APPENDIX-3.5G

Insert Logo Here
Organisation 1

Insert Logo Here
Organisation 2

Insert Logo Here
Organisation 3

Service Level Agreement Template

Edition	**:**
Edition Date	**:**
Status	**:**

Appendix A to WP-17 on Agenda Item 3.5

DOCUMENT APPROVAL

The following table identifies all management authorities that have successively approved the present issue of this document.

In witness whereof, the undersigned have executed this Agreement as of the date previously mentioned in this Agreement.

[Insert authority names below as appropriate]

AUTHORITY	NAME AND SIGNATURE	DATE
Aeronautical Information Services		
Data Originator		
Regulator		

Appendix A to WP/17 on Agenda Item 3.5

DOCUMENT CHANGE RECORD

The following table records the complete history of the successive editions of the present document.

EDITION	DATE	REASON FOR CHANGE	SECTIONS PAGES AFFECTED

Appendix A to WP/17 on Agenda Item 3.5

TABLE OF CONTENTS

Appendix A to WP/17 on Agenda Item 3.5

1. INTRODUCTION

1.1 Scope

This Service Level Agreement (SLA) documents the agreed provision of service for the supply of aeronautical information (Data) by **[organisation name]** (The Data Originator) to **[organisation name]** (The AISP) and the agreed standards to which the said information shall be published by the AISP. **This SLA is overseen and managed by the [organisation name] (The Regulator).**

1.2 Benefits Gained from an SLA

An SLA is a contract between parties that defines the services provided, the indicators associated with these services, acceptable and unacceptable service levels, liabilities on the part of the service provider and the customer, and actions to be taken in specific circumstances.

In the scope of this SLA only modes of operation are discussed and formalised and financial components are not considered.

The basic objectives of an SLA are as follows:

- **Better communication. It facilitates two-way communication between the parties. This communication starts at the beginning of the process to establish an SLA and continues throughout the life of the arrangement. The parties involved come together in order to understand each other's needs, priorities and concerns, and to gain an insight into the problems which may be faced by each party through the failure of each party to fulfil their obligations.**

- **Guards against expectation creep. It is not uncommon for one party's expectations of another to be higher than that which may be considered reasonable. Discussing these expectations and the resource commitments necessary to meet them is one activity undertaken in the establishment of an SLA. The process facilitates the identification and discussion of expectations. As a result, it helps identify service levels that are considered acceptable by each party and which are attainable and achievable.**

- **Mutually agreed standard. It sets an agreed standard against which performance may be measured. It identifies customer expectations, defines the boundaries of the service provision and clarifies responsibilities. In the absence of a shared understanding about needs and priorities, it is easy for conflicts to arise between parties. An SLA and the communication process involved in establishing it help to minimise the conflicts between the parties and provides a means for conflict resolution should a problem arise.**

- **A process for gauging service effectiveness. As the SLA defines standards against which the service may be measured and evaluated, it provides the basis for performing an assessment of the effectiveness of the service.**

1.3 Parties to the Agreement

The following table describes and names the legal entities and their representatives who have reviewed and approved this SLA.

Entity [Insert Regulator details here]	Address	Re presentative
[Insert AISP details here]		
[Insert Data Originator details here]		

Table 1: Parties to Agreement

1.4 Perspective – Regulative Environment

A number of documents specify the regulatory requirements for the provision of information by Data Originators and its subsequent processing by AIS. These include:

- ICAO Annex 4 “Aeronautical Charts”;
- ICAO Annex 5 “Units of Measurement to be Used in Air and Ground Operations”;
- ICAO Annex 11 “Air Traffic Services”;
- ICAO Annex 14 “Aerodromes”;
- ICAO Annex 15 “Aeronautical Information Services”.

These documents are further supported by guidance material, including:

- ICAO Doc 8126 “AIS Manual”;
- ICAO Doc 8697 “Aeronautical Chart Manual”;
- ICAO Doc 9674 “WGS-84 Manual”;
- Operating Procedures for AIS Dynamic Data (OPADD).

[Add any State applicable regulation here]

1.5 Term

The term of this SLA shall be as follows:

Start Date: **[Insert start date here]**

End Date: **[Insert end date here]**

Duration: **[Insert duration here]**

Once agreed The AISP and The Data Originator cannot withdraw from all or part of this agreement within the above dates.

[Add any other agreed constraints of / specification for the scope here.]

1.6 Conventions

Within this SLA, the following conventions are used:

1.6.1 Time

1.6.2 Presentation of Date and Time in All-numeric Form

This SLA uses Co-ordinated Universal Time (UTC) as described in Attachment D of Annex 5.

This SLA uses the procedures for writing the date and time in all-numeric form as described in Attachment E of Annex 5.

Times expressed as a number of “Office hours” include the hours from 8:00 to 16:00 Dutch local time (Monday to Friday).

Times expressed as a number of “Office hours” include business hours, Monday through Friday, excluding designated holidays.

Unless specifically mentioned otherwise, all durations specified are in working days.

1.6.3 Quality Attributes / Definitions

Accuracy: A degree of conformance between the estimated or measured value and the true value.

AIRAC System: A system aimed at advance notification based on common effective dates, of circumstances that necessitate significant changes in operating practices.

NOTAM System: A system of distributing notices by means of telecommunication, that contain information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

Resolution: A number of units or digits to which a measured or calculated value is expressed and used.

Integrity: A degree of assurance that an aeronautical data item and its value have not been lost or altered since its origination or authorised amendment.

Timeliness: A characteristic by which either data is provided or actions performed, with sufficient time remaining so as not to impact later actions and possibly jeopardise the achievement of the required result within due time.

1.6.4 Data Categories

The following data classifications are used within this document:

Routine: There is a very low probability when using corrupted routine data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe.

The permitted maximum error rate is 1 in 1000, providing an integrity level of 1×10^{-3}.

Essential: There is a low probability when using corrupted essential data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe.

The permitted maximum error rate is 1 in 100,000, providing an integrity level of 1×10^{-5}.

Critical: There is a high probability when using corrupted critical data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe.

The permitted maximum error rate is 1 in 100,000,000, providing an integrity level of 1×10^{-8}.

1.7 Entities Involved for Data Provision

The following entities categories involved are used within this document:

1. Civil Aviation Authority (CAA)

   The national body responsible for the overall supervision of aviation-related activities.

2. **[Insert Organisation Name Here]**

   The organisation responsible for the provision of Air Navigation Services for the State.

3. Aeronautical Information **Management**/Services **(AIM/AIS)**

   The unit of the ANSP responsible for the provision of Aeronautical Information Services (AIS) for the State.

4. **Data Originator**

   Describe the data originator body here.

5. National Supervisory Authority (NSA)

2. SERVICES AND SERVICE LEVELS

2.1 Service Description

The Data Originator will provide the AISP with the Data for which it is responsible as listed in Table 2, below.

Data Entity	Description
X	
Y	
Z	

Table 2: Data to be Provided

The AISP will, in turn, publish the information within the National Publication and in accordance with ICAO and National regulations.

2.1.1 Regulation

[Detail here the regulation that applies to this SLA]

2.2 Optional Services

[Detail any further services required here]

2.3 Exclusions

[Detail any further services required here]

2.4 Limitations

[Detail any further services required here]

2.5 Entities Involved

[Detail any the entities involved here]

2.6 Service Levels

2.6.1 Data Originator

All Data shall be provided in accordance with the following criteria:

1. The Data shall include its effective date.
2. The Data shall include its period of validity.
3. The Data shall be provided with the requested publication.
4. The Data shall be prepared in accordance with the following standards:
   a. **[List standards here]**

Additionally, the Data Originator shall provide each of the identified Data items in Table 2, in accordance with the following specific criteria:

2.6.1.1 Data Item x – Repeat for each data item.

The Data shall be provided at least **[insert timeliness requirement]** days prior to the effective date.

The Data shall be provided by **[insert delivery requirement]** means.

The Data shall be provided in **[insert required format of delivery].**

The Data shall be provided with the following quality attributes:

Attribute	Accuracy	Resolution	Inte grity Level	Note
X'1	**20 m**	**1 second**	**Critical**	
X'2	**1 ft**	**0.1 ft**	**Essential**	
X'3	**n/a**	**n/a**	**Routine**	**Textual data**

Table 3: Data Attributes – Entity X

The Data shall be provided by with the following mete-data:

1. **[insert meta-data requirement].**

[Add more requirements for the provision of information]

2.6.2 AISP

The AISP shall process the Data upon receipt.

The AISP shall present a draft publication including the Data for approval by **[insert approver]** at least **[insert timeliness requirement]** days prior to the effective date.

The AISP shall publish the Data within the requested publication unless otherwise agreed, in writing, with the Data Originator.

[Add more requirements for the publication of information]

2.7 Service Level Indications

The following measures will be used to assess the performance of the service:

Measure	Description	Target
		Target date[1]. Late provision must be alerted to the AIM as soon as known. The publication of this information will then be the subject of negotiation.
Format	The Data is provided by the Data Originator to the AIM, without errors in presentation or content, in the format detailed within this SLA.	95%
Draft Publication	The AIM will present a draft publication to the Data Originator for approval within the specified timeframe.	95% by required due date[2]. 100% within one day following due date[2].
Publication	The AIM will publish the Data within the required period (e.g. in compliance with the AIRAC cycle).	95% by required due date.
Quality of Publication	The IAIP product prepared will be provided in accordance with the applicable standards.	95%
Add and amend indications as required.		

Due date is used to mean the number of days in advance of the effective date that the information is to be provided to the AIS. This period is defined in section 2.6.1.

Measure	Description	Target
Quality of Data	The Data is delivered by the Data Originator to the AIM with the required quality levels.	100%
Timeliness	The Data is delivered by the Data Originator to the AIM within the specified timeframe.	95% by required due date[1]. 100% within three days following due

Table 4: Service Level Indications

[2] Due date is used to mean the number of days in advance of the effective date that the draft publication is to be provided to the Data Originator.

3. MANAGEMENT ELEMENTS

3.1 Rewards and Remedies

[Detail rewards and remedies here]

3.2 Escalation Procedures

[Detail any escalation procedures here]

3.3 SLA Lifecycle

3.3.1 Reporting

[Detail any reporting here]

3.3.2 Reviews

[Detail any reviews here]

3.3.3 Change Process

[Detail the change process here]

3.4 Points of Contact

The following points of contact for execution of the SLA are:

Organisation	Primary Contact	Secondary Contact
[Insert Regulator details here]	[Insert Primary Contact details here, including name, role/job title, address, telephone, fax and email]	[Insert Secondary Contact details here, including name, role/job title, address, telephone, fax and email]
[Insert AISP details here]	[Insert Primary Contact details here, including name, role/job title, address, telephone, fax and email]	[Insert Secondary Contact details here, including name, role/job title, address, telephone, fax and email]
[Insert Data Originator details here]	[Insert Primary Contact details here, including name, role/job title, address, telephone, fax and email]	[Insert Secondary Contact details here, including name, role/job title, address, telephone, fax and email]

Table 5: Points of Contact

4. FUTURE INTENTIONS

4.1 General

Although outside the scope of this SLA, AIM and the **[Data Originator]** have a number of intentions for improvement which may have a consequential impact on this SLA.

The following sections outline these and should be considered during the review of the SLA, once it is in operation.

4.2 Describe future intentions here

5. REFERENCES

5.1 Refer to docs and add a short description.

End of Document

a) Proposal for Amendment to the AFI Basic ANP (Doc 7474 Vol. II) for the introduction of a new Section related to e-TOD

World Geodetic System – 1984 (WGS-84)

67. In order to ensure that quality (accuracy, resolution and integrity) and traceability requirements for the WGS-84 related geographical coordinate data are met, States must take measures to develop and introduce a quality system programme. This programme containing procedures, processes and resources should be in conformity with the International Organization for Standardization (ISO) 9000 series of quality assurance standards.

(Insert the following new Text)

Electronic Terrain and Obstacle Data (eTOD) Requirements

(FASID Table AIS 9)

68. Recognizing that significant safety benefits for international civil aviation will be provided by in-flight and ground-based applications that rely on quality electronic Terrain and Obstacle Data (eTOD), States should make every effort to implement the eTOD provisions in accordance with Chapter 10 of Annex 15 and Doc 9881.

69. FASID Table AIS-X sets out the requirements for the provision of Electronic Terrain and Obstacle Data (e-TOD) to be provided by States.

70. The implementation of e-TOD should involve different Administrations within and outside the Civil Aviation Authority i.e.: AIS, Aerodromes, Military, National Geographic and Topographic Administrations/Agencies, procedure designers, etc.

71. States, while maintaining the responsibility for data quality and availability, should consider to which extent the provision of electronic terrain and obstacle data could be delegated to national geodetic Institutes/Agencies, based on Service Level Agreement reflecting such delegation.

72. States should consider carefully the required level of details of collected terrain and obstacle data with particular emphasis on obstacle data and associated cost.

73. States should take into consideration the requirements for update/maintenance of data, especially related to obstacles.

74. States should work co-operatively with regard to the cross-border issue, for the sake of harmonization and more efficient implementation of e-TOD.

(Renumber the following paragraphs)

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FASID TABLE AIS-X — e-TOD REQUIREMENTS

EXPLANATION OF THE TABLE

1 Name of the State, territory or aerodrome for which electronic Terrain and Obstacle Data (e-TOD) are required with the designation of the aerodrome use:

RS — international scheduled air transport, regular use RNS — international non-scheduled air transport, regular use RG — international general aviation, regular use
AS — international scheduled air transport, alternate use

2 Runway designation numbers

3 Type of each of the runways to be provided. The types of runways, as defined in Annex 14, Volume 1, Chapter I, are:

NINST — non-instrument runway;
NPA — non-precision approach runway
PA1 — precision approach runway, Category I; PA2 — precision approach runway, Category II; PA3 — precision approach runway, Category III.

4 Requirement for the provision of Terrain data for Area 1, shown by an ‘‘X’’ against the State or territory to be covered.

5 Requirement for the provision of Terrain data for Area 2 (TMA), shown by an ‘‘X’’ against the aerodrome to be covered.

6 Requirement for the provision of Terrain data for Area 2 (45 Km radius from the ARP), shown by an ‘‘X’’ against the aerodrome to be covered.

7 Requirement for the provision of Terrain data for Area 3, shown by an ‘‘X’’ against the aerodrome to be covered.

8 Requirement for the provision of Terrain data for Area 4, shown by an ‘‘X’’ against the runway threshold to be covered.

9 Requirement for the provision of Obstacle data for Area 1, shown by an ‘‘X’’ against the State or territory to be covered.

10 Requirement for the provision of Obstacle data for Area 2 (TMA), shown by an ‘‘X’’ against the aerodrome to be covered.

11 Requirement for the provision of Obstacle data for Area 2 (45 Km radius from the ARP), shown by an ‘‘X’’ against the aerodrome to be covered.

12 Requirement for the provision of Obstacle data for Area 3, shown by an ‘‘X’’ against the aerodrome to be covered.

13 Remarks (timetable for implementation)

Note: For Columns 4 to 12 use the following symbols:

X- Required but not implemented
XI- Required and implemented

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED				REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
1	2	3	4	5	6	7	8	9	10	11	12	13
ALGERIA												
DAUA ADRAR/Touat RS	04 22	**NPA**										
DAAG ALGER/Houari Boumediene RS	05 23 09 27	NPA PA2 PA1 NPA										
DABB ANNABA/El Mellah RS	01 19 05 23	NPA PA1 NPA NINST										
DABC CONSTANTINE/Mohamed Boudiaf RS	14 32 16 34	NPA PA1 NPA PA1										
DAUG GHARDAIA/Noumérate RS	12 30	NPA PA1 NINST										
DAUH HASSI-MESSAOUD/Oued Irara RS	18 36 1 01 19	PA1 NPA										
DAUI IN-SALAH/ AS	05 23	NPA NPA										
DAOO ORAN/Es Sénia RS	07 25	NPA PA2										
DAAT TAMANRASSET/Aguennar AS	02 20 08 26	NPA PA1 NPA										
DABS TEBESSA/Tébessa RS	11 29 12	NPA NPA NPA NINST										

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED				REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
	30											
DAON TLEMCEN/Zénata RS	09 27	NPA NPA										
DAUZ ZARZAITINE/In Amenas RS	05 23 15 33	NPA NPA										
ANGOLA												
FNHU HUAMBO/Albano Machado RS	11 29	NPA NPA										
FNLU LUANDA/4 de Fevereiro RS	05 23 07 25	NPA PA1										
BENIN												
DBBB COTONOU/Cadjehoun RS	06 24	NPA PA1										
BOTSWANA												
FBFT FRANCISTOWN/ Francistown RS	11 29	NINST NINST										
FBSK GABORONE/Sir Seretse Khama Intl RS	08 26	PA1 NPA										
FBKE KASANE/Kasane RS	08 26	NPA NINST										
FBMN MAUN/Maun RS	08 26	NINST NINST										
FBSP SELEBI-PHIKWE/Selebi-Phikwe	12 30	NINST PA1 NINST										

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CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
RS												
BURKINA FASO												
DFOO BOBO-DIOULASSO/Bobo-Dioulasso RS	06 24	PA1 NPA										
DFFD OUAGADOUGOU/Ouagadougou RS	04L 22R	PA1 NPA										
BURUNDI												
HBBA BUJUMBURA/Bujumbura RS	18 36	PA1 NPA										
CAMEROON												
FKKD DOUALA/Douala RS	12 30	NPA PA2										
FKKR GAROUA/Garoua RS	09 27	PA1 NPA										
FKKL MAROUA/Salak RS	13 31	NPA NINST										
FKKN N'GAOUNDERE/N'Gaoundere AS	03 21	NPA NINST										
FKYS YAOUNDE/Nsimalen RS	01 19	NINST PA2										
CAPE VERDE												
GVFM PRAIA/Francisco Mendes RS	**04** **22**	NPA NINST										

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CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
GVAC SAL I./Amilcar Cabral RS	**01 19 07 25**	PA1 NPA										
CENTRAL AFRICAN REPUBLIC												
FEFF BANGUI/M'Poko RS	**17 35**	NPA PA1										
FEFT BERBERATI/Berberati RS	**17 35**	NPA NINST										
CHAD												
FTTJ N'DJAMENA/N'Djamena RS	**05 23**	PA1 NPA										
COMOROS												
FMCV ANJOUAN/Ouani RS	**10 28**	NPA NPA										
FMCZ DZAOUDZI/Pamanzi, Mayotte I. RS	**16 34**	NINST NPA										
FMCH MORONI/Prince Said IbrahimHahaia RS	**02 20**	PA1 NPA										
CONGO												
FCBB BRAZZAVILLE/Maya-Maya RS	**06 24**	PA1 NPA										
FCPP POINTE NOIRE/Agostino Neto RS	**17 35**	NPA NPA										
COTE D'IVOIRE												
DIAP ABIDJAN/Felix Houphouet Boigny Intl RS	**03 21**	NPA PA2										

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED				REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
DIBK BOUAKE/Bouake RS	**03** **21**	NPA PA1										
DEMOCRATIC REPUBLIC OF THE CONGO												
FZNA GOMA/Goma RS	**18** **36**	NINST NPA										
FZAA KINSHASA/N'Djili RS	**06** **24**	NPA PA1										
FZIC KISANGANI/Bangoka AS	**13** **31**	NPA NPA										
FZQA LUBUMBASHI/Luano AS	**07** **25**	PA1 NPA										
FZWA MBUJI MAYI/Mbuji Mahi AS	**17** **35**	NPA NINT										
DJIBOUTI												
HDAM DJIBOUTI/Ambouli RS	**09** **27**	NPA PA1										
EGYPT												
HEBL ABU-SIMBEL/Abu-Simbel RS	**15L** **33R** **15L** **33R**	NPA NPA NPA NPA										
HEAX ALEXANDRIA/Alexandria RS	**04** **22** **18** **36**	NPA NPA NPA NPA										
HESN ASWAN/Aswan RS	**17** **35**	NPA PA1										
HECA CAIRO/Cairo Intl RS	**05L** **23R** **05R** **23L** **16** **34**	PA2 PA2 PA2 PA2 NPA NPA										

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CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
HEGN HURGHADA/Hurghada RS	**16** **34**	NPA PA1										
HELX LUXOR/Luxor RS	**02** **20**	NPA PA1										
HEMM MERSA-MATRUH/Mersa-Matruh RS	**15** **33**	NPA NPA										
HESH SHARM EL SHEIKH/Sharm El Sheikh RS	**04L** **22R** **04R** **22L**	PA1 NINST										
HESC ST. CATHERINE/St. Catherine RS	**17** **35**	NPA NINST										
HETB TABA/Taba RS	**04** **22** **14** **32**	NINST NPA										
EQUATORIAL GUINEA												
FGSL MALABO/Malabo RS	**05** **23**	PA1 NPA										
ERITREA												
HHAS ASMARA/Asmara Intl RS	**07** **25** **12** **30**	PA1 NPA										
HHSB ASSAB/Assab RS	**12** **30**	NPA NINST										
ETHIOPIA												
HAAB ADDIS ABABA/Bole Intl RS	**07** **25**	NPA PA1										
HADR DIRE DAWA/Dire Dawa Intl RS	**15** **33**	NINST NPA										
FRANCE (ILE DE LA REUNION)												

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CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
FMME SAINT-DENIS/Gilot La Reunion RS	**12** **30** **14** **32**	NINST NPA PA1 NINST										
GABON												
FOON FRANCEVILLE/M'Vengue RS	**15** **33**	PA1 NPA										
FOOL LIBREVILLE/Leon M'Ba RS	**16** **34**	PA1 NPA										
FOOG PORT GENTIL/Port Gentil RS	**03** **21**	NPA PA1										
GAMBIA												
GBYD BANJUL/Banjul Intl RS	**14** **32**	NPA PA1										
GHANA												
DGAA ACCRA/Kotoka Intl RS	**03** **21**	NPA PA1										
DGSI KUMASI/Kumasi RS	**02** **20**	NPA NPA										
DGLE TAMALE/Tamale RS	**05** **23**	NPA NPA										
GUINEA												
GUCY CONAKRY/Gbessia RS	**06** **24**	PA1 NPA										
GUXN KANKAN/Diankana RS	**10** **28**	NPA NINST										
GULB LABE/Tata RS	**06** **24**	NINST NINST										

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CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
GUNZ N'ZEREKORE/Konia RS	**18 36**	NPA NINST										
GUINEA-BISSAU												
GGOV BISSAU/Osvaldo Vieira Intl RS	**03 21**	NPA PA1										
KENYA												
HKEL ELDORET/Eldoret Intl RS	**08 26**	PA2 NPA										
HKMO MOMBASA/Moi Intl RS	**03 21 15 33**	NPA PA1										
HKJK NAIROBI/Jomo Kenyatta Intl RS	**06 24**	PA2 NPA										
LESOTHO												
FXMM MASERU/Moshoeshoe I. Intl RS	**04 22**	NINST PA1										
LIBERIA												
GLRB MONROVIA/Roberts Intl RS	**04 22**	PA2 NPA										
LIBYAN ARAB JAMAHIRIYA												
HLLB BENGHAZI/Benina RS	**15L 33R 15R 33L**	PA1 NPA NPA PA1										
HLLS SEBHA/Sebha RS	**13 31**	PA1 NPA										
HLLT TRIPOLI/Tripoli Intl RS	**06 24 09**	PA1 PA2										

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED				REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
	27 18 36											
MADAGASCAR												
FMMI ANTANANARIVO/Ivato RS	**11 29**	PA1 NPA										
FMNA ANTSIRANANA/Arrachart RS	**13 31**	NPA NINST										
FMNM MAHAJANGA/Amborovy RS	**14 32**	NPA NINST										
FMNN NOSY-BE/Fascene RS	**05 23**	NPA PA1										
FMMS SAINTE-MARIE/Sainte-Marie RS	**01 19**	NPA NPA										
FMMT TOAMASINA/Toamasina RS	**01 19**	NPA PA1										
FMSD TOLAGNARO/Tolagnaro RS	**07 25**	NPA NPA										
MALAWI												
FWCL BLANTYRE/Chileka RS	**10 28**	PA1NPA NPA										
FWLI LILONGWE/Lilongwe Intl RS	**14 32**	PA1 NPA										
MALI												
GABS BAMAKO/Senou RS	**06 24**	PA1 NPA										
GAGO GAO/Gao RS	**07 25**	NPA NINST										
GAKY KAYES/Kayes RS	**08 26**	NPA NINST										

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED				REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
GAKL KIDAL/Kidal RS	**10 28**	NPA NINST										
GAMB MOPTI-BARBE/Mopti-Barbe RS	**05 23**	NPA NINST										
GANR NIORO/Nioro RS	**08 26**	NPA NINST										
GATB TOMBOUCTOU/ Tombouctou RS	**07 25**	PA1 NPA										
MAURITANIA												
GQPA ATAR/Atar RS	**04 22**	NPA NINST										
GQNI NEMA/Nema RS	**10 28**	NINST NPA										
GQPP NOUADHIBOU/Nouadhibou RS	**03 21**	PA1 NPA										
GQNN NOUAKCHOTT/Nouakchott RS	**05 23**	PA1 NPA										
GQPZ ZOUERATE/Zouerate RS	**28 10**	NPA NPA										
MAURITIUS												
FIMP MAURITIUS/Sir Seewoosagur Ramgoolam Intl RS	**14 32**	PA1 NPA										
MOROCCO												
GMAD AGADIR/Al Massira RS	**10 28**	NPA PA1										
GMTA AL HOCEIMA/Cherif Al Idrissi RS	**18 36**	PA1 NINST										
GMMN CASABLANCA/Mohammed V RS	**17 35**	NPA PA2										

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED				REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
GMFK ERRACHIDIA/Moulay Ali Cherif AS	**13** **31**	NPA PA1										
GMFF FES/Saïss RS	**10** **28**	NPA PA1										
GMMX MARRAKECH/Ménara RS	**10** **28**	PA1 NPA										
GMMZ OUARZAZATE/Ouarzazate RS	**12** **30**	NPA PA1										
GMFO OUJDA/Angads RS	**06** **24**	PA1 NINST										
GMME RABAT/Salé RS	**04** **22**	PA1 NPA										
GMTT TANGER/Ibnou-Batouta RS	**10** **28**	NPA PA1										
GMAT TAN-TAN/Plage Blanche RS	**14** **22**	NPA NINST										
GMTN TETOUAN/Saniat-Rimel RS	**06** **24**	NPA NINST										
MOZAMBIQUE												
FQBR BEIRA/Beira RS	**12** **30** **06** **24**	PA1 NPA										
FQMA MAPUTO/Maputo Intl RS	**05** **23**	NPA PA1										
NAMIBIA												
FYKT KEETMANSHOOP/Keetmanshop RS	**04** **22** **18** **36**	NPA NPA										
FYWB WALVIS BAY/Walvis Bay RS	**09** **27** **12** **30**	NPA NPA										

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED				REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
FYWH WINDHOEK/Hosea KutakoWindhoek RS	**08 26 16 34**	PA1 NPA										
NIGER												
DRZA AGADES/Sud RS	**07 25**	NPA NINST										
DRRN NIAMEY/Diori Hamani Intl RS	**09R 27L 09L 27R**	PA1 NPA										
DRZR ZINDER/Zinder AS	**06 24**	NPA NINST										
NIGERIA												
DNAA ABUJA/Nnamdi Azikiwe RS	**04 22**	NPA PA1										
DNCA CALABAR/Calabar RS	**03 21**	NPA PA1										
DNIL ILORIN/Ilorin AS	**05 23**	PA1 NPA										
DNKA KADUNA/Kaduna RS	**05 23**	PA1 NPA										
DNKN KANO/Mallam Aminu Kano Intl RS	**06 24 05 23**	PA2 PA2										
DNMM LAGOS/Murtala Muhammed RS	**01L 19R 01R 19L**	PA2 PA2 NPA PA2										
DNMA MAIDUGURI/Maiduguri RS	**05 23**	PA2 NPA										
DNPO PORT HARCOURT/Port Harcourt Intl RS	**03 21**	NPA PA1										
DNSO SOKOTO/Abubakar Saddiq III Intl RS	**08 26**	PA1 NPA										

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED				REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
RWANDA												
HRYR KIGALI/Gregoire Kayibanda RS	**10** **28**	NPA PA1										
SAO TOME AND PRINCIPE												
FPST SAO TOME/Sao Tomé RS	**11** **29**	PA1 NPA										
SENEGAL												
GOGS CAP SKIRING/Cap Skiring RS	**15** **33**	NINST NPA										
GOOY DAKAR/Leopold Sedar Senghor Intl RS	**18** **36** **03** **21**	PA2 NPA										
GOSS SAINT LOUIS/Saint Louis RS	**18** **36**	NPA NINST										
GOTT TAMBACOUNDA/Tambacounda RS	**06** **24**	NPA NPA										
GOGG ZIGUINCHOR/Ziguinchor RS	**10** **28**	NINST NPA										
SEYCHELLES												
FSIA MAHE/Seychelles Intl RS	**13** **31**	NPA PA1										
SIERRA LEONE												
GFLL FREETOWN/Lungi RS	**12** **30**	NPA PA1										
SOMALIA												
HCMI BERBERA/Berbera AS	**05** **23**	NINST NINST										

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED				REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
HCMV BURAO/Burao RS	**13** **31**	NINST NINST										
HCMH HARGEISA/Hargeisa RS	**06** **24**	NPA NPA										
HCMK KISIMAYU/Kisimayu AS	**05** **23**	NPA PA1										
HCMM MOGADISHU/Mogadishu RS	**05** **23**	NPA PA1										
SOUTH AFRICA												
FAAB ALEXANDER BAY/Alexander Bay RS	**01** **19** **07** **25** **11** **29**	NPA NINST										
FABL BLOEMFONTEIN/Bloemfontein AS	**02** **20** **12** **30**	PA1 NPA NINST NINST										
FACT CAPE TOWN/Cape Town RS	**01** **19** **16** **34**	PA1 NPA										
FADN DURBAN/Durban RS	**05** **23**	NPA PA1										
FAJS JOHANNESBURG/Johannesburg RS	**03L** **21R** **03R** **21L** **15** **33**	PA2 MINST PA2 PA2 NINST NINST										
FAGM JOHANNESBURG/Rand RS	**18** **36**	NPA NPA										
FALA LANSERIA/Lanseria RS	**06L** **24R** **06R** **24L** **17** **35**	NPA NINST										

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED				REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
FAUP UPINGTON/Upington RS	**01** **19** **08** **26**	NPA NPA										
SPAIN												
GCLP GRAN CANARIA/Gran Canaria, Canary I. RS	**03L** **21R** **03R** **21L**	PA1 NPA NINST NINST										
GCHI HIERRO/Hierro, Canary I. RS	**16** **34**	NPA NINST										
GCLA LA PALMA/La Palma, Canary I. RS	**01** **19**	NPA NINST										
CGRR LANZAROTE/Lanzarote, Canary I. RS	**04** **22**	NPA NPA										
GEML MELILLA/Melilla RS	**15** **33**	NPA NINST										
GCFV FUERTEVENTURA/ Fuerteventura, Canary I. RS	**01** **19**	PA1 NPA										
GCXO TENERIFE NORTE/Los Rodeos, Canary I. RS	**12** **30**	NPA NPA										
GCTS TENERIFE SUR/Reina Sofia, Canary I. RS	**08** **26**	PA1 NPA										
SUDAN												
HSSJ JUBA/Juba RS	**13** **31**	PA1 NINST										
HSKA KASSALA/Kassala AS	**02** **20**	NINST NINST										
HSSS KHARTOUM/Khartoum RS	**18** **36**	PA1 NPA										
HSPN PORT SUDAN/Port Sudan Intl RS	**18** **36**	NPA PA1										

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED				REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
SWAZILAND												
FDMS MANZINI/Matsapha RS	**07 25**	NPA NINST										
TOGO												
DXXX LOME/Tokoin RS	**05 23**	NPA PA1										
DXNG NIAMTOUGOU/Niamtougou RS	**03 21**	PA1 NPA										
TUNISIA												
DTTJ DJERBA/Zarzis RS	**09 27**	PA1 NPA										
DTMB MONASTIR/Habib Bourguiba RS	**08 26**	PA1 NPA										
DTTX SFAX/Thyna RS	**15 33**	NPA NPA										
DTKA TABARKA/7 NOVEMBRE RS	**09 27**	NPA PA1										
DTTZ TOZEUR/Nefta RS	**09 27**	PA1 NPA										
DTTF GAFSA/Ksar RS	**05 23**	PA1 NPA										
DTTA TUNIS/Carthage RS	**01 19 11 29**	NPA PA1 NPAINST PA1NPA										

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED				REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
UGANDA												
HUEN ENTEBBE/Entebbe Intl RS	17 35	PA1 NPA										
UNITED REPUBLIC OF TANZANIA												
HTDA DAR-ES-SALAAM/Dar-Es-Salaam RS	**05** **23**	PA1 NPA										
HTKJ KILIMANJARO/Kilimanjaro Intl RS	**09** **27**	PA1 NPA										
HTZA ZANZIBAR/Zanzibar RS	**18** **36**	NINST NPA										
WESTERN SAHARA												
GSAI EL AAIUN/El Aaiun RS	**04** **22**	NPA PA1										
GSMA SMARA/Smara RS	**17** **35**	NINST NINST										
GSVO VILLA CISNEROS/Villa Cisneros RS	**04** **22**	NINST NPA										
ZAMBIA												
FLLI LIVINGSTONE/Livingstone Intl RS	**10** **28** **15** **33**	NPA PA1 NPA										
FLLS LUSAKA/Lusaka Intl RS	**10** **28**	PA1 NPA										
FLMF MFUWE/Mfuwe RS	**08** **26**	NPA NPA										
FLND NDOLA/Ndola RS	10L 28R 10R 28L	NPA PA1 NPA										
ZIMBABWE												

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED				REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	
				TMA	45 Km				TMA	45Km		
FVBU BULAWAYO/Bulawayo RS	13 31	NPA NPA										
FVHA HARARE/Harare RS	06 24	PA1 PA1										
FVFA VICTORIA FALLS/Victoria Falls RS	12 30	PA1 NINST										

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AFI Region
E-TOD IMPLEMENTATION PLAN
Updated Timelines

Timelines:

GLOBAL 

REGIONAL 

NATIONAL 

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AFI REGION - E-TOD Implementation Timelines																		
		2000	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Global	**Provision of Terrain Data for Area 1**																	
States	Angola																	
	Benin																	
	Botswana																	
	Burkina Faso																	
	Burundi																	
	Cape Verde																	
	Central African Republic																	
	Chad																	
	Comoros																	
	Congo																	
	Cote d'Ivoire																	
	Democratic Republic of Congo																	
	Djibouti																	
	Equatorial Guinea																	
	Eritrea																	
	Ethiopia																	
	Gabon																	
	Gambia																	
	Ghana																	
	Guinea																	
	Guinea Bissau																	
	Kenya																	
	Lesotho																	
	Liberia																	
	Madagascar																	
	Malawi																	
	Mali																	
	Mauritanie																	
	Mauritius																	
	Mozambique																	
	Namibia																	
	Niger																	
	Nigeria																	
	Rwanda																	
	Sao Tome and Principe																	
	Senegal																	
	Seychelles																	
	Sierra Leone																	
	Somalia																	
	South Africa																	
	Swaziland																	
	Togo																	
	Uganda																	
	United Republic of Tanzania																	
	Zambia																	
	Zimbabwe																	

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AFI REGION - E-TOD Implementation Timelines																		
		2000	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Global	**Provision of Obstacle Data for Area 1**																	
States	Angola																	
	Benin																	
	Botswana																	
	Burkina Faso																	
	Burundi																	
	Cape Verde																	
	Central African Republic																	
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	Lesotho																	
	Liberia																	
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	Malawi																	
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	Mauritanie																	
	Mauritius																	
	Mozambique																	
	Namibia																	
	Niger																	
	Nigeria																	
	Rwanda																	
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	South Africa																	
	Swaziland																	
	Togo																	
	Uganda																	
	United Republic of Tanzania																	
	Zambia																	
	Zimbabwe																	

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AFI REGION - E-TOD Implementation Timelines																		
		2000	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Global	**Provision of Terrain Data for Area 2**																	
States	Angola																	
	Benin																	
	Botswana																	
	Burkina Faso																	
	Burundi																	
	Cape Verde																	
	Central African Republic																	
	Chad																	
	Comoros																	
	Congo																	
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	Guinea Bissau																	
	Kenya																	
	Lesotho																	
	Liberia																	
	Madagascar																	
	Malawi																	
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	Mauritanie																	
	Mauritius																	
	Mozambique																	
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	Nigeria																	
	Rwanda																	
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	South Africa																	
	Swaziland																	
	Togo																	
	Uganda																	
	United Republic of Tanzania																	
	Zambia																	
	Zimbabwe																	

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AFI REGION - E-TOD Implementation Timelines																		
		2000	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Global	**Provision of Obstacle Data for Area 2**																	
States	Angola																	
	Benin																	
	Botswana																	
	Burkina Faso																	
	Burundi																	
	Cape Verde																	
	Central African Republic																	
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	Guinea Bissau																	
	Kenya																	
	Lesotho																	
	Liberia																	
	Madagascar																	
	Malawi																	
	Mali																	
	Mauritanie																	
	Mauritius																	
	Mozambique																	
	Namibia																	
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	Nigeria																	
	Rwanda																	
	Sao Tome and Principe																	
	Senegal																	
	Seychelles																	
	Sierra Leone																	
	Somalia																	
	South Africa																	
	Swaziland																	
	Togo																	
	Uganda																	
	United Republic of Tanzania																	
	Zambia																	
	Zimbabwe																	

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AFI REGION - E-TOD Implementation Timelines																		
		2000	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Global	**Provision of Terrain Data for Area 3**																	
States	Angola																	
	Benin																	
	Botswana																	
	Burkina Faso																	
	Burundi																	
	Cape Verde																	
	Central African Republic																	
	Chad																	
	Comoros																	
	Congo																	
	Cote d'Ivoire																	
	Democratic Republic of Congo																	
	Djibouti																	
	Equatorial Guinea																	
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	Guinea Bissau																	
	Kenya																	
	Lesotho																	
	Liberia																	
	Madagascar																	
	Malawi																	
	Mali																	
	Mauritanie																	
	Mauritius																	
	Mozambique																	
	Namibia																	
	Niger																	
	Nigeria																	
	Rwanda																	
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	Sierra Leone																	
	Somalia																	
	South Africa																	
	Swaziland																	
	Togo																	
	Uganda																	
	United Republic of Tanzania																	
	Zambia																	
	Zimbabwe																	

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AFI REGION - E-TOD Implementation Timelines																		
		2000	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Global	**Provision of Obstacle Data for Area 3**																	
States	Angola																	
	Benin																	
	Botswana																	
	Burkina Faso																	
	Burundi																	
	Cape Verde																	
	Central African Republic																	
	Chad																	
	Comoros																	
	Congo																	
	Cote d'Ivoire																	
	Democratic Republic of Congo																	
	Djibouti																	
	Equatorial Guinea																	
	Eritrea																	
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	Ghana																	
	Guinea																	
	Guinea Bissau																	
	Kenya																	
	Lesotho																	
	Liberia																	
	Madagascar																	
	Malawi																	
	Mali																	
	Mauritanie																	
	Mauritius																	
	Mozambique																	
	Namibia																	
	Niger																	
	Nigeria																	
	Rwanda																	
	Sao Tome and Principe																	
	Senegal																	
	Seychelles																	
	Sierra Leone																	
	Somalia																	
	South Africa																	
	Swaziland																	
	Togo																	
	Uganda																	
	United Republic of Tanzania																	
	Zambia																	
	Zimbabwe																	

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AFI REGION - E-TOD Implementation Timelines																		
		2000	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Global	**Provision of Terrain Data for Area 4**																	
States	Angola																	
	Benin																	
	Burkina Faso																	
	Botswana																	
	Burundi																	
	Cape Verde																	
	Central African Republic																	
	Chad																	
	Comoros																	
	Congo																	
	Cote d'Ivoire																	
	Democratic Republic of Congo																	
	Djibouti																	
	Equatorial Guinea																	
	Eritrea																	
	Ethiopia																	
	Gabon																	
	Gambia																	
	Ghana																	
	Guinea																	
	Guinea Bissau																	
	Kenya																	
	Lesotho																	
	Liberia																	
	Madagascar																	
	Malawi																	
	Mali																	
	Mauritanie																	
	Mauritius																	
	Mozambique																	
	Namibia																	
	Niger																	
	Nigeria																	
	Rwanda																	
	Sao Tome and Principe																	
	Senegal																	
	Seychelles																	
	Sierra Leone																	
	Somalia																	
	South Africa																	
	Swaziland																	
	Togo																	
	Uganda																	
	United Republic of Tanzania																	
	Zambia																	
	Zimbabwe																	

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AFI REGION - E-TOD Implementation Timelines																		
		2000	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Global	**Provision of Obstacle Data for Area 4**																	
States	Angola																	
	Benin																	
	Botswana																	
	Burkina Faso																	
	Burundi																	
	Cape Verde																	
	Central African Republic																	
	Chad																	
	Comoros																	
	Congo																	
	Cote d'Ivoire																	
	Democratic Republic of Congo																	
	Djibouti																	
	Equatorial Guinea																	
	Eritrea																	
	Ethiopia																	
	Gabon																	
	Gambia																	
	Ghana																	
	Guinea																	
	Guinea Bissau																	
	Kenya																	
	Lesotho																	
	Liberia																	
	Madagascar																	
	Malawi																	
	Mali																	
	Mauritanie																	
	Mauritius																	
	Mozambique																	
	Namibia																	
	Niger																	
	Nigeria																	
	Rwanda																	
	Sao Tome and Principe																	
	Senegal																	
	Seychelles																	
	Sierra Leone																	
	Somalia																	
	South Africa																	
	Swaziland																	
	Togo																	
	Uganda																	
	United Republic of Tanzania																	
	Zambia																	
	Zimbabwe																	

X = Implemented
N = Non Implemented

Appendix D to WP/17 on Agenda Item 3.5

P = Plan Implementation

Appendix E1 to WP/17 on Agenda Item 3.5

AIM PERFORMANCE OBJECTIVES (AIS-AIM Transition)

REGIONAL PERFORMANCE OBJECTIVES / NATIONAL PERFORMANCE OBJECTIVES TRANSITION FROM AIS TO AIM				
Benefits				
Environment **Efficiency** **Safety**	. reductions in fuel consumption; . improved planning and management of flights; . efficient use of airspace; . improved safety			
KPI	Status of implementation of the AIRAC system in the AFI Region Status of implementation of QMS in the AFI Region Status of implementation of AIS Automation in the AFI Region			
Proposed Metrics	Number of States complying with the AIRAC procedures Number of Posting of AIS information on the ICAO AFI Forum Number of States having developed and signed service Level Agreements between AIS and data Originators Number of States having organized QMS awareness campaigns and training programmes Number of States having implemented QMS Number of States having developed eAIP Number of States having developed a National Plan for the transition from AIS to AIM			
Strategy Short term (2010-2011) Medium term (2011 – 2015)				
ATM OC COMPONENTS	**TASKS**	**TIMEFRAME START-END**	**RESPONSIBILITY**	**STATUS**
AUO, ATM SDM	• Improve the compliance with the AIRAC system	Ongoing	States & AFI AIMTF	Valid
	• Use of the internet, including the ICAO AFI Forum, for the advance posting of the aeronautical information considered of importance to users;	2009 – 2011	States & ICAO	Valid
	• Signature of service Level Agreements between AIS and data originators;	2009 – 2011	States	Valid
	• Foster the implementation of AFI QMS based on the AFI Region Methodology for the implementation of QMS ;	2009 – 2011	ICAO & AFI AIMTF & States	Valid
	• Monitor the implementation of QMS until complete	2008 - 2013	ICAO & AFI AIMTF	Valid

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	implementation of the requirements by all AFI States;			
	• Foster the development of eAIPs by AFI States;	2009 - 2013	States & AFI AIMTF	Valid
	• Monitor the implementation of AIS automation in the AFI Region in order to ensure availability, sharing and management of electronic aeronautical information;	2008 -2013	ICAO & AFI AIMTF	Valid
	• Foster the development of National/regional AIS databases;	2010 – 2015	ICAO & AFI AIMTF & States	Valid
Linkage to GPIs	GPI-5: performance-based navigation; GPI-11: RNP and RNAV SIDs and STARs; GPI-18: Aeronautical Information			

Abbreviations used in the Global ATM Operational Concept:

AO	Aerodrome Operations
AOM	Airspace Organization and Management
ATM SDM	ATM Service Delivery Management
AUO	Air User Operations
CM	Conflict Management
DCB	Demand and Capacity Balancing
TS	Traffic Synchronization

Appendix E2 to WP/17 on Agenda Item 3.5

AIM PERFORMANCE OBJECTIVES

NATIONAL PERFORMANCE OBJECTIVE - IMPLEMENTATION OF WGS-84 AND e-TOD				
Benefits				
Environment **Efficiency** **Safety**	• Supporting benefits described in performance objectives for PBN • WG8 -84 is a prerequisite for performance-based navigation, benefits described in performance objectives for PBN. • support approach and departure procedure design and implementation • improve aircraft operating limitations analysis • support aeronautical chart production and on-board databases • improve situational awareness • support determination of emergency contingency procedures • support technologies such as ground proximity and minimum safe altitude warning systems • see benefits described in performance objectives for PBN			
KPI	• status of implementation of WGS-84 in the AFI Region • status of implementation of e-TOD in the AFI Region (for Areas 1 & 4)			
Proposed Metrics	• number of States having fully implemented WGS-84 • number of States having organized e-TOD awareness campaigns and training programmes • number of States having implemented e-TOD for Areas 1 & 4.			
Strategy ***Short term (2010-2012)*** ***Medium term (2012 - 2016)***				
ATM OC COMPONENTS	**TASKS**	**TIMEFRAME START-END**	**RESPONSIBILITY**	**STATUS**
ATM CM	***Electronic terrain and obstacle data (e-TOD)*** • share experience and resources in the implementation of e-TOD through the establishment of an e-TOD working group • report requirements and monitor implementation status of e-TOD using a new AIS Table of the AFI FASID (Ref. Appendix B) • develop a high level policy for the management of a national e-TOD programme	2008-2011 2008-ongoing 2008-~~2009~~2012	APIRG States APIRG States States	e-TOD WG has been established APIRG/18 for amendment of FASID APIRG/18 for endorsement of e-TOD WG proposals
ATM OC	***Electronic terrain and obstacle data (e-TOD)*** • Provide Terrain and Obstacle data for area 1	2008-2012	States	AFI AIM TF to review
	• Provide Terrain and Obstacle data for area 4	2008-2012	States	AFI AIM TF to review
	• assessment of Annex 15 requirements related to the provision of e-TOD for area 2 and 3	2010-2012	States	AFI AIM TF to review

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	• development of an action plan for the provision of e-TOD for area 2 and 3	2013	States	AFI AIM TF to review
	• provide necessary Terrain and Obstacle data for area 2	2015	States	AFI AIM TF to review
	• provide necessary Terrain and Obstacle data for area 3	2015	States	AFI AIM TF to review
ATM AUO	**WGS-84** • establish WGS-84 implementation goals in coordination with the national PBN implementation plan • report requirements and monitor implementation status of WGS-84 using the new AIM-5 Table of the AFI FASID and take remedial action if required • completeWGS-84 implementation	2008-~~2009~~2012 2011- 2013 2013	States APIRG States States	APIRG/18 AFI AIM-TF
Linkage to GPIs	GPI-5: Performance-based navigation; GPI-9: Situational awareness; GPI-ll: RNP and RNAV SIDs and STARs; GPI-18: Aeronautical Information; GPI-20: WGS-84; GPI-2l: Navigation systems			

Appendix E3 to WP17 on Agenda Item 3.5

AIS/MAP PERFORMANCE OBJECTIVES

ELIMINATION OF IDENTIFIED AIS/MAP DEFICIENCIES **(implementation of WGS-84 coordinates, publication of aeronautical charts and timely publication and updating of AIS/MAP documents, i.e. NOTAMs, AIPs, AICs, etc.)**				
Benefits				
Efficiency	• improved collaborative decision-making through sharing aeronautical data information			
Safety	• enhance safety by timely exchange air safety data, i.e. electronically and wider distribution of such data			
Strategy ***Short term (2010)*** ***Medium term (2011 - 2015)***				
ATM OC COMPONENTS	**TASKS**	**TIMEFRAME START-END**	**RESPONSIBILITY**	**STATUS**
AIS/MAP	• publication of relevant aeronautical charts.	2008 - ~~2009~~2011	States/ANSPs	Survey for APIRG
	• publication of WGS-84 coordinates for en-route waypoints and use for GNSS coordinates for terminal approaches and departure procedures	2008 - ~~2009~~2011	States/ANSPs	Survey for APIRG
	• publication of AIPs, NOTAMs and AICs using standards formats.		States/ANSPs	
	• States concerned to develop action plan to eliminate the deficiencies	2008 ~~-2009~~2011	States/ANSPs	Survey for APIRG
Linkage to GPIs	GPI/18: Aeronautical information; GPI/20: WGS-84			

Table AIM-1

Responsibility for the provision of AIM Services

EXPLANATION OF THE TABLE

Column:

1 Name of the State or territory
2 Designated international NOTAM Office (NOF)
3 Designated State for AIP production
4 Designated State for aeronautical charts (MAP) production
5 Designated State for the provision of the authoritative Integrated Aeronautical Information Database (IAID)
6 Designated State for the provision of the Pre-flight information services
7 Remarks — additional information, as appropriate.

FASID TABLE AIM-1
Responsibility for the provision of AIM Services

State	NOF	AIP	MAP	IAID	Pre-Flight Briefing	Remarks
1	2	3	4	5	6	7
Angola						
Benin						
Burkina Faso						
Botswana						
Burundi						
Cape Verde						
Central African Republic						
Chad						
Comoros						
Congo						
Cote d'Ivoire						
Democratic Republic of Congo						
Djibouti						
Equatorial Guinea						
Eritrea						
Ethiopia						
Gabon						
Gambia						
Ghana						
Guinea						
Guinea Bissau						
Kenya						
Lesotho						
Liberia						
Madagascar						
Malawi						
Mali						
Mauritanie						
Mauritius						
Mozambique						
Namibia						
Niger						
Nigeria						
Rwanda						
Sao Tome and Principe						
Senegal						
Seychelles						
Sierra Leone						
Somalia						
South Africa						
Swaziland						
Togo						
Uganda						
United Republic of Tanzania						
Zambia						
Zimbabwe						

Table AIM-2

Provision of AIM products and services based on the Integrated Aeronautical Information Database (IAID)

EXPLANATION OF THE TABLE

Column:

1 Name of the State or territory for which the provision of AIM products and services based on the IAID is required.

2 Requirement for the implementation and designation of the authoritative IAID, shown by:
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented

Note 1 — The IAID of a State is a single access point for one or more databases (AIS, Terrain, Obstacles, AMDB, etc). The minimum set of databases which should be integrated is defined in Annex 15.

Note 2 — Information providing detail of "PI" should be given in the Remarks column (the implemented components of the IAID).

Note 3 — The information related to the designation of the authoritative IAID should be published in the AIP (GEN 3.1)

3 Requirement for an IAID driven AIP production, shown by:
FC – Fully compliant (eAIP: Text, Tables and Charts)
PC – Partially compliant
NC – Not compliant

Note 4 — AIP production includes, production of AIP, AIP Amendments and AIP Supplements

4 Requirement for an IAID driven NOTAM production, shown by:
FC – Fully Compliant
NC – Not compliant

5 Requirement for an IAID driven SNOWTAM production, shown by:
FC – Fully Compliant
NC – Not compliant

6 Requirement for an IAID driven PIB production, shown by:
FC – Fully compliant
NC – Not compliant

7 Requirement for Charting systems to be interoperable with the IAID, shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant

8 Requirement for Procedure design systems to be interoperable with the IAID, shown by:
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented

9 Requirement for ATS systems to be interoperable with the IAID, shown by:
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented

10 Action Plan — short description of the State's Action Plan with regard to the provision of AIM products and services based on the IAID, including planned date(s) of full compliance, as appropriate.

11 Remarks — additional information, including detail of "PC", "NC", "PI" and "NI", as appropriate.

FASID TABLE AIM-2
Integrated Aeronautical Information Database (IAID)

State	IAID	AIP	NOTAM	SNOWTAM	PIB	Charting	Procedure design	ATS	Action Plan	Remarks
1	2	3	4	5	6	7	8	9	10	11
Angola										
Benin										
Burkina Faso										
Botswana										
Burundi										
Cape Verde										
Central African Republic										
Chad										
Comoros										
Congo										
Cote d'Ivoire										
Democratic Republic of Congo										
Djibouti										
Equatorial Guinea										
Eritrea										
Ethiopia										
Gabon										
Gambia										
Ghana										
Guinea										
Guinea Bissau										
Kenya										
Lesotho										
Liberia										
Madagascar										

State	IAID	AIP	NOTAM	SNOWTAM	PIB	Charting	Procedure design	ATS	Action Plan	Remarks
1	2	3	4	5	6	7	8	9	10	11
Malawi										
Mali										
Mauritanie										
Mauritius										
Mozambique										
Namibia										
Niger										
Nigeria										
Rwanda										
Sao Tome and Principe										
Senegal										
Seychelles										
Sierra Leone										
Somalia										
South Africa										
Swaziland										
Togo										
Uganda										
United Republic of Tanzania										
Zambia										
Zimbabwe										

Table AIM-3

Terrain and Obstacles datasets and Airport Mapping Databases (AMDB)

EXPLANATION OF THE TABLE

Column

1 Name of the State or territory for which Terrain and Obstacles datasets and AMDB are required.

2 Compliance with requirement for the provision of Terrain datasets, shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant

3 Compliance with requirement for the provision of Obstacle datasets, shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant

4 Implementation of AMDB, shown by:
FI – Fully Implemented
PI – Partially Implemented
NI – Not implemented

5 Action plan — short description of the State's Action Plan with regard to compliance with the requirements for provision of Terrain and Obstacles datasets and implementation of AMDB.

6 Remarks— additional information, including detail of "PC" and "NC", as appropriate.

FASID TABLE AIM-3
Terrain and Obstacle datasets and Airport Mapping Database (AMDB)

State	Terrain Datasets	Obstacle datasets	AMDB	Action Plan	Remarks
1	2	3	4	5	6
Angola					
Benin					
Burkina Faso					
Botswana					
Burundi					
Cape Verde					
Central African Republic					
Chad					
Comoros					
Congo					
Cote d'Ivoire					
Democratic Republic of Congo					
Djibouti					
Equatorial Guinea					
Eritrea					
Ethiopia					
Gabon					
Gambia					
Ghana					
Guinea					
Guinea Bissau					
Kenya					
Lesotho					
Liberia					
Madagascar					
Malawi					
Mali					
Mauritanie					
Mauritius					
Mozambique					
Namibia					
Niger					
Nigeria					
Rwanda					
Sao Tome and Principe					
Senegal					
Seychelles					
Sierra Leone					
Somalia					

State	Terrain Datasets	Obstacle datasets	AMDB	Action Plan	Remarks
1	2	3	4	5	6
South Africa					
Swaziland					
Togo					
Uganda					
United Republic of Tanzania					
Zambia					
Zimbabwe					

Table AIM-4

Aeronautical Data Quality

EXPLANATION OF THE TABLE

Column:

1 Name of the State or territory.

2 Compliance with the requirement for implementation of QMS for Aeronautical Information Services including safety and security objectives, shown by:
- FC – Fully compliant
- PC – Partially compliant
- NC – Not compliant

3 Compliance with the requirement for the establishment of formal arrangements with approved data originators concerning aeronautical data quality, shown by:
- FC – Fully compliant
- PC – Partially compliant
- NC – Not compliant

4 Implementation of digital data exchange with originators, shown by:
- FI – Implemented
- PI – Partially Implemented
- NI – Not implemented

Note 1 — Information providing detail of "PI" and "NI" should be given in the Remarks column (percentage of implementation).

5 Compliance with the requirement for metadata, shown by:
- FC – Fully compliant
- PC – Partially compliant
- NC – Not compliant

6 Compliance with the requirements related to aeronautical data quality monitoring (accuracy, resolution, timeliness, completeness), shown by:
- FC – Fully compliant
- PC – Partially compliant
- NC – Not compliant

7 Compliance with the requirements related to aeronautical data integrity monitoring, shown by:
- FC – Fully compliant
- PC – Partially compliant
- NC – Not compliant

8 Compliance with the requirements related to the AIRAC adherence, shown by:
- FC – Fully compliant
- PC – Partially compliant
- NC – Not compliant

9 Action Plan — short description of the State's Action Plan with regard to aeronautical data quality requirements implementation, including planned date(s) of full compliance, as appropriate.

10 Remarks — additional information, including detail of "PC", "NC", "PI" and "NI", as appropriate.

FASID TABLE AIM-4
Aeronautical Data Quality

State	QMS	Establishment of formal agreements	Digital data exchange with originators	Metadata	Data quality monitoring	Data integrity monitoring	AIRAC adherence	Action Plan	Remarks
1	2	3	4	5	6	7	8	9	10
Angola									
Benin									
Burkina Faso									
Botswana									
Burundi									
Cape Verde									
Central African Republic									
Chad									
Comoros									
Congo									
Cote d'Ivoire									
Democratic Republic of Congo									
Djibouti									
Equatorial Guinea									
Eritrea									
Ethiopia									
Gabon									
Gambia									
Ghana									
Guinea									
Guinea Bissau									
Kenya									
Lesotho									
Liberia									

State	QMS	Establishment of formal agreements	Digital data exchange with originators	Metadata	Data quality monitoring	Data integrity monitoring	AIRAC adherence	Action Plan	Remarks
1	2	3	4	5	6	7	8	9	10
Madagascar									
Malawi									
Mali									
Mauritanie									
Mauritius									
Mozambique									
Namibia									
Niger									
Nigeria									
Rwanda									
Sao Tome and Principe									
Senegal									
Seychelles									
Sierra Leone									
Somalia									
South Africa									
Swaziland									
Togo									
Uganda									
United Republic of Tanzania									
Zambia									
Zimbabwe									

Table AIM-5

World Geodetic System-1984 (WGS-84)

EXPLANATION OF THE TABLE

Column:

1 Name of the State or territory for which implementation of WGS-84 is required.

2 Compliance with the requirements for implementation of WGS-84 for FIR and Enroute points, shown by:
- FC – Fully compliant
- PC – Partially compliant
- NC – Not compliant

3 Compliance with the requirements for implementation of WGS-84 for Terminal Areas (arrival, departure and instrument approach procedures), shown by:
- FC – Fully compliant
- PC – Partially compliant
- NC – Not compliant

4 Compliance with the requirements for implementation of WGS-84 for Aerodrome, shown by:
- FC – Fully compliant
- PC – Partially compliant
- NC – Not compliant

5 Compliance with the requirements for implementation of Geoid Undulation, shown by:
- FC – Fully compliant
- PC – Partially compliant
- NC – Not compliant

6 Action Plan — short description of the State's Action Plan with regard to WGS-84 implementation, including planned date(s) of full compliance, as appropriate.

7 Remarks — additional information, including detail of "PC" and "NC", as appropriate.

FASID TABLE AIM-5
World Geodetic System-1984 (WGS-84)

State	FIR/ENR	Terminal	AD	GUND	Action Plan	Remarks
1	2	3	4	5	6	7
Angola						
Benin						
Burkina Faso						
Botswana						
Burundi						
Cape Verde						
Central African Republic						
Chad						
Comoros						
Congo						
Cote d'Ivoire						
Democratic Republic of Congo						
Djibouti						
Equatorial Guinea						
Eritrea						
Ethiopia						
Gabon						
Gambia						
Ghana						
Guinea						
Guinea Bissau						
Kenya						
Lesotho						
Liberia						
Madagascar						

State	FIR/ENR	Terminal	AD	GUND	Action Plan	Remarks
1	2	3	4	5	6	7
Malawi						
Mali						
Mauritanie						
Mauritius						
Mozambique						
Namibia						
Niger						
Nigeria						
Rwanda						
Sao Tome and Principe						
Senegal						
Seychelles						
Sierra Leone						
Somalia						
South Africa						
Swaziland						
Togo						
Uganda						
United Republic of Tanzania						
Zambia						
Zimbabwe						

Table AIM-6

AERONAUTICAL CHARTS

EXPLANATION OF THE TABLE

Column

1 Name of the State or territory for which aeronautical charts are required.

2 Compliance with the requirements for the Enroute Chart — ICAO (ENRC) and the ATC Surveillance Minimum Altitude Chart — ICAO (ATCSMAC), shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant

3 Compliance with requirements for charts related to terminal areas (IAC, ARC, SID, STAR, VAC) shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant

4 Compliance with the requirement for Aerodrome charts (ADC, ADGMC and APDC), shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant

5 Compliance with the requirements for Obstacle Charts (AOC-A, PATC, AOC-E) shown by:
FC – Fully compliant)
PC – Partially compliant
NC – Not compliant

6 Compliance with the requirement for WAC, shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant

7 Action plan — short description of the State's Action Plan with regard to aeronautical charts implementation, including planned date(s) of full compliance, as appropriate.

8 Remarks— additional information, including detail of "PC" and "NC", as appropriate.

FASID TABLE AIM-6
Aeronautical Charts

State	ENR & ATCSMAC	Charts related to Terminal Areas	AD Charts	Obstacle Charts	WAC	Action Plan	Remarks
1	2	3	4	5	6	7	8
Angola							
Benin							
Burkina Faso							
Botswana							
Burundi							
Cape Verde							
Central African Republic							
Chad							
Comoros							
Congo							
Cote d'Ivoire							
Democratic Republic of Congo							
Djibouti							
Equatorial Guinea							
Eritrea							
Ethiopia							
Gabon							
Gambia							
Ghana							
Guinea							
Guinea Bissau							
Kenya							
Lesotho							
Liberia							
Madagascar							
Malawi							
Mali							
Mauritanie							
Mauritius							
Mozambique							
Namibia							
Niger							
Nigeria							
Rwanda							
Sao Tome and Principe							
Senegal							

State	ENR & ATCSMAC	Charts related to Terminal Areas	AD Charts	Obstacle Charts	WAC	Action Plan	Remarks
1	2	3	4	5	6	7	8
Seychelles							
Sierra Leone							
Somalia							
South Africa							
Swaziland							
Togo							
Uganda							
United Republic of Tanzania							
Zambia							
Zimbabwe							

FASID Table AIM-7

PRODUCTION RESPONSIBILITY FOR SHEETS OF THE WORLD AERONAUTICAL CHART - ICAO 1:1 000 000

EXPLANATION OF THE TABLE

Column:

1 Name of the State accepting production responsibility.
2 World Aeronautical Chart — ICAO 1:1 000 000 sheet number(s) for which production responsibility is accepted.
3 Remarks.

Note 1— When Aeronautical Charts — ICAO 1:500 000 or Aeronautical Navigation Charts — ICAO Small Scale, are made available instead of the 1:1 000 000 chart, this is to be indicated in the Remarks column.

Note 2— In those instances where the production responsibility for certain sheets has been accepted by more than one State, these States by mutual agreement should define limits of responsibility for those sheets.

FASID Table AIM-7
Production responsibility for sheets of the
World Aeronautical Chart - ICAO 1:1 000 000 (WAC)

1	2	3
State	**Sheet number(s)**	**Remarks**
Angola		
Benin		
Burkina Faso		
Botswana		
Burundi		
Cape Verde		
Central African Republic		
Chad		
Comoros		
Congo		
Cote d'Ivoire		
Democratic Republic of Congo		
Djibouti		
Equatorial Guinea		
Eritrea		
Ethiopia		
Gabon		
Gambia		
Ghana		
Guinea		
Guinea Bissau		
Kenya		
Lesotho		
Liberia		
Madagascar		
Malawi		
Mali		
Mauritanie		
Mauritius		
Mozambique		
Namibia		
Niger		
Nigeria		
Rwanda		
Sao Tome and Principe		
Senegal		
Seychelles		
Sierra Leone		
Somalia		

South Africa		
Swaziland		
Togo		
Uganda		
United Republic of Tanzania		
Zambia		
Zimbabwe		

Table AIM-8

Pre-Flight Information Services

EXPLANATION OF THE TABLE

Column:

1 Name of the State or territory.

2 Compliance with the requirements for the provision of Pre-Flight Information Bulletins (PIB), shown by:

FC – Fully compliant, against each type of PIB
PC – Partially compliant, against each type of PIB
NC – Not compliant, against each type of PIB

Note 1 — AD: Aerodrome type bulletins
Area: Area type bulletins (FIR or group of FIRs or States)
FIR route: FIR route specific bulletin
Narrow route: Narrow path route specific bulletin

3 Compliance with the requirements for the availability of the elements of the Integrated Aeronautical Information Publications (IAIP), maps and charts to the flight operations personnel, shown by:

FC – Fully compliant
PC – Partially compliant
NC – Not compliant

4 Requirement for a common point of access to aeronautical information and meteorological information briefings, shown by:

FI – Fully Implemented
PI – Partially Implemented
NI – Not implemented

5 Action Plan — short description of the State's Action Plan with regard to Pre-Flight Information Services, including planned date(s) of full compliance, as appropriate.

6 Remarks — additional information, including detail of "PC", "NC", "PI" and "NI", as appropriate.

FASID TABLE AIM-8
Pre-Flight Information Services

State	PIB				IAIP	Aeronautical Information and Meteorological information Integrated Briefing	Action Plan	Remarks
	AD	Area	FIR route	Narrow route				
1	2				3	4	5	6
Angola								
Benin								
Burkina Faso								
Botswana								
Burundi								
Cape Verde								
Central African Republic								
Chad								
Comoros								
Congo								
Cote d'Ivoire								
Democratic Republic of Congo								
Djibouti								
Equatorial Guinea								
Eritrea								
Ethiopia								
Gabon								
Gambia								
Ghana								
Guinea								
Guinea Bissau								
Kenya								

State	PIB				IAIP	Aeronautical Information and Meteorological information Integrated Briefing	Action Plan	Remarks
	AD	Area	FIR route	Narrow route				
1	2				3	4	5	6
Lesotho								
Liberia								
Madagascar								
Malawi								
Mali								
Mauritanie								
Mauritius								
Mozambique								
Namibia								
Niger								
Nigeria								
Rwanda								
Sao Tome and Principe								
Senegal								
Seychelles								
Sierra Leone								
Somalia								
South Africa								
Swaziland								
Togo								
Uganda								
United Republic of Tanzania								
Zambia								
Zimbabwe								

Table AIM-9

AIM Certification

EXPLANATION OF THE TABLE

Column:

1 Name of the State or territory for which implementation of AIM Certification is required.

2 Availability of AIM Regulations, shown by:

FC – Fully compliant
PC – Partially compliant
NC – Not compliant

Note.— Please provide in the Remarks column detail of "PC" and "NC".

3 Compliance with the requirements for the establishment of a Safety Oversight System for ensuring the effective implementation of safety-related policy and procedures in the area of AIM, shown by:

FC – Fully compliant
PC – Partially compliant
NC – Not compliant

Note 1.— Please provide in the Remarks column detail of "PC" and "NC".

Note 2.— A Safety Oversight System is based on the eight (8) Critical Elements (CEs) as defined in the ICAO Safety Oversight Manual (Doc 9734, Part A).

Note 3.— As part of the Safety Oversight System, States should, in particular:

a) establish an entity responsible for the safety oversight of the AIS/AIM service provider(s)(not necessarily limited to the safety oversight of AIM) with clearly defined functions and responsibilities, or delegate this function to a Regional/Sub-Regional Organization;

b) ensure the availability of sufficient number of qualified AIM inspectors;

c) establish minimum qualifications and experience for the AIM inspectorate staff ;

d) establish detailed job descriptions reflecting all the regulatory and safety oversight tasks for the AIM inspectorate staff;

e) establish the necessary procedures for the AIM inspectorate staff;

f) establish and implement a formal surveillance programme for the continuing supervision of the AIS/AIM service provider(s) and ensure that safety oversight is effectively conducted; and

g) *establish and implement a mechanism/system for the elimination of deficiencies identified by the AIM inspectora*te staff.

4 Compliance with the requirements for implementation of AIM certification, shown by:

FC – Fully compliant
PC – Partially compliant
NC – Not compliant

Note 4.— AIM Certification may be performed within the framework of ANS Certification

5 Action Plan — short description of the State's Action Plan with regard to the implementation of the different requirements of AIM certification, including planned date(s) of full compliance, as appropriate.

6 Remarks — additional information, including detail of "PC" and "NC", as appropriate.

FASID TABLE AIM-9
AIM Certification

State	AIM Regulations	AIM Safety Oversight	AIM Certification	Action Plan	Remarks
1	2	3	4	5	6
Angola					
Benin					
Burkina Faso					
Botswana					
Burundi					
Cape Verde					
Central African Republic					
Chad					
Comoros					
Congo					
Cote d'Ivoire					
Democratic Republic of Congo					
Djibouti					
Equatorial Guinea					
Eritrea					
Ethiopia					
Gabon					
Gambia					
Ghana					
Guinea					
Guinea Bissau					
Kenya					
Lesotho					
Liberia					
Madagascar					
Malawi					

State	AIM Regulations	AIM Safety Oversight	AIM Certification	Action Plan	Remarks
1	2	3	4	5	6
Mali					
Mauritanie					
Mauritius					
Mozambique					
Namibia					
Niger					
Nigeria					
Rwanda					
Sao Tome and Principe					
Senegal					
Seychelles					
Sierra Leone					
Somalia					
South Africa					
Swaziland					
Togo					
Uganda					
United Republic of Tanzania					
Zambia					
Zimbabwe					

Appendix G to WP/17 on Agenda Item 3.5

Proposal for Amendment to the AFI Basic FASID (Doc 7474 Vol.II) for the inclusion of materials related to transition from AIS to AIM

Amendment of the AIS Parts of the AFI Basic ANP and FASID in order to introduce/develop Planning material related to the transition from AIS to AIM consisting of new AIM Tables.
This amendment proposal to Doc. 7474 (Vol. I and II) relates to the requirement for an overview of the Air Navigation Plan and the requirements for FASID tables, along with amendments to text which will be relevant to operations within the AFI Region of responsibility.

AFI ANP, VOLUME II, FASID
PART x - AERONAUTICAL INFORMATION MANAGEMENT (AIM)

(Insert the following new Text)

1. INTRODUCTION

1.1 The material in this part complements that contained in Part x — AIM of the AFI Basic ANP and should be taken into consideration in the overall planning processes for the AFI region.

1.2. This part contains the details of the facilities and services to be provided to fulfill the basic requirements of the plan as agreed between the provider and user States concerned. Such agreement indicates a commitment on the part of the State(s) concerned to implement the requirement(s) specified. It provides a structured framework for States to plan and to monitor their progress and supports regional and national plans to implement the transition to AIM. This element of the FASID, in conjunction with the AFI Basic ANP, is kept under constant review by APIRG in accordance with its schedule of management, in consultation with user and provider States and with the assistance of the ICAO AFI Regional Office.

1.3. To satisfy new requirements arising from the Global Air Traffic Management Operational Concept, aeronautical information services must transition to a broader concept of aeronautical information management, with a different method of information provision and management given its data-centric nature as opposed to the product-centric nature of AIS. AIM is the dynamic, integrated management of aeronautical information services – safely, economically and efficiently – through the provision and exchange of quality assured digital aeronautical data in collaboration with all parties.

2. ORGANISATION AND PROVISION OF AIM FACILITIES AND SERVICES

2.1. AIM requires all aeronautical information to be stored as data sets that can be accessed by user applications. The establishment and maintenance of an Integrated Aeronautical

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Information Database where data sets are integrated and used to produce current and future AIM products and services is a fundamental step in the transition to AIM. The following AIM FASID tables contain planning criteria and provisions requiring implementation and compliance by States:

- Responsibility for the provision of AIM Services
- Provision of AIM products and services based on the Integrated Aeronautical Information Database (IAID)
- Terrain and Obstacle data sets and Airport Mapping Databases (AMDB)
- Aeronautical Data Quality
- World Geodetic System – 1984 (WGS84)
- Aeronautical Charts
- Production Responsibility for sheets of the World Aeronautical Chart – ICAO 1:1 000 000
- Pre-Flight Information Services
- AIM Certification

2.2. FASID Table AIM-1 sets out the responsibilities for the provision of AIM services in the AFI Region. It takes into account the current situation and new developments specific to the AFI Region where States delegate certain AIS/AIM services to a Regional Agency (e.g. with the establishment of Functional Airspace Blocs (FAB). The responsibilities for the provision of aeronautical data, products and services in such cases need to be clearly assigned.

2.3. FASID Table AIM-2 sets out the requirements for the Provision of AIM products and services based on the Integrated Aeronautical Information Database (IAID). It reflects the transition from the current product centric AIS to data centric AIM. For the future digital environment it is important that the -2 authoritative databases are clearly designated and such designation must be published for the users. This is achieved with the concept of the Integrated Aeronautical Information Database (IAID), a single access point for one or more authoritative databases (AIS, Terrain, Obstacles, AMDB, etc) for which the State is responsible.

2.4. FASID Table AIM-3 sets out the requirements for the provision of Terrain and Obstacles datasets and Aerodrome Mapping Data Bases (AMDB). The AFI e-TOD implementation Checklist at **Attachment A1** and the AFI e-TOD implementation strategy at **Attachment A2** to Part x - AIM of the AFI FASID is developed to assist States in the process of e-TOD implementation.

2.5. FASID Table AIM-4 sets out the requirements for aeronautical data quality. **Attachment B** to Part x - AIM of the AFI FASID describes the safety and security objectives to be included in the Quality Management System of AIM. **Attachment C** to Part x - AIM of the AFI FASID lists the data originators and the type of aeronautical data/information required to be exchanged by direct electronic connection.

2.6. FASID Table AIM-5 sets out the requirements for the implementation of the World Geodetic System – 1984 (WGS-84).The requirement to use a common geodetic system remains essential to facilitate the exchange of data between different systems. The expression of all coordinates in the AIP and charts using WGS-84 is an important first step for the transition to AIM.

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2.7. FASID Table AIM-6 sets out the requirements for the production of aeronautical charts. The provision of digital mapping data bases e.g. AMDB, allows for the provision and use of electronic aeronautical charts. Annex 4 SARPs include the requirement for an Electronic Aerodrome Terrain and Obstacle Chart.

2.8. FASID Table AIM-7 sets out the responsibilities for the production of the sheets of the World Aeronautical Chart 1: 1 000 000 (WAC). The assignment of the WAC sheets is determined by regional agreement, based on the delineation of areas specified in Appendix 5 to Annex 4 and taking into consideration the cross-border issues.
Note.- The World Aeronautical Chart 1: 1 000 000 provides information to satisfy the requirements of visual air navigation.

2.9. FASID Table AIM-8 sets out the requirements for the provision of pre-flight information services.

2.10. FASID Table AIM-9 sets out the requirements for AIM Certification.

AFI REGION QESTIONNAIRE FOR STATE'S TRANSITION FROM AIS TO AIM
National Plan for the transition from AIS to AIM

a) Have you developed a National Plan for the transition from AIS to AIM? If Yes, is it based on the ICAO Roadmap (Phases 1, 2 and 3) ?		YES	NO
Sample	No formal plan has been developed for the whole transition but a set of initiatives for several steps of the Roadmap. Phase 1 is fully covered by our initiatives / Phases 2 and 3 are partly covered by our initiatives.		X
STATE			

1. Phase 1 – Consolidation (2009)

a) What do you consider a realistic timeframe for the implementation of Phase 1?	
Sample	2013 – due to the implementation of QMS by the raw data originators Quality measures will be reinforced to ensure the required level of quality of the aeronautical information. Before end of June 2013. Incremental improvements in data quality will be achieved through the implementation of the revised QMS. Data quality is expected to be fully compliant before the end of June 2017.
a) What do you consider a realistic timeframe for the implementation of Phase 1?	
STATE	

b) What is the status of implementation of the following steps of Phase 1 in your State?			
P-03 — AIRAC adherence monitoring			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
Sample	Implemented up to the process step "publication" in the frame of the Quality Management System.		There seems currently no effective means available to monitor the process steps after "publication", (which is beyond our influence and control (mailing).
STATE			

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b) What is the status of implementation of the following steps of Phase 1 in your State?			
P-03 — AIRAC adherence monitoring			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
STATE			

b) What is the status of implementation of the following steps of Phase 1 in your State?			
P-05 — WGS-84 implementation			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
Sample	Implemented – since 1998		Geoid Undulation not yet implemented
STATE			

b) What is the status of implementation of the following steps of Phase 1 in your State?			
P-04 — Monitoring of States' differences to Annex 4 and Annex 15			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
Sample	During preparations for ICAO USOAP all differences to Annex 4 and Annex 15 have been identified and recorded, using standard checklists supplied from ICAO. Since then, some of those differences are removed and some standards are changed, checklists were updated. Differences are published in the AIP.		Dialogs are conducted concerning differences between CAA and service provider about measures and time frame.
STATE			

b) What is the status of implementation of the following steps of Phase 1 in your State?			
P-17 — Quality			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
Sample	Partially achieved. Not in place for all data throughout the data management chain. Partly implemented concerning integrity.		Data exchange tool will improve data integrity.
STATE			

2. Phase 2 – Going Digital (2009 – 2011)

a) What do you consider a realistic timeframe for the implementation of Phase 2?	
Sample	Many steps of Phase 2 are already implemented; however the entire scope of data will be covered by 2015.
STATE	

b) What is the status of implementation of the following steps of Phase 2 in your State?			
P-01 — Data quality monitoring			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
Sample	A structured monitoring system is not implemented. Quality management in the chain is fractured.		State policy under development
STATE			

Appendix H J-4

a) What is the status of implementation of the following steps of Phase 2 in your State?			
P-02 — Data integrity monitoring			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
STATE			

a) What is the status of implementation of the following steps of Phase 2 in your State?			
P-06 — Integrated aeronautical information database			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
Sample	AISP operates a database of static aeronautical data based on AICM/AIXM 4.5 and a separate database for dynamic aeronautical data. The database was converted to the current AIXM 4.5 version with the effective date of 4th of June 2010. Obstacle data database with only one way exchange from (originator) to AISP under test operation.	With the introduction of a system based on AIXM 5.1 an integration of the static and dynamic database is expected. The deadline for the transition to AIXM 5.1 is not specified yet.	
STATE			

a) What is the status of implementation of the following steps of Phase 2 in your State?			
P-07 — Unique identifiers			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
Sample	AISP uses a model of unique feature identification based on natural keys in compliance with AIXM 4.5.	With the introduction of a system based on AIXM 5.1 the universally unique identifier (UUID) model will be implemented. We expect possible difficulties in the transition process to the new unique identifiers.	
STATE			

b) What is the status of implementation of the following steps of Phase 2 in your State?			
P-07 — Unique identifiers			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
STATE		.	

a) What is the status of implementation of the following steps of Phase 2 in your State?
P-08 — Aeronautical information conceptual model

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	Implemented (specify how)	Planned (specify when/how)	Additional comments/clarification required
Sample	The data model which is used by AIXM 4.5 is implemented.	With the introduction of a system based on AIXM 5.1 the appropriate data model will be implemented.	

b) What is the status of implementation of the following steps of Phase 2 in your State?

P-08 — Aeronautical information conceptual model

	Implemented (specify how)	Planned (specify when/how)	Additional comments/clarification required
STATE			

a) What is the status of implementation of the following steps of Phase 2 in your State?

P-11 — Electronic AIP

	Implemented (specify how)	Planned (specify when/how)	Additional comments/clarification required
STATE			

b) What is the status of implementation of the following steps of Phase 2 in your State?

P-11 — Electronic AIP

	Implemented (specify how)	Planned (specify when/how)	Additional comments/clarification required
Sample	No	Initial eAIP produced May 11. Operational version planned for Sep 11.	AIP available in digital format (PDF) on CD and on the web
STATE			

a) What is the status of implementation of the following steps of Phase 2 in your State?

P-13 — Terrain

	Implemented (specify how)	Planned (specify when/how)	Additional comments/clarification required
Sample		Terrain datasets are available, but unfit to cover all eTOD requirements. Implementation is planned until mid 2013	Implementation Project is ongoing, charging mechanism under discussion. State policy under development.
STATE			

Appendix H J-6

b) What is the status of implementation of the following steps of Phase 2 in your State?			
P-13 — Terrain			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification**
STATE			

a) What is the status of implementation of the following steps of Phase 2 in your State?			
P-14 — Obstacles			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
Sample	Partially provided but not compliant with chapter 10 of ICAO Annex 15 Data collected for Area 1	Area 1 planned for 2012 Area 2 and Area 3 planned 2015	State policy under development.
STATE			

b) What is the status of implementation of the following steps of Phase 2 in your State?			
P-14 — Obstacles			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification**
STATE			

a) What is the status of implementation of the following steps of Phase 2 in your State?			
P-15 — Aerodrome mapping			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
Sample	No	No concrete planning available yet, still under review.	
STATE			

Appendix H J-7

3. Phase 3 – Information Management (2011 – 2016)

a) What do you consider a realistic timeframe for the implementation of Phase 3?	
Sample	We believe that the foreseen implementation time frame of Phase 3 is too ambitious and think that 2013-2018 would be a more realistic time frame.
STATE	

a) What is the status of implementation of the following steps of Phase 3 in your State?

P-09 — Aeronautical data exchange

	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
Sample	An AIXM interface from/to the central aeronautical database (refer to P-06) is available.	It is planned to implement the exchange model and mechanisms together with AICM 5.1. This starts in 2013	Not implemented between data providers and AIS
STATE			

b) What is the status of implementation of the following steps of Phase 3 in your State?

P-09 — Aeronautical data exchange

	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
STATE			

a) What is the status of implementation of the following steps of Phase 3 in your State?

P-10 — Communication networks

	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
Sample	AISP has been using the Internet for static and dynamic data exchange for some time already. AFTN is also being used, currently in the role of a backup network for dynamic data exchange. Starting August 2010 the AISP is using PENS for dynamic data exchange.	Migration to AMHS completed. For some specific services Internet is being used.	In some specific cases the ANSP is delivering aeronautical data to customers (airlines) through business-to-business (B2B) web services (industry standard). Briefing services (self- and home briefing) are provided by making use of the Internet in line with the ICAO Doc 9855 (requires update in line with latest developments).

Appendix H J-8

STATE			

a) What is the status of implementation of the following steps of Phase 3 in your State?			
P-12 — Aeronautical information briefing			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
Sample	For many years the ANSP is applying enhanced NOTAM selection criteria for the delivery of NOTAMs to airlines going beyond the ICAO provisions (enhancing the operational relevance for the airline). This procedure is applied in agreement with the Regulator.		Despite the constraints with the current NOTAM selection criteria, the presentation of all required pre-flight information (AIS, FPL and MET) has been improved in an integrated system allowing for custom tailored information.

b) What is the status of implementation of the following steps of Phase 3 in your State?			
P-12 — Aeronautical information briefing			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
STATE			

a) What is the status of implementation of the following steps of Phase 3 in your State?			
P-16 — Training			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
Sample			Currently it is not clear what is expected under the training header. ICAO training manual has to be developed to reflect the new competencies required by the transition to AIM, before national requirements can be developed.

Appendix H J-9

STATE			

a) What is the status of implementation of the following steps of Phase 3 in your State?			
P-18 — Agreements with data originators			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
Sample	Partially achieved, some requirements in current CAA publications.	By July 2013 – Implementation of CAA Policy for Agreements with Data Originators.	Under Development. See P-01.
STATE			

a) What is the status of implementation of the following steps of Phase 3 in your State?			
P-19 — Interoperability with meteorological products			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
Sample	Partially implemented, pre-flight information briefing is provided in harmonized way (one stop shop) in accordance with current ICAO Annex 3 and ICAO Annex 15 requirements.	Next step (fully integrated briefing) will be implemented after the design and implementation of the appropriate data exchange technology is finished (WXXM – Weather Exchange Model).	
STATE			

P-20 — Electronic aeronautical charts			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
Sample			More detailed specification are required; Annex 4, Chapter 20 Electronic Aeronautical Chart Display is too general.
a) What is the status of implementation of the following steps of Phase 3 in your State?			
P-20 — Electronic aeronautical charts			

	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
STATE			

a) What is the status of implementation of the following steps of Phase 3 in your State?			
P-21 — Digital NOTAM			
	Implemented (specify how)	**Planned (specify when/how)**	**Additional comments/clarification required**
Sample		Plan to provide digital NOTAM by Jul 2017.	AIXM 5.1 will be the enabler to digital NOTAM.
STATE			

4. Do you expect any specific difficulty which could impede the transition from AIS to AIM?

	YES	**NO**

Sample	x Potential for the non-participation of key stakeholders providing e-TOD data. x Continuation of downturn in aviation industry causing financial constraints on the State AIS provider and other key stakeholders supplying aeronautical data. x Non-agreement by airports to establishment of SLA with State AIS for provision of data. x Justification to aerodromes for additional costs related to the provision of survey data for digital mapping. x Funding, decision making on all levels, manpower capacity, availability of knowledge, technical infrastructure, acceptance by all stakeholders, timescales unrealistic.	X	
STATE			

5. What kind of assistance/support do you expect from ICAO to expedite the transition from AIS to AIM?

Sample	x Specific guidance material for implementation of each subject. Development of more detailed guidance materials, manuals, best practices examples and other supporting documents. x Expeditious revisions to Annex 15 and 4 when appropriate. x Regional workshops and seminars to ensure consistency in the transition to AIM.
STATE	

6. Do you have any suggestion to update/improve the ICAO Roadmap for the Transition from AIS to AIM?

Sample	x In the first version of the Roadmap document the description of the steps is quite basic and insufficient. Those definitions should be expanded and/or reference to specific standards, manuals and other documents should be provided within it. x Timelines should be permanently monitored and adapted accordingly.
STATE	

7. Any other suggestion on the subject?

Sample	x ICAO Doc 9881 is only a draft, but the content is paramount for the transition to AIM - e.g. the attributes of terrain and obstacle data need clear definitions and explanations – including examples of obstacles together with attributes.
STATE	

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Status report against the 21 steps of the ICAO Roadmap for the transition from AIS to AIM

State AIS AIM Transition Table

Phase 1
P~03 —AIRAC adherence monitoring
P~04 —Monitoring of States'differences to Annex 4 and Annex 15
P~05 —WGS~84 implementation
P~17 —Quality
Phase 2
P~01 —Data quality monitoring
P~02 —Data integrity monitoring
P~06 —Integrated aeronautical information database
P~07 —Unique identifiers
P~08 —Aeronautical information conceptual model
P~11—Electronic AIP
P~13 —Terrain
P~14 —Obstacles
P~15—Aerodrome mapping
Phase 3
P~09 —Aeronautical data exchange
P~10—Communication networks
P~12 —Aeronautical information briefing
P~16 —Training
P~18 —Agreements with data originators
P~19 —Interoperability with meteorological products
P~20 —Electronic aeronautical charts
P~21 —Digital NOTAM

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Appendix -H
Date Last

Amended:

	Phase 1 Consolidation				Phase 2 Going Digital									Phase 3 Information Management							
	P~03	P~04	P~05	P~17	P~01	P~02	P~06	P~07	P~08	P~11	P~13	P~14	P~15	P~09	P~10	P~12	P~16	P~18	P~19	P~20	P~21
Angola																					
Benin																					
Burkina Faso																					
Burundi																					
Cape Verde																					
Central African Republic																					
Chad																					
Comoros																					
Congo																					
Cote d'Ivoire																					
Democratic Republic of																					
Djibouti																					
Equatorial Guinea																					
Eritrea																					
Ethiopia																					
Gabon																					
Gambia																					
Ghana																					
Guinea																					
Guinea Bissau																					
Kenya																					
Lesotho																					
Liberia																					

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Madagascar																					
Malawi																					
Mali																					
Mauritanie																					
Mauritius																					
Mozambique																					
Namibia																					
Niger																					
Nigeria																					
Rwanda																					
Sao Tome and Principe																					
Senegal																					
Seychelles																					
Sierra Leone																					
Somalia																					
South Africa																					
Swaziland																					
Togo																					
Uganda																					
United Republic of Tanzania																					
Zambia																					
Zimbabwe																					

X= Implemented
N= Non Implemented
P= Plan Implementation

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Appendix J to WP/17 on Agenda Item 3.5

NOTAM Templates related to the operational impact and limited access of airspace and routes affected by volcanic ash

NOTAM Templates

General

Structure of NOTAM content

For each operational area, a short description is given for in which situations the examples can be used. It follows by a description of the structure of the NOTAM text, providing the sequence of the free text information to be inserted in item E). The structure of the information is in accordance with a dedicated digital NOTAM event scenario.

Filling instructions and NOTAM codes

The NOTAM examples include some instructions in completion of the qualifier line, the recommended NOTAM code and instruction in how to describe a published airspace in item E).

Navigation warnings

Type of operational impact/event

These templates apply for the issuance of navigation warnings for potential volcanic activity:

a) pre-eruption notification and outbreak of a volcano including detailed information regarding the activity,

b) volcano ash contamination areas forecast spread and movement, for which an area restriction has not been established

Structure of information

The examples follow the structure of the digital NOTAM event scenario *Ad-hoc special activity area:*
airspace type – activity/reason – location note (ex. name of volcano) – geometry (horizontal/vertical) – note(s);

The structure of the information is illustrated by color coding in the NOTAM example 2.2.3.1 with the following meaning:
Red = airspace type
Blue =activity/reason for the area establishment
Green =location note of the activity
Purple = Geometry
Orange = airspace activity note #1(there may be as many Notes as necessary)
Brown = airspace activity note #2 (there may be as many Notes as necessary)

NOTAM examples

Pre-eruptive volcanic alert

(A0777/10 NOTAMN
Q) BIRD/QWWLW*/IV/NBO/W/000/999/6337N01901Wxxx**
A) BIRD B) 1002260830 C) 1002261100

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E) PRE-ERUPTIVE ACTIVITY ALERT FOR VOLCANIC ACTIVITY, POSSIBLY INDICATING IMMINENT ERUPTION (VOLCANO KATLA 1702-03 ICELAND-S) AS FOLLOWS: CIRCLE WITH CENTRE 6337.5N 01901.5W AND RADIUS OF XXXNM***. VOLCANIC ASH CLOUD IS EXPECTED TO REACH 50.000 FEET AMSL FEW MINUTES FROM START OF ERUPTION. AIRCRAFT ARE REQUIRED TO FLIGHT PLAN TO REMAIN AT LEAST XXXM CLEAR OF VOLCANO AND MAINTAIN WATCH FOR NOTAM/SIGMET FOR AREA
F) GND G) UNL
*) *Recommended NOTAM code: QWWLW "Significant volcanic activity will take place…(specify)".*
***) A radius shall be included in the qualifier line in a way that encompasses the total area of influence of the NOTAM.*
****) XXX is a distance established by the Provider State and shall correspond to the radius in the qualifier line.*

Reporting on outbreak of volcanic eruption

(A0778/10 NOTAMR A0777/10
Q) BIRD/QWWLW/IV/NBO/W/000/999/6337N01901Wxxx
A) BIRD B) 1002261000 C) 1002261300
E) VOLCANIC ERUPTION CONFIRMED IN VOLCANO KATLA 17-2-03 ICELAND-S. CIRCLE WITH CENTRE 6337.5N 01901.5W AND RADIUS OF XXXNM. VOLCANO ASH CLOUD IS EXPECTED TO REACH 50 000 FEET AMSL. AIRCRAFT ARE REQUIRED TO REMAIN AT LEAST XXXNM CLEAR OF VOLCANO AND MAINTAIN WATCH FOR NOTAM/SIGMET FOR BIRD AREA.
F) GND G) UNL

Reporting on forecasted volcanic ash area [of Medium or High, High/Medium or High/Medium/Low contamination]

(A0207/10 NOTAMN
Q) EIAA/QWWLW/IV/NBO/W /000/200/xxxxNxxxxxE (orW)/xxx*)
A)EIAA B) 1005190700 C) 1005191300
E) VOLCANIC ASH AREA OF MEDIUM CONTAMINATION FORECAST AS FOLLOWS:
5243N 00853W - 5330N 00618W - 5150N 00829W - 5243N 00853W**)
F)SFC G) FL200
*) *The geographical reference (coordinates lat/long) shall represent the approximate centre of a circle whose radius encompasses the whole area of influence. A radius shall be included in a way that encompasses the total area of influence of the NOTAM.*
***) Definition of the area should be done by radius/circle or coordinates only. Definition of airspace by the use of geographical or administrative features such as State borders, rivers, sea shores etc) is not supported by the digital NOTAM event scenario and is therefore not recommended. If operational necessary, this can be defined by providing a simplified polygon larger than the area and excluding a neighbouring FIR, for example.*

Coordinates defining the lateral limits of the area (polygon) should be enumerated in clockwise order, each point separated by space-hyphen-space. The last and the first points of the list shall be the same.

Airspace restrictions

Type of operational impact/event

These templates apply for established temporary airspace restrictions for areas affected by volcanic activity:

a) temporary airspace restriction due to outbreak of volcanic eruption,

b) temporary airspace restrictions based on forecast ash contamination areas spread and movement

Structure of information

The examples follow the structure of the digital NOTAM event scenario *Ad-hoc special activity area:*
airspace type – activity/reason – location note (ex. name of volcano) – geometry (horizontal/vertical) – note(s);

The structure of the information is illustrated by color coding in the NOTAM example 2.3.3.1 with the following meaning:
Red = airspace type
Blue =activity/reason for the area establishment
Green =location note of the activity
Purple = Geometry
Orange = airspace activity note #1(there may be as many Notes as necessary)
Brown = airspace activity note #2 (there may be as many Notes as necessary)

NOTAM examples

Established temporary airspace restriction for confirmed volcanic eruption

(A0255/11 NOTAMN
Q) BIRD/QRDCA*/IV/NBO/W/000/500/6337N01901Wxxx**
A) BIRD B) 1103260800 C) 1103261200
E) TEMPORARY DANGER AREA ESTABLISHED FOR CONFIRMED VOLCANIC ERUPTION VOLCANO KATLA 1702-03 ICELAND-S AS FOLLOWS: CIRCLE WITH CENTRE 6337.5N 01901.5W AND RADIUS OF XXXNM*** VOLCANIC ASH CLOUD REPORTED REACHING FL500. AIRCRAFT ARE REQUIRED TO REMAIN CLEAR OF AREA AND MAINTAIN WATCH FOR NOTAM/SIGMET FOR BIRD AREA.
F) SFC G) FL500
**) Recommended NOTAM code: QRTCA "Temporary restricted area activated", QRDCA "Danger area activated" and QRPCA " Prohibited area activated", based on States decision on established restriction.*
***) A radius shall be included in the qualifier line in a way that encompasses the total area of influence of the NOTAM.*
****) XXX is a distance established by the Provider State and shall correspond to the radius in the qualifier line*

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Established airspace restriction including volcanic ash area of High [or High/Medium or High/Medium/Low] contamination

(A0503/10 NOTAMN
Q) EGGN/QRTCA/IV/NBO/W/000/350/xxxxNxxxxxW (or E)xxx*
A)EGPX B)1005182300 C)1005190500
E)TEMPORARY RESTRICTED AREA ESTABLISHED FOR VOLCANIC ASH AREA OF HIGH CONTAMINATION AS FOLLOWS: 5812N 00611W - 5718N 00216W - 5552N 00426W - 5629N 00652W - 5812N 00611W**)
F)SFC G) FL350

(A0886/10 NOTAMR A0884/10
Q) BIRD/QRDCA/IV/NBO/W/000/250/xxxxNxxxxxW(orE)xxx*
A) BIRD B) 1011301214 C) 1011301814
E) TEMPORARY DANGER AREA ESTABLISHED FOR VOLCANIC ASH AREA OF MEDIUM AND HIGH CONTAMINATION AS FOLLOWS:
7134N 00843W - 7134N 00801W - 6931N 00508W - 6606N 00732W - 6208N 01334W - 6254N 01419W - 6823N 00925W - 7134N 00843W**)
F)SFC G)FL250

**) The geographical reference (coordinates lat/long) shall represent the approximate centre of a circle whose radius encompasses the whole area of influence. A radius shall be included in a way that encompasses the total area of influence of the NOTAM.*
***) Definition of the area should be done by radius/circle or coordinates only. Definition of airspace by the use of geographical or administrative features such as State borders, rivers, sea shores etc) is not supported by the digital NOTAM event scenario and is therefore not recommended. If operational necessary, this can be defined by providing a simplified polygon larger than the area and excluding a neighboring FIR, for example.*
Coordinates defining the lateral limits of the area (polygon) should be enumerated in clockwise order, each point separated by space-hyphen-space. The last and the first points of the list shall be the same.

Aerodrome/heliport closure

Type of operational impact/event

These templates cover the event of a temporary closure of an airport/heliport. The closure can be total (any traffic is forbidden) or partial (with the exception of particular operations, flight or aircraft categories).

Structure of information

The proposed structure of data items in the examples follow the digital NOTAM event scenario *Airport/Heliport closure*:
designator - *operational status* - *forbidden operation* - *permitted operation* – *reason* - *start closure* - *end closure* – *note(s)*

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The structure of the information is illustrated by color coding in the NOTAM example 2.3.3.1, with the following meaning:

Red = designator
Blue =operational status (closure/limitation)
Green = forbidden operation (flight/aircraft)
Purple = permitted operation (flight/aircraft) and PPR details
Orange = reason for aerodrome/heliport closed
Indigo = start closure
Pink = end closure, schedule
Brown = further instructions concerning the airport closure Note (there may be as many Notes as necessary)

NOTAM examples

Aerodrome/Heliport closed for all traffic

(A1340/10 NOTAMN
Q)EFIN/QFALC/IV/NBO/A/000/999/6455N01252E/010
A)EFOU B) 1012151600 C) 1012151900EST
E) AD*) EFOU CLOSED FOR ALLTRAFFIC DUE TO VOLCANIC ASH AREA OF HIGH CONTAMINATION FORECAST FOR INFO CALL + 35885207700

*) *If the designator concerns a heliport, the word "HELIPORT" shall be included.*

Aerodrome/Heliport closed for IFR traffic

(A0468/10 NOTAMN
Q)EFIN/QFALT/I/NBO/A/000/999/6455N012521E/010
A)EFOU B) 1003211000 C) 1003211300EST
E) AD EFOU CLOSED FOR IFR TRAFFIC DUE TO VOLCANIC ASH AREA OF MEDIUM CONTAMINATION FOR INFO CALL + 35885207700

Restrictions on route portions/flight levels

Type of operational impact/event

These templates cover the event of a temporary closure of one or more route portions (could be on different routes) due to a common cause, such as the activation of a temporary restricted area.
If more than one route portion is concerned, the eventual vertical layers and schedules specified by the data originator are assumed to apply identically to all route portions (routes); if one route portion has different layers or schedules, it shall be considered a separate event and a separate NOTAM shall be issued.

Structure of information

The proposed structure of data items in the examples follow the digital NOTAM event scenario *Route portion closure*:
route availability - *route designator* - *start point* - *end point* - *direction* - *lower level* - *upper level* - *start time* - *end time* - *schedule* - *reason* - *note(s)*

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The structure of the information is illustrated by color coding in the NOTAM example 2.5.3.1 with the following meaning:
Red = route availability
Blue =route designator
Green = start point (designator of the significant point, and the type in case of a navaid)
Purple = end point (designator of the significant point and the type in case of a navaid)
Indigo = lower level/upper level
Orange = start time/end time/schedule
Pink = reason (explanation of the situation that triggered the closure of the route)
Brown = further instructions concerning the route portion closure Note (there may be as many Notes as necessary)
:

NOTAM examples

Area Navigation (RNAV) routes portion closure with vertical layer

(A0515/10 NOTAMN
Q) ENOR/QANLC/I/NBO/E/285/400/6230N00300E/085
A)ENOR B) 1004151200 C) 1004151400EST
E) RNAV ROUTE SEGMENTS CLSD
UM 996 ISVIG – VIGRA DVOR/DME (VIG)
UL727 ISVIG – FLORO DVOR/DME (FLO)
UP607 INGAL – FLORO DVOR/DME (FLO)
FROM FL285 TO FL400
DUE TO VOLCANIC ASH AREA OF HIGH CONTAMINATION FORECAST

ATS route *) portion closure with vertical layer

A0515/10 NOTAMN
Q) LFFF/QARLC/IV/NBO/E/200/400/4920N0015E/060
A)LFFF B) 1011030800 C) 1011031000EST
E) ATS ROUTE SEGMENTS CLSD UL612 XAMAB – RESMI FROM FL 200 TO FL 400
03 NOV 2010 08:00 TO 03 NOV 2010 10:00EST DUE TO TEMPORARY ESTABLISHED DANGER AREA FOR VOLCANIC ASH AREA OF MEDIUM AND HIGH CONTAMINATION.

**)The second and third NOTAM code letters AR apply for conventional ATS routes, TACAN routes and routes other than Area Navigation routes.*