AIM in support of ATM

Abbas NIKNEJAD
Regional Officer, AIM/ATM

ATM SG/3
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Role of AIS

ATM	**AIS**
• The dynamic, integrated management of air traffic and airspace. • Enabling flight operations.	• Provide information/data necessary to support international air navigation: – Static information products (AIP, Charts, AIC) – NOTAM, SNOWTAM, etc. – Brief pilots (PIB) – etc.

Global ATM Operational Concept

Global ATM Vision

Provide "a holistic, cooperative and **collaborative decision-making environment**, where the diverging expectations and interests of all members of the ATM community are balanced to achieve equity and access.

Information Management

provides accredited, **quality-assured** and **timely digital** information used to support ATM operations.

AIM in support of ATM

ATM

- The dynamic, integrated management of air traffic and airspace.
- Enabling flight operations.

AIM

- Digital information exchange
- Interoperability
- Ensure quality
- Integrate data
- Provide decision information support

How?
AIS to AIM towards SWIM

- *Aeronautical information service (AIS).* A service established within the defined area of coverage responsible for the provision of aeronautical data and aeronautical information necessary for the safety, regularity and efficiency of air navigation.

- *Aeronautical information management (AIM).* The dynamic, integrated management of aeronautical information through the provision and exchange of quality-assured digital aeronautical data in collaboration with all parties.

- *System-Wide Information Management (SWIM).* SWIM consists of standards, infrastructure and governance enabling the management of ATM related information and its exchange between qualified parties via interoperable services.
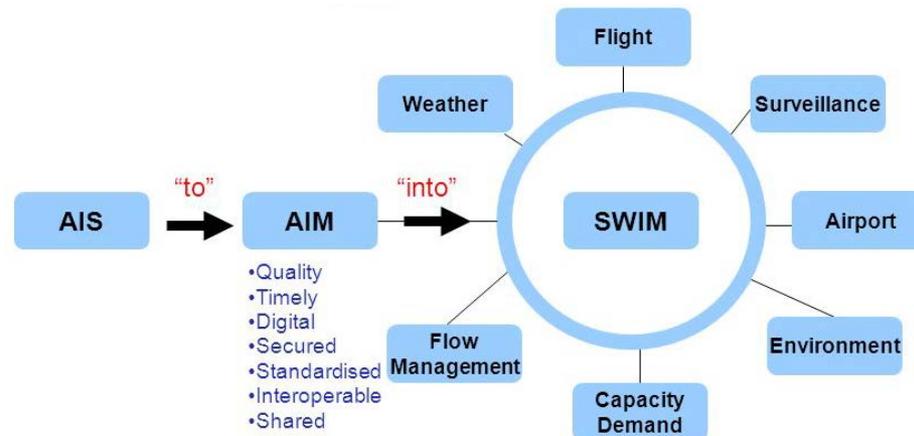
Regional AIM Planning and Implementation

	Related Steps	2016		2017		2018		2019		2020		2021		2022		Priority	Remarks
		1	2	1	2	1	2	1	2	1	2	1	2	1	2		
AIXM	P07, P08															1	Target: 80% by 2018
eAIP	P11															1	Target: 80% by 2020
Integrated Aeronautical Information Database	P06															2	
Aeronautical Data Exchange	P09															2	
Interoperability with MET	P19															3	
Aeronautical Information Briefing	P12															3	
Agreement with data originators	P18															1	
Data Quality Monitoring	P01															1	
Data Integrity Monitoring	P02															1	
Terrain A-1	P13															2	Target: 70% by 2018
Obstacle A-1	P14															2	Target: 60% by 2018
Terrain A-4	P13															2	Target: 100% by 2018
Obstacle A-4	P14															2	Target: 100% by 2018
Terrain A-2a	P13															2	
Obstacle A-2a	P14															2	
Training	P16															1	Continuous
Communication networks	P10															3	
Digital NOTAM	P21															3	
Electronic Aeronautical Charts	P20															3	
Terrain and Obstacle for Areas 2b, 2c, 2d and 3	P13, P14															3	Optional based on the States' decision to be reflected in the States' national Regulations and AIM National Plans, in accordance with operational needs
Aerodrome Mapping	P15															3	Optional based on the States' decision to be reflected in the States' national Regulations and AIM National Plans, in accordance with operational needs

White: *Planning*   **Light Green**: *Initial/On-going Implementation*   **Dark Green**: *Implemented (Performance Target achieved)*

National AIM Implementation Roadmap Template

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Obstacle A-2	P-14								Please specify implementation of Area 2a, 2b, 2c and/or 2d
Terrain A-3	P-13								
Obstacle A-3	P-14								
AD Mapping	P-15								
Phase III									
Aeronautical data exchange	P-09								
Communication networks	P-10								
Aeronautical information briefing	P-12								
Training	P-16								
Agreement with data originators	P-18								
Interoperability with meteorological products	P-19								
Electronic aeronautical charts	P-20								
Digital NOTAM	P-21								

- **12 (out of 15) States (80%) have provided their National AIM Implementation Roadmap, using the Template.**

| Legend		Not Started
		In Progress
		Implemented

B0 – DATM: Service Improvement through Digital Aeronautical Information Management

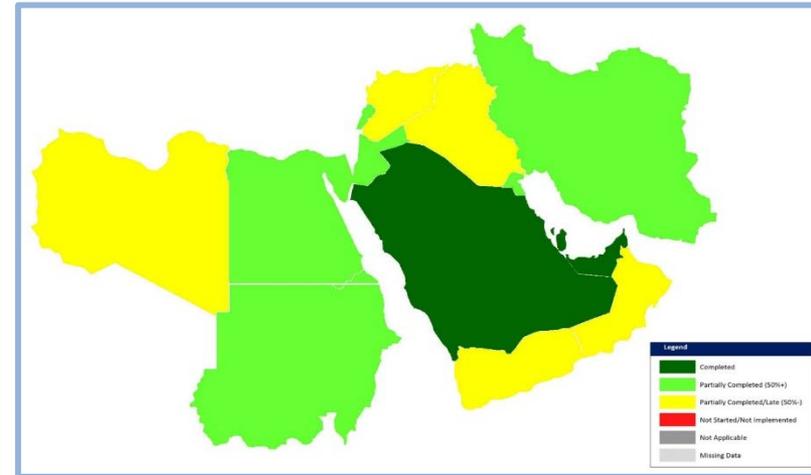| Elements	Applicability	Performance Indicators/Supporting Metrics	Targets
~~National AIM Impl. Plan/Roadmap~~	~~All States~~	~~Indicator: % of States that have National AIM Implementation Plan/Roadmap~~	~~90% by Dec. 2018~~
AIXM	All States	Indicator: % of States that have implemented an AIXM-based AIS database	100% by Dec. 2019
eAIP	All States	Indicator: % of States that have implemented an IAID driven AIP Production (eAIP)	100% by Dec. 2020
QMS	All States	Indicator: % of States that have implemented QMS for AIS/AIM	90% by Dec. 2018
WGS-84	All States	Indicator: % of States that have implemented WGS-84 for horizontal plan (ENR, Terminal, AD) Indicator: % of States that have implemented WGS-84 Geoid Undulation	Horizontal: 100% by Dec. 2017 Vertical: 90% by Dec. 2018
eTOD	All States	Indicator: % of States that have implemented required Terrain datasets Indicator: % of States that have implemented required Obstacle datasets	Area 1 Terrain: 70% by Dec. 2018 Area 1 Obstacles: 60% by Dec. 2018 Area 4 Terrain: 100% by Dec. 2018 Area 4 Obstacles: 100% by Dec. 2018

Status of B0-DATM – Regional status vs. targets (MID AN Report-2016)
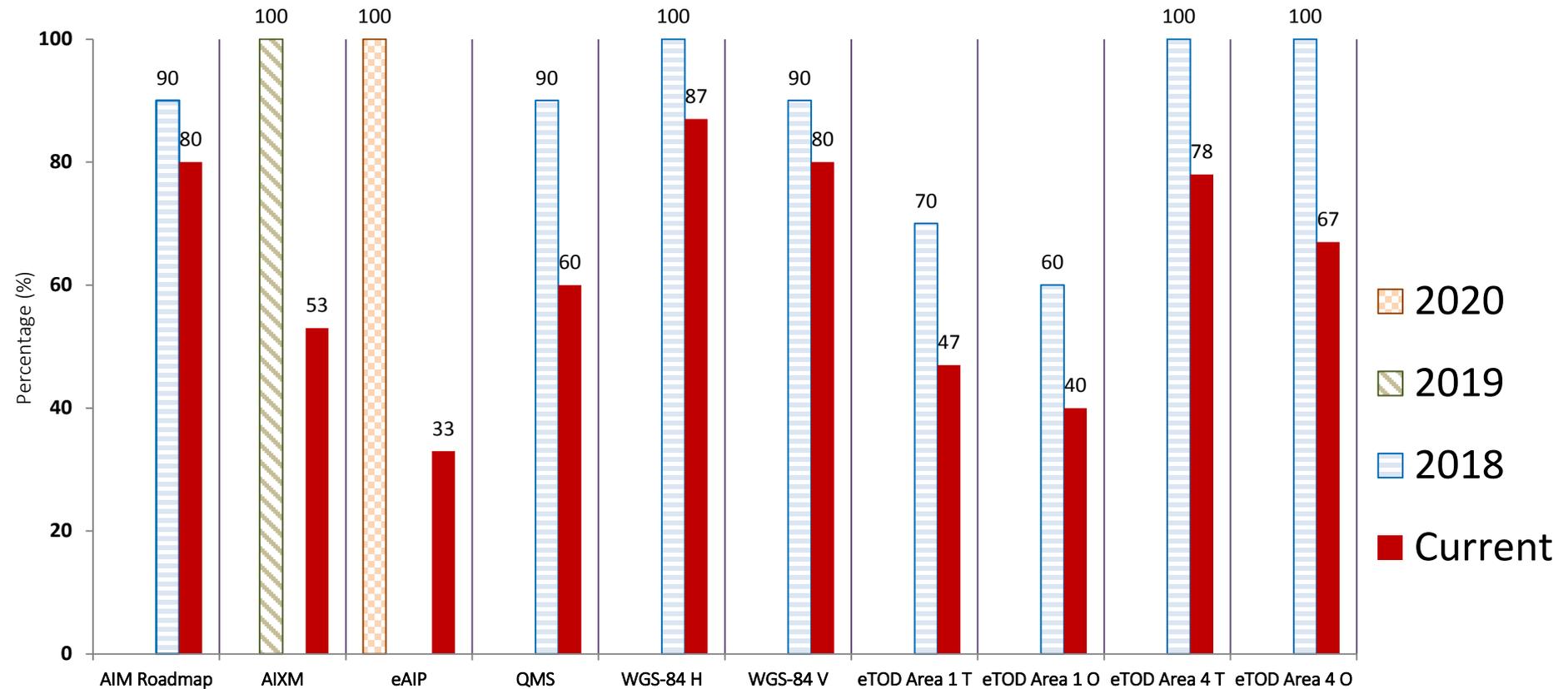
Status of B0-DATM – by States

Module	Elements	Bahrain	Egypt	Iran	Iraq	Jordan	Kuwait	Lebanon	Libya	Oman	Qatar	Saudi Arabia	Sudan	Syria	UAE	Yemen
B0-DATM	National AIM Roadmap	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟥	🟩	🟥
	AIXM	🟩	🟥	🟥	🟥	🟩	🟩	🟩	🟥	🟥	🟩	🟩	🟥	🟥	🟩	🟥
	eAIP	🟩	🟥	🟥	🟥	🟩	🟩	🟩	🟥	🟩	🟩	🟩	🟥	🟥	🟩	🟥
	QMS	🟩	🟩	🟩	🟥	🟩	🟩	🟥	🟥	🟩	🟩	🟩	🟩	🟥	🟩	🟥
	WGS-84 – H	🟩	🟩	🟩	🟨	🟩	🟩	🟩	🟨	🟩	🟩	🟩	🟩	🟩	🟩	🟥
	WGS-84 – V	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟥	🟩	🟩	🟥
	eTOD Area 1 Terrain	🟩	🟩	🟩	🟥	🟥	🟩	🟥	🟥	🟩	🟩	🟥	🟩	🟩	🟩	🟥
	eTOD Area 1 Obstacles	🟩	🟩	🟩	🟥	🟥	🟩	🟥	🟥	🟩	🟩	🟥	🟩	🟩	🟩	🟥
	eTOD Area 4 Terrain	🟩	🟩	🟩	🟥	🟥	🟩	⬜	⬜	🟩	🟩	⬜	🟩	⬜	🟩	⬜
	eTOD Area 4 Obstacles	🟩	🟥	🟩	🟥	🟥	🟩	⬜	⬜	🟩	🟩	⬜	🟩	⬜	🟩	⬜

Legend
- 🟩 Completed
- 🟩 Partially Completed (50%+)
- 🟨 Partially Completed/Late (50%-)
- 🟥 Not Started/Not Implemented
- ⬜ Not Applicable
- ⬜ Missing Data

The progress for B0-DATM is acceptable (with approximately 63% implementation). eTOD Area 4 is not applicable in 6 States.

Challenges in AIM implementation

- Data exchange/Interoperability, AIXM (and eAIP) and eTOD are the main challenges

- Lack of enough resources; financial and competent human resources (needs for training)

- Some MID States facing serious security issues (assistance missions and support could not be provided)
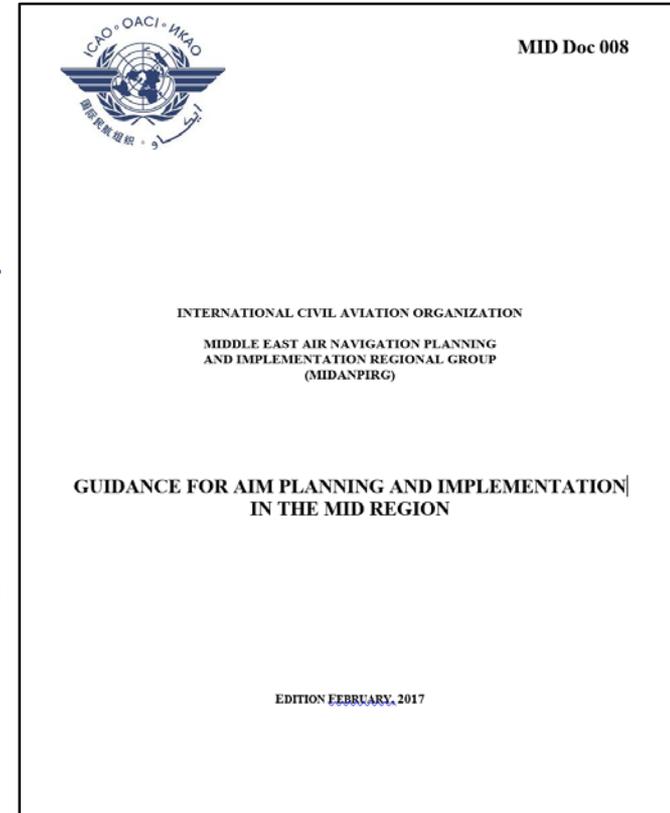
Considerations

- Issuance of NOTAM (related to new ATS Routes, etc.) instead of AIRAC AIP amendment due to late coordination/receipt of data.

- None-ICARD 5LNCs used in AIP

- Coordination between ATS & AIS

- FIR Boundary discrepancies in AIPs

- Updated AIS products

Support States in AIM Implementation

- Development of "*Guidance for the AIM Planning and Implementation in the MID Region*" (MID Doc 008) (endorsed by MIDANPIRG/16)

- Conducting AIM Assistance missions to States (3 States in 2016; 3 States planned for 2017)

- Joint ICAO APAC/EUR/MID & EUROCONTROL Seminar on "*service improvement through integration of AIM, MET and ATM information services*" (Brussels, 2-4 Oct 2017)

- NCLB AIS-AIM MID Workshop (28-30 Aug 2017)

- Development of MID Region AIM Implementation Roadmap

- Development of template for National AIM Implementation Roadmap to help States in their AIM planning

- **MID Region AIM Database (MIDAD) Project**

MID Doc 008

INTERNATIONAL CIVIL AVIATION ORGANIZATION

MIDDLE EAST AIR NAVIGATION PLANNING
AND IMPLEMENTATION REGIONAL GROUP
(MIDANPIRG)

**GUIDANCE FOR AIM PLANNING AND IMPLEMENTATION
IN THE MID REGION**

EDITION FEBRUARY, 2017

MID Region AIM Outlook 2020

(based on States' Plans)

State	Status	State	Status	State	Status
Bahrain	🟩	Kuwait	🟨	Saudi Arabia	🟩
Egypt	🟩	Lebanon	🟩	Sudan	🟨
Iran	🟩	Libya	▨	Syria	▨
Iraq	🟩	Oman	🟩	UAE	🟩
Jordan	🟨	Qatar	🟩	Yemen	▨

Module	Current Status	Projected Status of implementation by 2020
B0-DATM	61%	87%

14

ICAO

North American Central American and Caribbean (NACC) Office Mexico City

South American (SAM) Office Lima

ICAO Headquarters Montréal

Western and Central African (WACAF) Office Dakar

European and North Atlantic (EUR/NAT) Office Paris

Middle East (MID) Office Cairo

Eastern and Southern African (ESAF) Office Nairobi

Asia and Pacific (APAC) Sub-office Beijing

Asia and Pacific (APAC) Office Bangkok

THANK YOU