International Civil Aviation Organization

MIDANPIRG Steering Group

Fifth Meeting (MSG/5)
(Cairo, Egypt, 18 - 20 April 2016)

Agenda Item 5: MID Region Air Navigation Planning

AIM PLANNING MATTERS

(Presented by the Secretariat)

SUMMARY

This paper presents the AIM planning matters through the review of the outcome of the AIM SG/2 meeting for consideration of and/or endorsement by MSG.

Action by the meeting is at paragraph 3.

REFERENCES

– AIM SG/2 Report

1. INTRODUCTION

1.1 The AIM SG/2 meeting was held in Kish Island, Iran from 31 August to 2 September 2015.

1.2 The meeting was attended by a total of thirty six (36) participants from seven (7) States (Egypt, Iran, Kuwait, Lebanon, Oman, Sudan and United Arab Emirates) and two (2) International Organizations (IATA and IFAIMA).

1.3 The meeting developed seven (7) Draft Conclusions and one (1) Draft Decision.

2. DISCUSSION

National AIM Implementation Roadmap

2.1 The meeting may wish to recall that, the MSG/4 meeting agreed that States should focus on the implementation of phase II of the ICAO Roadmap for the transition from AIS to AIM and agreed to the following MSG Conclusion:

MSG CONCLUSION 4/17: NATIONAL AIM IMPLEMENTATION ROADMAP TEMPLATE

That, States:

a) be invited to take into consideration the "MID Region AIM implementation Roadmap" at Appendix 4L in planning for the transition from AIS to AIM in a prioritized manner; and

b) that have not yet done so, be urged to provide the ICAO MID Regional Office with their National AIM Implementation Roadmap using the Template at Appendix 4K, before 1 March 2015.

2.2 The meeting may wish to note that twelve (12) States (Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan and UAE) have provided their National AIM Implementation Roadmaps to the ICAO MID Regional Office. National AIM Implementation Roadmaps provided by the States are at **Appendix A**.

2.3 It is to be highlighted that the "*National AIM Implementation Roadmap Template*" at **Appendix B** has been a useful tool for the States for the development of their National AIM Implementation Roadmap.

2.4 The meeting may wish to note that the AIM SG/2 meeting reviewed the "*MID Region AIM implementation Roadmap"* endorsed by the MSG/4 meeting at **Appendix C** and agreed that it is still current and valid.

2.5 Based on the above, the meeting may wish to agree on the following MSG Conclusion (to replace the MSG Conclusion 4/17):

Why	Need to foster the transition from AIS to AIM by developing/updating the National AIM Implementation Roadmap on annual basis
What	National AIM Implementation Roadmap
Who	States
When	Every year by December

DRAFT MSG CONCLUSION 5/XX: NATIONAL AIM IMPLEMENTATION ROADMAP

That, States be urged to:

*a) take into consideration the "MID Region AIM implementation Roadmap" at **Appendix C** in planning for the transition from AIS to AIM in a prioritized manner; and*

*b) provide the ICAO MID Regional Office with their updated National AIM Implementation Roadmap on an annual basis (by end of December), using the Template at **Appendix B.***

Guidance for AIM Planning and Implementation in the MID Region

2.6 The meeting may wish to note that, in order to support AIM Planning and Implementation in the MID Region, the ICAO MID Office Secretariat developed Draft Guidance Material on the AIM Implementation "*Guidance for AIM Planning and implementation in the MID Region"*. The Document explains concept and operational elements of AIM; outlines the Regional and National AIM planning (Roadmaps); and provides guidance and tools for their implementation at the Regional and National levels.

2.7 The meeting may wish to note that, as a follow-up action to the AIM SG/2 Draft Conclusion 2/1, the ICAO MID Regional Office issued State Letter Ref.: ME 3/2.5 – 15/279 dated 7 October 2015 urging States to review the draft "*Guidance for AIM Planning and implementation in the MID Region*" at **Appendix D**, and provide the ICAO MID Regional Office with their comments/inputs, including their needs/expectations and best practices/success stories, before 31 December 2015, for the development of the final version to be presented to MIDANPIRG/16 for endorsement.

Interregional Seminar on "Service improvement through integration of digital AIM, MET and ATM Information"

2.8 The meeting may wish to recall that the Performance Improvement Area 2 (Globally Interoperable Systems and Data – Through Globally Interoperable System Wide Information Management) of the ASBU Methodology focuses on the ASBU Modules which support CDM through Information Management in a SWIM environment. It is to be highlighted that the implementation of Block 1 Modules of the PIA 2 is one of the challenges that needs timely planning for Block 1.

2.9 The meeting may also wish to note that the Fourth Inter-Regional Coordination meeting between APAC, EUR/NAT and MID (IRCM/4) which was held in Bangkok, Thailand from 14 to 16 September 2015, agreed that an Interregional Seminar be held jointly between the APAC, EUR/NAT and MID Regions on "*Service Improvement through Integration of Digital AIM, MET and ATM Information*" in 2017. The objective of the Seminar will be to monitor/review implementation status of the ASBU Block 0 Modules of the PIA 2 (i.e. B0-DATM, B0-AMET and B0-FICE) and associated challenges/lessons learned and to focus on the pre-requisites for an efficient and timely planning for the implementation of the Block 1 Modules of the PIA 2 (B1-DATM, B1-AMET, B1-SWIM and B1-FICE).

2.10 The meeting may wish to note that an ICAO SWIM Workshop will be held at the ICAO APAC Regional Office, Bangkok, Thailand from 16 to 18 May 2016. The workshop will provide early guidelines to implement the SWIM environment in compliance with ICAO Global Air Navigation Plan ASBU Block 1. It will also aim at refining the regional input to the agenda of the 2017 interregional ICAO workshop involving EUR, MID and APAC Regions. The workshop will offer a good opportunity for discussion and exchange of experience/expertise between SWIM experts from all over the world. Participants will also engage with some of the most advanced companies in SWIM services and solutions taking part of the exhibition which is planned to be held concurrently with the Workshop.

2.11 The following Multiple aspects of SWIM will be addressed in the Workshop:

- B1-SWIM objectives and definitions;
- Where are we today?;
- How to cope with the transition?; and
- Shaping the input to the regional planning

2.12 The invitation letter of the ICAO SWIM Workshop was sent to States on 29 February 2016, as at **Appendix E**.

2.13 Based on the above, the meeting may wish to agree on the following Draft Conclusion emanating from the AIM SG/2 meeting (Draft Conclusion 2/8 with minor changes):

Why	To facilitate timely planning for SWIM and the Block 1 Modules of the PIA2
What	Joint ICAO APAC/EUR/MID Seminar on "*Service Improvement through Integration of Digital AIM, MET and ATM Information*" in 2017
Who	ICAO/States
When	2017

DRAFT MSG CONCLUSION 5/XX: INTERREGIONAL SEMINAR ON "SERVICE IMPROVEMENT THROUGH INTEGRATION OF DIGITAL AIM, MET AND ATM INFORMATION"

That,

a) ICAO organize an Interregional Seminar on "Service improvement through integration of digital AIM, MET and ATM Information" in 2017; and

b) States be encouraged to attend and support the Seminar.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) endorse, as appropriate, the proposed Draft MSG Conclusions;

b) urge States to review the draft "*Guidance for AIM Planning and implementation in the MID Region*" at **Appendix D**, and provide the ICAO MID Regional Office with their comments/inputs, including their needs/expectations and best practices/success stories, before **15 September 2016**; and

c) encourage States to participate in the ICAO SWIM Workshop (Bangkok, Thailand, 16-18 May 2016).

Bahrain **NATIONAL AIM IMPLEMENTATION ROADMAP TEMPLATE**

Phase/Step	Step No.	Timeline 2014	2015	2016	2017	2018	Start	End	Remarks
Phase I									
AIRAC adherence	P-03	FC					2012	------	Since 2012, AIRAC AMDT 05/12 – eAIP
WGS-84 implementation	P-05	FC					2007	------	Since 2007
QMS	P-17	FC					2005	------	Since 2005
Phase II									
Data Quality Monitoring	P-01	PC					2012	-------	Target to be Full Compliant by 2018
Data Integrity Monitoring	P-02	PC					2012	2018	
AIXM	P-06	FC					2012	-------	Since 2012 AIXM 4.5+ and by July 2015 AIXM 5.1
Unique identifiers	P-07	PC					2012	-------	Target to be Full Compliant by 2018
Aeronautical information conceptual model	P-08	PC					2012	-------	
eAIP	P-11	FC					2012	------	Since 2012, AIRAC AMDT 05/12
Terrain A-1	P-13	FC					2012	------	Since 2012
Obstacle A-1	P-14	FC					2012	-------	Since 2012
Terrain A-4	P-13	FC					2012	------	Since 2012
Obstacle A-4	P-14	FC					2012	-------	Since 2012
Terrain A-2	P-13	Not Applicable N/A							Not Applicable because BIA CAT I ILS , Area 2 applicable for CAT II or III
Obstacle A-2	P-14	N/A							Not Applicable because BIA CAT I ILS ,, Area 2 applicable for CATII

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
									or III
Terrain A-3	P-13	FC					2012	-------	Since 2012
Obstacle A-3	P-14	FC					2012	-------	Since 2012
AD Mapping	P-15	PC					2012	2018	Achieved 70% of the target by having data of the RWY & TWYs
Phase III									
Aeronautical data exchange	P-09	PC					2012	2017	Target to be Full Compliant by 2017
Communication networks	P-10	FC					2012	------	Dual Network
Aeronautical information briefing	P-12	FC					2010	-------	Since 2010
Training	P-16	FC					2010	--------	
Agreement with data originators	P-18	FC					2012	--------	Since 2012, AIRAC AMDT 05/12 – eAIP
Interoperability with meteorological products	P-19	PC					2010	2018	Achieved 100% of text data, and by 2018 will be Fully Compliant with meteorological charts
Electronic aeronautical charts	P-20	FC					2012	-------	Since 2012, AIRAC AMDT 05/12 – eAIP
Digital NOTAM	P-21	FC					2010	--------	Since 2010

EGYPT NATIONAL AIM IMPLEMENTATION ROADMAP

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2015	2016	2017	2018	2019			
Phase I									
AIRAC adherence	P-03						Completed		Fully Compliant
WGS-84 implementation	P-05						Completed		Fully Compliant and all the coordinates in AIP are in WGS84
QMS	P-17						Completed		ISO9001/2000 (2007- 2011) ISO9001/2008 (2011- till now)
Phase II									
Data Quality Monitoring	P-01						2010	2018	Target: fully implement SLAs with all data originators and starting negotiation with the users by 2018
Data Integrity Monitoring	P-02						2010	2018	CRC is fully implemented and starting implementation with data originators with target to reach 60% by the end of 2018, a new automated system is in progress for automating the relation between Originators and AIS
AIXM	P-06						Completed		AIXM V4.5 was used for AIP production since 2006; upgraded to 5.1 since 2014 with exception of charting production (still using CAD only)
Unique identifiers	P-07						Completed		Fully implemented since 2006
Aeronautical information conceptual model	P-08						2006	-	
eAIP	P-11						2006	2016	AIP on CD since 2007; Target for full automated eAIP by the end of 2015
Terrain A-1	P-13						Completed		
Obstacle A-1	P-14								
Terrain A-4	P-13						Completed		
Obstacle A-4	P-14								
Terrain A-2	P-13								Area 2a will be implemented in Egypt

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2015	2016	2017	2018	2019			
Obstacle A-2	P-14								Area 2a will be implemented in Egypt
Terrain A-3	P-13								
Obstacle A-3	P-14								
AD Mapping	P-15								Not started yet the target is to start by the end of 2016 with reaching 40% by the end of 2019
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								SLA are made with about 50% of data originators with target to reach 100% by the end of 2018
Interoperability with meteorological products	P-19								
Electronic aeronautical charts	P-20								
Digital NOTAM	P-21								Egypt has been contributed in all initial trails made by Eurocontrol and has an automated system capable to produce DNOTAM in future

Dated 8 September 2015

Legend		Not Started
		In Progress
		Implemented

IRAN AIM IMPLEMENTATION ROADMAP

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Phase I									
AIRAC adherence	P-03								Implemented
WGS-84 implementation	P-05						2000	2015	Implemented
QMS	P-17								Implemented
Phase II									
Data Quality Monitoring	P-01						2008	2020	
Data Integrity Monitoring	P-02						2008	2020	
AIXM	P-06						2008	2017	Version 5.1+
Unique identifiers	P-07						2008	2017	
Aeronautical information conceptual model	P-08						2008	2017	
eAIP	P-11						2008	2017	
Terrain A-1	P-13							2015	Implemented
Obstacle A-1	P-14							2015	Implemented
Terrain A-4	P-13							2015	Implemented for OIIE CAT II
Obstacle A-4	P-14							2015	Implemented for OIIE CAT II
Terrain A-2	P-13							2015	Implemented for all 9Intl AD_S
Obstacle A-2	P-14							2015	Implemented for all 9Intl AD_S
Terrain A-3	P-13							2015	Implemented for all 9Intl AD_S
Obstacle A-3	P-14							2015	Implemented for all 9Intl AD_S
AD Mapping	P-15						2008	2017	
Phase III									

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Aeronautical data exchange	P-09						2010	2020	
Communication networks	P-10						2010	2020	
Aeronautical information briefing	P-12						2008	2017	
Training	P-16						2008	2020	
Agreement with data originators	P-18						2008	2016	80% Implemented- Just Military left
Interoperability with meteorological products	P-19						2008	2017	
Electronic aeronautical charts	P-20						2008	2017	
Digital NOTAM	P-21						2014	2020	

IRAQ NATIONAL AIM IMPLEMENTATION ROADMAP

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Phase I									
AIRAC adherence	P-03						2009	-	Already implemented
WGS-84 implementation	P-05						2016	2020	The target is to have 40% by 2017, 80% by 2019 and 100% by 2020
QMS	P-17						2014	2018	The target is to have 50% by 2016, 70% by 2017 and 100% by 2018
Phase II									
Data Quality Monitoring	P-01						2016	2018	The target is to have 50% by 2016, 70% by 2017 and 100% by 2018
Data Integrity Monitoring	P-02						2016	2018	The target is to have 50% by 2016, 70% by 2017 and 100% by 2018
AIXM	P-06						2016	2018	The target is to have full implementation by mid 2018
Unique identifiers	P-07						2016	2018	The target is to have full implementation by mid 2018
Aeronautical information conceptual model	P-08						2016	2018	The target is to have full implementation by mid 2018
eAIP	P-11						2014	2018	The target is to have full implementation by mid 2018
Terrain A-1	P-13						2016	2020	The target is to have 40% by 2016, 70% by 2018 and 100% by 2020
Obstacle A-1	P-14						2016	2020	The target is to have 40% by 2016, 70% by 2018 and 100% by 2020
Terrain A-4	P-13						2016	2020	The target is to have 40% by 2016, 70% by 2018 and 100% by 2020
Obstacle A-4	P-14						2016	2020	The target is to have 40% by 2016, 70% by 2018 and 100% by 2020

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Terrain A-2	P-13						2016	2020	**Area 2a,** The target is to have 40% by 2016, 70% by 2018 and 100% by 2020 **Area 2b,** The target is to have 40% by 2016, 70% by 2018 and 100% by 2020 **Area 2c,** The target is to have 40% by 2016, 70% by 2018 and 100% by 2020 **Area 2d,** The target is to have 40% by 2016, 70% by 2018 and 100% by 2020
Obstacle A-2	P-14						2016	2020	**Area 2a,** The target is to have 40% by 2016, 70% by 2018 and 100% by 2020 **Area 2b,** The target is to have 40% by 2016, 70% by 2018 and 100% by 2020 **Area 2c,** The target is to have 40% by 2016, 70% by 2018 and 100% by 2020 **Area 2d,** The target is to have 40% by 2016, 70% by 2018 and 100% by 2020
Terrain A-3	P-13						2016	2020	The target is to have 40% by 2016, 70% by 2018 and 100% by 2020
Obstacle A-3	P-14						2016	2020	The target is to have 40% by 2016, 70% by 2018 and 100% by 2020
AD Mapping	P-15						2016	2020	The target is to have 40% by 2016, 70% by 2017 and 100% by 2020
Phase III									
Aeronautical data exchange	P-09						2016	2020	The target is to have 40% by 2017, 60% by 2018 and 100% by 2020
Communication networks	P-10						2015	2018	The target is to have 40% by mid of 2016, 60% by mid of 2017 and 100% by of 2018

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Aeronautical information briefing	P-12						2015	2018	The target is to have 40% by 2016, 60% by 2017 and 100% by 2018
Training	P-16						2006	2019	Iraq has already implemented 30%, and the target is to implement 70% by 2017 and 100% by 2019
Agreement with data originators	P-18						2009	-	Already implemented
Interoperability with meteorological products	P-19						2016	2020	The target is to have 40% by 2016, 70% by 2018 and 100% by 2020
Electronic aeronautical charts	P-20						2016	2020	The target is to have 40% by 2016, 70% by 2018 and 100% by 2020
Digital NOTAM	P-21						2016	2020	The target is to have 40% by 2017, 70% by 2018 and 100% by 2020

JORDAN AIS NATIONAL AIM IMPLEMENTATION ROADMAP TEMPLATE

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Phase I									
AIRAC adherence	P-03	Implemented							Implemented since JAN, 2008
WGS-84 implementation	P-05	Implemented							Implemented since 1998
QMS	P-17	Implemented							Implemented since JUN, 2010
Phase II									
Data Quality Monitoring	P-01	Implemented							Implemented since AUG, 2010
Data Integrity Monitoring	P-02	Implemented							Implemented since JUN, 2010
AIXM	P-06	Implemented							Implemented since AUG, 2010
Unique identifiers	P-07						2016	2018	
Aeronautical information conceptual model	P-08	Implemented							Implemented since AUG, 2010
eAIP	P-11						2015	2018	
Terrain A-1	P-13						2006	2015	
Obstacle A-1	P-14						2006	2015	
Terrain A-4	P-13						2006	2017	
Obstacle A-4	P-14						2006	2017	
Terrain A-2	P-13						2016	2018	Please specify implementation of Area 2a, 2b, 2c and/or 2d
Obstacle A-2	P-14						2016	2018	Please specify implementation of Area 2a, 2b, 2c and/or 2d
Terrain A-3	P-13						2016	2018	

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Obstacle A-3	P-14						2016	2018	
AD Mapping	P-15						2018	2020	
Phase III									
Aeronautical data exchange	P-09	Implemented							Implemented since AUG, 2010
Communication networks	P-10	Implemented							Implemented since AUG, 2010
Aeronautical Information Briefing	P-12	Implemented							Implemented since AUG, 2010
Training	P-16						2014	2018	
Agreement with data originators	P-18						2014	2015	
Interoperability with meteorological products	P-19						2017	2018	
Electronic aeronautical charts	P-20						2015	2016	
Digital NOTAM	P-21						2016	2017	

KUWAIT DGCA NATIONAL AIM IMPLEMENTATION ROADMAP

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Phase I									
AIRAC adherence	P-03								Completed
WGS-84 implementation	P-05								Completed
QMS	P-17								Completed
Phase II									
Data Quality Monitoring	P-01						2012	2017	In Progress
Data Integrity Monitoring	P-02						2012	2017	In Progress
AIXM	P-06						2012	2016	In Progress (AIS Automation)
Unique identifiers	P-07						2012	2016	In Progress (AIS Automation)
Aeronautical information conceptual model	P-08						2016	2018	In Progress (AIS Automation)
eAIP	P-11						2012	2016	In Progress (AIS Automation)
Terrain A-1	P-13								Completed
Obstacle A-1	P-14								Completed
Terrain A-4	P-13								Completed
Obstacle A-4	P-14								Completed
Terrain A-2	P-13						2015	2018	In Progress
Obstacle A-2	P-14						2015	2018	In Progress

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Terrain A-3	P-13								Completed
Obstacle A-3	P-14								Completed
AD Mapping	P-15						2014	2017	In Progress
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								

LEBANON NATIONAL AIM IMPLEMENTATIONROADMAP TEMPLATE

Phase/Step	StepNo.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Phase I									
AIRAC adherence	P-03								FC
WGS-84 implementation	P-05								To be maintained before 2017
QMS	P-17								2018-2020
Phase II									
Data Quality Monitoring	P-01						2018	2020	
Data Integrity Monitoring	P-02						2018	2020	
AIXM	P-06						2018	2020	Current Version 4.5 need upgrade to 5.1
Unique identifiers	P-07								Khaldeh
Aeronautical information conceptual model	P-08								To be Discussed
eAIP	P-11								Digital pdf on CD
Terrain A-1	P-13						2017	2018	To be Implemented on 2018
Obstacle A-1	P-14						2017	2018	
Terrain A-4	P-13						2017	2018	
Obstacle A-4	P-14						2017	2018	
Terrain A-2	P-13								Please specify implementation of Area 2a, 2b, 2c and/or 2d
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								NC

Phase/Step	StepNo.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
AD Mapping	P-15								To be Discussed
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								

OMAN NATIONAL AIM IMPLEMENTATION ROADMAP

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Phase I									
AIRAC adherence	P-03								Implemented since 2011
WGS-84 implementation	P-05								Implemented since 1999
QMS	P-17						2015	2016	Part of the ongoing project (ORAT)
Phase II									
Data Quality Monitoring	P-01						2015	2016	Part of the ongoing project (ORAT)
Data Integrity Monitoring	P-02						2015	2016	Part of the ongoing project (ORAT)
AIXM	P-06						2015	2016	AIXM 5.1 database has installed, will be operational in April.
Unique identifiers	P-07						2016	2017	Part of the ongoing project (ORAT)
Aeronautical information conceptual model	P-08						2016	2016	Part of the ongoing project (ORAT)
eAIP	P-11						2015	2017	Part of the ongoing project (ORAT)
Terrain A-1	P-13						2015	2016	
Obstacle A-1	P-14						2015	2016	
Terrain A-4	P-13						2015	2016	
Obstacle A-4	P-14						2015	2016	
Terrain A-2	P-13						2015	2016	Area 2a, 2b, 2c and 2d will be implemented by December 2016
Obstacle A-2	P-14						2015	2016	Area 2a, 2b, 2c and 2d will be implemented by December 2016

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Terrain A-3	P-13						2015	2016	
Obstacle A-3	P-14						2015	2016	
AD Mapping	P-15						2016	2017	Part of the ongoing project (ORAT).
Phase III									
Aeronautical data exchange	P-09						2016	2017	Part of the ongoing project (ORAT).
Communication networks	P-10						2015	2016	Part of the ongoing project (ORAT).
Aeronautical information briefing	P-12						2016	2017	Part of the ongoing project (ORAT).
Training	P-16						2014	2016	Part of the ongoing project (ORAT).
Agreement with data originators	P-18						2015	2017	Part of the ongoing project (ORAT). The target is to have 70% by 2017
Interoperability with meteorological products	P-19						2016	2016	Part of the ongoing project (ORAT).
Electronic aeronautical charts	P-20						2016	2017	Part of the ongoing project (ORAT).
Digital NOTAM	P-21						2016	2018	

Legend		
		Not Started
		In Progress
		Implemented

QATAR NATIONAL AIM IMPLEMENTATION ROADMAP

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Phase I									
AIRAC adherence	P-03						2010	-	Already Implemented
WGS-84 implementation	P-05						2009	-	Already Implemented
QMS	P-17						2011	-	Already Implemented
Phase II									
Data Quality Monitoring	P-01						2011	2015	
Data Integrity Monitoring	P-02						2011	2015	
Integrated aeronautical information database	P-06						2012	2015	AIMDB
Unique identifiers	P-07						2012	2015	
Aeronautical information conceptual model	P-08						2012	2015	
eAIP	P-11						2013	-	Already Implemented
Terrain A-1	P-13						2009	-	Already Implemented
Obstacle A-1	P-14						2009	-	Already Implemented
Terrain A-4	P-13						2009	-	Already Implemented
Obstacle A-4	P-14						2009	-	Already Implemented
Terrain A-2a,b,c,d	P-13						2013	-	Already Implemented
Obstacle A-2a,b,c,d	P-14						2013	-	Already Implemented
Terrain A-3	P-13						2009	-	Already Implemented

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Obstacle A-3	P-14						2009	-	Already Implemented
AD Mapping	P-15						2012	2015	
Phase III									
Aeronautical data exchange	P-09						2012	2015	AIXM 5.1
Communication networks	P-10						2012	2016	
Aeronautical information briefing	P-12						2012	2016	
Training	P-16						2012	2016	
Agreement with data originators	P-18						2010	-	Already Implemented
Interoperability with meteorological products	P-19						2014	2016	
Electronic aeronautical charts	P-20						2012	2016	
Digital NOTAM	P-21								

SAUDI ARABIA NATIONAL AIM IMPLEMENTATIONROADMAP TEMPLATE

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Phase I									
AIRAC adherence	P-03								**Implemented**
WGS-84 implementation	P-05								**Implemented**
QMS	P-17								**Implemented**
Phase II									
Data Quality Monitoring	P-01								**Implemented**
Data Integrity Monitoring	P-02								**Implemented**
AIXM	P-06								**Implemented**
Unique identifiers	P-07								**Implemented**
Aeronautical information conceptual model	P-08								**Implemented**
eAIP	P-11								**Implemented**
Terrain A-1	P-13								**Implemented**
Obstacle A-1	P-14								**Implemented**
Terrain A-4	P-13								**Implemented**
Obstacle A-4	P-14								**Implemented**
Terrain A-2	P-13								**Planned Area 2a, 2b, 2c and 2d**
Obstacle A-2	P-14								**Planned Area 2a, 2b, 2c and 2d**
Terrain A-3	P-13								**Planned**
Obstacle A-3	P-14								**Planned**
AD Mapping	P-15								**Planned**
Phase III									

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
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								**Planned**
Digital NOTAM	P-21								**Planned**

SUDAN NATIONAL AIM IMPLEMENTATION ROADMAP TEMPLATE

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Phase I									
AIRAC adherence	P-03								Already Implemented
WGS-84 implementation	P-05								Already Implemented
QMS	P-17								Already Implemented
Phase II									
Data Quality Monitoring	P-01								
Data Integrity Monitoring	P-02								
AIXM	P-06								Contract Signed
Unique identifiers	P-07								
Aeronautical information conceptual model	P-08								
eAIP	P-11								Contract Signed
Terrain A-1	P-13								
Obstacle A-1	P-14								
Terrain A-4	P-13								
Obstacle A-4	P-14								
Terrain A-2	P-13								Please specify implementation of Area 2a, 2b, 2c and/or 2d
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								

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
AD Mapping	P-15								
Phase III									
Aeronautical data exchange	P-09								
Communication networks	P-10								
Aeronautical information briefing	P-12						2005	-	Already Implemented
Training	P-16						2014	Ongoing	
Agreement with data originators	P-18						2015	2015	
Interoperability with meteorological products	P-19						2012	-	Already Implemented
Electronic aeronautical charts	P-20								
Digital NOTAM	P-21								

UAE NATIONAL AIM IMPLEMENTATION ROADMAP TEMPLATE

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Phase I									
AIRAC adherence	P-03								Fully implemented
WGS-84 implementation	P-05								Fully implemented
QMS	P-17								Fully implemented
Phase II									
Data Quality Monitoring	P-01								Fully implemented
Data Integrity Monitoring	P-02								Fully implemented
AIXM	P-06								Fully implemented
Unique identifiers	P-07								Fully implemented
Aeronautical information conceptual model	P-08								Fully implemented
eAIP	P-11								Fully implemented
Terrain A-1	P-13								Fully implemented
Obstacle A-1	P-14								Fully implemented
Terrain A-4	P-13								Fully implemented
Obstacle A-4	P-14								Fully implemented
Terrain A-2	P-13						2012	2015	According to UAE National plan Full Area 2 & 3 to be implemented
Obstacle A-2	P-14						2012	2015	According to UAE National plan Full Area 2 & 3 to be implemented
Terrain A-3	P-13						2012	2015	According to UAE National plan Full Area 2 & 3 to be implemented
Obstacle A-3	P-14						2012	2015	According to UAE National plan Full Area 2 & 3 to be implemented

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
AD Mapping	P-15						2016	2021	According to UAE National plan
Phase III									
Aeronautical data exchange	P-09						2016	2021	According to UAE National plan
Communication networks	P-10						2016	2021	According to UAE National plan
Aeronautical information briefing	P-12						2012	2015	According to UAE National plan
Training	P-16						2012	2015	According to UAE National plan
Agreement with data originators	P-18						2012	2015	According to UAE National plan
Interoperability with meteorological products	P-19						2016	2021	According to UAE National plan
Electronic aeronautical charts	P-20						2012	2015	According to UAE National plan
Digital NOTAM	P-21						2016	2021	According to UAE National plan

---

APPENDIX B

NATIONAL AIM IMPLEMENTATION ROADMAP TEMPLATE

Phase/Step	Step No.	Timeline																		Start	End	Remarks
		2014				2015				2016				2017				2018						
Phase I																						
AIRAC adherence	P-03																					
WGS-84 implementation	P-05																					
QMS	P-17																					
Phase II																						
Data Quality Monitoring	P-01																					
Data Integrity Monitoring	P-02																					
AIXM	P-06																					
Unique identifiers	P-07																					
Aeronautical information conceptual model	P-08																					
eAIP	P-11																					
Terrain A-1	P-13																					
Obstacle A-1	P-14																					
Terrain A-4	P-13																					
Obstacle A-4	P-14																					
Terrain A-2	P-13																					Please specify implementation of Area 2a, 2b, 2c and/or 2d
Obstacle A-2	P-14																					Please specify implementation of Area 2a, 2b, 2c and/or 2d

Phase/Step	Step No.	Timeline																				Start	End	Remarks
		2014				2015				2016				2017				2018						
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																							

Legend		Not Started
		In Progress
		Implemented

APPENDIX C
MID REGION AIM IMPLEMENTATION ROADMAP FOR THE TRANSITION FROM AIS TO AIM

	2014				2015				2016				2017				2018				Priority	Remarks
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
AIXM																					**1**	The target is to have 60% by 2015, 80% by 2017 and 100% by 2019
eAIP																					**1**	The target is to have 60% by 2016, 80% by 2018 and 100% by 2020
Terrain A-1																					**2**	The target is to have 50% by 2015, 70% by 2018
Obstacle A-1																					**2**	The target is to have 40% by 2015, 60% by 2018
Terrain A-4																					**2**	The target is to have 50% by 2015, 100% by 2018
Obstacle A-4																					**2**	The target is to have 50% by 2015, 100% by 2018
Terrain A-2a																					**3**	The target is to have 30% by 2017, 50% by 2018
Obstacle A-2a																					**3**	The target is to have 30% by 2017, 50% by 2018
Data Quality Monitoring																					**3**	Target for 2018: To be implemented by 50% of the States that have implemented QMS at least for the segment originator-AIS (excluding the segment AIS-End user)
Data Integrity Monitoring																					**3**	
Agreement with data originators																					**3**	Target for 2018: 50% of the States that have implemented QMS
Terrain and Obstacle for Areas 2b, 2c, 2d and 3																					**4**	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																					**4**	Optional based on the States' decision to be reflected in the States' national Regulations and AIM National Plans, in accordance with operational needs

***White**: Not started* ***Yellow**: Initial Target* ***Orange**: Intermediate Target* ***Green**: Target for full implementation*

MSG/5-WP/15
Appendix D

MID Doc 00x

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 APRIL, 2016

RECORD OF AMENDMENTS

Edition Number	Edition Date	Description	Pages Affected
0.1	1 September 2015	Initial draft version	All
0.2	7 October 2015	Inputs incorporated by AIM SG/2	All
0.3	April 2016	Change in Doc title; improving order and content of chapters; States comments considered; prepared for the MSG/5	All

TABLE OF CONTENTS

FOREWARD

The “Guidance for AIM Planning and Implementation in the MID Region” has been developed in 2015-16 to harmonize Transition from AIS to AIM in the MID Region and to addresses Global and Regional issues related to planning and implementation of Aeronautical Information Management. This Regional AIM Plan explains concept and operational elements of AIM; outlines the Regional and National AIM Roadmaps; and provides guidance and tools for their implementation at the Regional and National levels.

This Document consolidates updates and supersedes all previous guidance materials on the AIM implementation in the MID Region (National AIM Roadmap Template, Regional AIM Roadmap, etc.). The “Guidance for AIM Planning and Implementation in the MID Region” will be reviewed and updated, whenever deemed necessary, by the AIM Sub-Group.

First edition of the Document, consolidated by the ICAO MID Regional Office, was endorsed by MIDANPIRG/16 meeting.

The Document was prepared in accordance with ICAO provisions related to AIM, the Global Air Navigation Plan, Aviation System Block Upgrades (ASBU) methodology, MID Region Air Navigation Plan and the MID Region Air Navigation Strategy, in addition to the twelfth Air Navigation Conference (AN-Conf/12) Recommendation 3/8 related to AIM. States are invited to take necessary measures to implement provisions of this document and notify their experiences and practices related to transition from AIS to AIM.

Abbreviations and Acronyms

The abbreviations and acronyms used in this document along with their expansions are given in the following List:

AI	Aeronautical Information
AICM	Aeronautical Information Conceptual Model
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information Regulation and Control
AIS	Aeronautical Information Services
AIS-AIM SG	AIS to AIM Study Group
AIM	Aeronautical Information Management
AIM SG	Aeronautical Information Management Sub-Group
AIXM	Aeronautical Information Exchange Model
AN-Conf/11	Eleventh Air Navigation Conference
AN-Conf/12	Twelfth Air Navigation Conference
ANP	Air Navigation Plan
ANSP	Air Navigations Services Provider
ASBU	Aviation System Block Upgrade
ATM	Air Traffic management
eAIP	electronic Aeronautical Information Publication
eANP	electronic Air Navigation Plan
eTOD	electronic Terrain and Obstacle Data
GANP	Global Air Navigation Plan
GANR	Global Air Navigation Report
GIS	Geographic Information System
GML	Geography Markup Language
IM	Information Management
IMP	Information Management Panel
ISO	International Organization for Standardization
MET	Meteorology
MIDAD	MID Region AIM Database
MIDANPIRG	Middle East Air Navigation Planning and Implementation Regional Group

MIL	Military
MSG	MIDANPIRG Steering Group
PBN	Performance-Based Navigation
QMS	Quality Management System
RWY	Runway
SARPs	Standards and Recommended Practices
SMART	Specific, Measurable, Achievable, Relevant and Timely
SWIM	System Wide Information Management
TORs	Terms of Reference
UML	Unified Modeling Language
WGS-84	World Geodetic System-1984
XML	Extensible Markup Language

CHAPTER 1

ICAO AIM CONCEPT

INTRODUCTION

1.1 The Eleventh Air Navigation Conference (AN-Conf/11) held in Montréal, 22 September to 3 October 2003, endorsed the Global ATM Operational Concept (Doc 9854) and recognized that, in the global air traffic management (ATM) system environment envisioned by the operational concept, aeronautical information service (AIS) would become one of the most valuable and important enabling services. As the global ATM system foreseen in the operational concept was based on a collaborative decision-making environment, the timely availability of high-quality and reliable electronic aeronautical, meteorological, airspace and flow management information would be necessary. Some recommendations of AN-Conf/11 addressed the importance of aeronautical information in particular.

1.2 Aeronautical Information Management (AIM) during its evolution has been defined as the provision of the right Aeronautical Information (quality assured), at the right place (digital), at the right time (timeliness). ICAO Annex 15 defines AIM as the dynamic, integrated management of aeronautical information through the provision and exchange of quality-assured digital aeronautical data in collaboration with all parties.

1.3 The Twelfth Air Navigation Conference (AN-Conf/12) held in Montréal, 19 to 30 November 2012, through Recommendation 3/8, supported and pushed:

- Transition from AIS to AIM by implementing a fully automated digital aeronautical data chain;
- Implementing necessary processes to ensure the quality of aeronautical data; and
- Engage in intraregional and interregional cooperation for an expeditious transition from AIS to AIM in a harmonized manner and to using digital data exchange and consider regional or subregional AIS databases as an enabler for the transition from AIS to AIM information from the origin to the end users

TRANSITION FROM AIS TO AIM

ICAO Roadmap for the transition from AIS to AIM

1.4 The aeronautical information/data based on paper and telex-based text messages can not satisfy anymore the requirements of the ATM integrated and interoperable system. AIS is required to evolve from the paper product-centric service to the data-centric aeronautical information management (AIM) with a different method of information provision and management.

1.5 ICAO published in 2009 the "*Roadmap for the transition from AIS to AIM*". The changes foreseen are such that this development is being referred to as the transition from aeronautical information services (AIS) to aeronautical information management (AIM). It identifies the major milestones recommended for a uniform evolution across all regions of the world and specific steps that need to be achieved for implementation.

1.6 The Roadmap envisaged the transition into three phases and twenty one steps. Three phases of action are envisaged for States and ICAO to complete the transition to AIM:

– *Phase 1 — Consolidation*

Phase 1 is the pre-requisite for the transition from AIS to AIM (implementation of the current SARPs). In Phase 1, QMS implementation is still a challenge for some States.

– *Phase 2 — Going digital*

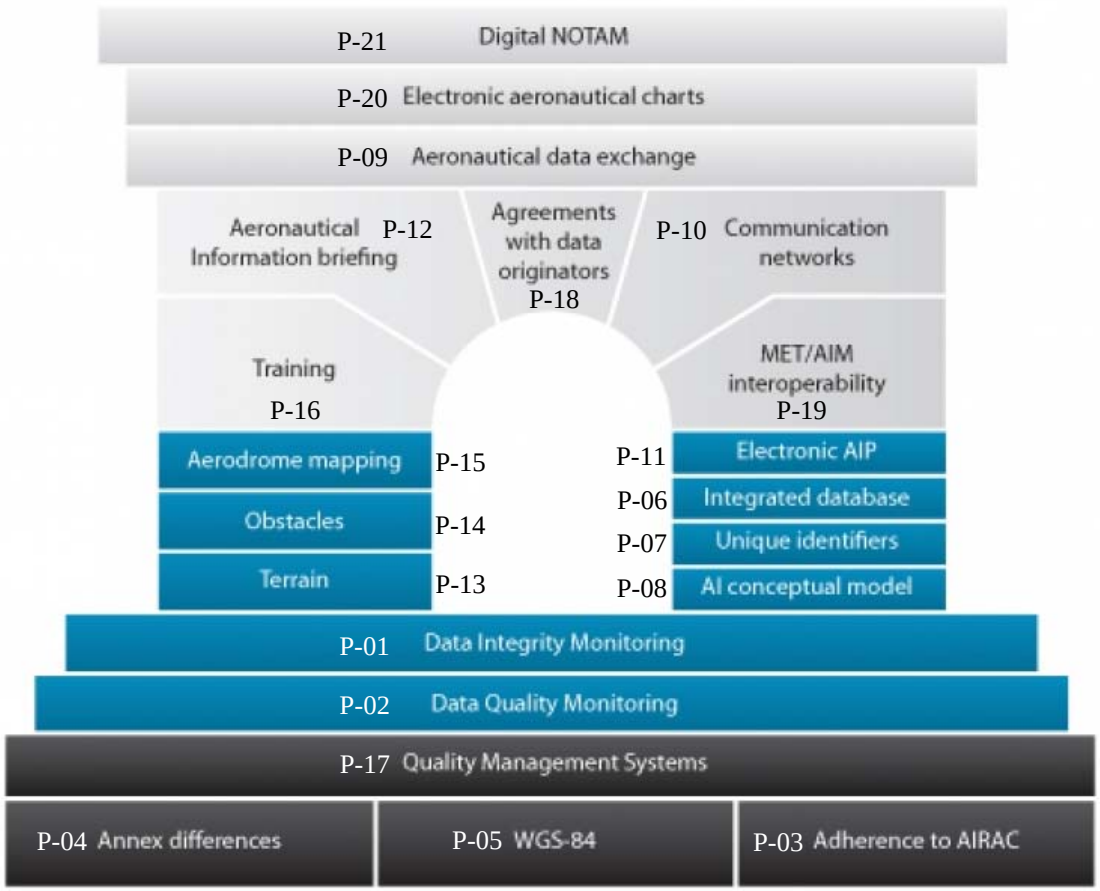
Main components of the Phase 2 are:

- Data-driven processes for the production of the current products;
- Introduction of structured digital data from databases into AIS/AIM processes;
- Introduction of highly structured databases and tools such as GIS;
- Electronic Terrain and Obstacle Datasets; and
- Implementation of aeronautical information conceptual model (AICM).

– *Phase 3 — Information management*

Main components of the Phase 3 are:

- Enabling AIM functions to address the new requirements of the Global ATM Operational Concept in a net-centric information environment;
- Transfer of information in the form of digital data based on the established databases; and
- Aeronautical data exchange model ensuring interoperability between all systems.



Positioning of the 21 steps of the roadmap in the three phases

AIS-AIM Study Group

1.7 The Air Navigation Commission in 2008 agreed to the establishment of AIS-AIM SG in order to assist with the development of:

– A global strategy/roadmap for the transition from AIS to AIM;

– SARPs and guidance material related to the provision of a standard AICM and standard AIXM to enable the global exchange of data in digital format; and

– Other SARPs, guidance material and training material necessary to support AIM implementation.

1.8 Some achievements of the AIS-AIM Study Group are:

- ICAO Roadmap for transition from AIS to AIM;
- Amendments to Annex 15:
  - Amendment 36: New provisions related to the operational use of the public Internet; volcanic ash deposition; QMS; use of automation enabling digital data exchange; eAIP; NOTAM Format; and eTOD.
  - Amendment 37: Annex 15 restructuring; Chapter 1 (General), Chapter 2 (Responsibilities and functions) and Chapter 3 (Aeronautical Information Management) introduced in Nov 2014;
  - Amendment XX: Chapters 4 (Scope of AI and data), Chapter 5 (AI Products and services) and Chapter 6 (AI updates) instead of current Chapters 4-11 (in progress).
- Development of Aeronautical Data Catalogue (in progress)
- Development of PANS AIM (in progress)
- Development of Training Manual, Quality Manual, update of AIS Manual (Doc 8126) (in progress)

1.9 AIS-AIMSG/12 was the last AIS-AIMSG held in Montreal, Canada from 19 to 23 October 2015. Materials related to the AIS-AIM SG including the meetings' Study Notes, Information Papers and Summary of Discussions are available on the ICAO AIM website at:

http://www.icao.int/safety/ais-aimsg/Pages/default.aspx

Information Management Panel (IMP)

1.10 The Air Navigation Commission in 2014 agreed to the establishment of the Information Management Panel (IMP) to elaborate on necessary concepts and develop a global and interoperable approach to ensure effective management of information within the global air navigation system. The IMP will undertake tasks relating to the global transition from AIS to AIM, based upon Recommendations 3/1, 3/2, 3/3 and 3/9 of the Twelfth Air Navigation Conference in 2012 (AN-Conf/12).

1.11 Four (4) Working Groups were established to undertake tasks of the Panel:

- Information Services and NOTAM
- Information Architecture & Management

- SWIM Awareness & Communication
- SWIM Governance

1.12 Materials related to the IMP including the meetings' Working/Information Papers and Reports are available on the ICAO AIM website at:

http://www.icao.int/airnavigation/IMP/Pages/default.aspx

CHAPTER 2

REGIONAL AIM PLANNING

MID REGION AIM IMPLEMENTATION ROADMAP

2.2 Having Phase I of the transition from AIS to AIM mostly completed in the MID Region, the current focus should be the implementation of phase II of the Roadmap for the transition from AIS to AIM to prepare further transition to Phase III in a timely manner. Accordingly, States should take into consideration the “MID Region AIM Implementation Roadmap” in planning for the transition from AIS to AIM in a prioritized manner.

MID REGION AIM IMPLEMENTATION ROADMAP

	2014				2015				2016				2017				2018				Priority	Remarks
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
AIXM																					**1**	The target is to have 60% by 2015, 80% by 2017 and 100% by 2019
eAIP																					**1**	The target is to have 60% by 2016, 70% by 2018 and 100% by 2020
Terrain A-1																					**2**	The target is to have 50% by 2015, 70% by 2018
Obstacle A-1																					**2**	The target is to have 40% by 2015, 60% by 2018
Terrain A-4																					**2**	The target is to have 50% by 2015, 100% by 2018
Obstacle A-4																					**2**	The target is to have 50% by 2015, 100% by 2018
Terrain A-2a																					**3**	The target is to have 30% by 2017, 50% by 2018
Obstacle A-2a																					**3**	The target is to have 30% by 2017, 50% by 2018
Data Quality Monitoring																					**3**	Target for 2018: To be implemented by 50% of the States that have implemented QMS at least for the segment originator-AIS (excluding the segment AIS-End user)
Data Integrity Monitoring																					**3**	
Agreement with data originators																					**3**	Target for 2018: 50% of the States that have implemented QMS
Terrain and Obstacle for Areas 2b, 2c, 2d and 3																					**4**	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																					**4**	Optional based on the States' decision to be reflected in the States' national Regulations and AIM National Plans, in accordance with operational needs

***White**: Not started* ***Yellow**: Initial Target* ***Orange**: Intermediate Target* ***Green**: Target for full implementation*

CHAPTER 3

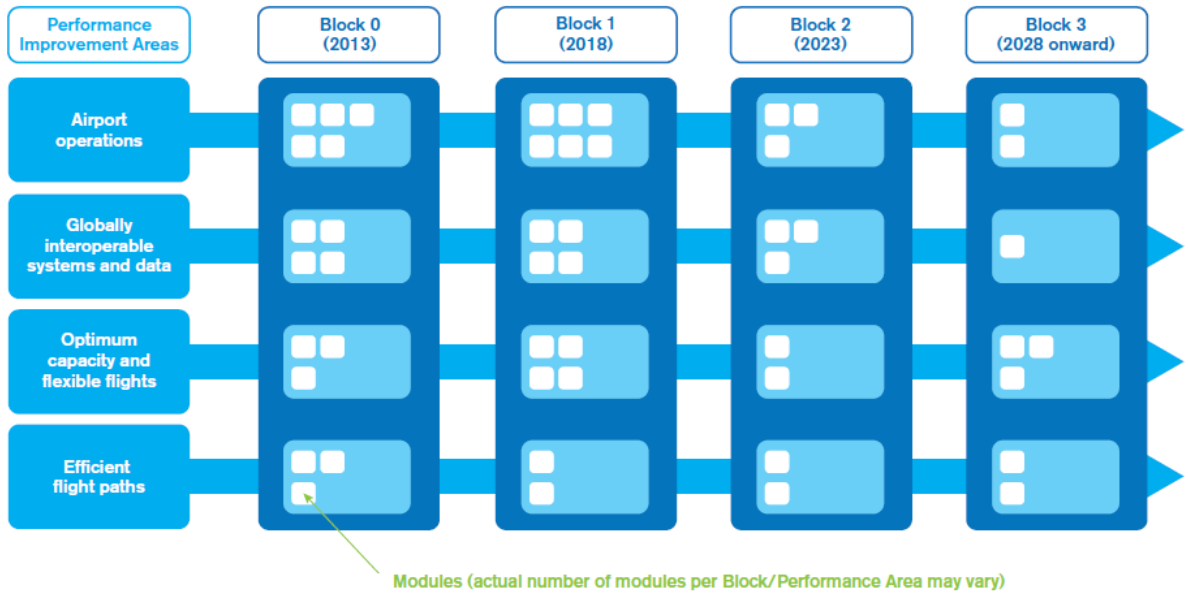
ASBU METHODOLOGY AND THE MID AIR NAVIGATION STRATEGY (AIM/SWIM RELATED ASBU MODULES)

ASBU METHODOLOGY

3.1 ICAO introduced the Aviation System Block Upgrades (ASBU) methodology in the fourth edition of the Doc 9750 (Global Air Navigation Plan), endorsed by the ICAO Assembly in 2013, as a systemic manner to achieve a harmonized implementation of the air navigation services. An ASBU designates a set of improvements that can be implemented globally from a defined point in time to enhance the performance of the ATM system.

3.2 The GANP represents a rolling, 15-year strategic methodology which leverages existing technologies and anticipates future developments based on State/industry agreed operational objectives. The Block Upgrades are organized in five-year time increments starting in 2013 and continuing through 2028 and beyond.

3.3 ASBU methodology defines improvements, through modules, over four blocks in four performance improvements areas:



MID REGION AIR NAVIGATION STRATEGY

3.4 Revised MID Region Air Navigation Strategy (MID Doc 002) was endorsed by the MIDANPIRG/15 meeting to introduce Block 0 ASBU Modules implementation priorities, elements, indicators and targets for the MID Region. It recognizes 11 (out of 18) Block 0 Modules as priority 1 in the MID Region (for more information refer to the MID Doc 002 in the ICAO Secure Portal at: https://portal.icao.int/RO_MID/Pages/MIDDocs.aspx).

BLOCK 0 AIM RELATED MODULE

B0-DATM Implementation

3.5 Block 0 contains 18 Modules and serves as the enabler and foundation for the envisioned future aviation systems. B0-DATM is a priority 1 ASBU Module in accordance with the

MID Region Air Navigation Strategy (MID Doc 002). MID Doc 002 defines the B0-DATM as follows:

Description and purpose

The initial introduction of digital processing and management of information, through aeronautical information service (AIS)/aeronautical information management (AIM) implementation, use of aeronautical information exchange model (AIXM), migration to electronic aeronautical information publication (AIP) and better quality and availability of data**.**

Main performance impact:

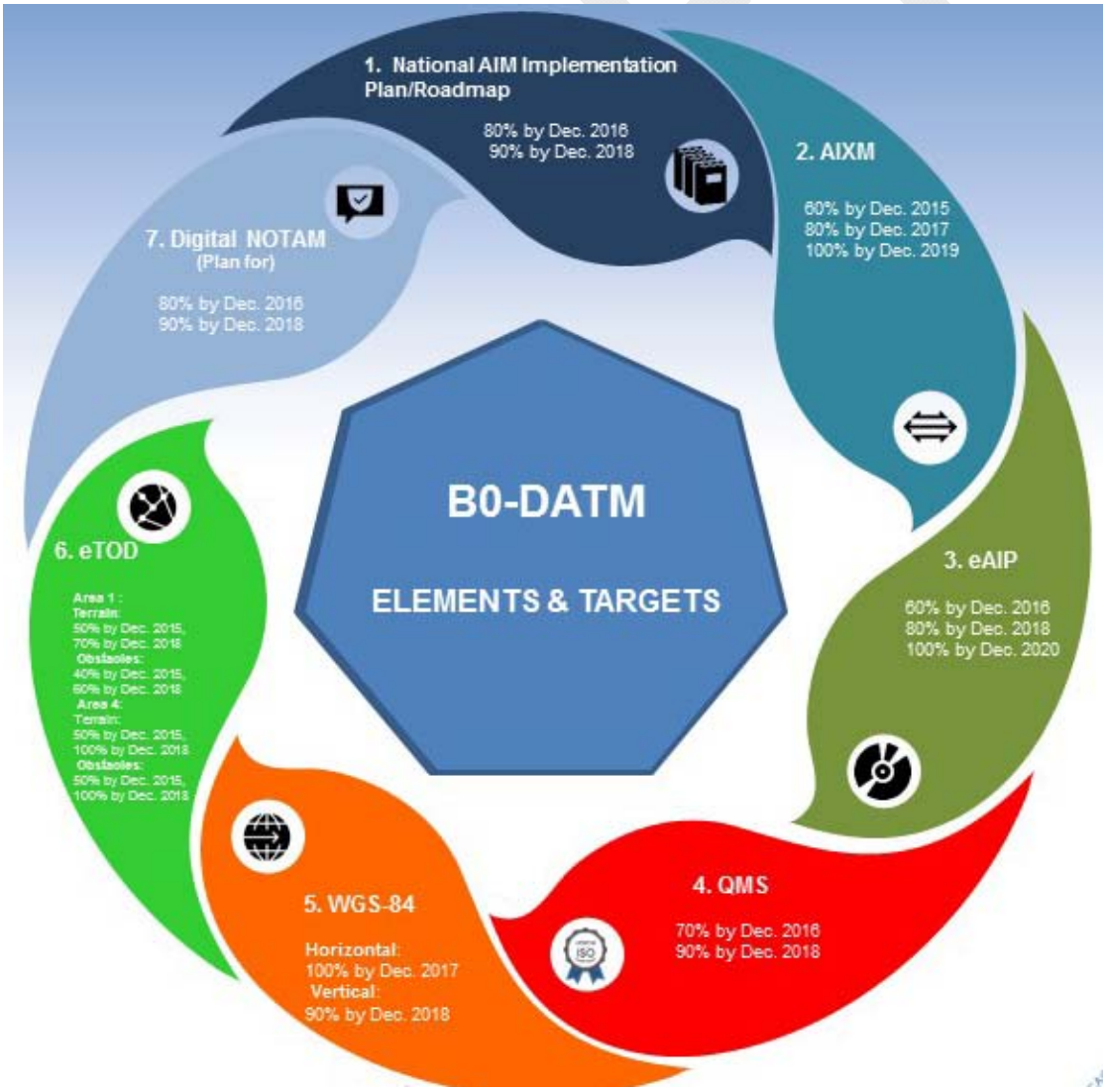
KPA- 01 – Access and Equity	KPA-02 – Capacity	KPA-04 – Efficiency	KPA-05 – Environment	KPA-10 – Safety
N	N	Y	Y	Y

Applicability consideration:

Applicable at State level, with increased benefits as more States participate

B0 – DATM: Service Improvement through Digital Aeronautical Information Management			
Elements	***Applicability***	***Performance Indicators/Supporting Metrics***	***Targets***
1- National AIM Implementation Plan/Roadmap	*All States*	Indicator: % of States that have National AIM Implementation Plan/Roadmap Supporting Metric: Number of States that have National AIM Implementation Plan/Roadmap	80% by Dec. 2016 90% by Dec. 2018
2-AIXM	*All States*	Indicator: % of States that have implemented an AIXM-based AIS database Supporting Metric: Number of States that have implemented an AIXM-based AIS database	60% by Dec. 2015 80% by Dec. 2017 100% by Dec. 2019
3-eAIP	*All States*	Indicator: % of States that have implemented an IAID driven AIP Production (eAIP) Supporting Metric: Number of States that have implemented an IAID driven AIP Production (eAIP)	60% by Dec. 2016 80% by Dec. 2018 100% by Dec. 2020
4-QMS	*All States*	Indicator: % of States that have implemented QMS for AIS/AIM Supporting Metric: Number of States that have implemented QMS for AIS/AIM	70% by Dec. 2016 90% by Dec. 2018
5-WGS-84	*All States*	Indicator: % of States that have implemented WGS-84 for horizontal plan (ENR, Terminal, AD) Supporting Metric: Number of States that have implemented WGS-84 for horizontal plan (ENR, Terminal, AD) Indicator: % of States that have implemented WGS-84 Geoid Undulation Supporting Metric: Number of States that have implemented WGS-84 Geoid Undulation	Horizontal: 100% by Dec. 2017 Vertical: 90% by Dec. 2018

6-eTOD	*All States*	Indicator: % of States that have implemented required Terrain datasets Supporting Metric: Number of States that have implemented required Terrain datasets Indicator: % of States that have implemented required Obstacle datasets Supporting Metric: Number of States that have implemented required Obstacle datasets	Area 1 : Terrain: 50% by Dec. 2015, 70% by Dec. 2018 Obstacles: 40% by Dec. 2015, 60% by Dec. 2018 Area 4: Terrain: 50% by Dec. 2015, 100% by Dec. 2018 Obstacles: 50% by Dec. 2015, 100% by Dec. 2018
7-Digital NOTAM*	*All States*	Indicator: % of States that have included the implementation of Digital NOTAM into their National Plan for the transition from AIS to AIM Supporting Metric: Number of States that have included the implementation of Digital NOTAM into their National Plan for the transition from AIS to AIM	80% by Dec. 2016 90% by Dec. 2018



Aeronautical Information Exchange Model (AIXM)

3.6 The aeronautical information exchange model (AIXM) is designed to enable the management and distribution of aeronautical information services data in digital format. AIXM takes advantages of established information engineering standards and supports current and future aeronautical information system requirements. The major tenets are:

a) an exhaustive temporality model, including support for the temporary information contained in NOTAM;

b) alignment with ISO standards for geospatial information, including the use of the geography markup language (GML);

c) support for the latest ICAO and user requirements for aeronautical data including obstacles, terminal procedures and airport mapping databases; and

d) modularity and extensibility.

3.7 AIXM covers the ICAO requirements for the "data necessary for the safety, regularity and efficiency of international air navigation", existing industry standards (e.g. ARINC 424) and emerging data needs. It has constructs for: aerodromes, navigation aids, terminal procedures, airspace and route structures, ATM and related services, air traffic restrictions and other data.

3.8 AIXM has two components:

a) The AIXM UML Model provides a formal description of the information.

b) The AIXM XML Schemas are an encoding format for aeronautical data.

3.9 AIXM 5 takes advantages of established information engineering standards and supports current and future aeronautical information system requirements.

electronic AIP (eAIP)

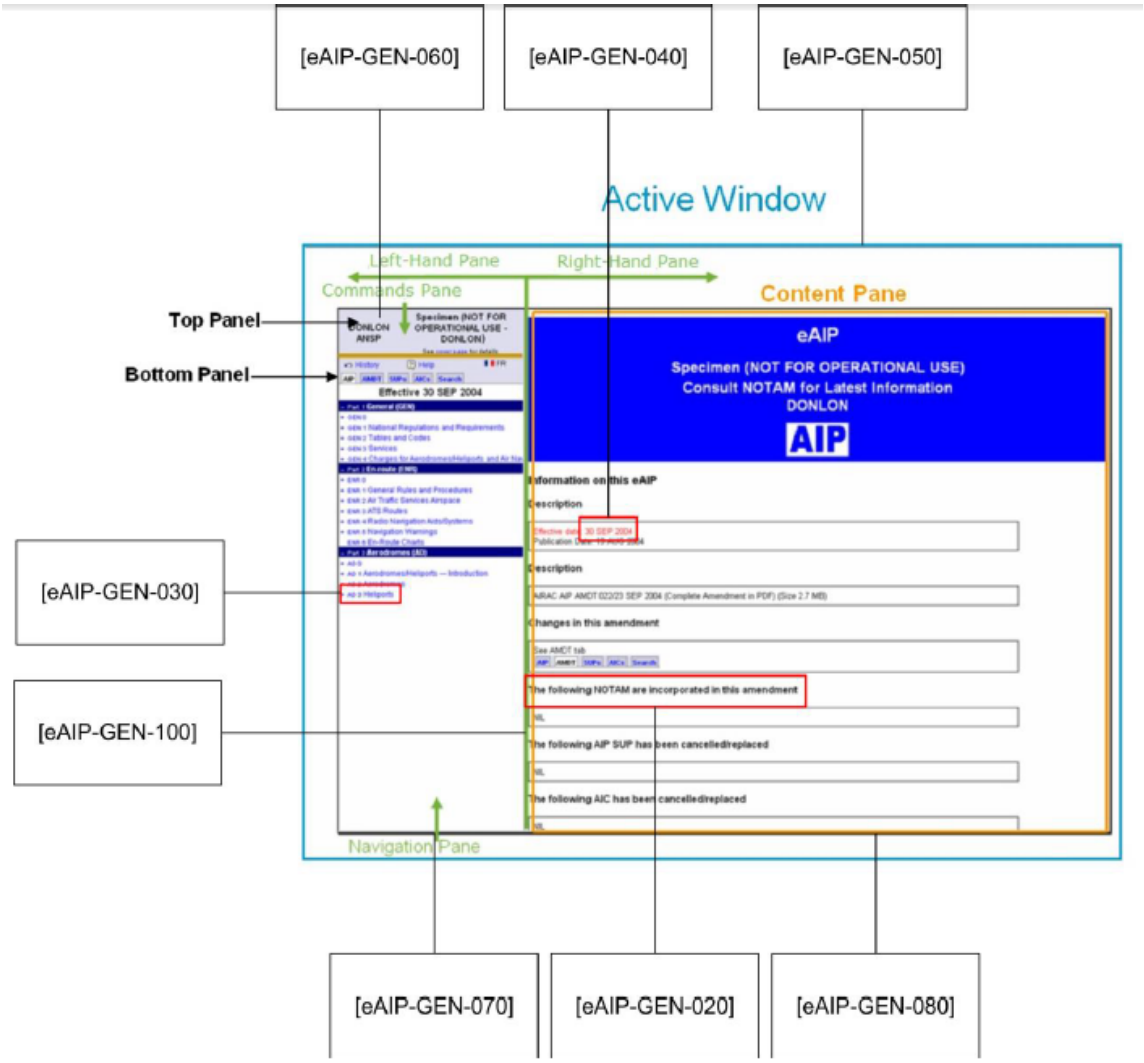
3.10 The AIP, AIP Amendment, AIP Supplement and AIC should also be published in a format that allows for displaying on a computer screen and printing on paper. When provided, the eAIP should be available on a physical distribution medium (CD, DVD, etc.) and/or online on the Internet. When provided, the information content of the eAIP and the structure of chapters, sections and sub-sections shall follow the content and structure of the paper AIP. The eAIP shall include files that allow for printing a paper AIP.

Note 1 - This composite electronic document is named "Electronic AIP" (eAIP) and may be based on a format that allows for digital data exchange.

Note 2 - The eAIP is not intended to support the Digital Notice to Airmen (NOTAM) process, as Digital NOTAM require a database of aeronautical information and are, therefore, not reliant on the eAIP.

3.11 Aeronautical data and aeronautical information within the AIPs, AMDTs and SUPs should be made available, as a minimum, "in a way that allows the content and format of the documents to be directly readable on a computer screen".

3.12 General requirements associated with the **display of the eAIP** are reflected below:



3.13 The eAIP, as a minimum, should have help and search facility and provide history of current and previous amendments to users. It should also include a table of content. Format, display and content requirement for AIP Pages, AIP SUP, AIP Amendment and AIC should be in accordance with Annex15, Doc 8126 and other related SARPs.

Note 3 – More guidance material on the specifications of eAIP could be found in the EUROCONTROL Specifications for the electronic Aeronautical Information Publication (eAIP).

Quality Management System (QMS)

3.14 Quality management systems shall be implemented and maintained encompassing all functions of an aeronautical information service. The execution of such quality management systems shall be made demonstrable for each function stage.

Note 1 - An ISO 9000 certificate issued by an accredited certification body would be considered an acceptable means of compliance.

Note 2 - Guidance material is contained in the Manual on the Quality Management System for Aeronautical Information Services (Doc 9839).

Note 3 - Necessary measures should be taken for the signature of formal arrangements concerning data quality between AIS/AIM and the data originators, commensurate with the Aerodrome operators, Air Navigation Service Providers (ANSPs) and the Military Authority.

World Geodetic System-1984 (WGS-84)

3.15 World Geodetic System — 1984 (WGS-84) shall be used as the horizontal (geodetic) reference system for international air navigation. Consequently, published aeronautical geographical coordinates (indicating latitude and longitude) shall be expressed in terms of the WGS-84 geodetic reference datum.

3.16 WGS-84 shall be introduced in the published coordinates in AIP in the following sections:

a) Enroute

b) Terminal

c) Aerodrome

d) Geoid Undulation

Note - Comprehensive guidance material concerning WGS-84 is contained in the World Geodetic System - 1984 (WGS-84) Manual (Doc 9674).

electronic Terrain and Obstacle Dataset (eTOD)

3.17 eTOD is an electronic set(s) of terrain and/or obstacle data for the defined coverage areas and with the defined data specifications to fulfill the needs of electronic air navigation applications for digital data. The coverage areas for sets of electronic terrain and obstacle data shall be specified as:

— Area 1: the entire territory of a State;

— Area 2: within the vicinity of an aerodrome, subdivided as follows;

— Area 2a: a rectangular area around a runway that comprises the runway strip plus any clearway that exists.

— Area 2b: an area extending from the ends of Area 2a in the direction of departure, with a length of 10 km and a splay of 15 per cent to each side;

— Area 2c: an area extending outside Area 2a and Area 2b at a distance of not more than 10 km from the boundary of Area 2a; and

— Area 2d: an area outside the Areas 2a, 2b and 2c up to a distance of 45 km from the aerodrome reference point, or to an existing TMA boundary, whichever is nearest;

— Area 3: the area bordering an aerodrome movement area that extends horizontally from the edge of a runway to 90 m from the runway centre line and 50 m from the edge of all other parts of the aerodrome movement area.

— Area 4: The area extending 900 m prior to the runway threshold and 60 m each side of the extended runway centre line in the direction of the approach on a precision approach runway, Category II or III.

3.18 Electronic terrain data shall be provided for Area 1 and 4. The obstacle data shall be provided for obstacles in Area 1 higher than 100 m above ground.

Note - Comprehensive guidance material concerning eTOD is contained in Annex 15; the Guidelines for electronic terrain, obstacle and aerodrome mapping information (Doc 9881) and the EUROCONTROL Terrain and Obstacle Data Manual.

AIM/SWIM RELATED MODULES

3.19 Performance Improvement Area 2 (Globally Interoperable Systems and Data – Through Globally Interoperable System Wide Information Management) focuses on ASBU Modules which mainly support Collaborative Decision Making (CDM) through Information Management (i.e. Aeronautical Information, MET, Flight and Flow, etc.) in a SWIM environment:

Performance Improvement Area 2: Globally Interoperable Systems and Data – Through Globally Interoperable System Wide Information Management			
Block 0 (2013)	***Block 1 (2018)***	***Block 2 (2023)***	***Block 3 (2028)***
B0-FICE Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration	**B1-FICE** Increased Interoperability, Efficiency and Capacity though FF-ICE, Step 1 application before Departure	**B2-FICE** Improved Coordination through multi-centre Ground-Ground Integration: (FF-ICE/1 and Flight Object, SWIM)	**B3-FICE** Improved Operational Performance through the introduction of Full FF-ICE
B0-DATM Service Improvement through Digital Aeronautical Information Management	**B1-DATM** Service Improvement through Integration of all Digital ATM Information		
	B1-SWIM Performance Improvement through the application of System-Wide Information Management (SWIM)	**B2-SWIM** Enabling Airborne Participation in collaborative ATM through SWIM	
B0-AMET Meteorological information supporting enhanced operational efficiency and safety	**B1-AMET** Enhanced Operational Decisions through Integrated Meteorological Information (Planning and Near-term Service)		**B3-AMET** Enhanced Operational Decisions through Integrated Meteorological Information (Near-term and Immediate Service)

CHAPTER 4

AIM NATIONAL PLANNING AND IMPLEMENTATION

NATIONAL PLANNING

4.1 States should focus on the implementation of phase II of the ICAO Roadmap for the transition from AIS to AIM and take into consideration the "MID Region AIM implementation Roadmap" in planning for the transition from AIS to AIM in a prioritized manner

4.2 States are required to develop/update their National AIM Implementation Roadmap on an annual basis (by end of December), using the Template at **Appendix A** (National AIM Implementation Roadmap Template).

IMPLEMENTATION OF A SYSTEM FOR AIRAC ADHERENCE MONITORING

4.2 Operationally significant changes to the AIP, listed in Annex 15, Appendix 4 shall be published in accordance with AIRAC procedures and shall be clearly identified by the acronym — AIRAC.

4.3 When an AIP Amendment or an AIP Supplement is published in accordance with AIRAC procedures, a NOTAM called "Trigger NOTAM" shall be originated giving a brief description of the contents, the effective date and time, and the reference number of the amendment or supplement.

4.4 The Trigger NOTAM shall be issued as soon as possible, preferably at the publication date of the AIRAC AIP Amendment or the AIP Supplement. This NOTAM shall come into force on the same effective date and time as the amendment or supplement and shall remain valid for a period of fourteen days.

4.5 The text in Item E) should start with the words 'TRIGGER NOTAM' (followed only in the case of an AIP Amendment by the abbreviation PERM), the reference number of the published AIP Amendment or AIP Supplement concerned, the effective date and a brief description of its contents. Effective time will be omitted in Item E) unless it differs from the default AIRAC effective time of 0000 UTC.

4.6 Trigger NOTAM shall be issued in the appropriate NOTAM series, according to the information to be promulgated and shall follow the normal NOTAM procedures.

Example:

Q) HECA/QARTT/I/BO/000/999
A) HECC B) 1604280000 C) 1409032359
E) TRIGGER NOTAM – PERM AIRAC AIP AMDT 4/16 WEF 28 APR 2016.
IMPLEMENTATION OF NEW ATS ROUTE UL111.

Note – the term 'PERM' is inserted in Item E) to stress that Item C) contains an artificial end-date and that the information is of a permanent nature.

4.7 When information has not been submitted by the AIRAC date, a NIL notification shall be originated and distributed by NOTAM or other suitable means, not later than one cycle before the AIRAC effective date concerned.

4.8 Implementation dates other than AIRAC effective dates shall not be used for pre-planned operationally significant changes requiring cartographic work and/or for updating of navigation databases.

4.9 Information provided under the AIRAC system in paper copy form shall be distributed by the AIS unit at least 42 days in advance of the effective date with the objective of reaching recipients at least 28 days in advance of the effective date. Information provided as electronic media, concerning the circumstances listed in Annex 15, Appendix 4 shall be distributed/made available by the AIS unit so as to reach recipients at least 28 days in advance of the AIRAC effective date.

Recommendation *– Whenever major changes are planned and where advance notice is desirable and practicable, information provided as electronic media should be distributed/made available at least 56 days in advance of the effective date. This should be applied to the establishment of, and premeditated major changes in, the circumstances listed in Appendix 4, Part 3, and other major changes if deemed necessary.*

4.10 AIS/AIM should 1) raise the awareness of the Data Originators regarding the AIRAC provisions and 2) include necessary procedures related to AIRAC adherence in the arrangement with the Data Originators.

4.11 States should implement a system for AIRAC adherence monitoring and report on annual basis (by 31 December) to the ICAO MID Regional Office the case(s) of late publication of aeronautical information of operational significance and non-adherence to the AIRAC provisions. **Appendix B** could be used as a monitoring and reporting tool in the AIRAC adherence.

AIR NAVIGATION DEFICIENCIES

4.12 A deficiency is a situation where a facility, service or procedure does not comply with a regional air navigation plan approved by the Council, or with related ICAO Standards and Recommended Practices, and which situation has a negative impact on the safety, regularity and/or efficiency of international civil aviation.

4.13 Priority for action to remedy a deficiency is based on the following safety assessments:

'U' priority = Urgent requirements having a direct impact on safety and requiring immediate corrective actions. Urgent requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is urgently required for air navigation safety.

'A' priority = Top priority requirements necessary for air navigation safety. Top priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation safety.

'B' priority = Intermediate requirements necessary for air navigation regularity and efficiency. Intermediate priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation regularity and efficiency.

4.14 MIDANPIRG is responsible to identify and address specific deficiencies in the air navigation field and to facilitate the development and implementation of an action plan by States to resolve identified deficiencies, where necessary.

4.15 States are required to use the MID Air Navigation Deficiency Database (MANDD) for the submission of requests for addition, update, and elimination of Air Navigation Deficiencies,

including the submission of a specific Corrective Action Plan (CAP) for each deficiency. Each State MANDD Focal Point is given the required credential and MANDD is accessible at: http://www.cairo.icao.int/

4.16 A Sample State's Corrective Action Plan (CAP) is provided as **Appendix C** for assistance to States in developing their CAPs for the Air Navigation Deficiencies.

4.17 States are required to submit a Formal Letter to the ICAO MID Regional Office containing the evidence(s) that mitigation measures have been implemented for the elimination of deficiency(ies) when requesting the elimination of deficiency(ies) from the MANDD.

HUMAN RESOURCE AND TRAINING

4.18 Within the context of the established quality management system, the competencies and the associated knowledge, skills and abilities required for each function shall be identified, and personnel assigned to perform those functions shall be appropriately trained. Processes shall be in place to ensure that personnel possess the competencies required to perform specific assigned functions. Appropriate records shall be maintained so that the qualifications of personnel can be confirmed. Initial and periodic assessments shall be established that require personnel to demonstrate the required competencies. Periodic assessments of personnel shall be used as a means to detect and correct shortfalls.

Note 1 - Guidance material concerning training methodology to ensure the competency of personnel is contained in the Aeronautical Information Management Training Development Manual (Doc 9991).

CHAPTER 5

REPORTING AND MONITORING

MID eANP VOLUME III

5.1 The status of implementation is reported/monitored through the Tables in the MID eANP Volume III. the MID eANP is available on the ICAO MID website at: http://www.icao.int/MID/Pages/MIDeANP.aspx

REGIONAL PERFORMANCE DASHBOARD

5.2 The 38th Assembly approved the Regional Performance Dashboards. The Dashboards aim to provide a glance of both Safety and Air Navigation Capacity and Efficiency strategic objectives, using a set of indicators and targets based on the regional implementation of the Global Aviation Safety Plan (GASP) and the Global Air Navigation Plan (GANP).

5.3 ICAO introduced the Regional Performance Dashboards as a framework of nested reporting of results with an increased focus on implementation. The initial version of the dashboard shows the globally agreed targeted performance at the regional level and contains graphics and maps with a planned expansion to include regionally agreed targets and the Aviation System Block upgrades (ASBU) Block 0 Modules (i.e. AIM National Plan/Roadmap, AIXM, eAIP, eTOD, WGS-84 and QMS).

5.4 For the first edition of the Regional Performance Dashboards, the implementation of 3 steps from Phase I of the ICAO Roadmap for transition from AIS to AIM (AIRAC, QMS and WGS-84) is monitored. The dashboard can be accessed on the ICAO website at: http://www.icao.int/safety/Pages/Regional-Targets.aspx.

5.5 It is agreed that in the expansion of the MID Regional Performance Dashboard, AIM National Roadmap, AIXM 5+, eAIP, eTOD Area 1 and 4 should be added to the MID Region Dashboard.

METHODOLOGY FOR ASSESSING AND REPORTING THE PROGRESS OF TRANSITION FROM AIS TO AIM

5.6 "*Methodology for assessing and reporting the progress of transition from AIS to AIM*" aims to develop a uniform method and plan for the reporting by the States on the progress achieved for the AIM transition, based on the ICAO Roadmap for Transition from AIS to AIM. The ICAO air navigation planning and implementation performance framework requires that reporting, monitoring, analysis and review activities be conducted on a cyclical, annual basis (ICAO DOC 9750). The Methodology is used while collecting data for monitoring the progress achieved in the transition from AIS to AIM and for the purpose of Regional Performance Dashboard, MID eANP, etc.

5.7 MIDANPIRG/15 meeting (Bahrain, 8-11 June 2015) reviewed the draft Methodology for reporting and assessing the progress related to the transition from AIS to AIM, as an initial MID Regional framework for monitoring the progress achieved for the AIM transition.

METHODOLOGY FOR REPORTING AND ASSESSING THE PROGRESS RELATED TO THE TRANSITION FROM AIS TO AIM

Element (Phase/Step/Step No.)			Metric/ Indicator	Finalization/Compliance Criteria	Link to ASBU Block	Remarks
1			**2**	**3**	**4**	**5**
Phase 1						
AIRAC adherence		P-03	FC/NC	Implementation of a system for AIRAC adherence monitoring (compliance with annex 15 AIRAC provisions) (TBD)	Block 0	
WGS-84 implementation		P-05	FC/PC/NC	National AIP GEN 2.1.3 ‘Geodetic reference datum’ provides information about the implementation of WGS-84 in ENR, Terminal and AD	Block 0	
QMS		P-17	FC/NC	ISO 9001 Certification	Block 0	
Phase 2						
Data quality monitoring		P-01	FI/NI	QMS (P-17) and Agreement with data originators (P-18) is implemented (TBD)	Block 0	
Data integrity monitoring		P-02				*Linked to P-01*
Integrated aeronautical information database	AIXM-based AIS Database	P-06	FI/NI	National aeronautical data and information is stored and maintained in AIXM-based AIS database	Block 0	*Structured AI Database with digital exchange capabilities (AIXM 5.1)*
	Implementation of IAID		FI/PI/NI	Implementation of a database providing eAIP (text, tables and charts) and NOTAM, linked to the terrain/obstacles and aerodrome mapping datasets (TBD)	Block 1	
Unique identifiers		P-07				*Linked to P-06*
Aeronautical information conceptual model		P-08				*Linked to P-06*
Electronic AIP		P-11	FI/NI	National AIP GEN 3.1.3 ‘Aeronautical publications’ provides information about the availability of the National AIP in electronic format (eAIP)	Block 0	
Terrain	Area 1	P-13	FC/NC	National AIP GEN 3.1.6 ‘Electronic terrain and obstacle data’ provides information on how the dataset can be obtained	Block 0	
	Area 4	P-13	FC/PC/NC or N/A	National AIP GEN 3.1.6 ‘Electronic terrain and obstacle data‘ provides information on how the dataset for specific CAT II/III RWY can be obtained. States should indicate in remarks the number of existing CAT II/III RWY. N/A for States with no CAT II/III RWY.	Block 0	*In case of PC, list name of CAT II/III ADs having the dataset*

Element (Phase/Step/Step No.)			Metric/ Indicator	Finalization/Compliance Criteria	Link to ASBU Block	Remarks
1			2	3	4	5
	Area 2a	P-13	FC/PC/NC	National AIP GEN 3.1.6 'Electronic terrain and obstacle data' provides information on how the dataset can be obtained. States should indicate in remarks the number of AD eligible for provision of Area 2 data. This number should come from the Regional eANP Table AOP II-1 – for aerodromes with one of the following designation: — RS: international scheduled air transport, regular use — RNS: international non-scheduled air transport, regular use — RG: international general aviation, regular use.	Block 0	*In case of PC, list name of ADs having the dataset*
	Take-off flight path area	P-13	FC/PC/NC	Same as Terrain Area 2a	Block 0	*In case of PC, list name of ADs having the dataset*
	An area bounded by the lateral extent of the aerodrome obstacle limitation surfaces	P-13	FC/PC/NC	Same as Terrain Area 2a	Block 0	*In case of PC, list name of ADs having the dataset*
Obstacles	Area 1	P-14	FC/NC	National AIP GEN 3.1.6 'Electronic terrain and obstacle data' provides information on how the dataset can be obtained	Block 0	
	Area 4	P-14	FC/PC/NC or N/A	National AIP GEN 3.1.6 'Electronic terrain and obstacle data' provides information on how the dataset for specific CAT II/III RWY can be obtained. States should indicate in remarks the number of existing CAT II/III RWY. N/A for States with no CAT II/III RWY.	Block 0	*In case of PC, list name of CAT II/III ADs having the dataset*
	Area 2a	P-14	FC/PC/NC	National AIP GEN 3.1.6 'Electronic terrain and obstacle data' provides information on how the dataset can be obtained. States should indicate in remarks the number of AD eligible for provision of Area 2 data. This number should come from the Regional eANP Table AOP II-1 – for aerodromes with one of the following designation: — RS: international scheduled air transport, regular use	Block 0	*In case of PC, list name of ADs having the dataset*

Element (Phase/Step/Step No.)		Metric/ Indicator	Finalization/Compliance Criteria	Link to ASBU Block	Remarks
1		**2**	**3**	**4**	**5**
			— RNS: international non-scheduled air transport, regular use — RG: international general aviation, regular use.		
objects in the take-off flight path area which project above a plane surface having a 1.2 per cent slope and having a common origin with the take-off flight path area	P-14	FC/PC/NC	Same as Obstacles Area 2a	Block 0	*In case of PC, list name of ADs having the dataset*
penetrations of the aerodrome obstacle limitation surfaces	P-14	FC/PC/NC	Same as Obstacles Area 2a	Block 0	*In case of PC, list name of ADs having the dataset*
Aerodrome mapping	P-15	FI/PI/NI	National AIP GEN 3.1.6 ‘Electronic terrain and obstacle data’ provides information on how the dataset can be obtained	Block 1	*In case of PC, list name of ADs having the dataset*
Phase 3					
Aeronautical data exchange	P-09	FI/PI/NI	Direct data exchange between AIS and data originators/users (TBD)	Block 1	*In case of PC, list name of Units (Data Originators/Users)*
Communication networks	P-10				
Aeronautical information briefing	P-12	FI/PI/NI	Provision of preflight aeronautical information briefing at the international aerodromes (TBD) Mandatory for international aerodromes contained in the Regional eANP Table AOP II-1 – for aerodromes with one of the following designation: — RS: international scheduled air transport, regular use — RNS: international non-scheduled air transport, regular use — RG: international general aviation, regular use.	Block 1	*In case of PC, list name of ADs providing AI briefing*
Training	P-16				

Element (Phase/Step/Step No.)		Metric/ Indicator	Finalization/Compliance Criteria	Link to ASBU Block	Remarks
1		**2**	**3**	**4**	**5**
Agreement with data originators	P-18	FI/PI/NI	Signed agreements between AIS and ANSPs (ATM, CNS, etc.), Aerodromes and Military	Block 0	*In case of PC, list name of Data Originator(s)*
Interoperability with meteorological products	P-19				*Linked to P-12*
Electronic aeronautical charts	P-20	FI/NI	National AIP GEN 3.2 'Aeronautical Charts provides information about the availability of the e-Aeronautical Charts	Block 1	
Digital NOTAM	P-21	FI/NI	TBD	Block 1	

FC: Fully Compliant; PC: Partially Compliant; NC: Not Compliant; FI: Fully Implemented; PI: Partially Implemented; NI: Not Implemented; N/A: Not Applicable

---

APPENDICES

APPENDIX A
NATIONAL AIM IMPLEMENTATION ROADMAP TEMPLATE

Phase/Step	Step No.	Timeline					Start	End	Remarks
		2014	2015	2016	2017	2018			
Phase I									
AIRAC adherence	P-03								
WGS-84 implementation	P-05								
QMS	P-17								
Phase II									
Data Quality Monitoring	P-01								
Data Integrity Monitoring	P-02								
AIXM	P-06								
Unique identifiers	P-07								
Aeronautical information conceptual model	P-08								
eAIP	P-11								
Terrain A-1	P-13								
Obstacle A-1	P-14								
Terrain A-4	P-13								
Obstacle A-4	P-14								
Terrain A-2	P-13								Please specify implementation of Area 2a, 2b, 2c and/or 2d

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								

Legend		
		Not Started
		In Progress
		Implemented

APPENDIX B

AIRAC ADHERENCE MONITORING

YEAR: 2016			**STATE: …….**		
AIRAC EFF Date	**AIRAC AMDT Serial Number; or NIL Notification**	**AIRAC AMDT PUB/Distribution Date**	**Trigger NOTAM (Serial Number)**	**No change until 28 days after EFF Date? (Yes / No)**	**Remarks**
7 JAN 16	- AIRAC …../16; or - NIL notification issued on …….				
4 FEB 16	- AIRAC …../16; or - NIL notification issued on …….				
3 MAR 16	- AIRAC …../16; or - NIL notification issued on …….				
31 MAR 16	- AIRAC …../16; or - NIL notification issued on …….				
28 APR 16	- AIRAC …../16; or - NIL notification issued on …….				
26 MAY 16	- AIRAC …../16; or - NIL notification issued on …….				
23 JUN 16	- AIRAC …../16; or - NIL notification issued on …….				
21 JUL 16	- AIRAC …../16; or - NIL notification issued on …….				
18 AUG 16	- AIRAC …../16; or - NIL notification issued on …….				
15 SEP 16	- AIRAC …../16; or - NIL notification issued on …….				
13 OCT 16	- AIRAC …../16; or - NIL notification issued on …….				
10 NOV 16	- AIRAC …../16; or - NIL notification issued on …….				
8 DEC 16	- AIRAC …../16; or - NIL notification issued on …….				

APPENDIX C

SAMPLE STATE'S CORRECTIVE ACTION PLAN

<table>
<tr><td colspan="2">DEFICIENCY DESCRIPTION</td><td>PRIORITY
(U/A/B)</td></tr>
<tr><td colspan="2" rowspan="3"></td><td></td></tr>
<tr><td>RATIONALE
F:Financial, H:HR, S:State, O:Other</td></tr>
<tr><td></td></tr>
<tr><td colspan="3">STATE'S COMMENTS/OBSERVATION</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td>CORRECTIVE ACTION(S) PROPOSED</td><td>ACTION OFFICE/BODY</td><td>DATE OF COMPLETION</td></tr>
<tr><td></td><td></td><td></td></tr>
</table>

References

- ICAO Annex 15 – Aeronautical Information Services
- ICAO Doc 9750 – Global Air Navigation Plan
- ICAO Roadmap for the transition from AIS to AIM
- EUROCONTROL Guidelines – Operating procedures for AIS Dynamic Data (OPADD)
- EUROCONTROL Specifications for the electronic Aeronautical Information Publication (eAIP)
- EUROCONTROL Terrain and Obstacle Data Manual
- MIDANPIRG/15 Report
- MID Doc 002 – MID Region Air Navigation Strategy
- MSG/4 Report
- http://www.aixm.aero
- http://www.icao.int/airnavigation/Documents/ICAO_AN%20Report_EN_final_30042014.pdf
- http://www.icao.int/airnavigation/IMP/Pages/default.aspx
- http://www.icao.int/safety/ais-aimsg/Pages/default.aspx
- http://www.icao.int/safety/Pages/Regional-Targets.aspx.
- https://portal.icao.int/RO_MID/Pages/MIDDocs.aspx
- https://portal.icao.int/space/anp/Pages/Home.aspx

- END -

International Civil Aviation Organization | Organisation de l'aviation civile internationale | Organización de Aviación Civil Internacional | Международная организация гражданской авиации | منظمة الطيران المدني الدولي | 国际民用航空组织

Ref.: T 8/2.10 & T 8/2.11 – AP033/16 (CNS) 25 February 2016

Subject: ICAO Workshop on System Wide Information Management (SWIM)
(Bangkok, Thailand, 16-18 May 2016)

Actions Required: Register **before 22 April 2016**

Sir/Madam,

I have the honour to invite your Administration to the ICAO SWIM Workshop on 16-18 May 2016, which will be held in conjunction with the Third Meeting of Aeronautical Communication Services Implementation Coordination Group (ACSICG/3) on 11-13 May 2016 at ICAO Regional Office Bangkok, Thailand, as a follow-up to the Conclusion adopted by APANPIRG in September 2014:

Conclusion APANPIRG 25/43 – Promote understanding of SWIM in APAC Region

That, recognizing SWIM as a building block of ASBU Block 1 and 2 modules, ICAO be invited to promote understanding of SWIM through organizing Seminars/Workshops with focus on both technical and operational aspects for SWIM development in the Asia Pacific Region.

The Workshop aims at providing **guidelines to implement the SWIM environment in compliance with the ICAO GANP ASBU Block 1.** The Workshop will maximize opportunities of debates and questions/answers with speakers experienced and involved in planning or early implementation of SWIM services, Mini Global demonstration, and related aeronautical communication services.

Multiple aspects of SWIM will be addressed in the 3 days event:

- B1-SWIM objectives and definitions GANP objectives, Update on progress of ICAO Information Management Panel, Services, Architecture, Governance;
- Where are we today? (current Plans for SWIM, current Communications environment);

…2/

Asia and Pacific Office
252/1 Vibhavadi Rangsit Road
Chatuchak
Bangkok 10900
Thailand

Postal Address:
P.O. Box 11
Samyaek Ladprao
Bangkok 10901
Thailand

Tel.: +66 (2) 537-8189
Fax: +66 (2) 537-8199

www.icao.int/apac
E-mail: apac@icao.int

- How to cope with the transition? (options to implement SWIM services, market readiness, how to cope with less advanced stakeholders, transition with communications); and

- Shaping the input to the regional planning and national strategies (Which regional targets for B1-SWIM? Which dependencies?)

Registration

This event is a unique opportunity to get started with SWIM and expand your network with international experts of the civil aviation community.

All stakeholders from **Asia/Pacific and Middle East Regions** involved in SWIM strategy, planning and/or implementation are invited to the Workshop: international organizations, regulators, air navigation, AIS/AIM and MET service providers, airlines, training academies, and industry.

This event will be free of charge to the participants and sponsored by industry. I shall be grateful if you could forward the registration form provided as Attachment to this letter to this Office at APAC@icao.int cc: FLecat@icao.int; SSomsri@icao.int; preferably **before 22 April 2016.**

Meeting bulletin will be uploaded on the APAC website when it is available.

Accept, Sir/Madam, the assurances of my highest consideration.

Arun Mishra
Regional Director

Enclosure:
Registration Form

INTERNATIONAL CIVIL AVIATION ORGANIZATION
ASIA AND PACIFIC OFFICE

ICAO WORKSHOP ON
SYSTEM WIDE INFORMATION MANAGEMENT (SWIM)

(Bangkok, Thailand, 16-18 May 2016)

REGISTRATION FORM

To confirm attendance, please check

1. Name in full:
(Mr./Mrs./Miss) _____
(as should appear in the official listing and name tag)

2. Title or Official Position: _____

3. State/Organization: _____

4. Mailing Address: _____

_____

5. Telephone Number: _____

Fax Number: _____

E-mail: _____

6. Hotel in Bangkok _____

Note 1: Participants are expected to make their own hotel/visa arrangements

Note 2: Please download meeting materials from the ICAO Asia/Pacific website http://www.icao.int/APAC/Meetings/ prior to the meeting

Note 3: Please return the nomination form, preferably, not **later than 22 April 2016**

Date_____Signature:_____

After completing, please send to: ICAO Regional Office for Asia and Pacific, P.O. Box 11, Samyaek Ladprao, Bangkok 10901, Thailand, Fax: +66 (2) 537 8199
E-mail: APAC@icao.int cc: FLecat@icao.int; SSomsri@icao.int