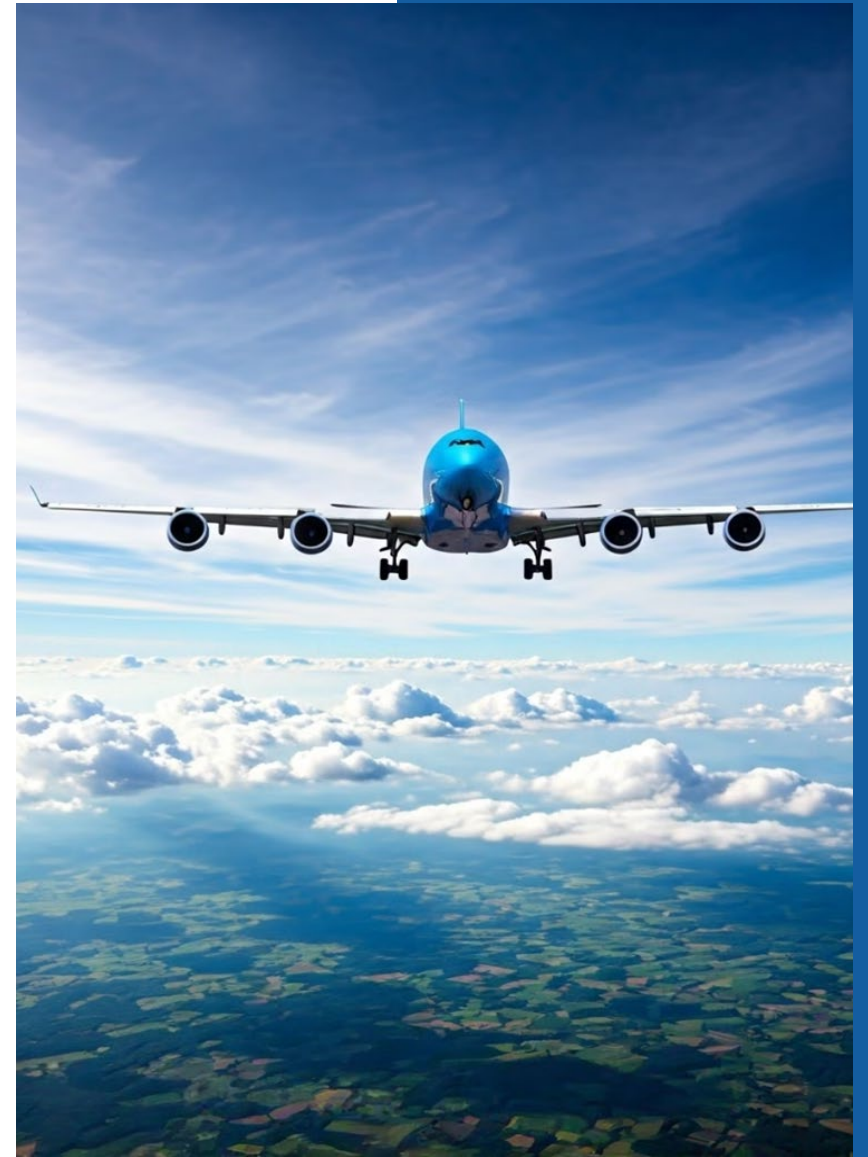


State of Qatar **Free Route Airspace (FRA)** Implementation



Presentation Outline

- Introduction to FRA
- Implementation in Doha FIR
- Benefits for Doha FIR
- Challenges
- Solutions and Future Plans
- Conclusion



Introduction to FRA

- The Free Route Airspace (FRA) is a specified airspace within which users may freely plan a route between a defined entry and exit point without reference to the ATS route network.
- FRA enables users to fly as close as possible to what they consider the optimal trajectory without the restrictions of a fixed route network structure.

Benefits of Free Route Airspace

Increased Efficiency



Aircraft can take more direct routes between destinations, which reduces flight times and provides fuel saving.

Reduced Congestion



By allowing flexible routing, FRA can alleviate congestion on busy airways and improve overall airspace management.

Environmental Benefits



Shorter, more efficient routes lead to lower carbon emissions and reduced environmental impact.

Improved Flexibility



Pilots have more options to optimize their flight paths based on weather conditions, air traffic, and other factors.

Enhanced Capacity

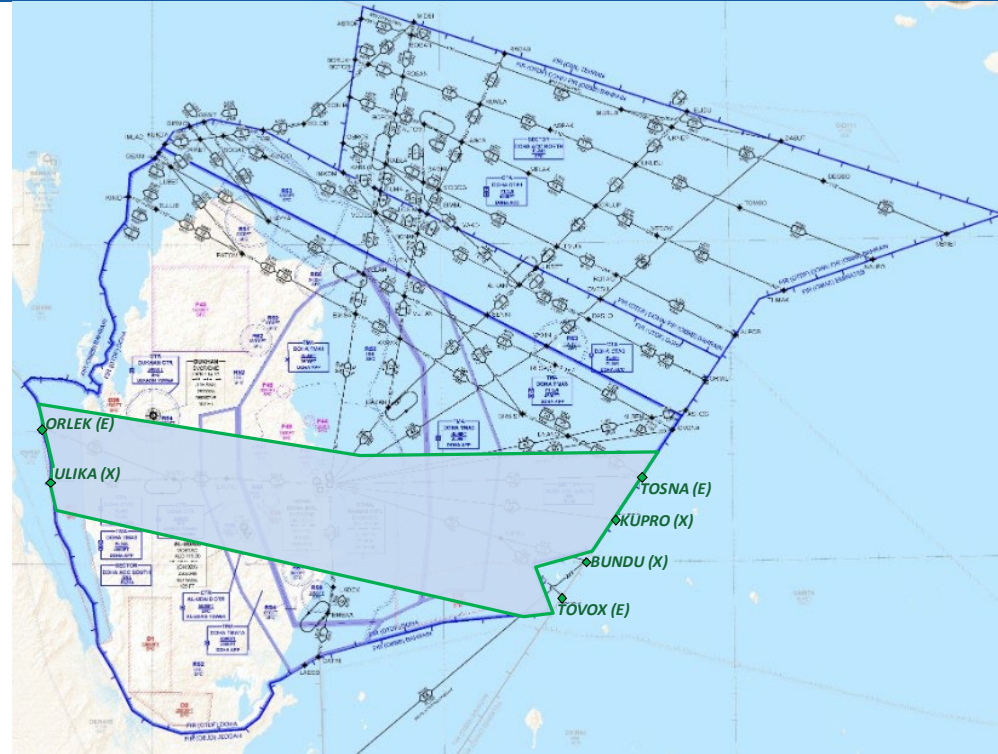


FRA can help maximize airspace capacity and efficiency by reducing the need for aircraft to follow predefined airways.



FRA Implementation in Doha FIR

- With the aim of enhancing Air Navigation Service Provision and optimizing efficiency for Airspace Users, FRA has been implemented in QATAR Airspace on 25th of January 2024.
- The volume defined by green-colored boundaries



Implementation in Doha FIR

➤ FRA was established on 25 JAN 2024

⇒ Lateral Limits

253058.3335N 0503549.3639E 252112.8230N 0514240.1259E
 252113.1340N 0524503.9013E 250224.0000N 0523054.0000E
 245959.0000N 0521837.0000E 245046.0000N 0522215.0000E
 245018.7039N 0521618.5448E 251025.8134N 0503944.0825E
 then follow the limit of Doha FIR boundary to 253058.3335N
 0503549.3639E

⇒ Vertical Limits

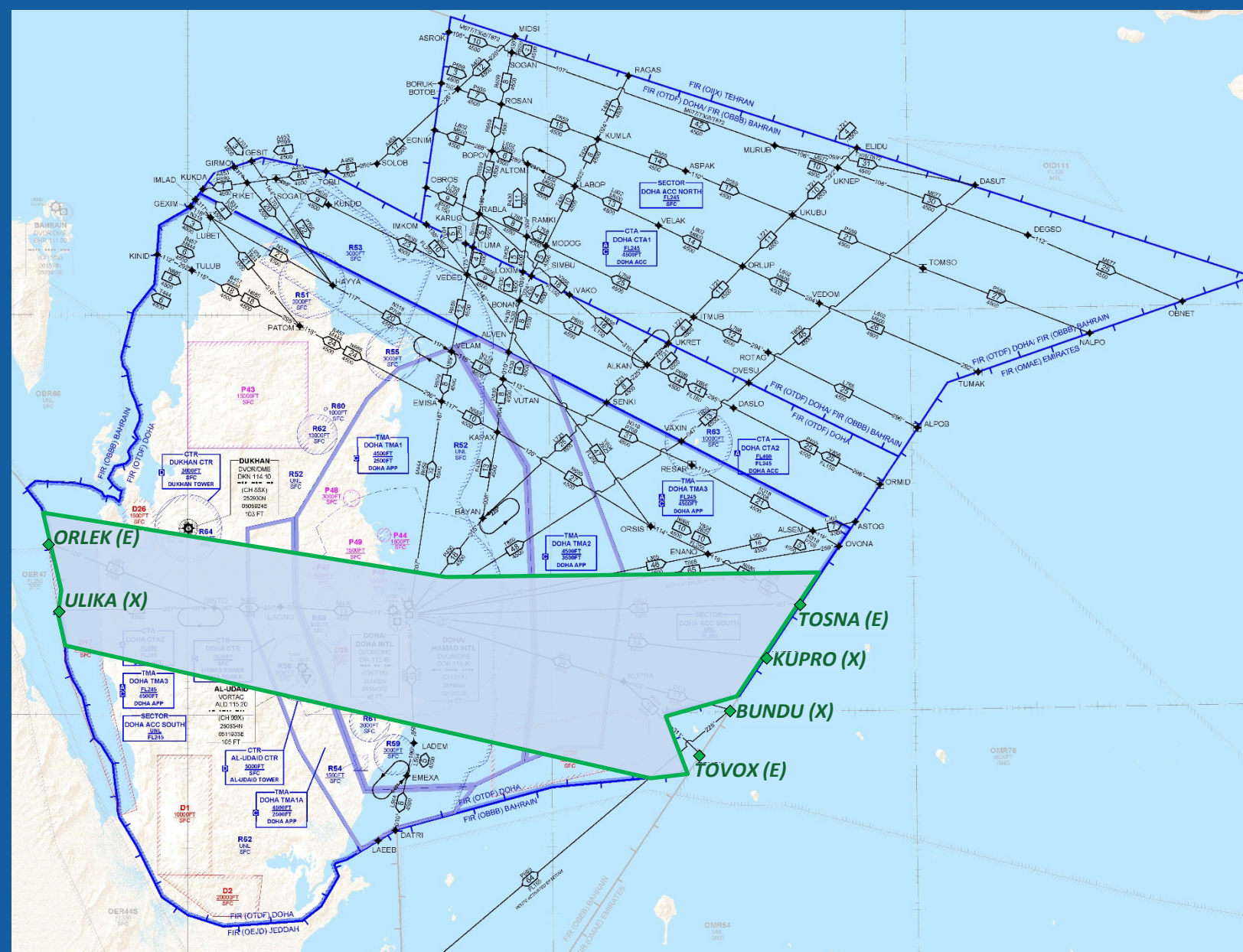
Upper Limit: FL460
 Lower Limit: FL275

⇒ Class of Airspace

Class A

➤ Unit Providing Service

Primary : 132.975 MHz
 Secondary: 136.475 MHz



Benefits for Doha FIR



Better traffic management

Helps enhancing airspace design and ATM operational concepts by offloading busy routes.



Reduced Flight Times/Increase Fuel Efficiency

Aircraft can fly direct routes, saving time and fuel.



Environmental Benefits

Lower emissions due to reduced fuel consumption.



FRA ASBU Elements have been met in Qatar Airspace

FRTO-B0/1 Direct routing (DCT)

FRTO-B0/2 Airspace planning and Flexible Use of Airspace (FUA)

FRTO-B0/3 Pre-validated and coordinated ATS routes to support flight and flow

FRTO-B0/4 Basic conflict detection and conformance monitoring

FRTO-B1/1 Free Route Airspace (FRA)

FRTO-B1/2 Required Navigation Performance (RNP) routes

FRTO-B1/3 Advanced Flexible Use of Airspace (FUA) and management of real time airspace data

FRTO-B1/4 Dynamic sectorization

FRTO-B1/5 Enhanced Conflict Detection Tools and Conformance Monitoring

FRTO-B1/6 Multi-Sector Planning

FRTO-B1/7 Trajectory Options Set (TOS)

FRTO-B2/1 Local components of integrated ATFM and ATC Planning function (INAP)

FRTO-B2/2 Local components of Dynamic Airspace Configurations (DAC)

FRTO-B2/3 Large Scale Cross Border Free Route Airspace (FRA)

FRTO-B2/4 Enhanced Conflict Resolution Tools



Challenges

- Ensuring smooth transitions between different airspace types.
- Managing military-restricted areas
- Coordination with various stakeholders and adjacent FIRs.

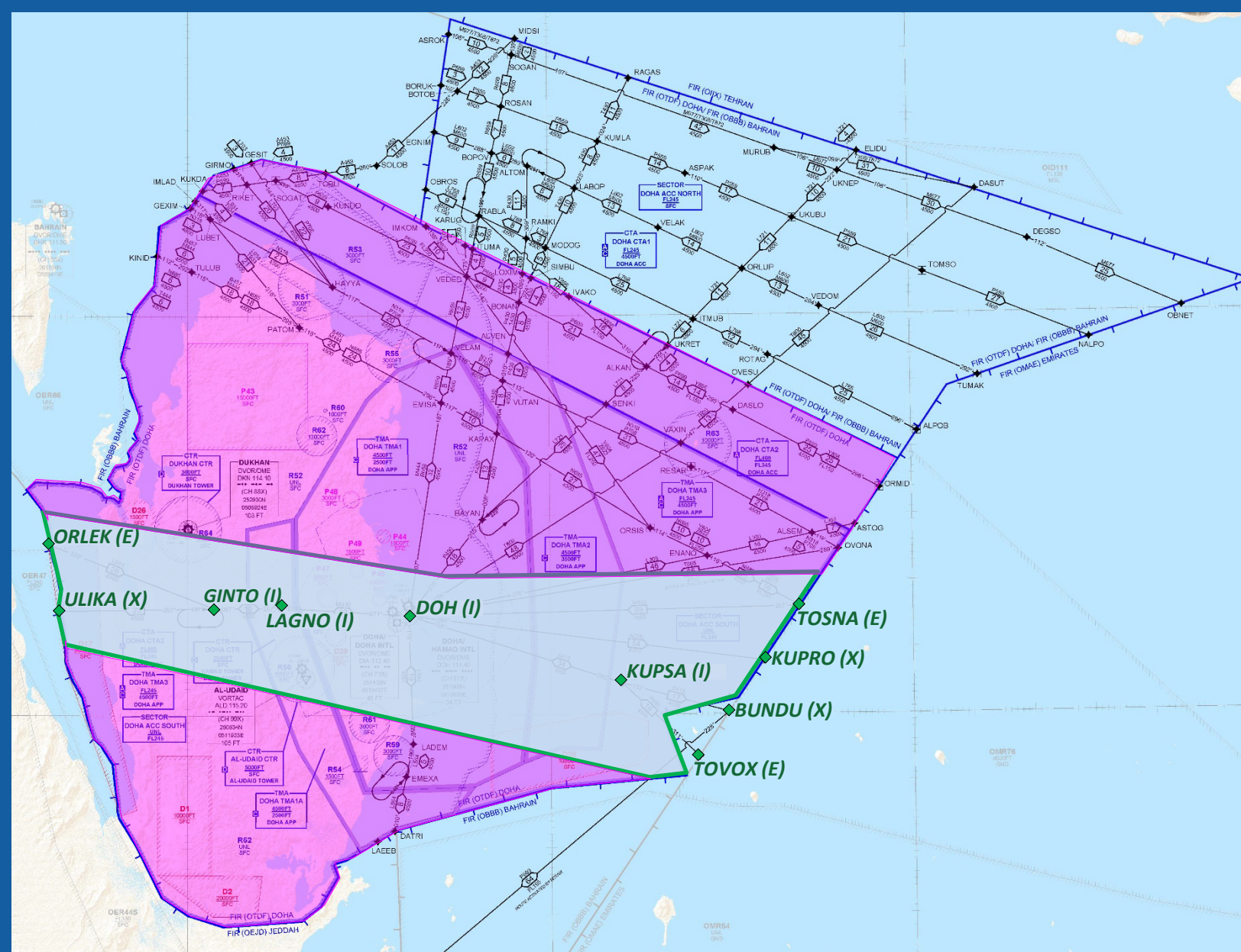
Solutions and Future Plans

- **Procedures**
 - Enhance the existing procedures
 - Enhancing the limit of the Free Route Airspace
- **Technology Advancement**
 - Acquisition of more advanced navigation systems, communication technologies, and air traffic management tools.
- **Coordination**
 - Improving coordination



FRA Upcoming Development Doha FIR

- Free Route Airspace does not only provide defined entry and an exit point, but also with the possibility to route traffic via intermediate waypoints which will provide more flexibility to airspace users.
- Introduction of intermediate points will be effective on 30th of October.
- The new lateral limits of Free Route Airspace will be extended to the north side and to the south border along the FIR in terms of providing connectivity with our adjacent Units.



Conclusion

- Qatar ANSP's ongoing efforts target to improve and enhance global aviation sector.
- This enhanced efficiency translates into reduced delays, improved punctuality, and better utilization of airspace capacity.



FREE ROUTE AIRSPACE

As a conclusion, with upcoming improvements and projects, together we look forward to a future, filled with more achievements to provide the best service.

THANK YOU!

Mohammed Al Asmakh

