

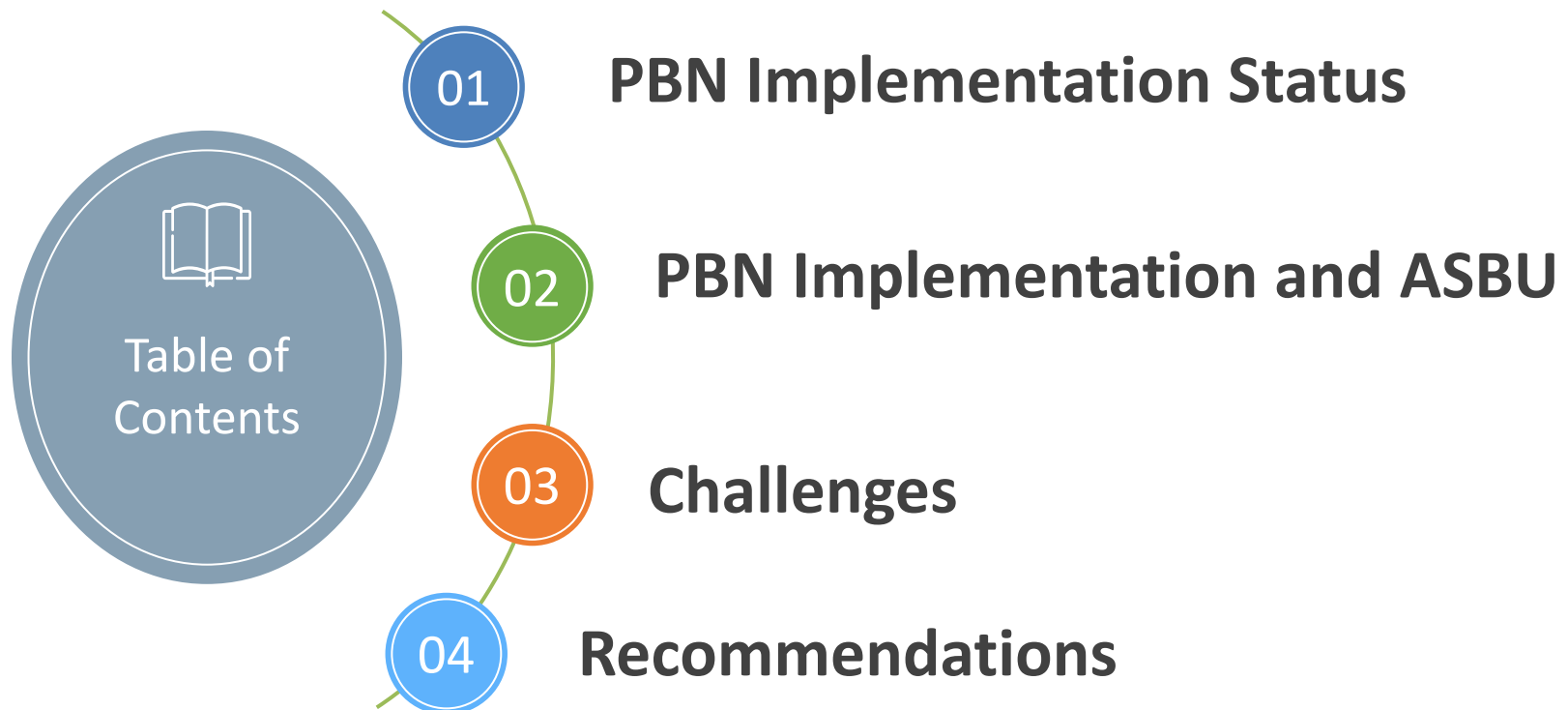


Seventh Meeting of the Performance Based Navigation Sub-Group

PBN SG/7 (05 – 06 December 2022)

Arab Republic of EGYPT





National Plan & Implementation Targets

Airspace	Short term (up to Dec 2024)		Medium term 2025-2030	
	Navigation Specification Preferred	Target	Navigation Specification Acceptable	Target
TMA - Arrival	RNAV 1 (surveillance environment) or RNP 1 (non-surveillance environment)	100% by Q4-2024 for STARs at International aerodrome	RNAV 1 or RNP 1	TBD
TMA – Departure	RNAV 1 (surveillance environment) or RNP 1 (non-surveillance environment)	100% by Q4-2024 for SIDs at International aerodrome	RNAV 1 or RNP 1	TBD
Approach	RNP APCH to LNAV/VNAV and LNAV minima only, as requires	100% by Q4 2024 for all instrument RWY Ends at International aerodrome	RNP APCH to LNAV/VNAV and LNAV minima only	TBD
CCO and CDO (Basic)	W/A	100% by Q4 2024 for HESH	W/A	TBD

Status of Implementation

HECA — CAIRO INTERNATIONAL

RWY Ends	LNAV	LNAV/ VNAV	LPV	RNP AR	RNAV SID	RNAV STAR
05L	Y	X			X	X
05C	Y	X			X	X
05R	Y	X			X	X
23L	Y	X			X	X
23C	Y	X			X	X
23R	Y	X			X	X

Status of Implementation

HEGN — HURGHADA INTERNATIONAL

RWY Ends	LNAV	LNAV/ VNAV	LPV	RNP AR	RNAV SID	RNAV STAR
16L	Y	Y			IN PROGRESS	IN PROGRESS
16R	Y	Y			IN PROGRESS	IN PROGRESS
34L	Y	Y			Y	Y
34R	Y	Y			Y	Y

Status of Implementation

HELX — LUXOR INTERNATIONAL

RWY Ends	LNAV	LNAV/ VNAV	LPV	RNP AR	RNAV SID	RNAV STAR
02	Y	Y			Y	Y
20	Y	Y			Y	Y

Status of Implementation

HESN — ASWAN INTERNATIONAL

RWY Ends	LNAV	LNAV/ VNAV	LPV	RNP AR	RNAV SID	RNAV STAR
17	Y	Y			Y	Y
35	Y	Y			Y	Y

Status of Implementation

HEMA — MARSALA INTERNATIONAL

RWY Ends	LNAV	LNAV/ VNAV	LPV	RNP AR	RNAV SID	RNAV STAR
15	Y	X			Y	Y
33	Y	X			Y	Y

Status of Implementation

HEBA — BORG EL ARAB INTERNATIONAL

RWY Ends	LNAV	LNAV/ VNAV	LPV	RNP AR	RNAV SID	RNAV STAR
14R	Y	X			X	X
32L	Y	X			X	X
14	X	X			X	X
32	Y	X			Y	X

Status of Implementation

HESH — SHARM EL SHEIKH INTERNATIONAL

RWY Ends	LNAV	LNAV/ VNAV	LPV	RNP AR	RNAV SID	RNAV STAR
04L	Y	Y			Y	Y
04R	Y	Y			Y	Y
22L	Y	Y			Y	Y
22R	Y	Y			Y	Y

Status of Implementation

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

- Started a first airspace CDM (mainly between EgyptAir and NANSC) to implement a basic CDO and CDO.
- New SID/STAR introduced to HESH with considering basic CCO and CDO
 - ✓ RWYs 04L and 04R effective date 26/1/2023.
 - ✓ RWY 22R, 22L will be completed by the end of 2023.

Status of PBN Charting Depiction

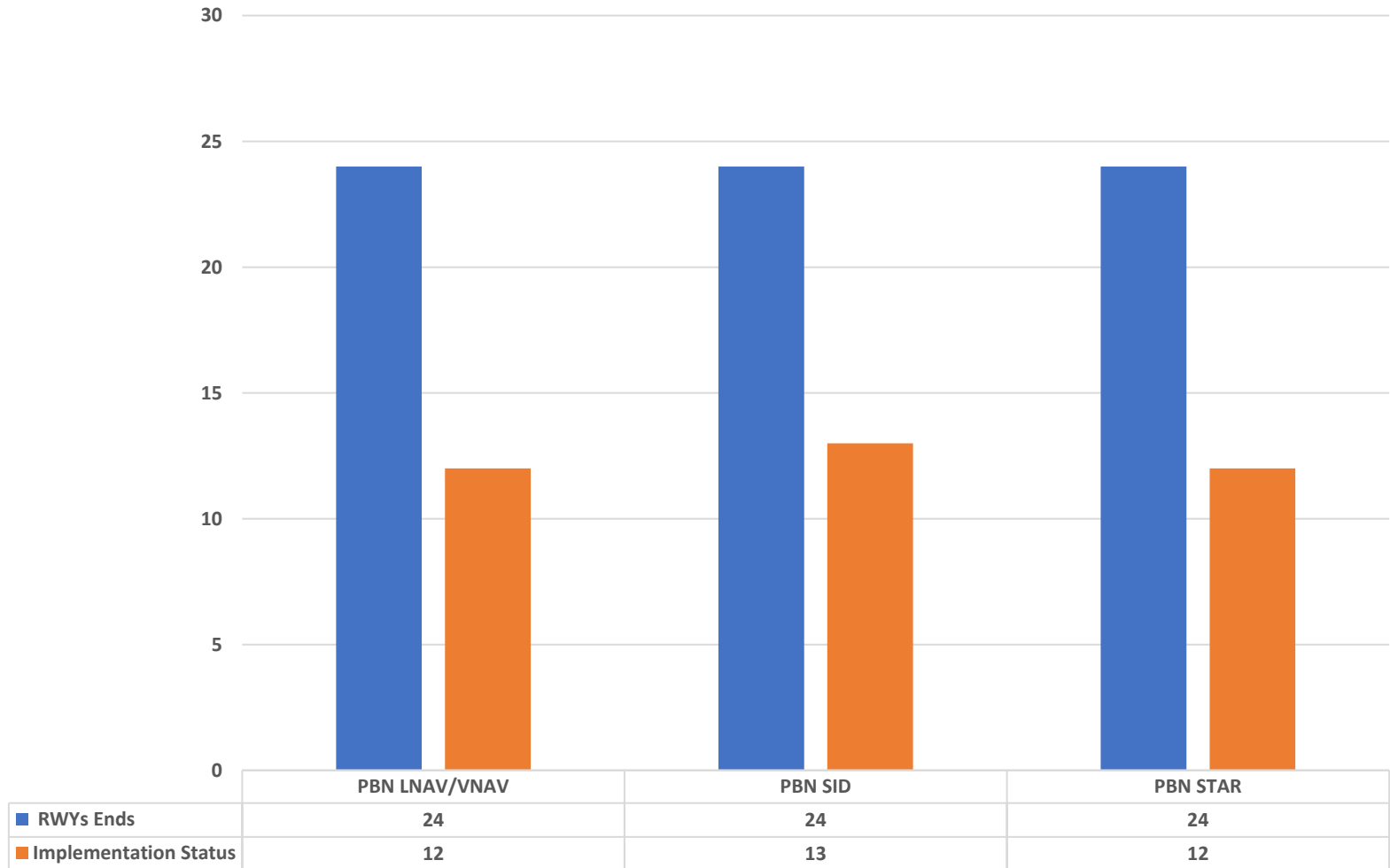
Rename RNAV (GNSS) Approaches to RNP

Total number PBN APCHs	Number of Final PBN Charting implemented	% of PBN APCHs using new name
23	23	100%

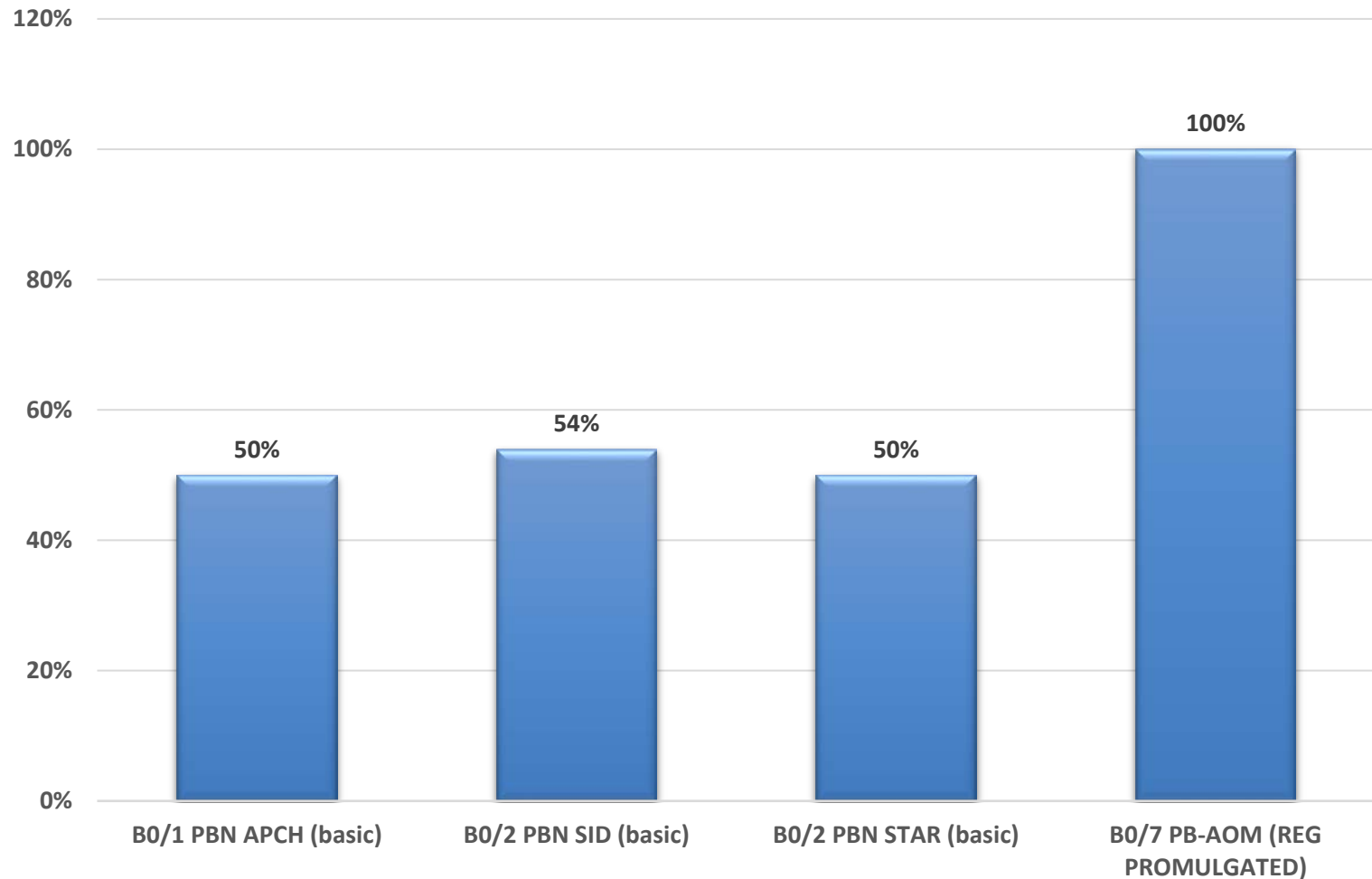
Implementation status of the APTA priority 1 Elements

APTA: Improve arrival and departure operations (B0 & 1)			
Elements	Applicability	Status	Targets/Timeline
APTA B0/1 PBN Approaches (with basic capabilities)	All RWYs ENDS at International Aerodromes HECA, HESN, HESH, HEMA, HEGN, HELX, HEBA (24 RWYs Ends)	50% of RWY Ends (12 THR) provided with Baro-VNAV APP Procedure (LNAV/VNA)	100% by 2024
APTA B0/2 PBN SID and STAR procedures (with basic capabilities)	All RWYs ENDS at International Aerodromes HECA, HESN, HESH, HEMA, HEGN, HELX, HEBA (24 RWYs Ends)	54% of RWY Ends (13 THR) provided with PBN SID & 50% of RWY Ends (12 THR) provided with PBN STAR	100% by 2024
APTA B0/7 Performance based aerodrome operating minima – Advanced aircraft	State authorizing PB-AOM for Air operators operating Advanced aircraft.	Completed <i>Reference ECAR Part 91, article 91.146 & part 121, article 121.578 (AD operating minima)</i>	

Implementation status of the APTA priority 1 Elements



PBN implementation status by ASBU APTA element



Challenges

- Training of personnel employed by the CAA, ANSP and aircraft operators.
 - Lack of airspace and procedure design training: initial, OJT, and/or recurrent.
- Airspace complexity.
- GNSS signal vulnerability.
- Level of civil/military cooperation.
- Shortage of PANS-OPS, Airspace Planners and OPS-approval experts.

Recommendations

- Involvement of stakeholders to reach mutual agreements for the effective implementation of PBN.
- Organize workshops and seminars on PBN at national level, in order to support PBN implementation according to international standards and current development.
- Enhance harmonization between adjacent FIRs to promote the sharing of good practices and to improve and speed up the implementation of PBN.



THANK YOU

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