

# MIDANPIRG PBN SG/2 Meeting

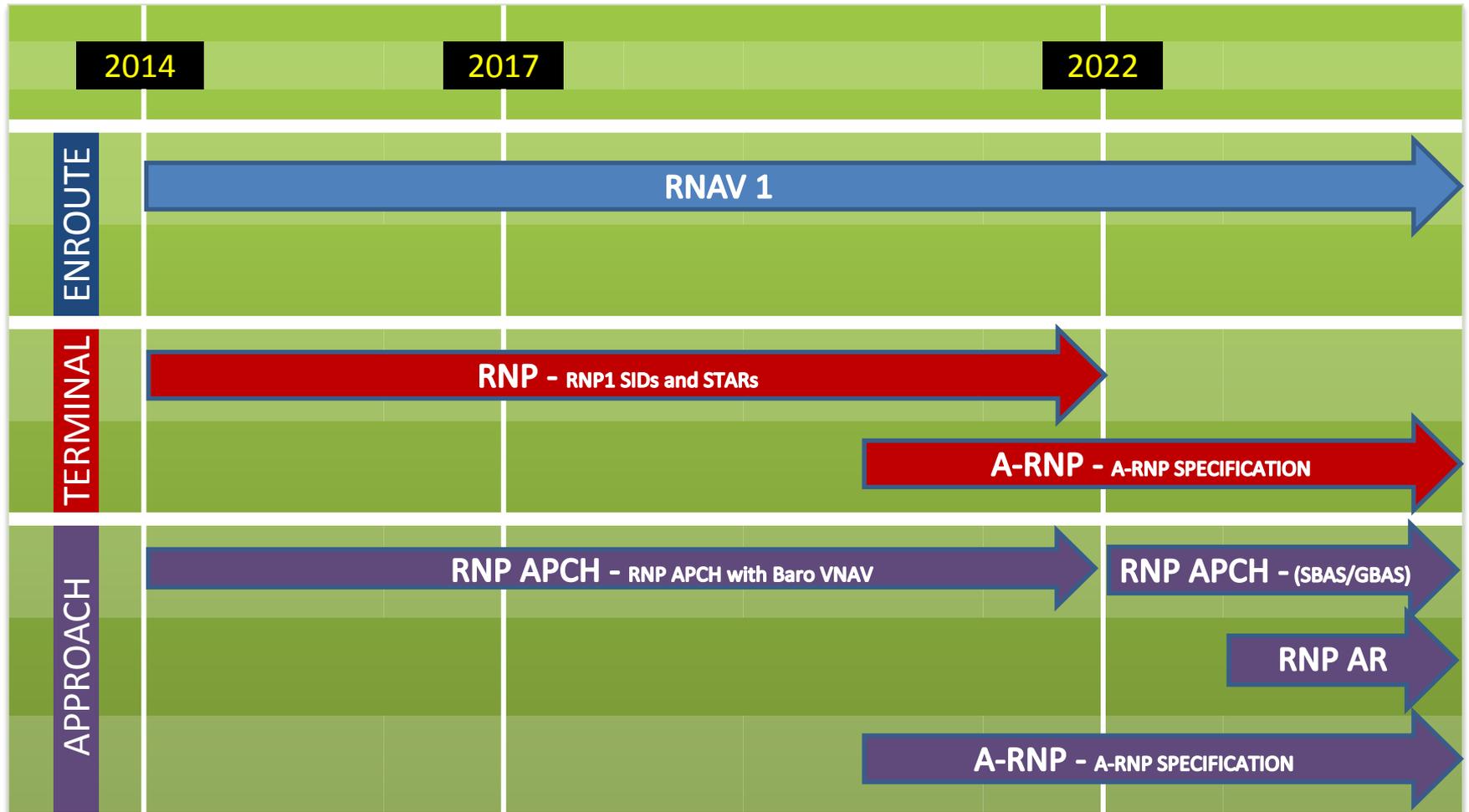
*Sharm El Sheikh, 22-25 February 2016*

*State of Qatar  
Presented by  
AHMED AL-ESHAQ*

# PRESENTATION OUTLINE

- **Brief of the State of Qatar's PBN Implementation Plan**
- **Status of Implementation**
- **Lessons Learned**
- **Challenges**
- **Thoughts/Recommendations**

# Qatar PBN Implementation Plan



# Status of Implementation

Aerodrome	RWY ENDS	ILS CAT I	ILS CAT I, II, III	LNAV	LNAV / VNAV	RNAV SID	RNAV STAR
OTBD	15	✓		✓		✓	✓
	33		✓	✓	✓	✓	✓
OTHH	16R		✓	✓	✓	✓	✓
	34R		✓	✓	✓	✓	✓
	16L		✓	✓	✓	✓	✓
	34L		✓	✓	✓	✓	✓

# Status of Implementation

## REGULATIONS AND PANS-OPS INSPECTORATE

### Regulations:

- Qatar Civil Aviation Regulation 11 (QCAR11) expected to be amended based on the upcoming amendment to Annex 11 and ICAO Manual on the Development of Regulatory Framework for Instrument Flight Procedure Design Service (IFPDS).
- This will provide the regulatory framework for state responsibility on Instrument Flight Procedure Design Service (IFPDS) which includes provisions for PBN. (*Attachment G to State letter SP 65/4-15/22* )
- Qatar Civil Aviation Regulation 6 (QCAR 6) provides the provision for operational approvals.

### Guidance Material:

- At present ICAO PANS-OPS doc 8168 VOL II and other relevant ICAO Docs have been adopted as the state flight procedure design criteria

### PANS-OPS Inspectorate

- Regulated under ANS inspectorate

# Status of Implementation

## AIRSPACE CONCEPT

- **Airspace concept is developed to satisfy strategic objectives of Safety, Capacity, Efficiency, Environment and Access.**
- **CNS/ATM enablers are used to**
  - **airspace design, operational procedures, instrument flight procedure designs to allow envisaged capacity.**
  - **Allow the airspace to support the anticipated traffic growth**
  - **Facilitate SID and STAR for DIA and HIA airports**
  - **Facilitate military and general aviation activities**

# Status of Implementation

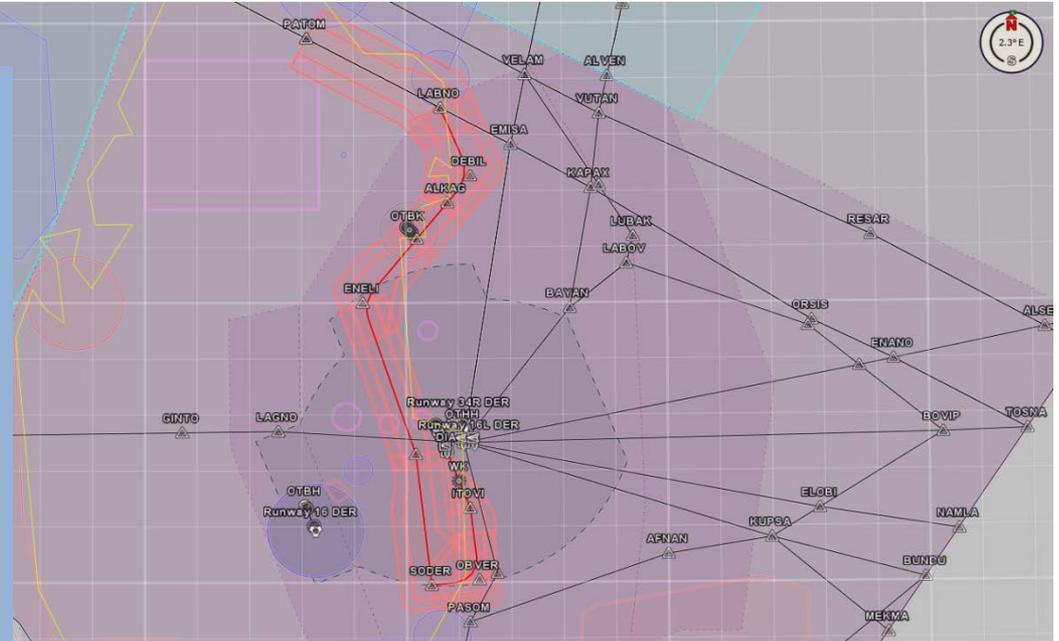
## PROCEDURE DESIGN ENTITY

- PANS-OPS unit is established under Air Navigation Department and perform the following tasks:
  - Maintenance and periodical review of all Flight Procedures.
  - Design new IAP, SIDs and STARs as required
  - Obstacle Analysis and Control to maintain the integrity of the Flight Procedures
- A total of three (3) procedure designers are in place.

# Status of Implementation

## AUTOMATED TOOLS

- Flight Procedure Design and Airspace Management (FPDAM) used for the following:
  - Obstacle Analysis
  - Design and Maintenance of Flight Procedures and Airspace Management



- Assistance of **Procedures for Air Navigation – Design and Analysis (PANDA)** for Charting Conversion – Training and system evaluation still in progress

# Status of Implementation

## Lessons Learned

- Importance of proper coordination with stakeholders (Regulator, Aircraft Operators, Aerodrome authorities, ATS units, Flight Procedure Designers, Airspace Planners etc.) for successful PBN solutions.
- Requirement of a PBN Roadmap setting outlining the goals with target timelines.
- Importance of detailed planning by keeping the PBN Roadmap as the basic outline in detailed planning has to be done describing timely outputs and stakeholders.
- Importance of continuous review of PBN implementation goals and rectifying issues for uninterrupted process.
- Quality assurance on all aspects ensures safety.
- Post implementation reviews to monitor project objectives and if there are deviations, mitigation strategies to be planned to reach the goals.

# Status of Implementation

## Challenges

- Limited Airspace of Qatar
- Military coordination
- Constraints due to airspace restrictions and military activities
- Catering different stakeholder interests
- Lack of regulatory framework and guidance material to implement on approval process
- Shortage of PANS-OPS, Airspace Planners and OPS-approval experts
- Awareness of some stakeholders on the advantages of PBN and its optimal use.

# Thoughts / Recommendations

- ICAO guidance and expertise assistance to improve the quality of the State's regulatory process in implementing PBN
- Share experiences with other neighboring States on how they handle PBN plans and how they overcome its constraints for the implementation
- Harmonized cooperation between neighboring States with regards to airspace management
- Harmonized cooperation and mutual agreements between stakeholders (civil and military) for the smooth implementation of PBN and its future plans to cope up with the international standards and current updates
- Develop training programmes for PBN implementation process
- Organize workshops and seminars on PBN updates and trends

## AIR NAVIGATION DEPARTMENT, QCAA

*Thank You*

