

Mauritius Free Route Airspace (FRA)

Implementation and lessons learned

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Presented by:

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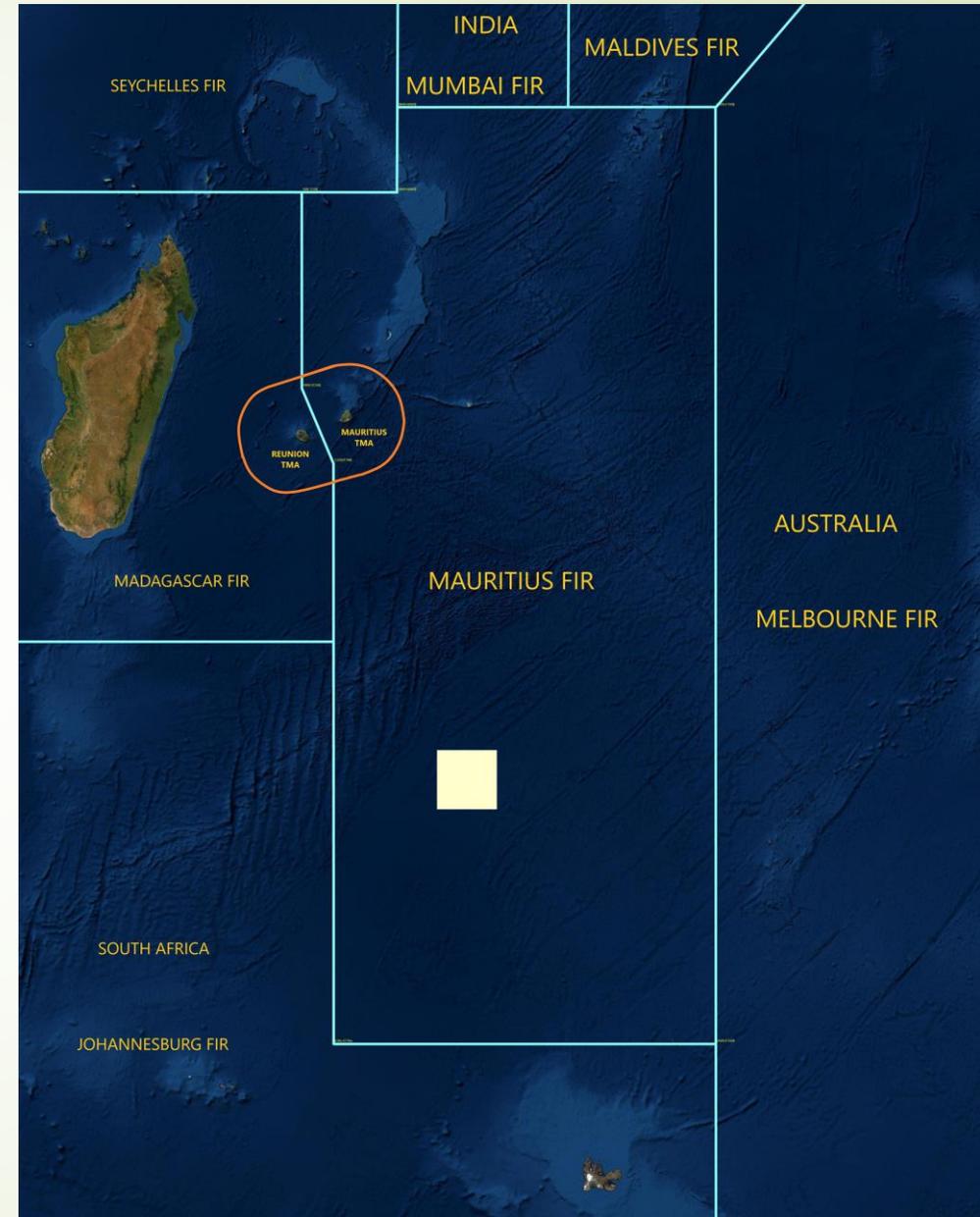
Mauritius FRA

Location

Mauritius is situated around the point
20° 15 South and 057° 30 East

Mauritius FIR is bounded :
within AFI Region

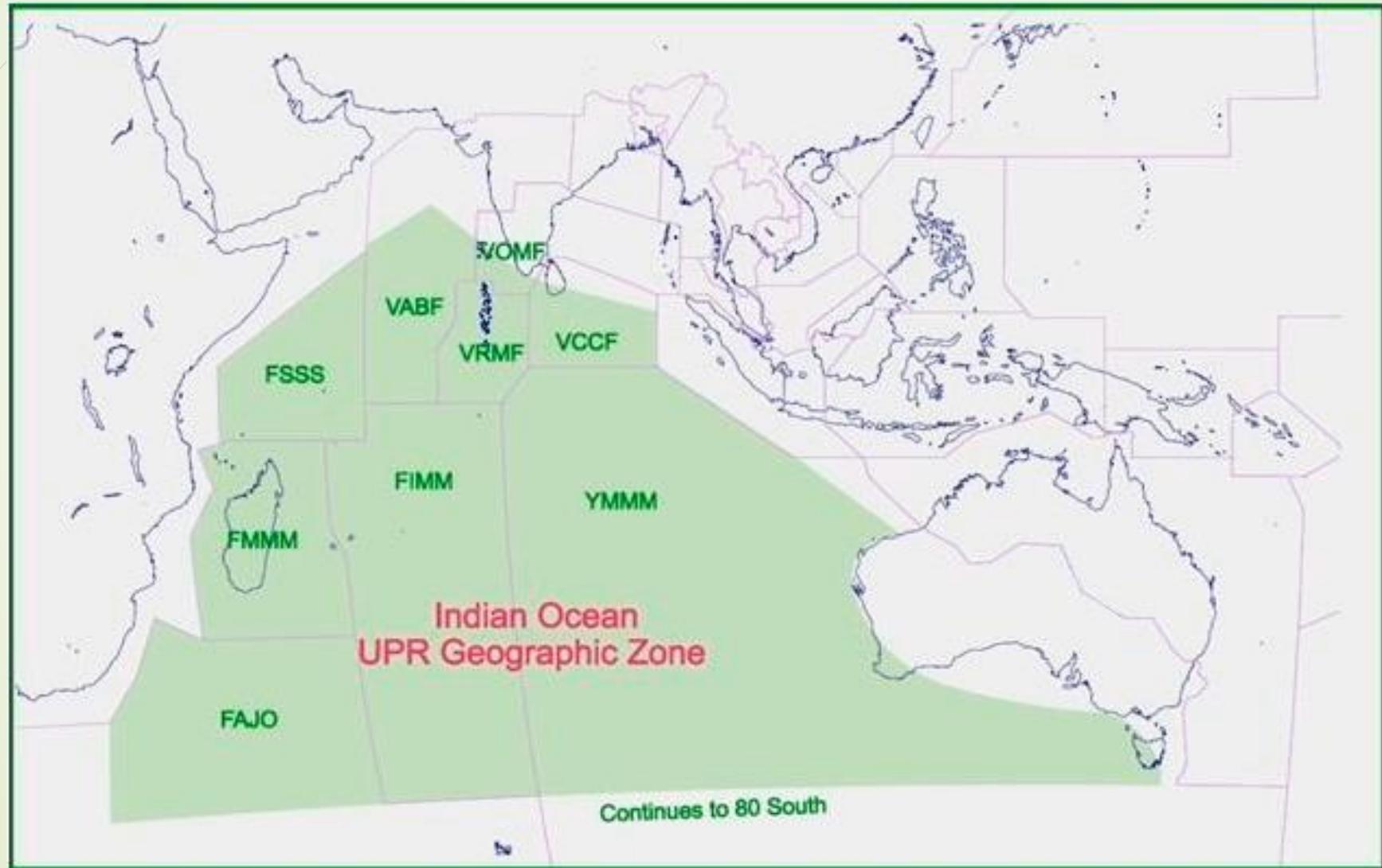
Northwest	: Seychelles Is.
West	: Madagascar
Southwest and South	: South Africa
APAC Region	
East	: Australia
Northeast	: Maldives Is.
North	: India



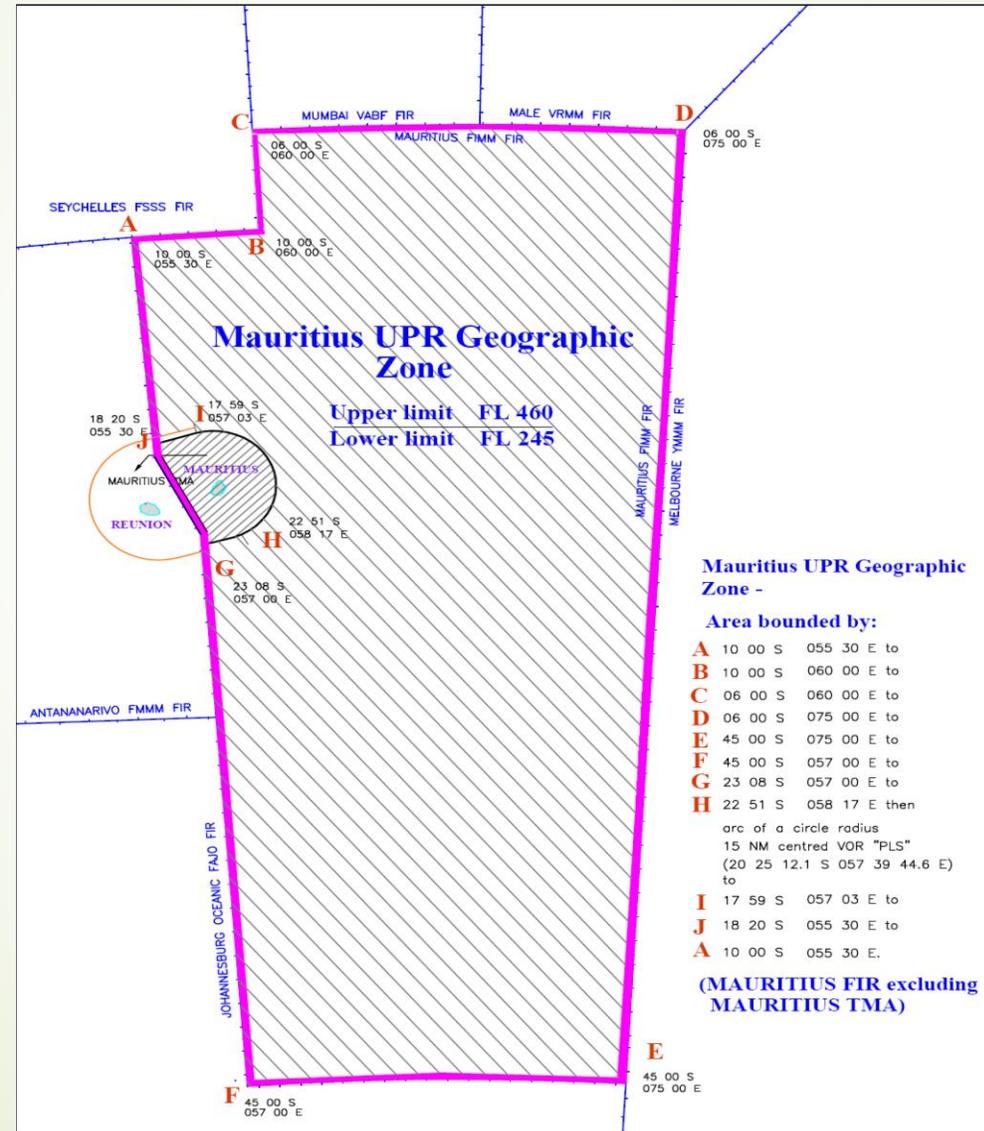
Mauritius Free Route Airspace Implementation

- During the 2020 APIRG meeting, Mauritius was selected among other East African countries to implement FRA in the AFI Region.
- However, since 2011, following the Indian Ocean Strategic Partnership to Reduce Emissions (INSPIRE) meeting in Dubai, Mauritius implemented the User Preferred Routes (UPR) within the FIMM FIR.
- Other countries involved in INSPIRE are South Africa, Madagascar, Seychelles, India, Maldives, Sri Lanka, Australia.
- The Airspace concerned was between FL245 and 460.
- UPR was implemented within the whole of Mauritius Airspace.

Indian Ocean User Preferred Routes



Mauritius UPR Geographic Zone

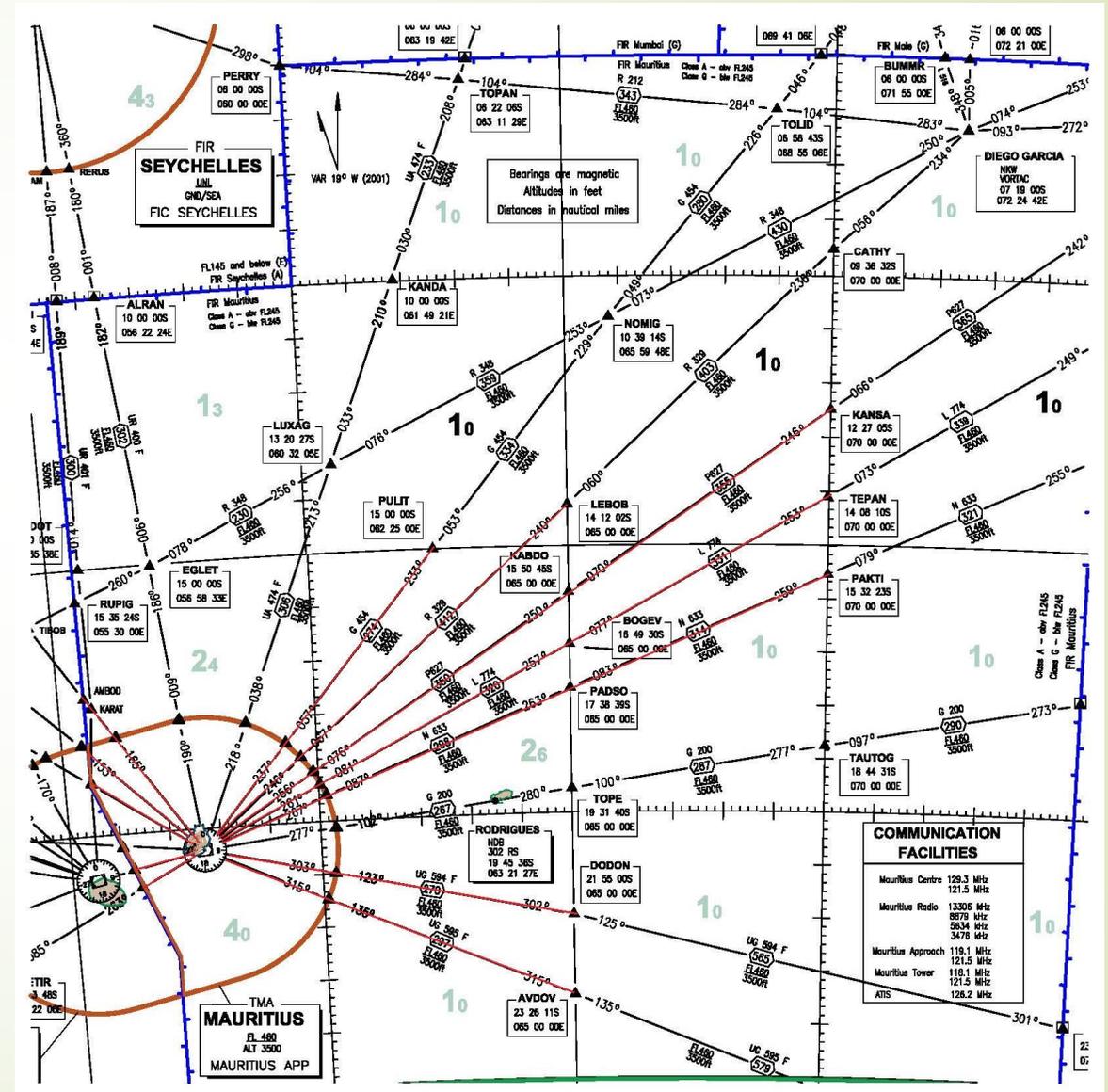


What were the Challenges Mauritius has to face to Implement FRA?

- ▶ In 2015 a rate of 10% increase in Air Traffic was forecasted and Mauritius ATC may reach saturation by 2025.
- ▶ As all the ATS Routes start or end at PLS VOR and several routes (P627, L774 and N633) in the oceanic region were not laterally separated with the implementation of RNP10.
- ▶ Arrivals and Departures were managed with basic RNAV SIDs and STARs.
- ▶ In 2018 Mauritius embarked in a project to upgrade its Airspace completely in order to create a safer, more performant and eco-friendly Airspace and to be in line with ICAO ASBU Plan.
 - ▶ RNP 4 unidirectional routes within Mauritius Oceanic Airspace
 - ▶ RNP 1 SIDs and STARs within Mauritius TMA and
 - ▶ CCOs and CDOs.

Mauritius Airspace current

As Traffic flow started to increase, controllers were finding it very difficult to clear aircraft at its optimum level. On several occasion aircraft had to maintain a lower or higher level for more than two hours.



What were the Challenges Mauritius had to face to Implement FRA?

- The Airspace restructure Project got delayed due COVID19 and will now be implemented by November 2022.
- In this context it was a challenge to implement FRA within our Airspace.
 - Where to implement FRA without creating additional pressure on ATC?
 - How to implement FRA as there was no African publication experience available?
 - ATC is provided using Procedural control with a TOPSKY monitoring system.
- After consultation within our ATS team and an SRA was conducted. We concluded that in a first instance, it will **not** be safe to implement FRA within the upper part of our airspace that is between 06 ° S and 25° South

What were the Challenges Mauritius had to face to Implement FRA? (cont.)

- It was decided to implement FRA between 25° and 45° South as both of our neighbours South Africa and Australia use flex tracking within in their FIR.
- An AIP supplement was drafted, and we need to thank the AFI FRA PMT group for supporting us in this task.
- Provisions were made for UPR users to still be able to fly within our FIR.
- In order to have a continuous means of communication and surveillance, all aircraft must be CPDLC and ADS-C equipped. However, provision was also made for non-equipped aircraft to fly within the FRA.
- Our neighbours were informed of our intention to implement FRA.
- On 12 August 2021 FRA was implemented via an AIP Supplement S004/21

Mauritius FRA

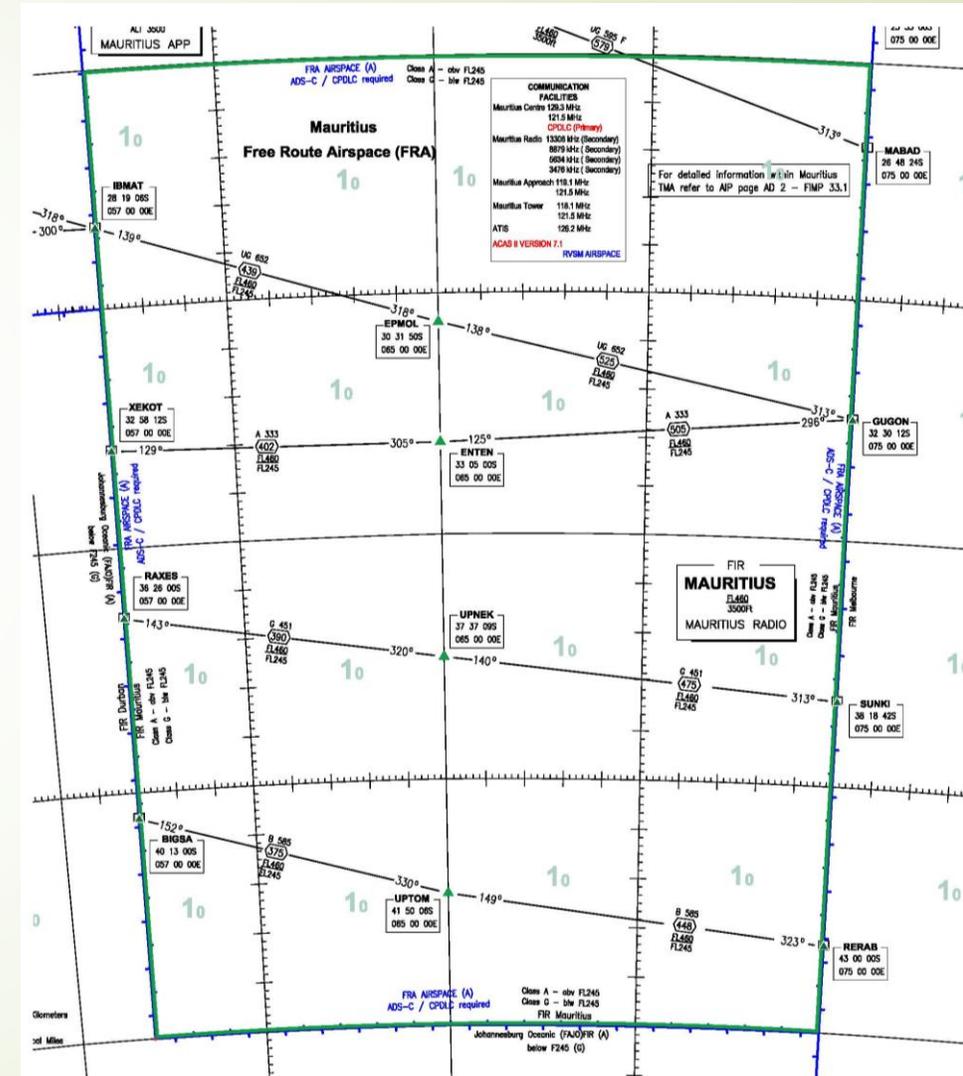
Free Route Airspace (FRA)

After an SRA, Mauritius implemented FRA in its airspace south of Lat 25° S.

[Enroute Chart ENR 6 -1 02062021-Layout7.pdf](#)

[Actual Enroute Chart ENR 6 - 1 with FRA Model \(1\).pdf](#)

[Airac Supplement FRA 03062021.docx](#)



Statistics

Data Collection since August 2021 to May 2022

OVF Eastbound from Aug to Dec 2021: 2

OVF Eastbound : 40

OVF Westbound : 45

Total number : 87

Airline operating on this route: Qantas

Type of ACFT:

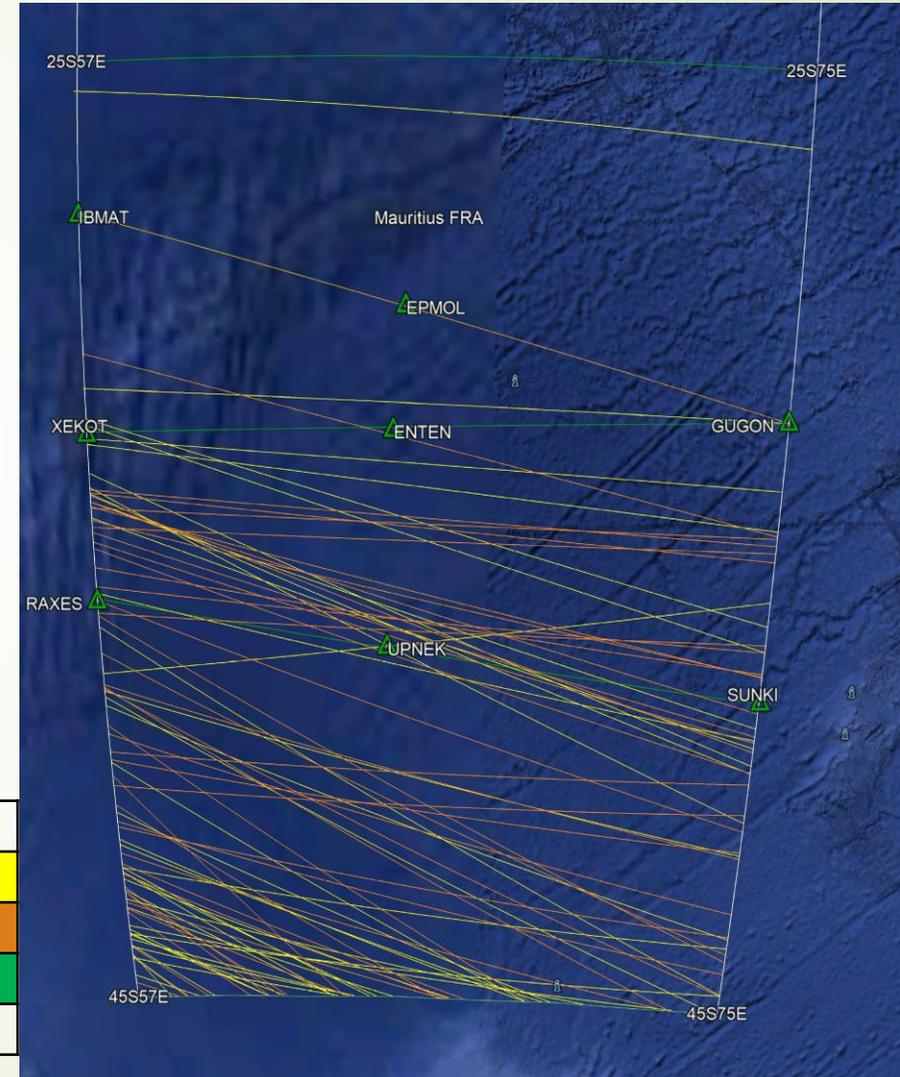
B889: 83 Sked

A343: 1 Sked

GLEX: 3 Non-Sked

All flights filed Direct Routing (DRO) FPLs

LEGEND	
EASTBOUND	
WESTBOUND	
FRA	
FRA Wpts	



Mauritius FRA

Summary

- FRA was implemented 12th August 2021 South of 25°S in a first instance.
- It was an enriched experience for ATC, though we did not have much traffic due to COVID 19.
- It gave our Controllers confidence and assurance to control DROs in the Mauritian Airspace.
- We are looking forward to extend FRA in our whole FIR by 2025 following our Airspace restructure implementation by the end of this year.



Implementation of FRA



Thank you