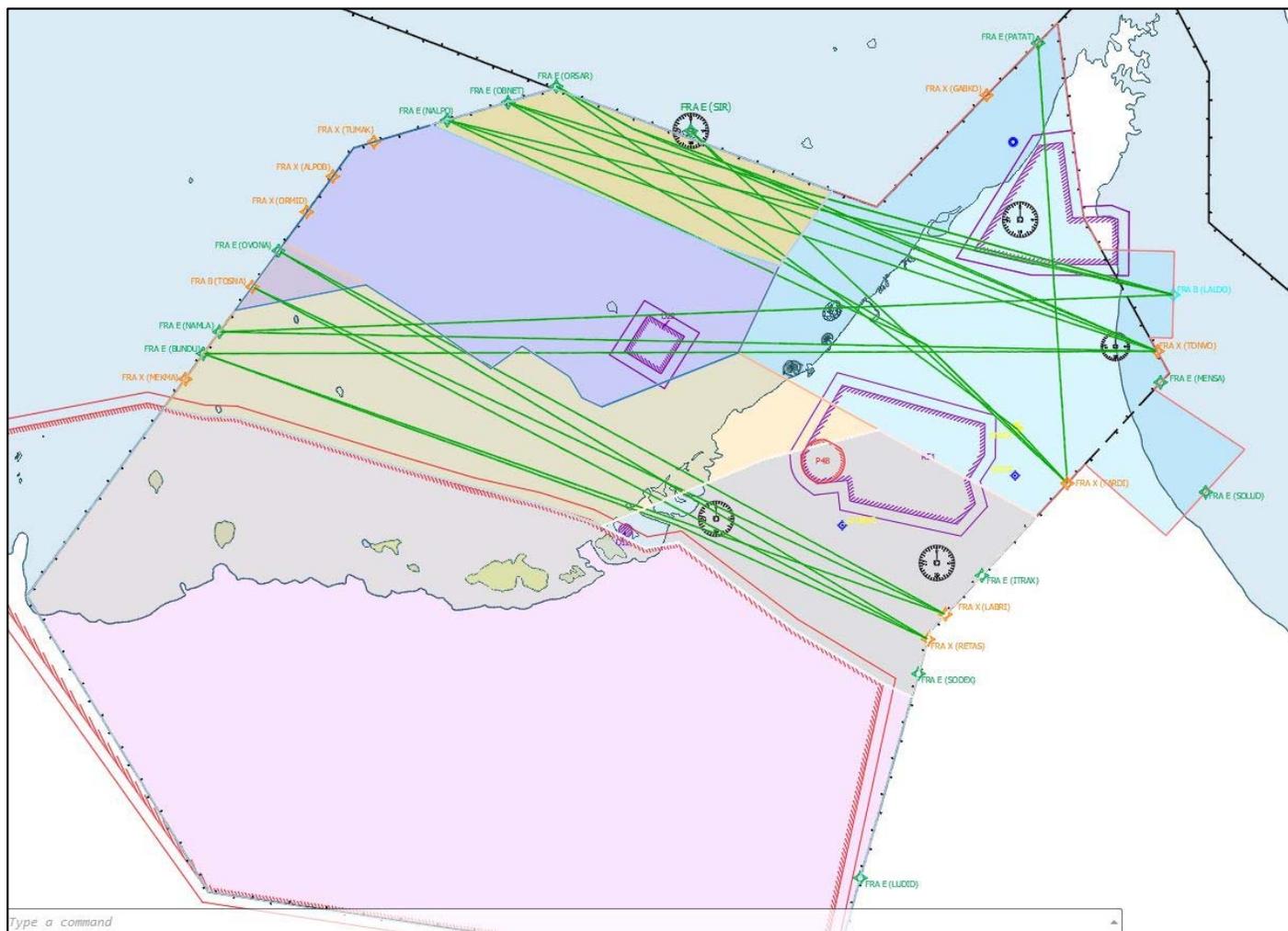


Free Route Airspace – Routing possibilities



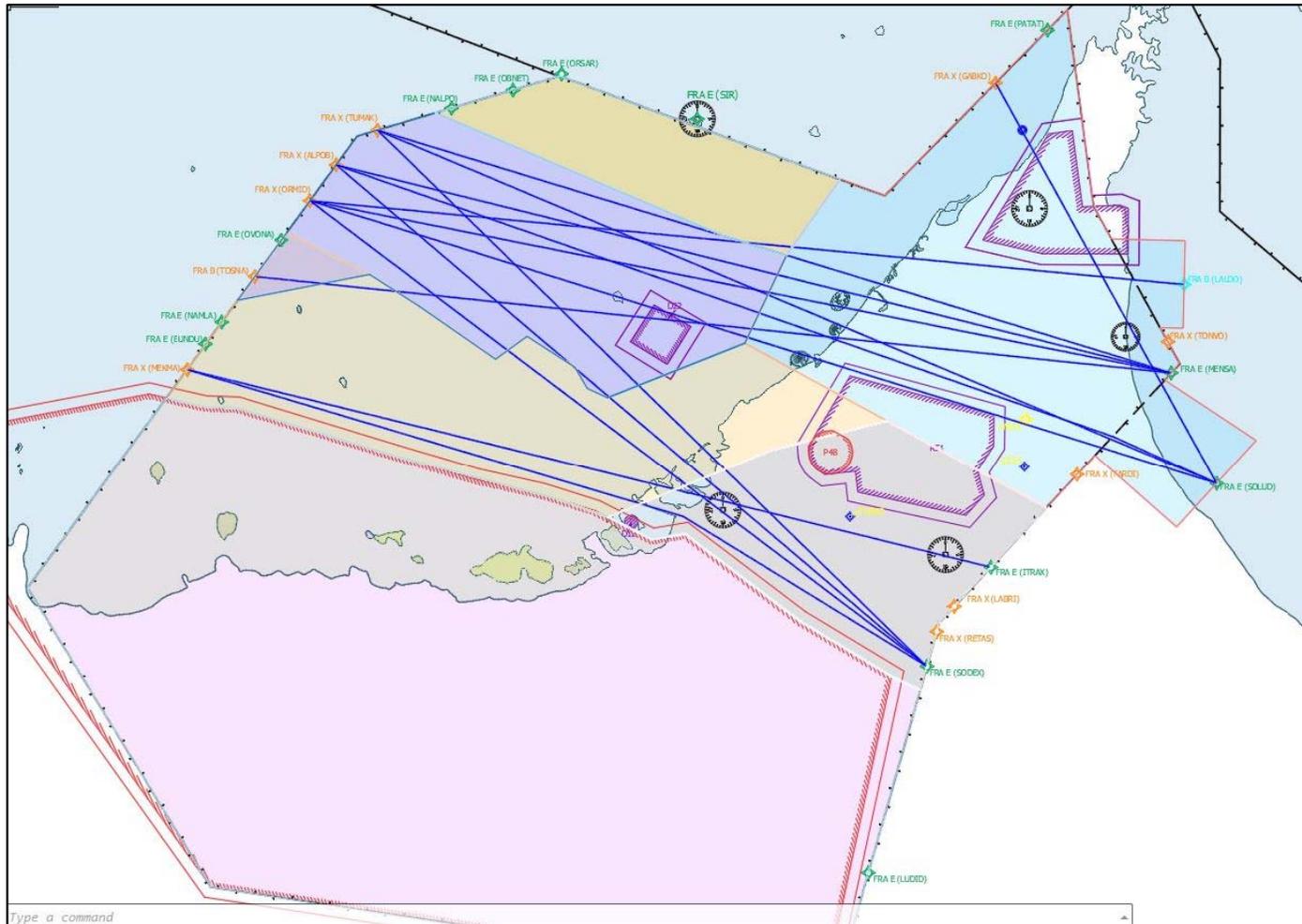


Free Route Airspace – Eastbound



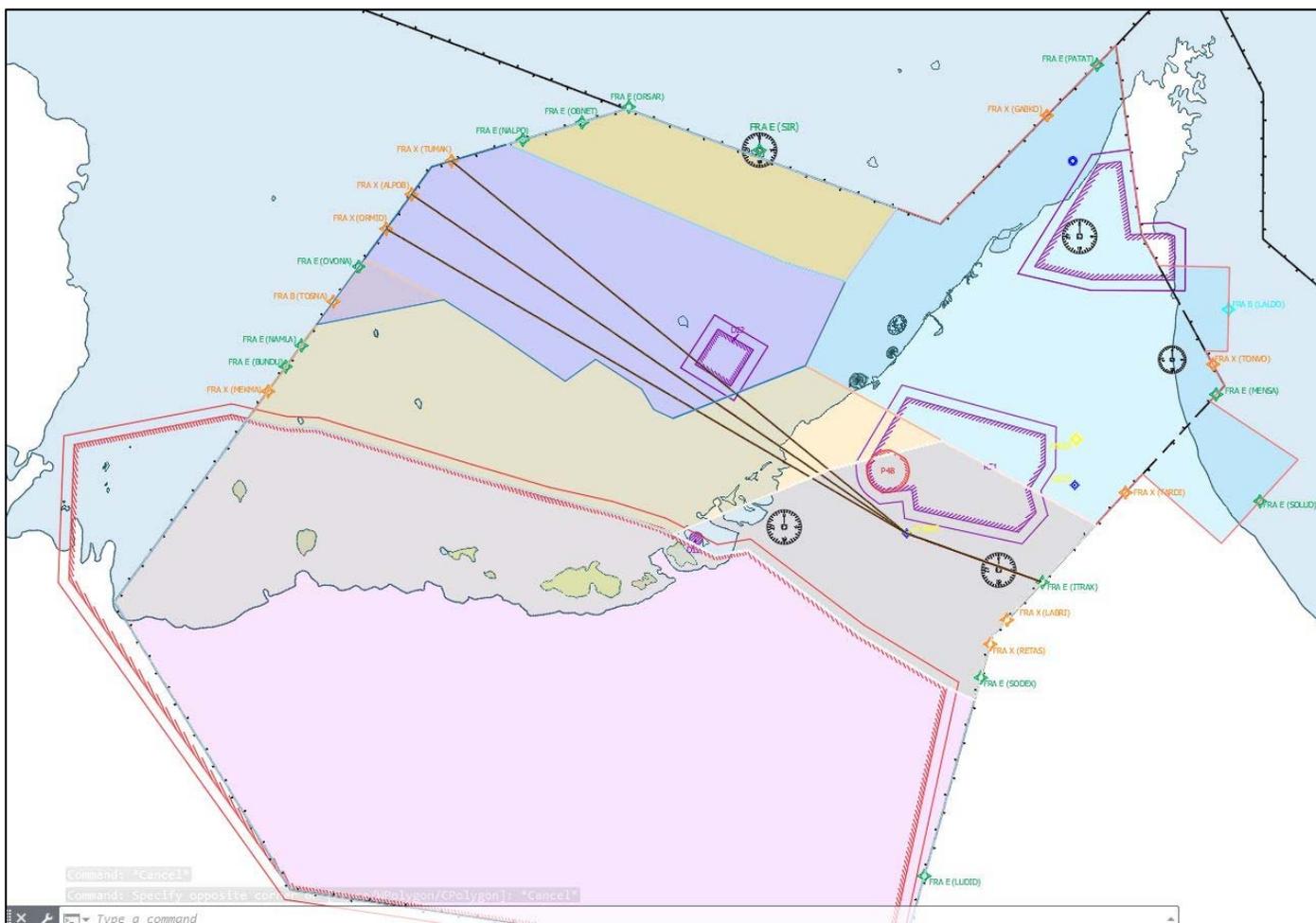


Free Route Airspace – Westbound





Free Route Airspace – Conditional





Thank You