Third Meeting of the Air Navigation System Implementation Group (ANSIG/3)

Cairo, Egypt, 3-5 July 2018

Saudi Arabia

Outline

- High Level Plan
- Overall Progress in ASBU Implementation (Priority 1)
- Success Story(ies)/Initiatives
- Lessons Learned
- Challenges
- Outlook 2020

Attachment A: Status of ASBU Implementation

High Level Plan

3 Major project are running

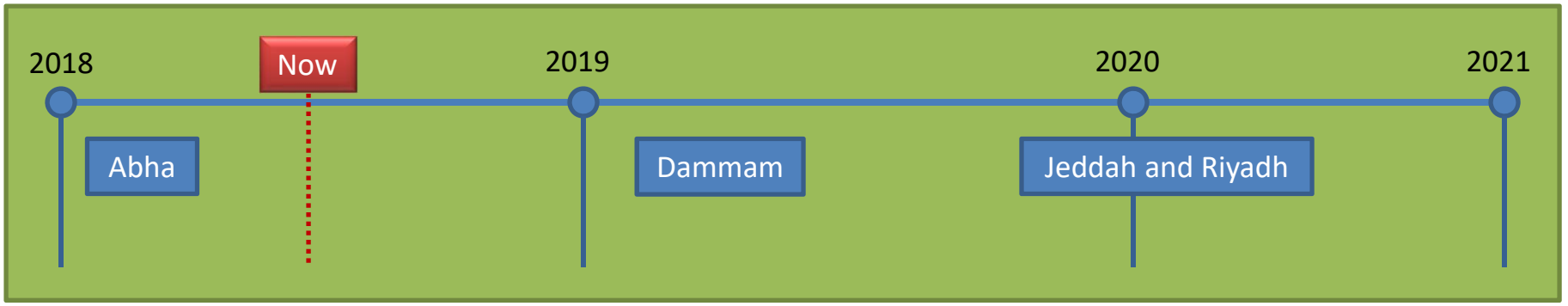
ATM System	VCS	SFAC

- Supports the provision of air navigation services
- Latest technologies
- According to ICAO GANP (ASBU)
- In line with ICAO MID plan
- Harmonized with Adjacent FIRs
- Useful for users

High Level Plan

ATM System	VCS	SFAC

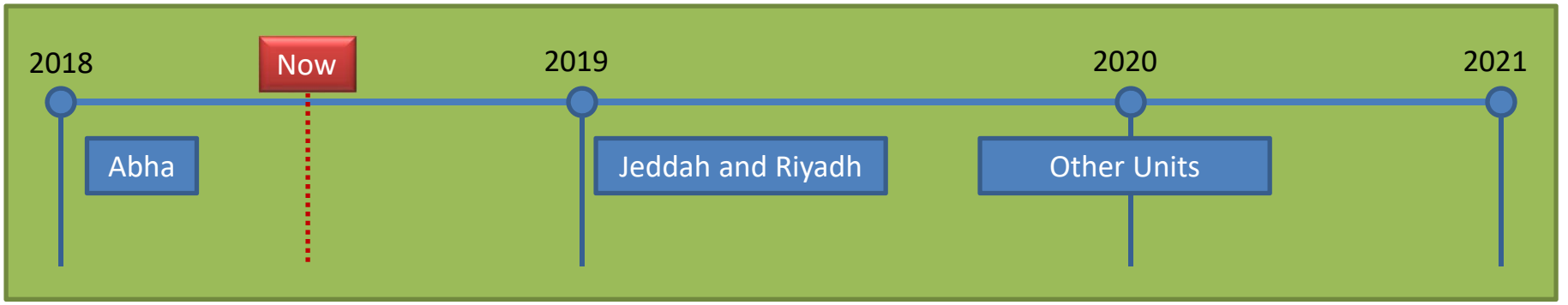
ASBU (0,1)



- 4D Trajectory
- OLDI
- Full Traffic Data
- MTCA

High Level Plan

ATM System	VCS	SFAC

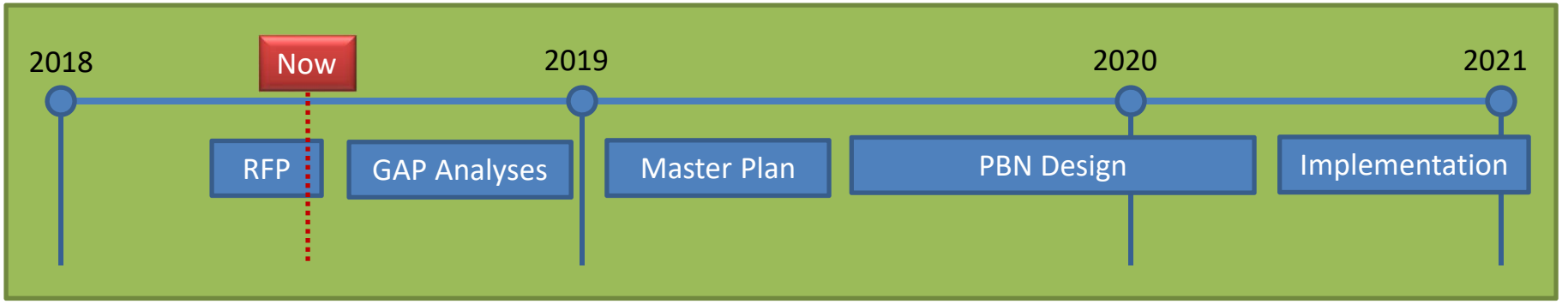


- synchronized with ATM Sys
- IP

High Level Plan

ATM System	VCS	SFAC

ASBU (0,1,2,3)



- 15 Y (3 RP)
- CNS|ATM plan
- MTCA

Status of ASBU Implementation

B0 – APTA: Optimization of Approach Procedures including vertical guidance

	Status
LNAV approaches	Madinah (END 2019) KFIA (END 2019)
LNAV/VNAV approaches	KAIA ongoing (END 2019) KKIA ongoing (END 2019)
Precision approaches	• OEDF: 4 ILS approaches at 4 RWY • OEJN: 6 ILS approaches at 6 RWY • OERK: 4 ILS approaches at 4 RWY • OEMA: 3 ILS approaches in 4 RWY

B0 – SURF: Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)

	Status
A-SMGCS	A-SMGCS L 2 is available in OEDF to be operational end 2018 A-SMGCS L 2 is in progress for OEJN & OERK

Status of ASBU Implementation

B0 – DATM: Service Improvement through Digital Aeronautical Information Management

	Status
National AIM implementation Plan	Implemented
AIXM based AIS database	AIXM 4.5 database is installed since 2008 AIXM 5.1 is planned by the end of 2019
eAIP	Implemented
WGS-84	Implemented
eTOD	Area 1& 4 completed Area 2, area 3 and AMDB for international airports
Digital NOTAM	Planned end of 2020 as trail
Aeronautical data quality	Implemented
Data Exchange	In progress

B0 – MET: Meteorological information supporting enhanced operational efficiency & safety

	Remarks
ACC	completed
Aerodrome	completed

Status of ASBU Implementation

B0 – FICE: Increased Interoperability, Efficiency and Capacity through G-G Integration

	status
AIDC	It is operational between Jeddah, Riyadh and Dammam Full capability with New ATM System 2020
OLDI	Still working with Cairo Full capability with New ATM System 2020
AMHS/ international Interconnection	Connected to 80% such as Cairo-Amman-Abu Dhabi-Khartoum .... To be fully connected by the end of 2019

B0 – FRTO: Improved Operations through Enhanced En-Route Trajectories

	status
FUA	CDRs, Preferred Route implemented, HL Civil/Military Coordination Ongoing (SFAC 2020)
PBN	100% RNAV5 completed, Full PBN (SFAC 2020) RNAV 1

Status of ASBU Implementation

B0 – CDO: Improved Flexibility and Efficiency in Descent Profiles (CDO)

	Status
International aerodromes/TMAs with CDO	TMAs (OEJN, OEMA, OERK) by the end of 2019 and (OEDF) 2020
PBN STARs	OEMA: COMPLETED TMAs(OEJN, OERK) by the end of 2019 and (OEDF) 2020

B0 – CCO: Improved Flexibility and Efficiency in Departure Profiles

	Status
International aerodromes/TMAs with CCO	TMAs (OEJN, OEMA, OERK) by the end of 2019 and (OEDF) 2020
PBN SIDs	OEMA: COMPLETED TMAs(OEJN, OERK) by the end of 2019 and (OEDF) 2020

On going/Planned Activates

✓ 2018 - 2019:

- Certification of Saudi Air Navigation Services (SANS) by General Authority of Civil Aviation (GACA) based on GACA Regulations
- Update National PBN Plan
- Obstacle Survey and eTOD
- Design and publish New PBN IFPs for international airports including LNAV/VNAV

✓ 2019 - 2020:

- Redesign new conventional and PBN IFPs based on ICAO / PANS – OPS for 18 airports
- Rename RNAV (GNSS) Approaches
- Training (Designer, chief designer, ATCO, AIM)

Success Story(ies)/Initiatives

- **Maestro (Jeddah TMA)**
- **Soft open of the new TWR in OEJN**
- **NEOM Airport (OENN)**

Lessons Learned

RA via Mode S enhancement tools

Airborne Collision Avoidance System (ACAS) Manual Doc 9863

3.22 ADDITIONAL FUNCTIONALITY

3.22.1 ACAS has the capability to communicate with the ground-based air traffic control system via Mode S when the necessary complementary features have been installed. ACAS can provide the ground system with the RAs that are displayed to the pilot. These RAs may be displayed to the air traffic controller if the technical and operational requirements defined by the user have been fulfilled. Evaluations in several States have resulted in decisions not to display RA information to the air traffic controller. Nevertheless, other States and organizations are currently investigating new approaches to the display of RA information to controllers.

Challenges

Air Traffic Flow Management

Civil Military Cooperation

Outlook 2020

Module	Module Title	Status by 2020				Remarks
		FI	PI	NI	N/A	
B0-APTA	Optimization of Approach Procedures including vertical guidance	*				
B0-WAKE	Increased Runway Throughput through Optimized Wake Turbulence Separation				*	
B0-RSEQ	Improve Traffic flow through Runway Sequencing (AMAN/DMAN)	*				
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)		*			*L1 Dammam 2018* *L1 Jeddah and Riyadh are in progress*
B0-ACDM	Improved Airport Operations through Airport-CDM			*		*Coordination are in progress with airports and other stakeholders*
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration	*				*Current: AIDC* *New ATM System: OLDI & AIDC*

Outlook 2020

Module	Module Title	Status by 2020				Remarks
		FI	PI	NI	N/A	
B0-DATM	Service Improvement through Digital Aeronautical Information Management	*				
B0-AMET	Meteorological information supporting enhanced operational efficiency and safety	*				
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	*				
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view	*				*National Wide ATFM system*
B0-ASUR	Initial capability for ground surveillance	*				
B0-ASEP	Air Traffic Situational Awareness (ATSA)	*				

Outlook 2020

Module	Module Title	Status by 2020				Remarks
		FI	PI	NI	N/A	
B0-OPFL	Improved access to optimum flight levels through climb/descent procedures using ADS-B			*		*Under CBA*
B0-ACAS	ACAS Improvements	*				
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets	*				
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)	*				
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route	*				*CPDLC*
B0-CCO	Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)	*				

Thank you