International Civil Aviation Organization

Second Meeting of the Aeronautical Information Management Digitalization and Planning Task Force (AIMDP TF/2)

(Virtual, 21 April 2026)

Agenda Item 3: AIM digitalization and Planning

REGIONAL PLAN FOR THE PROVISION OF DIGITAL DATA SETS

(Presented by the Secretariat)

SUMMARY

This Working Paper presents the MID Region Implementation Plan for Digital Datasets (First Edition, 2026), developed by the AIMDP TF Workstream 3 (WS3) under the leadership of the United Arab Emirates and the Kingdom of Saudi Arabia, in response to a tasking by MIDANPIRG at its 22nd Meeting. The Plan establishes the authoritative regional framework for the structured, harmonised, and timely provision of all five categories of aeronautical digital datasets, in full compliance with applicable ICAO SARPs. It defines technical requirements, encoding specifications, governance arrangements, and a coordinated Master Roadmap with implementation milestones extending through 2031.

Action by the meeting is at paragraph 3.

REFERENCES

- AIMDP TF/1 Report, Amman, Jordan, 20–21 January 2025
- MIDANPIRG/22 Conclusions and Decisions
- Annex 15 — Aeronautical Information Services
- Doc 8126 — Aeronautical Information Services Manual
- Doc 10066 — PANS-AIM

1. INTRODUCTION

1.1. The ICAO Global Air Navigation Plan (GANP) and Aviation System Block Upgrades (ASBU) framework identify the provision of digital aeronautical datasets and the transition to System Wide Information Management (SWIM) as foundational enablers of Trajectory-Based Operations (TBO) and the future ATM environment, including the deployment of Flight and Flow Information for a Collaborative Environment (FF-ICE).

1.2. At its 22nd Meeting, MIDANPIRG tasked the AIMDP TF WS3, led by the United Arab Emirates and the Kingdom of Saudi Arabia, to develop a coordinated MID Region implementation plan for digital aeronautical datasets.

1.3. The AIMDP TF WS3 has completed this work. The resulting MID Region Implementation Plan for Digital Datasets, First Edition (2026) is at **Appendix A**.

2. DISCUSSIONS

2.1. The meeting may wish to note that the Plan was developed through a multi-stage process involving:

a) Analysis of ICAO Annex 15 and PANS-AIM requirements applicable to all five categories of digital aeronautical datasets;
b) Review of implementation approaches in other ICAO regions, particularly EUROCONTROL guidance and EUR/NAT regional experience, adapted to MID Region-specific operational characteristics;
c) A MID Region gap analysis identifying AIP sections that can be systematically encoded in AIXM 5.1/5.1.1 beyond the minimum scope specified in PANS-AIM, resulting in the identification of 13 subject areas with comprehensive AIXM attribute-level mappings, documented in Appendix C of the Plan;
d) Development of a regional Master Roadmap establishing coordinated provision windows for each dataset category; and
e) Development of a standardised National Digital Dataset Implementation Plan (NDIP) template to enable consistent reporting by all MID Region States.

2.2. The Plan has been developed with the active participation of AIM experts from the United Arab Emirates and the Kingdom of Saudi Arabia, with the technical support of the ICAO MID Regional Office.

2.3. The MID Region Implementation Plan for Digital Datasets (First Edition, 2026) constitutes the authoritative regional framework guiding MID Region States toward the structured, harmonised, and timely provision of aeronautical digital data in full compliance with applicable ICAO Standards and Recommended Practices (SARPs). The Plan is structured as follows:

- **Part I** — Background, Objectives, and Governance
- **Part II** — Digital Aeronautical Data Sets: Requirements, Standards, and Specifications
- **Part III** — Coordinated Regional Deployment
- **Appendix A** — Regulatory and Guidance Material References
- **Appendix B** — National Implementation Plan Template (NDIP)
- **Appendix C** — PANS-AIM to AIXM 5.1/5.1.1 Mapping Tables

2.4. The Plan establishes the MID Region framework for the provision of digital aeronautical datasets, addressing what to provide, how to provide it, and when to provide it, as summarised in the Master Roadmap below:

#	Data Set Category	Area / Scope	Format	Encoding / Coding Specification	Target Provision Window	AIP Omission Permissible?	Transition Period
1	Terrain data set	Area 1 — Entire State territory	GeoTIFF /DEM/ Point Cloud	EUROCONTROL TOD Manual (SD 2, Appendix A); OGC GeoTIFF Standard (SD 6, Appendix A)	2020 – 2027	N/A	Not applicable
2	Terrain data set	Area 2a + Take-off flight path + OLS — International aerodromes	GeoTIFF /DEM/Point Cloud	EUROCONTROL TOD Manual (SD 2, Appendix A); OGC GeoTIFF Standard (SD 6, Appendix A)	2020 – 2027	N/A	Not applicable

3	Terrain data set	Area 4 — CAT II/III aerodromes	GeoTIFF /DEM/Point Cloud	EUROCONTROL TOD Manual (SD 2, Appendix A); OGC GeoTIFF Standard (SD 6, Appendix A)	2020 – 2027	N/A	Not applicable
4	Terrain data set	Areas 2b, 2c, 2d, 3 — International aerodromes	GeoTIFF / Point Cloud	EUROCONTROL TOD Manual (SD 2, Appendix A); OGC GeoTIFF Standard (SD 6, Appendix A)	At State discretion	N/A	Not applicable
5	Obstacle data set	Area 1 — Entire State territory (ENR 5.4)	AIXM 5.1/5.1.1	EUROCONTROL AIXM obstacle coding guidelines	2020 – 2027	Yes	5 years from provision date
6	Obstacle data set	Areas 2a, 4, OLS + take-off flight path — International aerodromes (AD 2.10 / AD 3.10)	AIXM 5.1/5.1.1	EUROCONTROL AIXM obstacle coding guidelines	2020 – 2027	Yes	5 years from provision date
7	Obstacle data set	Areas 2b, 2c, 2d, 3 — International aerodromes	AIXM 5.1/5.1.1	EUROCONTROL AIXM obstacle coding guidelines	At State discretion	Yes	5 years from provision date
8	AIP data set	GEN, ENR, AD sections as specified in Part II, Section 4	AIXM 5.1/5.1.1	EUROCONTROL ACGAIP Specification + Appendix C	2026 – 2030	Yes	5 years from provision date
9	Aerodrome Mapping data set	International aerodromes	AIXM 5.1.1	EUROCONTROL ACGAMD Specification	2020 – 2027	N/A	Not applicable
10	IFP data set	All instrument procedures at international aerodromes	AIXM 5.2 (preferred) / AIXM 5.1.1 (interim)	AIXM 5.2 release documentation (https://aixm.aero/page/aixm-52)	2026 – 2031	Yes	5 years from provision date

Note 4: The format of the terrain data sets georeferencing information depends on the file format and GeoTIFF/DEM/point cloud are only of the most common/used file formats.

2.5. Appendix C of the Plan provides comprehensive PANS-AIM to AIXM 5.1/5.1.1 mapping tables covering 13 subject areas : from ATS Airspace through Radio Navigation Aids, En-Route Holding, and Aeronautical Ground Lights with technically accurate attribute-level mappings and documented workarounds for known AIXM 5.1.1 limitations. This represents a significant technical contribution that will directly support consistent regional implementation and reduce the technical burden on individual States.

2.6. At the time of development of this Plan (First Edition, 2026), ICAO Doc 8126 Part IV has not yet been published. The technical standards, data quality requirements, and operational procedures contained in the Plan are accordingly derived from the following published references:

- ICAO Annex 15, Sixteenth Edition
- PANS-AIM (Doc 10066), First Edition
- ICAO Doc 9674 — WGS-84 Implementation Manual
- EUROCAE/RTCA ED-76A/DO-200B — Standards for Processing Aeronautical Data
- ISO 19157:2013 — Geographic Information: Data Quality
- ISO 19131:2022 — Geographic Information: Data Product Specifications
- ICAO SWIM Concept (Doc 10039)

2.7. Upon publication of ICAO Doc 8126 Part IV, the AIMDP TF shall conduct a formal Gap Analysis within 180 days and submit a recommended amendment package to AIMDP TF for endorsement, to ensure full alignment of the Plan with any normative requirements therein.

2.8. The provision of accurate, timely, and interoperable aeronautical digital datasets is a fundamental enabler of modern ATM, underpinning FF-ICE, TBO, and SWIM. To translate this regional framework into tangible national action, it is essential that all MID Region States commit to developing structured NDIPs and that the ICAO MID Office assumes an active monitoring and coordination role. To that end, and to promote the effective implementation and harmonised deployment of aeronautical digital datasets across the MID Region, the Meeting is invited to consider and adopt the following Draft Conclusion:

DRAFT CONCLUSION 12/X: REGIONAL PLAN FOR THE PROVISION OF DIGITAL DATA SETS

That,

a) the MID Regional Plan for the provision of digital data sets be endorsed and published under the ICAO MID Office website; and.

b) States be urged to develop and submit a National Digital Data Set Implementation Plan (NDIP) prepared using the standardised Excel template provided in Appendix B of the Plan to the ICAO MID Office no later than 31 December 2026, and to submit annual progress updates thereafter

2.9. The Meeting may wish to join the Secretariat in commending the outstanding work accomplished by the AIMDP TF WS3 in delivering this Plan. The quality, depth, and technical rigour of the resulting document reflect a dedicated effort by the workstream experts. The Meeting may in particular wish to extend its sincere appreciation to the United Arab Emirates and the Kingdom of Saudi Arabia for their exemplary leadership, for the considerable national resources committed to this regional endeavour, and for their commitment to advancing AIM digitalisation across the MID Region. Their contribution sets a commendable benchmark for collaborative regional planning within the ICAO MID framework.

3. ACTION BY THE MEETING

3.1 The meeting is invited to :

a) Take note of the information provided;

b) Review and discuss the MID Region Implementation Plan for Digital Datasets, First Edition (2026) in **Appendix A**; and

c) Agree and endorse the Draft Conclusion at para 2.8.

MID Region Implementation Plan for Digital Data sets

First Edition — 2026

International Civil Aviation Organization
MIDDLE EAST Air Navigation Planning and Implementation Regional Group
(MIDANPIRG)

RECORD OF AMENDMENTS AND CORRIGENDA

Version	Date	Description
1.0	March 2026	First edition

FOREWORD

This First Edition (2026) has been developed under the authority of MIDANPIRG and reflects the collective commitment of MID Region States to the digitalization of aeronautical information in support of FF-ICE and Trajectory-Based Operations.

The Plan establishes the MID Region framework for the provision of digital aeronautical data sets, addressing what to provide, how to provide it, and when to provide it. It is intended to complement, and must be read in conjunction with, ICAO Annex 15 — Aeronautical Information Services, PANS-AIM (Doc 10066), and the supporting guidance material listed in Appendix A.

This Plan is a living document. It will be reviewed and updated periodically by the AIMDP TF under MIDANPIRG, to reflect progress in national implementation, developments in international standards, and the evolving requirements of the ATM environment, including the transition to System-Wide Information Management (SWIM) and the future applicability of Flight and Flow Information for a Collaborative Environment (FF-ICE).

States are encouraged to use this Plan as the reference framework for developing their national digital data sets implementation plans, in accordance with the template provided in Appendix B.

The Plan is structured in three Parts and three Appendices:

Part I — General Aspects of Digital Aeronautical Data Sets
Part II — Digital Aeronautical Data Sets: Requirements, Standards, and Specifications
Part III — Coordinated Regional Deployment
Appendix A — Regulatory and Guidance Material References
Appendix B — National Implementation Plan Template
Appendix C — PANS-AIM to AIXM 5.1/5.1.1 Mapping Tables

EXECUTIVE SUMMARY

The aeronautical information environment is undergoing a fundamental transformation. The shift from paper-based Aeronautical Information Services (AIS) to digital Aeronautical Information Management (AIM) is no longer a future aspiration, it is an ongoing obligation, grounded in the Standards and Recommended Practices of ICAO Annex 15 and the Procedures for Air Navigation Services , Aeronautical Information Management (PANS-AIM, Doc 10066).

This MID Region Implementation Plan for Digital Data sets provides MID Region States with a coordinated framework to manage that transition. It answers three practical questions: what digital aeronautical data sets are required, how they should be produced and encoded, and when they should be made available.

What. Five categories of digital aeronautical data sets are addressed: terrain data sets, obstacle data sets, AIP data sets, aerodrome mapping data sets, and instrument flight procedure data sets. The scope, content, and quality requirements for each category are specified in accordance with Annex 15 and PANS-AIM, with MID Region-specific elaborations where appropriate.

How. All digital data sets shall be encoded in internationally agreed formats, primarily the Aeronautical Information Exchange Model (AIXM) version 5.1/5.1.1, with AIXM 5.2 applicable to instrument flight procedure data sets. Detailed coding specifications and PANS-AIM to AIXM mapping tables are provided in Appendix C for the AIP data set, which constitutes the most complex data set in terms of encoding scope. In the medium term, digital data sets shall be made available as System-Wide Information Management (SWIM) information services.

When. Target provision dates are defined for each data set category, taking into account PANS-AIM applicability and the phased nature of the transition. The implementation timeline spans 2020 to 2031, with Terrain and Obstacle Data (TOD) from 2020 to 2027, aerodrome mapping data sets from 2020 to 2027, AIP data sets from 2026 to 2030, and instrument flight procedure (IFP) data sets from 2026 to 2031.

Each member State is required to prepare and submit a national digital data sets implementation plan, structured in accordance with the template provided in Appendix B, and to update it at least annually. The AIM Sub-Group (AIM/SG) will monitor implementation progress and report to MIDANPIRG, as needed.

This Plan shall be reviewed by the AIMDP TF at intervals not exceeding two years, or sooner if triggered by:

- Amendments to ICAO Annex 15 or PANS-AIM
- Material changes to AIXM standards (e.g., AIXM 5.2 finalization)
- Significant shifts in regional implementation status

Amendments to this Plan shall be reviewed by the AIM/SG and endorsed by MIDANPIRG. An amendment record shall be maintained.

TABLE OF CONTENTS

GLOSSARY

Terms and definitions used in this document are, unless otherwise stated, those contained in ICAO Annex 15 — Aeronautical Information Services, PANS-AIM (Doc 10066), and the ICAO Aeronautical Information Services Manual (Doc 8126).

ABBREVIATIONS/ACRONYMS

AIM	Aeronautical information management
AIP	Aeronautical information publication
AIRAC	Aeronautical Information Regulation and Control
AIS	Aeronautical information service
AIXM	Aeronautical information exchange model
AMD	Aerodrome Mapping Data
AMDB	Aerodrome Mapping Database
ANSP	Air Navigation Services Provider
ASBU	Aviation System Block Upgrade
ATM	Air traffic management
DAIM	Digital Aeronautical Information Management
DPS	Data Product Specification
DTM	Digital Terrain Model
EUROCONTROL	European Organization for the Safety of Air Navigation
FF-ICE	Flight and Flow Information for a Collaborative Environment
FMS	Flight Management System
GANP	Global Air Navigation Plan
GIS	Geographic Information System
GML	Geography Markup Language
IFP	Instrument Flight Procedure
IM	Information management
IP	Internet protocol
MIDANPIRG	Middle East Air Navigation Planning and Implementation Regional Group
NDIP	National Digital Data Set Implementation Plan
PBN	Performance-Based Navigation
QMS	Quality Management System
SARPs	Standards and Recommended Practices
SWIM	System Wide Information Management
TBO	Trajectory Based Operations
TOD	Terrain and Obstacle Data
UUID	Universal Unique Identifier
UML	Unified Modelling Language
WGS-84	World Geodetic System-1984
XML	Extensible Markup Language

PART I — BACKGROUND, OBJECTIVES, AND GOVERNANCE

1. Introduction

1.1 The necessity of quality-assured digital data sets to support the integration of aeronautical information in ATM and aviation-related applications, and the rationale for the transition from product-centric to data-centric environments, are explained in are described in PANS-AIM (Doc 10066), Chapters 1 and 5, and elaborated in EUROCONTROL Guidelines for Harmonised AIP Publication and Data Set Provision (SD 1, Appendix A). Member States should be familiar with those documents as the foundation for this implementation plan.

1.2 The term Aeronautical Information Product was introduced with the 16th Edition of Annex 15 to cover all AIS deliverables provided in digital form or as standardized presentation in paper or electronic form. PANS-AIM (Doc 10066) provides expanded specifications for digital data sets and digital data exchange. The five categories of digital data sets specified in Annex 15 as elements of the Aeronautical Information Products are:

- Terrain data set;
- Obstacle data set;
- AIP data set;
- Aerodrome mapping data set; and
- Instrument flight procedure (IFP) data set.

Note: The ordering above reflects the regulatory priority established in Annex 15 and the recommended sequencing for MID Region implementation. Terrain and obstacle data sets are governed by mandatory Standards (shall) in Annex 15. AIP, aerodrome mapping and IFP data sets are currently governed by Recommended Practices (should). This distinction determines implementation priority under the MID Region deployment framework in Part III.

1.3 Providing digital data sets in compliance with standard digital data exchange requirements, including the use of the Aeronautical Information Exchange Model (AIXM), is a fundamental step toward the implementation of System-Wide Information Management (SWIM). For further guidance, refer to PANS-AIM (Doc 10066), Section 5.4, and the ICAO Manual on System-Wide Information Management (SWIM) Concept (Doc 10039).

2. Regulatory Foundation

2.1 The provision of digital aeronautical data sets is governed by:

- ICAO Annex 15 — Aeronautical Information Services (terrain and obstacle data sets are mandatory Standards; AIP, aerodrome mapping, and IFP data sets are Recommended Practices)
- PANS-AIM (Doc 10066) — Procedures for Air Navigation Services — Aeronautical Information Management
- Doc 8126 — Aeronautical Information Services Manual, 7th Edition, 2022 (Parts I, II and III — informative guidance for AIS operations)
- Doc 9881 — Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information

Note: Doc 8126 Part IV — Digital Data Sets is under development. It is not yet published and therefore does not form part of the normative basis of this Plan. Upon publication, the AIMDP TF shall assess its impact and propose amendments as required.

2.2 A complete list of applicable ICAO documents and supporting guidance material is provided in Appendix A.

3. MID Region Imperative

3.1 The MID Region presents particular operational characteristics that strengthen the case for early and comprehensive implementation of digital data sets, including high-density international traffic, a concentration of major international hub aerodromes, and the operational needs of cross-regional ATM coordination.

3.2 Harmonised provision of digital data sets across MID Region States will enable seamless data exchange, reduce fragmentation of the aeronautical information chain, and support State obligations under ICAO's Global Air Navigation Plan (GANP) and the Aviation System Block Upgrades (ASBU) framework.

4. Objectives

4.1 The MID Region Implementation Plan for Digital Data sets pursues the following objectives:

- Establish a harmonised regional framework for the provision of all five categories of digital aeronautical data sets in accordance with ICAO Annex 15 and PANS-AIM
- Define the technical standards, encoding specifications, data quality requirements, and distribution mechanisms applicable across the MID Region
- Establish a coordinated implementation timeline enabling progressive, phased transition to full digital data set provision by 2031
- Support States in developing and maintaining National Digital Data Set Implementation Plans
- Provide a monitoring and governance framework to track regional implementation progress and report to MIDANPIRG

5. Governance and Institutional Framework

5.1 MIDANPIRG and the AIM Sub-Group

The MIDANPIRG (MID Air Navigation Planning and Implementation Regional Group) provides strategic oversight of AIM modernisation in the MID Region. MIDANPIRG directs the AIM Sub-Group (AIM/SG) to monitor implementation progress and report at each MIDANPIRG meeting.

The AIM Sub-Group (AIM/SG) is the primary working body for AIM matters within MIDANPIRG. Its responsibilities with respect to digital data sets include:

- Monitoring State progress against this Plan and National Plans
- Reviewing and endorsing updates to the Plan
- Recommending regulatory or procedural actions to MIDANPIRG where implementation gaps are identified.

5.2 AIM Digitalization and planning Task Force (AIMDP TF)

The Aeronautical Information Management Digitalization & Planning Task Force (AIMDP TF) was established by the MIDANPIRG/21 meeting to interalia ensure the synchronized and harmonized deployment of digital AIS data sets across the MID Region. The AIMDP TF aims to foster the harmonization and digitalization of the aeronautical data chain. The Task Force develops and aligns the Regional Plan for the provision of digital data sets, in accordance with ICAO Annex 15 , PANS-AIM and AIS Manual. This includes defining the required formats, coding specifications, and implementation timelines to ensure consistent deployment across the MID Region. The AIMDP TF shall continue to provide technical support during the implementation period of this plan, including:

- Reviewing and updating Appendix C (mapping tables) as AIXM standards evolve
- Supporting States with technical queries related to data encoding and validation

5.3 State Responsibilities

Each MID member State shall:

- Develop and maintain a National Digital Data Set Implementation Plan (NDIP) in accordance with the template in Appendix B, and submit it to the ICAO MID Office by End of December each year;
- Update the NDIP at least annually, or following any material change to the national implementation position;
- Report implementation progress to AIM/SG through the ICAO MID Office.

5.4 ICAO MID Office

The ICAO MID Regional Office provides secretariat support to MIDANPIRG AIM/SG and AIMDP TF. With respect to this Plan, the ICAO MID Office shall:

- Maintain a registry of National Digital Data Set Implementation Plans
- Report the current status of MID Region implementation to MIDANPIRG on annual basis.

PART II — DIGITAL AERONAUTICAL DATA SETS: REQUIREMENTS, STANDARDS, AND SPECIFICATIONS

1. GENERAL REQUIREMENTS FOR ALL DIGITAL DATA SETS

1.1. Data Set Categories and Scope

1.1.1. Five categories of digital aeronautical data sets are required under ICAO Annex 15 and PANS-AIM. Their regulatory status and primary intended uses are summarized below:

Category	Regulatory Status	Primary Use
Terrain data set	Standard (shall)	TAWS, EGPWS, airspace design, ATM systems
Obstacle data set	Standard (shall)	Obstacle clearance, procedure design, TAWS
AIP data set	Recommended Practice (should)	Flight planning, data service provision, avionics databases
Aerodrome Mapping data set	Recommended Practice (should)	A-SMGCS, surface movement, electronic charts
IFP data set	Recommended Practice (should)	Procedure coding, avionics databases, FMCS

1.1.2. The distinction between mandatory Standards and Recommended Practices does not reduce the urgency of implementation for the latter categories. The growing dependence of ATM systems and avionics on machine-readable procedure and aerodrome data renders AIP, aerodrome mapping, and IFP data sets operationally essential.

1.1.3. The purpose and intended use of each data set category are further described in PANS-AIM (Doc 10066), Chapter 5, and ICAO Doc 9881 — Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information.

1.2. Data format requirements

1.2.1. For the interoperability of aeronautical data and the effectiveness of the upstream and downstream data chain across the MID Region, AIP data sets, AMDB and obstacle data sets shall be provided in AIXM 5.1/5.1.1 format, as a minimum.

1.2.2. AIXM version 5.2 has been published and is recommended for use with instrument flight procedure (IFP) data sets. It supports IFP data sets, including the elements required for Performance-Based Navigation (PBN). States are encouraged to monitor its implementation status through the AIXM Change Control Board. Further technical information is available at: https://aixm.aero/page/aixm-52

1.2.3. The recommended exchange formats for terrain data sets are GeoTIFF and point cloud formats (for example, LiDAR-derived data). Technical specifications, packaging guidance and best practices for terrain data exchange are provided in EUROCONTROL Terrain and Obstacle Data (TOD) Manual available at : https://www.eurocontrol.int/sites/default/files/2021-07/eurocontrol-tod-manual-ed-3-0.pdf

1.3. Data quality requirements

1.3.1 The quality of aeronautical data is a direct safety determinant. Inaccurate, incomplete or untimely digital data sets can adversely affect the safety of air navigation. States and aeronautical information service providers therefore have an obligation to ensure that all digital data sets provided under this Plan meet the applicable quality requirements before being made available to users.

1.3.2 Data quality specifications for digital data sets include meeting accuracy, resolution, integrity, traceability, timeliness, completeness, and format requirements. These requirements are specified in ICAO Annex 15, Chapter 3, elaborated in PANS-AIM (Doc 10066), Section 5.3, and further developed in EUROCAE ED-76A / RTCA DO-200B — Standards for Processing Aeronautical Data. Non-compliant digital data setscan potentially affect the safety of air navigation.

1.4. Data product specification

1.4.1 Each provider of a digital data set shall publish a Data Product Specification (DPS) that enables users to evaluate the data set and determine whether it meets their requirements for a specific intended use. The DPS shall be prepared in accordance with ISO 19131 — Geographic Information: Data Product Specifications (SD 7, Appendix A) and PANS-AIM (Doc 10066), Section 5.3.4.

1.4.2 The availability of a DPS for each data set series shall be indicated in the national AIP, in section GEN 3.1.6. For data sets provided through information services, the DPS availability shall also be referenced in the relevant Information Service Overview, in accordance with PANS-AIM (Doc 10066), Section 5.4.2.

1.4.3 The data set provider shall notify users of DPS amendments in a timely manner. At a minimum:

- at least 12 months' advance notice shall be given for changes that require technical adaptations on client systems; and
- at least 56 days' advance notice shall be given for other significant structural or content changes.

1.4.4 Supporting guidance and worked examples of Data Product Specifications are provided in the EUROCONTROL Guidelines for Harmonised AIP Publication and Data Set Provision (SD 1, Appendix A) and in ISO 19131 — Geographic Information: Data Product Specifications (SD 7, Appendix A)

1.5. Metadata requirements for digital data sets

1.5.1 In accordance with ICAO Annex 15 para. 5.3.1.2 and PANS-AIM Section 5.3.2, each data set shall be provided to the next intended user together with at least the following minimum set of metadata:

a) the names of the organization or entities providing the data set;
b) the date and time when the data set was provided;
c) period of validity of the data set; and
d) any limitations with regard to the use of the data set.

1.5.2 Further guidance on metadata requirements, including additional metadata elements for Obstacle and Terrain data sets and metadata coding in accordance with ISO 19115, are provided in PANS-AIM (Doc 10066), Section 5.3.2, and ISO 19115 — Geographic Information: Metadata (SD 8, Appendix A). A worked example of AIP data set metadata coding is provided in Appendix C, Section 3 of this Plan.

1.6. Validation and verification of digital data sets

1.6.1 Data sets shall be verified and validated before being provided to the next intended users, in accordance with PANS-AIM Section 5.3.1.5/5.3.1.6.

1.6.2 For AIXM-encoded data sets, validation is a two-step process:

Step 1 — XML schema validation: The data set is checked for structural conformance with the AIXM XML schema.

Step 2 — Business rule verification: The data set is checked against aeronautical business rules expressed using the Semantics of Business Vocabulary and Rules (SBVR) standard.

1.6.3 Automated validation and verification rules for AIP and Obstacle data sets, are available at https://aixm.aero/page/data-verification

1.7. Omission of AIP Tables Following Data Set Provision

1.7.1 In accordance with PANS-AIM para. 5.2.1.1.3 (applicable from 27 November 2025), a State that provides a digital data set may omit the corresponding AIP tables from the printed/PDF AIP, provided that:

a) The digital data set fully covers the information that would otherwise appear in the AIP table;
b) Advance notice is published by means of an Aeronautical Information Circular (AIC) sufficiently in advance for users to adapt their systems — as a minimum, 56 days before the omission takes effect; and
c) The DPS is publicly available and referenced in AIP section GEN 3.1.6.

1.7.2 States shall indicate in their National Digital Data Set Implementation Plans (Appendix B) which AIP sections they intend to omit and the planned effective date.

1.7.3 The transition period applicable to each data set category is specified in the implementation table in Part III (*See Part III, Section 1, Table, Column 7 - Transition Period).*

1.7.4 Recommended Transition Steps" covering:

- Establish DPS and publish in AIP GEN 3.1.6
- Validate digital data set against AIXM schema and SBVR rules
- Issue AIC with 56-day advance notice
- Publish digital data set via agreed distribution mechanism
- Update NDIP to reflect omission decision

2. PROVISION OF TERRAIN AND OBSTACLE DATA (TOD)

2.1 The requirements for the provision of terrain and obstacle data (TOD) in electronic form are part of the transition from traditional AIS to Aeronautical Information Management (AIM). The purpose and context of TOD digital data sets, including their role in supporting ATM applications and safety systems, are described in Doc 9881, Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information.

2.2 TOD Relevant Areas , Surfaces and coverage

2.2.1 The geographic areas and three-dimensional surfaces that constitute the spatial scope of the ICAO TOD provisions defined in ICAO Annex 15, Annex 14, and Annex 4, and referenced in PANS-AIM are described in ICAO Doc 9881 — Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information (RD 8, Appendix A) and the EUROCONTROL Terrain and Obstacle Data Manual (SD 2, Appendix A).

2.2.2 ICAO Annex 15 (as amended by Amendment 33 and *incorporated in the 16th Edition and subsequent amendments*) defines four coverage areas for terrain and obstacle data:

a) Area 1: The entire territory of a State;
b) Area 2: The vicinity of an aerodrome (further sub-divided into Areas 2a–2d by Amendment 36);
c) Area 3: An area bordering the movement area on an aerodrome; and
d) Area 4: The radio altimeter operating area in front of a precision approach runway, Category II or III.

2.2.3 The detailed definitions and numerical requirements for each area are set out in ICAO Annex 15 para. 5.3.3.1 and PANS-AIM Appendix 8.

2.3 TOD Planning and Implementing steps

2.3.1 EUROCONTROL Terrain and Obstacle Data Manual , available at https://www.eurocontrol.int/publication/eurocontrol-terrain-and-obstacle-data-manual, outlines a recommended approach to planning and implementing terrain and obstacle data on a national basis. The steps described constitute a list of activities for States to coordinate the provision of TOD.

2.4 Terrain Digital Data sets Provision

2.5.1 AIXM 5.1 does not encompass terrain data. For terrain data sets, commonly used exchange formats are GeoTIFF, Digital Elevation Model (DEM) and Point Cloud (e.g., LiDAR-derived). Technical specifications, best practices, and packaging guidance for terrain data exchange are provided in the EUROCONTROL Terrain and Obstacle Data Manual (SD 2, Appendix A), available at https://www.eurocontrol.int/publication/eurocontrol-terrain-and-obstacle-data-manual. States should apply those specifications when producing and distributing terrain data sets.

2.5 Obstacle data set provision

2.5.2 The Aeronautical Information Exchange Model (AIXM) version 5.1 shall be used for modelling and encoding obstacle data in the MID Region. AIXM 5.1 supports all attributes required by PANS-AIM (Doc 10066) for the obstacle data set, including identification of new, edited, or deleted attributes.

2.5.3 Guidelines for a harmonized approach to the provision of an obstacle data set are set out in the EUROCONTROL Guidelines for Harmonised AIP Publication and Data Set Provision, available at : https://www.eurocontrol.int/publication/eurocontrol-guidelines-harmonised-aip-publication-and-data-set-provision

.

2.6 Announcement of the TOD availability in the AIP

2.6.1 In accordance with PANS-AIM Appendix 2, the availability of terrain and obstacle data sets shall be announced in the national AIP in section GEN 3.1.6.

3. PROVISION OF AERODROME MAPPING DATA SETS (AMD)

3.1 Overview and Regulatory Basis

3.1.1 In accordance with ICAO Annex 14, aerodrome mapping data (AMD) should be made available to aeronautical information services for aerodromes where safety and/or performance-based operations indicate potential benefits.

3.1.2 An Aerodrome Mapping Database (AMDB) is an AMD set fulfilling the requirements of industry standards EUROCAE ED-99 / RTCA DO-272 (content requirements) and EUROCAE ED-119 / RTCA DO-291 (exchange requirements).

3.1.3 Aerodrome mapping data should be supported by electronic terrain and obstacle data for Area 3 to ensure consistency and quality of all geographic data associated with the aerodrome.

3.2 Coding specifications for Aerodrome Mapping Data Set

3.2.1 Coding specifications and supporting material for the encoding of AMD features in AIXM 5.1.1 , including aerodrome mapping data mappings between RTCA/EUROCAE industry standards and AIXM 5.1.1 features, and metadata aspects are provided at the AIXM web site at https://ext.eurocontrol.int/aixm_confluence/display/ACGAMD/Information+exchange+models.

3.3 Implementation Approach

3.3.1 AMD implementation shall follow a collaborative approach involving all relevant stakeholders. The primary responsibility for initiating AMD provision rests with the AISP, which may delegate data origination to the aerodrome operator.

3.3.2 Detailed implementation guidance, including step-by-step production workflows for each initiating scenario, is maintained by EUROCONTROL and shall be consulted by MID Region States and AISPs: *https://ext.eurocontrol.int/aixm_confluence/display/ACGAMD/Implementation*

4. PROVISION OF AERONAUTICAL INFORMATION PUBLICATION (AIP) DATA SETS

4.1 Introduction

4.1.1 The main purpose of the AIP Data Set is to ensure the minimum digital data necessary for efficiently and safely conducting flight planning and en-route air navigation. The intended use of the AIP data set, including its use by data service providers, air navigation service providers, and other State AIS, is described in PANS-AIM (Doc 10066), Section 5.2.1.

4.1.2 The content of an AIP Data Set is specified in PANS-AIM (Doc 10066) as a list of subjects and their properties, including airspace, routes, significant points, radio navigation and landing aids, and airport and runway data. The detailed scope applicable in the MID Region, including additional subjects identified through the MID Region gap analysis conducted by the AIMDP TF, is specified in Appendix C to this Plan.

4.2 Coding Specification for AIP Data Set

4.2.1 The Aeronautical Information Exchange Model (AIXM) provides a globally accepted data model and data coding format for the aeronautical data subjects contained in the AIP data set. AIP data set specimen ("DONLON" data) is available at : https://ext.eurocontrol.int/aixm_confluence/pages/viewpage.action?pageId=20415246

4.2.2 Common coding rules and guidelines for the provision of the AIP Data Set in AIXM 5.1(.1) format, with the aim of ensuring interoperability across the downstream AIS data chain, are available at https://ext.eurocontrol.int/aixm_confluence/display/ACGAIP/Introduction. The detailed PANS-AIM to AIXM 5.1/5.1.1 mapping applicable in the MID Region is provided in Appendix C to this Plan.

5. PROVISION OF INSTRUMENT FLIGHT PROCEDURE DATA SETS

5.1 Introduction

5.1.1 Instrument Flight Procedure (IFP) data sets are defined in ICAO Annex 15, 16th edition. Such data sets contain the departure, arrival and approach procedure data for airports used for international air traffic, as published in the AIP. PANS-AIM (Doc 10066) specifies the minimum subjects and properties to be included in IFP data sets.

5.2 Coding Specification for IFP data set

5.2.1 AIXM 5.2 should be considered for the provision of IFP data sets, as it introduces critical data elements in support of Performance-Based Navigation (PBN) procedures. States are encouraged to monitor developments through the AIXM Change Control Board at https://aixm.aero and to refer to the AIXM 5.2 release documentation available at https://aixm.aero/page/aixm-52 for technical information on AIXM versions.

5.2.2 Until formal IFP coding guidelines are published at global level, MID States providing IFP data sets should document their encoding approach in a Data Product Specification (DPS) in accordance with ISO 19131 — Geographic Information: Data Product Specifications (SD 7, Appendix A) and PANS-AIM (Doc 10066), Section 5.3.4, and notify the AIMDP TF accordingly.

PART III – COORDINATED DEPLOYMENT OF THE DIGITAL DATA SETS IN MID REGION

1. IMPLEMENTATION TIMELINE AND MILESTONES

The following table establishes the MID Region coordinated deployment framework for digital data sets, specifying what is to be provided, how it is to be provided, when provision is expected. The deployment framework encompasses the five digital data set categories. Implementation dates reflect the progressive regional timeline agreed by the AIMDP TF. States are strongly encouraged to implement as early as practicable within each window.

#	Data Set Category	Area / Scope	Format	Encoding / Coding Specification	Target Provision Window	AIP Omission Permissible?	Transition Period
1	Terrain data set	Area 1 — Entire State territory	GeoTIFF / DEM/Point Cloud	EUROCONTROL TOD Manual (SD 2, Appendix A); OGC GeoTIFF Standard (SD 6, Appendix A)	2020 – 2027	N/A	Not applicable
2	Terrain data set	Area 2a + Take-off flight path + OLS — International aerodromes	GeoTIFF /DEM/ Point Cloud	EUROCONTROL TOD Manual (SD 2, Appendix A); OGC GeoTIFF Standard (SD 6, Appendix A)	2020 – 2027	N/A	Not applicable
3	Terrain data set	Area 4 — CAT II/III aerodromes	GeoTIFF /DEM/Point Cloud	EUROCONTROL TOD Manual (SD 2, Appendix A); OGC GeoTIFF Standard (SD 6, Appendix A)	2020 – 2027	N/A	Not applicable
4	Terrain data set	Areas 2b, 2c, 2d, 3 — International aerodromes	GeoTIFF /DEM/Point Cloud	EUROCONTROL TOD Manual (SD 2, Appendix A); OGC GeoTIFF Standard (SD 6, Appendix A)	At State discretion	N/A	Not applicable
5	Obstacle data set	Area 1 — Entire State territory (ENR 5.4)	AIXM 5.1/5.1.1	EUROCONTROL AIXM obstacle coding guidelines	2020 – 2027	Yes	5 years from provision date
6	Obstacle data set	Areas 2a, 4, OLS + take-off flight path — International aerodromes (AD 2.10 / AD 3.10)	AIXM 5.1/5.1.1	EUROCONTROL AIXM obstacle coding guidelines	2020 – 2027	Yes	5 years from provision date
7	Obstacle data set	Areas 2b, 2c, 2d, 3 — International aerodromes	AIXM 5.1/5.1.1	EUROCONTROL AIXM obstacle coding guidelines	At State discretion	Yes	5 years from provision date
8	AIP data set	GEN, ENR, AD sections as specified in Part II, Section 4	AIXM 5.1/5.1.1	EUROCONTROL ACGAIP Specification + Appendix C	2026 – 2030	Yes	5 years from provision date
9	Aerodrome Mapping data set	International aerodromes	AIXM 5.1.1	EUROCONTROL ACGAMD Specification	2020 – 2027	N/A	Not applicable
10	IFP data set	All instrument procedures at international aerodromes	AIXM 5.2 (preferred) / AIXM 5.1.1 (interim)	AIXM 5.2 release documentation (https://aixm.aero/page/aixm-52)	2026 – 2031	Yes	5 years from provision date

Note 1: "Provision window" indicates the period within which States should achieve initial provision. States that have already achieved provision before 2025 are recognized as early implementers.
Note 2: "AIP Omission Permissible?" indicates whether the relevant PANS-AIM provisions permit omission of AIP content once the data set is provided. See Part II, Section 1.7.
Note 3: Terrain data sets are not subject to the AIP omission mechanism as terrain data does not appear as tables in the AIP.
Note 4: The format of the terrain data sets georeferencing information depends on the file format and that GeoTIFF/DEM/point cloud are only of the most common file formats.

2. DISTRIBUTION SERVICES

2.1 PANS-AIM (5.4.1.1) allows AIS products, including digital data sets, to be distributed either physically (e.g. by post) or electronically. Distribution via physical media (USB, DVD) is a temporary solution already used for AIP/eAIP.

2.2 In the context of evolving ATM requirements, the sharing of aeronautical information on a system-wide basis is essential to ensure comprehensive situational awareness across the ATM community. To fully support this objective, aeronautical information, including digital data sets, should be made available as System-Wide Information Management (SWIM) information services, thereby facilitating seamless and interoperable information exchange among all ATM system participants.

3. NATIONAL PLANS FOR THE PROVISION OF DIGITAL DATA SETS

3.1 Each member State shall prepare, maintain, and submit a National Digital Data Set Implementation Plan (NDIP), which translates the regional framework of this Plan into specific national commitments and timelines.

3.2 The NDIP shall be structured using the Excel template provided in Appendix B. The template covers the following elements:

Element	Content
1	Name of the State
2	AIP Data Set — provision date, encoding specification, remarks
3	Obstacle Data Set (Area 1) — provision date, format, remarks
4	Obstacle Data Sets — international aerodromes (Areas 2a, 4, OLS, and others as applicable)
5	IFP Data Sets — provision date, encoding format, aerodromes covered, remarks
6	Aerodrome Mapping Data Sets — provision date, aerodromes covered, remarks
7	Terrain Data Set (Area 1) — provision date, format, remarks
8	Terrain Data Sets — international aerodromes (Areas 2a, 4, OLS, and others)
9	AIP Omission Decision — list of AIP sections to be omitted and planned effective dates
10	Date of last update / review

3.3 Submission and Update Schedule

Initial NDIP submissions shall be made by the date confirmed by MIDANPIRG; thereafter, NDIPs shall be updated and re-submitted by 31 December each year.

NDIPs shall be updated at least annually, or immediately following any material change to a State's implementation position (e.g., change of provision date, change of encoding format, addition of a new aerodrome).

The ICAO MID Office shall maintain a central registry of NDIPs and publish a consolidated MID Region status dashboard on the ICAO MID website, updated following each AIM/SG meeting.

Appendix A – Regulatory and Guidance Material References

Regulatory References

Ref.	Document
RD 1	ICAO Annex 15 — Aeronautical Information Services, 16th Edition, 2018 (incorporating all amendments)
RD 2	ICAO Procedures for Air Navigation Services — Aeronautical Information Management (PANS-AIM, Doc 10066), 2nd Edition
RD 3	ICAO Aeronautical Information Services Manual (Doc 8126), 7th Edition, 2022
RD 4	ICAO Annex 14 — Aerodromes, Volume I, Aerodrome Design and Operations (current edition)
RD 5	ICAO Annex 4 — Aeronautical Charts (current edition)
RD 6	ICAO Manual on System-Wide Information Management (SWIM) Concept (Doc 10039), 1st Edition
RD 7	ICAO Procedures for Air Navigation Services — Information Management (PANS-IM, Doc 10199), 1st Edition
RD 8	ICAO Doc 9881 — Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information

Supporting References

Ref.	Document
SD 1	EUROCONTROL Guidelines for Harmonised AIP Publication and Data Set Provision (current edition), available at https://www.eurocontrol.int/publication/eurocontrol-guidelines-harmonised-aip-publication-and-data-set-provision
SD 2	EUROCONTROL Terrain and Obstacle Data Manual (current edition), available at https://www.eurocontrol.int/publication/eurocontrol-terrain-and-obstacle-data-manual
SD 3	EUROCONTROL Specification for AIS Data Sets in AIXM 5.1.1 (current edition)
SD 4	RTCA DO-272D / EUROCAE ED-99D — User Requirements for Aerodrome Mapping Information (current edition)
SD 5	RTCA DO-291B / EUROCAE ED-119B — Interchange Standards for Terrain, Obstacle, and Aerodrome Mapping Data (current edition)
SD 6	OGC GeoTIFF Standard (current edition), available at https://www.ogc.org/standards/geotiff
SD 7	ISO 19131 — Geographic information: Data product specifications (current edition)
SD 8	ISO 19115 — Geographic information: Metadata (current edition)
SD 9	ICAO Doc 9854 — Global Air Traffic Management Operational Concept, 1st Edition, 2005

Appendix B – NATIONAL DIGITAL DATA SET IMPLEMENTATION PLAN (NDIP) Standardised Template — Version 1.0, 2026

INSTRUCTIONS FOR USE

This template shall be completed by each member State and submitted to the ICAO MID Office no later than 31 December 2026. States shall use this template without structural modification. Requests for field additions shall be submitted to AIMDP TF for consideration.

National Plan for the provision of Digital Data Sets

National Plan Template for DDS pro

Appendix C - AIP Data set

1 Introduction

The context and rationale for the AIP data set, including the role of the 16th Edition of ICAO Annex 15 and PANS-AIM (Doc 10066) in enabling the transition from AIP table provision to digital data set provision, and the conditions under which States may omit AIP sections when equivalent digital data sets are made available, are described in PANS-AIM (Doc 10066), Section 5.2.1, and EUROCONTROL Guidelines for Harmonised AIP Publication and Data Set Provision (SD 1, Appendix A).

The following paragraphs specify the MID Region scope of the AIP data set, including:

a) The AIP sections that may be omitted when an AIP data set is provided, as specified in PANS-AIM para. 5.2.1.1.3, supplemented by additional sections identified through MID Region gap analysis; and

b) The AIXM 5.1/5.1.1 mapping applicable in the MID Region for encoding each subject and its properties.

1.1 AIP Data Set — Scope of Subjects

1.1.1 In accordance with PANS-AIM para. 5.2.1.1.3, when an AIP data set is provided, States may omit the following AIP sections from their AIP, provided that the information is available in the data set:

a)	GEN 2.5	List of radio navigation aids;
b)	ENR 2.1	FIR, UIR, TMA and CTA;
c)	ENR 3.1	Conventional navigation routes;
d)	ENR 3.2	Area navigation routes;
e)	ENR 3.5	Other routes;
f)	ENR 3.6	En-route holding;
g)	ENR 4.1	Radio navigation aids — en-route;
h)	ENR 4.2	Special navigation systems;
i)	ENR 4.4	Name-code designators for significant points;
j)	ENR 4.5	Aeronautical ground lights – en-route;
k)	ENR 5.1	Prohibited, restricted and danger areas;
l)	ENR 5.2	Military exercise and training areas and air defence identification zone (ADIZ);
m)	ENR 5.3.1	Other activities of a dangerous nature;
n)	ENR 5.3.2	Other potential hazards;
o)	ENR 5.5	Aerial sporting and recreational activities;
p)	AD 2.17	Air traffic services airspace;
q)	AD 2.19	Radio navigation and landing aids;
r)	AD 3.16	Air traffic services airspace (Heliports);
s)	AD 3.18	Radio navigation and landing aids (Heliports);

Note: The list reproduces PANS-AIM para. 5.2.1.1.3 for ease of reference. The PANS-AIM provision is authoritative. Where the PANS-AIM text and this list differ, the PANS-AIM text prevails. The effective date of this provision is 27 November 2025.

1.1.2 Through a MID Region gap analysis, the following additional AIP sections have been identified as containing data that can be systematically encoded in AIXM 5.1/5.1.1 and should be included in the MID Region AIP data set scope, beyond the minimum required by PANS-AIM para. 5.2.1.1.3:

(1)	AD 1.3	Index to Aerodromes/Heliports
(2)	AD 1.5	Status of certification of aerodromes
(3)	AD 2.1	Aerodrome location/ indicator and name

(4) AD 2.2 Aerodrome geographical and administrative data
(5) AD 2.12 Runway Physical Characteristics
(6) AD 2.13 Declared Distances
(7) AD 2.14 Approach and Runway Lighting
(8) AD 2.15 Other Lighting, Secondary Power Supply
(9) AD 2.16 Helicopter Landing Area
(10) AD 3.1 Heliport location indicator and name
(11) AD 3.2 Heliport geographical and admin data

Note: The inclusion of these additional sections in the MID Region AIP data set scope is a MID Region-specific provision, agreed by the AIMDP TF. It is consistent with, and extends, the minimum scope specified in PANS-AIM para. 5.2.1.1.3. States are encouraged to include these sections in their AIP data set implementations in order to maximise the value and completeness of data set provision."

1.1.3 Minimum Subject Properties (PANS-AIM para. 5.3.3.1.1)

The AIP data set shall include data about the following subjects, with the properties indicated in brackets being included as a minimum (if applicable):

a) Air traffic services (ATS) Airspace (type, name, lateral limits, vertical limits, class of airspace);
b) Special activity airspace (type, name, lateral limits, vertical limits, restriction, activation);
c) ATS route and other route (designator, flight rules);
d) Route segment (navigation specification, from point, to point, track, length, upper limit, lower limit, minimum en-route altitude (MEA), minimum obstacle clearance altitude (MOCA), direction of cruising level, required navigation performance);
e) Waypoint – en-route (identification, location, formation);
f) Aerodrome/Heliport (ICAO location indicator, name, designator IATA, served city, certified ICAO, certification date, certification expiration date, control type, field elevation, reference temperature, magnetic variation, reference point);
g) Runway (designator, nominal length, nominal width, surface type, strength);
h) Runway Direction (designator, true bearing, threshold, take off run available (TORA), take-off distance available (TODA), accelerate-stop distance available (ASDA), landing distance available (LDA));
i) Final approach and take-off (FATO) (designation, length, width, threshold point);
j) Touchdown and left-off (TLOF) (designator, centre point, length, width, surface type);
k) Radio navigation aid (type, identification, name, aerodrome/heliport served, hours of operation, magnetic variation, frequency/channel, position, elevation, magnetic bearing, true bearing, zero bearing direction).

All lines a) to k) supplemented by the below (1) & (2) are considered as part of mapping – for details, refer to the paragraph that follows.
(1) Aeronautical Ground Lights (type, designator, name, intensity, characteristics, hours of operations, position)
(2) En-route Holding (fix, waypoint, inbound track, turn direction, speed, minimum/maximum holding level, time/distance outbound, special instruction, controlling unit name/frequency)

Note: The highlighted lines are the AIP sections (paragraph 1.1.1 of this Appendix) and list of properties (paragraph 1.1.2 of this Appendix) respectively that are identified during internal "gap analysis" in order to assure the consistency in information and content with AIP when delivering the digital AIP Data set files.

2 Mapping PANS AIM and AIP Data set to AIXM 5.1/AIXM 5.1.1 Model

The following AIXM 5.1/5.1.1 mapping tables specify how each PANS-AIM AIP data set subject and its properties shall be encoded in the MID Region AIP data set. These mapping tables are derived from and consistent with the EUROCONTROL AIP Data Set coding guidelines, and have

been adapted where necessary to reflect MID Region-specific requirements or to address gaps identified in the coding guidelines.

2.1 ATS airspace

The mapping will be for the content of sections (ICAO Doc. 10066 PANS-AIM paragraph 5.2.1.1.3) respectively:

- ✓ ENR 2.1 FIR, UIR, TMA and CTA - *line b);*
- ✓ AD 2.17 ATS Airspace - *line p);*
- ✓ AD 3.16 ATS Airspace*, line r);*

AIXM 5.1/AIXM 5.1.1 Mapping details:

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Type	Airspace.type, and/or Airspace.localType
Name	Airspace.name, and/or Airspace.designator
Lateral Limits	(Airspace.AirspaceVolume.horizontalProjection.Surface, Airspace.AirspaceVolume.horizontalProjection.Surface.horizontalAccuracy) or (Airspace.AirspaceVolume.centreline.Curve, Airspace.AirspaceVolume.centreline.Curve.horizontalAccuracy, Airspace.AirspaceVolume.width)
Vertical Limit – Upper Limit	Airspace.AirspaceVolume.upperLimit, Airspace.AirspaceVolume.upperLimitReference
Vertical Limit – Lower Limit	Airspace.AirspaceVolume.lowerLimit, Airspace.AirspaceVolume.lowerLimitReference and/or AirspaceVolume.annotation.Note.namedProperty equal to 'lowerLimit' .translatedNote.LinguisticNote.note PANS-AIM defines an accuracy for the lower limit of an ATS airspace. There is no dedicated attribute in AIXM 5.1.1. Workaround: A **Note** may be used to encode that information.
Class of Airspace	Airspace.class.AirspaceLayerClass.classification
Class – Upper Limit	Airspace.class.AirspaceLayerClass.associatedLevels.AirspaceLayer.upperLimit
Class – Lower Limit	Airspace.class.AirspaceLayerClass.associatedLevels.AirspaceLayer.lowerLimit

PANS-AIM	AIXM 5.1/AIXM 5.1.1
ATS Unit	(SearchRescueService.clientAirspace, SearchRescueService.serviceProvider) and/or (InformationService.clientAirspace, InformationService.serviceProvider) and/or (AirTrafficControlService.clientAirspace, AirTrafficControlService.serviceProvider)
ATS Unit Name	Unit.name and/or (SearchRescueService.name) and/or (InformationService.name) and/or (AirTrafficControlService.name)
ATS Unit Call sign	SearchRescueService.call-sign.CallsignDetail.callSign and/or InformationService.call-sign.CallsignDetail.callSign and/or AirTrafficControlService.call-sign.CallsignDetail.callSign
ATS Unit Language	SearchRescueService.call-sign.CallsignDetail.language and/or InformationService.call-sign.CallsignDetail.language and/or AirTrafficControlService.call-sign.CallsignDetail.language
ATS Unit Applicability	SearchRescueService.annotation.Note and/or InformationService.annotation.Note and/or AirTrafficControlService.annotation.Note and/or Airspace.annotation.Note
Frequency	AirTrafficControlService.radioCommunication and/or InformationService.radioCommunication and/or SearchRescueService.radioCommunication
Frequency Value	RadioCommunicationChannel.frequencyTransmission and/or RadioCommunicationChannel.frequencyReception

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Frequency Purpose	RadioCommunicationChannel.rank
SATVOICE number	AirTrafficControlService.annotation.Note and/or InformationService.annotation.Note and/or SearchRescueService.annotation.Note
SATVOICE number value	AirTrafficControlService.annotation.Note and/or InformationService.annotation.Note and/or SearchRescueService.annotation.Note
SATVOICE number purpose	AirTrafficControlService.annotation.Note and/or InformationService.annotation.Note and/or SearchRescueService.annotation.Note
ATS Unit hour of service	SearchRescueService.availability.ServiceOperationalStatus.timeInterval and/or InformationService.availability.ServiceOperationalStatus.timeInterval and/or AirTrafficControlService.availability.ServiceOperationalStatus.timeInterval
Hours of applicability	Airspace.activation.AirspaceActivation.timeInterval
Transition altitude	AirportHeliport.transitionAltitude
Nav Spec	Airspace.annotation[purpose='OTHER:NAV_SPEC'].Note
Remarks	Airspace.annotation

2.2 Special Activity Airspace

The mapping will be for the content of the following sections (ICAO Doc. 10066 PANS-AIM paragraph 5.2.1.1.3) respectively:

- ✓ ENR 5.1 Prohibited, restricted and danger areas – *line k);*
- ✓ ENR 5.2 Military exercise and training areas/Air Defence Identification Zone (ADIZ) - *line l);*
- ✓ ENR 5.3.1 Other activities of a dangerous nature – *line m);*
- ✓ ENR 5.3.2 Other potential hazards – *line n)*;
- ✓ ENR 5.5 Aerial sporting and recreational activities – *line o);*

AIXM 5.1/AIXM 5.1.1 Mapping details

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Type	Airspace.type and/or Airspace.localType

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Identification/Designator	Airspace.designator
Name	Airspace.name
Lateral Limits	(Airspace.AirspaceVolume.horizontalProjection.Surface, Airspace.AirspaceVolume.horizontalProjection.Surface.horizontalAccuracy) Or (Airspace.AirspaceVolume.centreline.Curve, Airspace.AirspaceVolume.centreline.Curve.horizontalAccuracy, Airspace.AirspaceVolume.width)
Vertical Limits – Upper Limit	Airspace.AirspaceVolume.upperLimit, Airspace.AirspaceVolume.upperLimitReference
Vertical Limits – Lower Limit	Airspace.AirspaceVolume.lowerLimit, Airspace.AirspaceVolume.lowerLimitReference
Restriction	Airspace.activation.AirspaceActivation.activity
Activation	Airspace.annotation[propertyName='activation'].Note
Time of activity	Airspace.activation.AirspaceActivation.timeInterval
Risk of interception	Airspace.annotation.Note
Advisory measures	Airspace.annotation.Note
Authority responsible for provision of information	**Option 1:** AuthorityForAirspace.assignedAirspace AuthorityForAirspace.responsibleOrganisation **Option 2:** Airspace.activation.AirspaceActivation.user **Option 3** (*in case Frequency needs to be encoded*): (SearchRescueService.clientAirspace, SearchRescueService.serviceProvider, SearchRescueService.radioCommunication) Or (InformationService.clientAirspace, InformationService.serviceProvider, InformationService.radioCommunication) Or (AirTrafficControlService.clientAirspace, AirTrafficControlService.serviceProvider, AirTrafficControlService.radioCommunication)

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Operator	**Option 1:** Airspace.activation.AirspaceActivation.user, OrganisationAuthority.contact.ContactInformation.phoneFax.TelephoneContact.voice **Option 2** (*in case Frequency has to be defined*): (AirTrafficControlService.clientAirspace, AirTrafficControlService.groundCommunication.ContactInformation.phoneFax.TelephoneContact.voice) Or (InformationService.clientAirspace, InformationService.groundCommunication.ContactInformation.phoneFax.TelephoneContact.voice) Or (SearchRescueService.clientAirspace, SearchRescueService.groundCommunication.ContactInformation.phoneFax.TelephoneContact.voice)

2.3 ATS Route and other routes

The mapping will be for the content of the following sections (ICAO Doc. 10066 PANS-AIM paragraph 5.2.1.1.3) respectively:

- ✓ ENR 3.1 Conventional navigation routes – *line c);*
- ✓ ENR 3.2 Area navigation routes – *line d);*
- ✓ ENR 3.5 Other routes – *line e);*

AIXM 5.1/AIXM 5.1.1 Mapping details

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Designator (ATS Route), Designator (Other Route)	Route.designatorPrefix and/or (Route.designatorSecondLetter, Route.designatorNumber) and/or RouteSegment.designatorSuffix and/or Route.multipleIdentifier
Flight rules	Route[flightRule='IFR'] .flightRule
ATS Routes, Other Route	Route[type='ATS'].type, Route[contains(type, 'OTHER:')].type
Remarks	Route.annotation

2.4 Route segment

The mapping will be for the content of the following sections (ICAO Doc. 10066 PANS-AIM paragraph 5.2.1.1.3) respectively:

- ✓ ENR 3.1 Conventional navigation routes – *line c);*
- ✓ ENR 3.2 Area navigation routes – *line d);*
- ✓ ENR 3.5 Other routes – *line e);*

AIXM 5.1/AIXM 5.1.1 Mapping details

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Navigation Specification	RouteSegment.navigationType The current AIXM 5.1.1 version does not support all PBN values. The navigationType attribute of AIXM only provides as values 'RNAV', 'CONV' and 'TACAN', but no PBN specifications (such as RNAV 10 , RNP 4 etc). Most missing PBN values can be coded using navigationType equal to 'RNAV' or 'OTHER:RNP' and requiredNavigationPerformance with the navigation accuracy value, e.g. '10' or '4'.
Navigation Performance	RouteSegment.requiredNavigationPerformance
From point – Designator	RouteSegment.start.EnRouteSegmentPoint.pointChoice_navaidSystem or RouteSegment.start.EnRouteSegmentPoint.pointChoice_fixDesignatedPoint or RouteSegment.start.EnRouteSegmentPoint.pointChoice_airportReferencePoint For the mapping the assumption is made that RunwayCentrelinePoint, TouchDownLiftOff, AirportHeliport and Point are not used as "From" point.
From point – Reporting	RouteSegment.start.EnRouteSegmentPoint.reportingATC
To point – Designator	RouteSegment.end.EnRouteSegmentPoint.pointChoice_navaidSystem or RouteSegment.end.EnRouteSegmentPoint.pointChoice_fixDesignatedPoint or RouteSegment.end.EnRouteSegmentPoint.pointChoice_airportReferencePoint
To point – Reporting	RouteSegment.end.EnRouteSegmentPoint.reportingATC
Track	RouteSegment.trueTrack and/or RouteSegment.reverseTrueTrack and/or RouteSegment.magneticTrack and/or RouteSegment.reverseMagneticTrack
Length	RouteSegment.length, RouteSegment.pathType PANS-AIM requires an accuracy to be specified for the Airway segments length. AIXM 5.1.1 does not have a dedicated attribute for that purpose. Workaround for AIXM 5.1(.1): Code a corresponding **Note.**
Upper limit	RouteSegment.upperLimit, RouteSegment.upperLimitReference

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Lower limit	RouteSegment.lowerLimit, RouteSegment.lowerLimitReference
Minimum En route Altitude	RouteSegment.minimumEnrouteAltitude and RouteSegment.annotation.Note.propertyName value equal-to 'minimumEnrouteAltitude' PANS-AIM requires a accuracy to be specified for the MEA. AIXM 5.1.1 does not have a dedicated attribute for that purpose. Workaround for AIXM 5.1(.1): Code a corresponding **Note**.
Minimum Obstacle Clearance Altitude	RouteSegment.minimumObstacleClearanceAltitude and RouteSegment.annotation.Note.propertyName value equal-to 'minimumObstacleClearanceAltitude' PANS-AIM requires a accuracy to be specified for the MEA. AIXM 5.1.1 does not have a dedicated attribute for that purpose. Workaround for AIXM 5.1(.1): Code a corresponding **Note.**
Minimum flight altitude	(RouteSegment.minimumObstacleClearanceAltitude and RouteSegment.annotation.Note.propertyName value equal-to 'minimumObstacleClearanceAltitude') or (RouteSegment.minimumEnrouteAltitude And RouteSegment.annotation.Note.propertyName value equal-to 'minimumEnrouteAltitude') AIXM 5.1.1 does not have a dedicated attribute for that purpose. As, in PANS-AIM there is no definition for Minimum flight altitude. For this mapping it is assumed that it may be the either the MEA or the MOCA for helicopters. Workaround for AIXM 5.1(.1): Code a RouteSegment.minimumObstacleClearanceAltitude, or RouteSegment.minimumEnrouteAltitude
Lateral Limits	RouteSegment.widthLeft, RouteSegment.widthRight
Direction of cruise levels – Forward	RouteSegment.availability.RouteAvailability[direction='FORWARD'].levels.AirspaceLayer.discreteLevelSeries.series
Direction of cruise levels – Backward	RouteSegment.availability.RouteAvailability[direction='BACKWARD'].levels.AirspaceLayer.discreteLevelSeries.series
Class of airspace	RouteSegment.availability.RouteAvailability.levels.AirspaceLayer.annotation[purpose='OTHER:CLASS'].Note

PANS-AIM	AIXM 5.1/AIXM 5.1.1
PBN requirements - Sensor requirements	Option RouteSegment.annotation[purpose='OTHER:PBN'].Note
Controlling unit	(SearchRescueService.clientRoute.RoutePortion, SearchRescueService.serviceProvider) and/or (InformationService.clientRoute.RoutePortion, InformationService.serviceProvider) and/or (AirTrafficControlService.clientRoute.RoutePortion, AirTrafficControlService.serviceProvider)
Controlling unit – Name	(InformationService.serviceProvider and/or AirTrafficControlService.serviceProvider), Unit.name
Controlling unit – Channel	(AirTrafficControlService.radioCommunication, and/or InformationService.radioCommunication, and/or SearchRescueService.radioCommunication) and (RadioCommunicationChannel.frequencyTransmission, and/or RadioCommunicationChannel.frequencyReception, and/or RadioCommunicationChannel.channel)
Controlling unit - Logon address	Unit.contact.ContactInformation InformationService For TrafficSeperationService two dedicated attributes are provided: dataLinkEnable and dataLinkChannel. For InformationService only one attribute datalink is provided. In addition it is possible to encode datalink information for an Unit via the object OnlineContact using the attributes linkage, network and protocol.
Change over point	ChangeOverPoint.distance, ChangeOverPoint.applicableRoutePortion, ChangeOverPoint.location_position
Restrictions	RouteSegment.annotation,
Availability	RouteSegment.availability.RouteAvailability.timeInterval RouteSegment.availability.RouteAvailability.status

2.5 Waypoint – en-route

The mapping will be for the content of the following sections (ICAO Doc. 10066 PANS-AIM paragraph 5.2.1.1.3) respectively:

- ✓ ENR 4.4 Name Code Designators for Significant Point – *line i);*

AIXM 5.1/AIXM 5.1.1 Mapping details

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Identification	DesignatedPoint.designator, DesignatedPoint.name
Position	DesignatedPoint.location, DesignatedPoint.location.horizontalAccuracy
Formation – Navaid	AngleIndication.pointChoice_navaidSystem and/or DistanceIndication.pointChoice_navaidSystem
Formation – Bearing	AngleIndication.angle and/or AngleIndication.angleType and/or AngleIndication.trueAngle and/or AngleIndication[indicationDirection='FROM'].fix, and/or AngleIndication.annotation[propertyName='angle'].Note
Formation – Distance	DistanceIndication.distance, and/or DistanceIndication.fix, and/or DistanceIndication.annotation[propertyName='distance'].Note
Reference to route	RouteSegment.routeFormed, RouteSegment.start.EnRouteSegmentPoint.pointChoice_fixDesignatedPoint, RouteSegment.end.EnRouteSegmentPoint.pointChoice_fixDesignatedPoint
Terminal Area	DesignatedPoint.annotation

2.6 Aerodrome / Heliport

The mapping will be for the following sections (ICAO Doc. 10066 PANS-AIM paragraph 5.2.1.1.3) respectively:

- ✓ AD 1.3 “Index to Aerodromes/Heliports”, – new line (1);
- ✓ AD 1.5 “Status of certification of aerodromes”, – new line (2);
- ✓ AD 2.1 “Aerodrome location indicator and name”, – new line (3);
- ✓ AD 2.2 “Aerodrome geographical and administrative data, – new line (4);
- ✓ AD 2.15 “Other Lighting, Secondary Power Supply, – new line (8);

- ✓ AD 3.1 “Heliport location indicator and name, – new line (10);
- ✓ AD 3.2 “Heliport geographical and admin data”, – new line (11);

AIXM 5.1/AIXM 5.1.1 Mapping details

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Aerodrome/Heliport	AirportHeliport.type
Designator - ICAO location indicator	AirportHeliport.locationIndicatorICAO, AirportHeliport.designator
Designator - Designator IATA	AirportHeliport.designatorIATA, AirportHeliport.designator
Designator – Other	AirportHeliport.designator
Name	AirportHeliport.name
Served city	AirportHeliport.servedCity.City.name,
Administrative authority	AirportHeliport.responsibleOrganisation.theOrganisationAuthority, OrganisationAuthority.name, OrganisationAuthority.designator, OrganisationAuthority.contact
Control type	AirportHeliport.controlType
Certified ICAO	AirportHeliport.certifiedICAO
Certification date	AirportHeliport.certificationDate
Certification expiration date	AirportHeliport.certificationExpirationDate
Field elevation – Elevation	AirportHeliport.fieldElevation, AirportHeliport.fieldElevationAccuracy
Field elevation - Geoid undulation	AirportHeliport.ARP.ElevatedPoint.geoidUndulation
Reference temperature	AirportHeliport.referenceTemperature
Magnetic variation – Angle	AirportHeliport.magneticVariation, AirportHeliport.magneticVariationAccuracy
Magnetic variation – Date	AirportHeliport.dateMagneticVariation
Magnetic variation - Annual change	AirportHeliport.magneticVariationChange
Airport reference point – Position	AirportHeliport.ARP.ElevatedPoint, AirportHeliport.ARP.ElevatedPoint.horizonalAccuracy,
A reference surface	AirportHeliport.verticalDatum
Airport reference point – Site	AirportHeliport.annotation[propertyName=‘arp'].Note
Airport reference point – Direction	AirportHeliport.annotation[propertyName=‘arp'].Note
Airport reference point – Distance	AirportHeliport.annotation[propertyName=‘arp'].Note

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Type of Traffic Permitted - IFR/VFR/International/National/Schedule/Non Schedule/Private	AirportHeliport.availability.AirportHeliportAvailability.usage.AirportHeliportUsage.selection.ConditionCombination.flight.FlightCharacteristic.rule, AirportHeliport.availability.AirportHeliportAvailability.usage.AirportHeliportUsage.selection.ConditionCombination.flight.FlightCharacteristic.military, AirportHeliport.availability.AirportHeliportAvailability.usage.AirportHeliportUsage.selection.ConditionCombination.flight.FlightCharacteristic.origin, AirportHeliport.availability.AirportHeliportAvailability.usage.AirportHeliportUsage.selection.ConditionCombination.flight.FlightCharacteristic.purpose
checking of an altimeter system can be accomplished	AirportHeliport.altimeterCheckLocation
windDirectionIndicator	AirportHeliport .windDirectionIndicator
landingDirectionIndicator	AirportHeliport.landingDirectionIndicator
transitionAltitude	AirportHeliport transitionAltitude
transitionLevel	AirportHeliport transitionLevel
lowestTemperature	AirportHeliport lowestTemperature
abandoned	AirportHeliport abandoned
ABN/IBN location, characteristics and operational hours	AeronauticalGroundLight[type='IBN'] Or AeronauticalGroundLight[type='ABN'], AeronauticalGroundLight.location.ElevatedPoint, AeronauticalGroundLight.colour, AeronauticalGroundLight.flashing, AeronauticalGroundLight.annotation, AeronauticalGroundLight.aerodromeBeacon
LDI location and LGT	AirportHeliport.annotation[propertyName='landingDirectionIndicator'][purpose='DESCRIPTION'].Note
Anemometer location and LGT	AirportHeliport.annotation[pupose='OTHER:Anemometer'].Note
TWY lighting	TaxiwayLightSystem[position='EDGE'] Or TaxiwayLightSystem[position='CL'] Or TaxiwayLightSystem[position='OTHER:floodlight'], TaxiwayLightSystem.intensityLevel, TaxiwayLightSystem.colour, TaxiwayLightSystem.position, TaxiwayLightSystem.element.LightElement.type, TaxiwayLightSystem.lightedTaxiway and Taxiway.designator, Taxiway.width, Taxiway.surfaceProperties.SurfaceCharacteristics.composition, Taxiway.surfaceProperties.SurfaceCharacteristics.classPCN, Taxiway.surfaceProperties.SurfaceCharacteristics.pavementTypePCN, Taxiway.surfaceProperties. SurfaceCharacteristics.pavementSubgradePCN, Taxiway.surfaceProperties. SurfaceCharacteristics.maxTyrePressurePCN, Taxiway.surfaceProperties. SurfaceCharacteristics.evaluationMethodPCN, Taxiway.associatedAirportHeliport
Secondary power supply/switch-over time	AirportHeliport.annotation[propertyName='secondaryPowerSupply'][purpose='DESCRIPTION'].Note
Remarks	AirportHeliport.annotation.Note

2.7 Runway

The mapping will be for the following sections (ICAO Doc. 10066 PANS-AIM paragraph 5.2.1.1.3) respectively:

- ✓ AD 2.12 “Runway Physical Characteristics” – new line (5);
- ✓ AD 2.14 “Approach and Runway Lighting” – new line (7);

AIXM 5.1/AIXM 5.1.1 Mapping details

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Designator	Runway.designator
Type	Runway.[type=’RWY’]
Nominal length	Runway.nominalLength, Runway.lengthAccuracy
Nominal width	Runway.nominalWidth, Runway.widthAccuracy
Surface type	Runway.surfaceProperties.SurfaceCharacteristics.composition
Strength – PCN	Runway.surfaceProperties.SurfaceCharacteristics.classPCN
Strength - Pavement type	Runway.surfaceProperties.SurfaceCharacteristics.pavementTypePCN
Strength - Subgrade category	Runway.surfaceProperties.SurfaceCharacteristics.pavementSubgradePCN
Strength - Allowable pressure	Runway.surfaceProperties.SurfaceCharacteristics.maxTyrePressurePCN
Strength - Evaluation method	Runway.surfaceProperties.SurfaceCharacteristics.evaluationMethodPCN
Shoulder - Width	Runway.widthShoulder
Runway geometry	RunwayElement[type=’NORMAL’], RunwayElement.associatedRunway, RunwayElement.extent
Strip Length	Runway.lengthStrip
Strip Width	Runway.widthStrip
Shoulder Type	RunwayElement[type=’SHOULDER’], RunwayElement.associatedRunway
Shoulder Geometry	RunwayElement[type=’SHOULDER’], RunwayElement.associatedRunway, RunwayElement.extent
Runway Remarks	Runway.annotation
OFZ	RunwayProtectArea[type=’OFZ’], RunwayProtectArea.annotation
Runway Approach light intensity, type & length	ApproachLightingSystem.intensityLevel, ApproachLightingSystem.type, ApproachLightingSystem.length, ApproachLightingSystem.servedRunwayDirection
Threshold colour	RunwayDirectionLightSystem[position=’THR’], RunwayDirectionLightSystem.colour, RunwayDirectionLightSystem.associatedRunwayDirection

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Threshold wing bar	RunwayDirectionLightSystem[position='END'], RunwayDirectionLightSystem.colour, RunwayDirectionLightSystem.annotation[purpose= 'OTHER:WING_BAR_DESC'].Note RunwayDirectionLightSystem.associatedRunwayDirection
Visual approach slope indicator systems type, position, slope & Minimum eye height over threshold	VisualGlideSlopeIndicator.type, VisualGlideSlopeIndicator.position, VisualGlideSlopeIndicator.slopeAngle, VisualGlideSlopeIndicator.minimumEyeHeightOverThreshold, VisualGlideSlopeIndicator.runwayDirection
Runway Touchdown zone light system	RunwayDirectionLightSystem[position='TDZ'], RunwayDirectionLightSystem.colour, RunwayDirectionLightSystem.intensityLevel, RunwayDirectionLightSystem.annotation, RunwayDirectionLightSystem.associatedRunwayDirection
Runway Center Line Light system	RunwayDirectionLightSystem[position='CL'], RunwayDirectionLightSystem.colour, RunwayDirectionLightSystem.intensityLevel, RunwayDirectionLightSystem.annotation, RunwayDirectionLightSystem.associatedRunwayDirection
Runway Edge Light System	RunwayDirectionLightSystem[position='EDGE'], RunwayDirectionLightSystem.colour, RunwayDirectionLightSystem.intensityLevel, RunwayDirectionLightSystem.annotation, RunwayDirectionLightSystem.associatedRunwayDirection
RWY End LGT colour WBAR	RunwayDirectionLightSystem[position='END'], RunwayDirectionLightSystem.colour, RunwayDirectionLightSystem.intensityLevel, RunwayDirectionLightSystem.annotation[purpose= 'OTHER:WING_BAR_DESC'].Note, RunwayDirectionLightSystem.associatedRunwayDirection
Stopway Light System	RunwayProtectAreaLightSystem[position='CL'] Or RunwayProtectAreaLightSystem[position='END'] Or RunwayProtectAreaLightSystem[position='EDGE'], RunwayProtectAreaLightSystem.colour, RunwayProtectAreaLightSystem.intensityLevel, RunwayProtectAreaLightSystem.annotation, RunwayProtectAreaLightSystem.lightedArea
Runway Direction Light System Remarks	RunwayDirectionLightSystem.annotation

2.8 Runway Direction

The mapping will be for the following sections (ICAO Doc. 10066 PANS-AIM paragraph 5.2.1.1.3) respectively:

- ✓ AD 2.12 "Runway Physical Characteristics", - new line (5);
- ✓ AD 2.13 "Declared Distances", – new line (6);

AIXM 5.1/AIXM 5.1.1 Mapping details

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Designator	RunwayDirection.designator
True bearing	RunwayDirection.trueBearing, RunwayDirection.trueBearingAccuracy
MagneticBreaing	RunwayDirection.magneticBearing
Threshold - Position	RunwayCentrelinePoint.location.ElevatedPoint, RunwayCentrelinePoint.location.ElevatedPoint.horizontalAccuracy
Threshold - Elevation	RunwayCentrelinePoint.location.ElevatedPoint.elevation, RunwayCentrelinePoint.location.ElevatedPoint.verticalAccuracy
Threshold - Geoid undulation	RunwayCentrelinePoint.location.ElevatedPoint.geoidUndulation, RunwayCentrelinePoint.location.ElevatedPoint.verticalAccuracy
Threshold - Type	RunwayCentrelinePoint[role='DISTHR'].role Or RunwayCentrelinePoint[role='THR'].role Or RunwayCentrelinePoint[role='END'].role Or RunwayCentrelinePoint[role='TDZ'].role
Runway Slope	RunwayDirection.annotation[purpose='OTHER:RWY_SLOPE'].Note
Stopway Slope	RunwayDirection.annotation[purpose= 'OTHER:SWY_SLOPE'].Note
Threshold - Displacement	RunwayCentrelinePoint[role='DISTHR'].associatedDeclaredDistance.RunwayDeclaredDistance[type='DTHR'].declaredValue.RunwayDeclaredDistanceValue.distance, RunwayCentrelinePoint[role='DISTHR'].associatedDeclaredDistance.RunwayDeclaredDistance[type='DTHR'].declaredValue.RunwayDeclaredDistanceValue.distanceAccuracy
Declared distance - TORA	RunwayCentrelinePoint.role.associatedDeclaredDistance.RunwayDeclaredDistance[type='TORA'].declaredValue.RunwayDeclaredDistanceValue.distance, RunwayCentrelinePoint.role.associatedDeclaredDistance.RunwayDeclaredDistance[type='TORA'].declaredValue.RunwayDeclaredDistanceValue.distanceAccuracy
Declared distance - TODA	RunwayCentrelinePoint.role.associatedDeclaredDistance.RunwayDeclaredDistance[type='TODA'].declaredValue.RunwayDeclaredDistanceValue.distance, RunwayCentrelinePoint.role.associatedDeclaredDistance.RunwayDeclaredDistance[type='TODA'].declaredValue.RunwayDeclaredDistanceValue.distanceAccuracy
Declared distance - ASDA	RunwayCentrelinePoint.role.associatedDeclaredDistance.RunwayDeclaredDistance[type='ASDA'].declaredValue.RunwayDeclaredDistanceValue.distance, RunwayCentrelinePoint.role.associatedDeclaredDistance.RunwayDeclaredDistance[type='ASDA'].declaredValue.RunwayDeclaredDistanceValue.distanceAccuracy

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Declared distance - LDA	RunwayCentrelinePoint.role.associatedDeclaredDistance.RunwayDeclaredDistance[type='LDA'] .declaredValue.RunwayDeclaredDistanceValue.distance, RunwayCentrelinePoint.role.associatedDeclaredDistance.RunwayDeclaredDistance[type='LDA'] .declaredValue.RunwayDeclaredDistanceValue.distanceAccuracy
Declared distances - Remarks	RunwayCentrelinePoint.associatedDeclaredDistance.RunwayDeclaredDistance.annotation Or RunwayCentrelinePoint.associatedDeclaredDistance.RunwayDeclaredDistance.declaredValue.RunwayDeclaredDistanceValue.annotation
STOPWAY	RunwayProtectArea[type =’STOPWAY’].width, RunwayProtectArea[type =’STOPWAY’].length, RunwayProtectArea[type =’STOPWAY’].lighting, RunwayProtectArea[type =’STOPWAY’].surfaceProperties, RunwayProtectArea[type =’STOPWAY’].protectedRunwayDirection
CLEARWAY	RunwayProtectArea[type =’CWY’].width, RunwayProtectArea[type =’CWY’].length, RunwayProtectArea[type =’CWY’].lighting, RunwayProtectArea[type =’CWY’].surfaceProperties, RunwayProtectArea[type =’CWY’].protectedRunwayDirection
Runway End safety Area	RunwayProtectArea[type =’RESA’].width, RunwayProtectArea[type =’RESA’].length, RunwayProtectArea[type =’RESA’].lighting, RunwayProtectArea[type =’RESA’].surfaceProperties, RunwayProtectArea[type =’RESA’].protectedRunwayDirection
Runway Obstacle free zone	RunwayProtectArea[type =’OFZ’].width, RunwayProtectArea[type =’OFZ’].length, RunwayProtectArea[type =’OFZ’].lighting, RunwayProtectArea[type =’OFZ’].surfaceProperties, RunwayProtectArea[type =’OFZ’].protectedRunwayDirection
Arresting System	RunwayDirection.annotation[purpose =‘OTHER:ARRESTING-SYSTEM’].Note

2.9 FATO (Final Approach and Take Off)

The mapping will be for the following sections (ICAO Doc. 10066 PANS-AIM paragraph 5.2.1.1.3) respectively:

- ✓ AD 2.16 “Helicopter Landing Area” – new line (9);

AIXM 5.1/AIXM 5.1.1 Mapping details

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Designator	Runway.designator, Runway.associatedAirportHeliport, or RunwayDirection.designator, RunwayDirection.usedRunway

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Type	Runway[type='FATO']
Length	Runway.nominalLength, Runway.lengthAccuracy
Width	Runway.nominalWidth
Surface Characteristics	Runway.surfaceProperties.SurfaceCharacteristics.composition, Runway.surfaceProperties.SurfaceCharacteristics.classPCN, Runway.surfaceProperties.SurfaceCharacteristics.pavementTypePCN, Runway.surfaceProperties.SurfaceCharacteristics.pavementSubgradePCN, Runway.surfaceProperties.SurfaceCharacteristics.maxTyrePressurePCN, Runway.surfaceProperties.SurfaceCharacteristics.evaluationMethodPCN
True Bearing	RunwayDirection.trueBearing, RunwayDirection.trueBearingAccuracy
Magnetic Bearing	RunwayDirection.magneticBearing
Threshold point	RunwayCentrelinePoint[role = 'THR']
Threshold point - Position	RunwayCentrelinePoint[role='THR'].location.ElevatedPoint , RunwayCentrelinePoint[role='THR'].location.ElevatedPoint.horizontalAccuracy
Threshold point - Elevation	RunwayCentrelinePoint[role='THR'].location.ElevatedPoint.elevation, RunwayCentrelinePoint[role='THR'].location.ElevatedPoint.verticalAccuracy
Threshold point - Geoid undulation	RunwayCentrelinePoint[role='THR'].location.ElevatedPoint.geoidUndulation, RunwayCentrelinePoint[role='THR'].location.ElevatedPoint.verticalAccuracy
FATO Approach Light System	ApproachLightingSystem.intensityLevel, ApproachLightingSystem.type, ApproachLightingSystem.length, ApproachLightingSystem.servedRunwayDirection
Remarks	Runway.annotation

2.10 TLOF (Touchdown and Lift-Off Area)

The mapping will be for the following sections (ICAO Doc. 10066 PANS-AIM paragraph 5.2.1.1.3) respectively:

- ✓ AD 2.16 "Helicopter Landing Area" – new line (9);

AIXM 5.1/AIXM 5.1.1 Mapping details

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Designator	TouchDownLiftOff.designator

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Centre point - Position	TouchDownLiftOff.aimingPoint.ElevatedPoint, TouchDownLiftOff.aimingPoint.ElevatedPoint.horizontalAccuracy
Centre point - Elevation	TouchDownLiftOff.aimingPoint.ElevatedPoint.elevation, TouchDownLiftOff.aimingPoint.ElevatedPoint.verticalAccuracy
Centre point - Geoid undulation	TouchDownLiftOff.aimingPoint.ElevatedPoint.geoidUndulation, TouchDownLiftOff.aimingPoint.ElevatedPoint.horizontalAccuracy
Length	TouchDownLiftOff.length, TouchDownLiftOff.annotation[propertyName='length'].Note
Width	TouchDownLiftOff.width, TouchDownLiftOff.annotation[propertyName='width'].Note
Slope	TouchDownLiftOff.slope
Markings	TouchDownLiftOffMarking.markingICAOStandard, TouchDownLiftOffMarking.condition, TouchDownLiftOffMarking.element.MarkingElement.colour, TouchDownLiftOffMarking.element.MarkingElement.style, TouchDownLiftOffMarking.element.MarkingElement.extent_surfaceExtent.ElevatedSurface, TouchDownLiftOffMarking.markedTouchDownLiftOff
Surface type	TouchDownLiftOff.SurfaceCharacteristics.composition, TouchDownLiftOff.surfaceProperties.SurfaceCharacteristics.classPCN, TouchDownLiftOff.surfaceProperties.SurfaceCharacteristics.pavementTypePCN, TouchDownLiftOff.surfaceProperties.SurfaceCharacteristics.pavementSubgradePCN, TouchDownLiftOff.surfaceProperties.SurfaceCharacteristics.maxTyrePressurePCN, TouchDownLiftOff.surfaceProperties.SurfaceCharacteristics.evaluationMethodPCN
Remarks	TouchDownLiftOff.annotation

2.11 Radio Navigation Aid

The mapping will be for the following sections (ICAO Doc. 10066 PANS-AIM paragraph 5.2.1.1.3) respectively:

- ✓ GEN 2.5 “List of radio navigation aids” – line a;
- ✓ ENR 4.1 “Radio navigation aids— en-route” – line g;
- ✓ ENR 4.2 “Special navigation systems ” – line h;
- ✓ AD 2.19 “Radio navigation and landing aids” – line q;
- ✓ AD 3.18 “Radio navigation and landing aids. – line s;

AIXM 5.1/AIXM 5.1.1 Mapping details

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Type	Navaid.type
Identification	Navaid.designator and/or (VOR.designator Or DME.designator Or Glidepath.designator Or Localizer.designator Or NDB.designator Or MarkerBeacon.auralMorseCode)
Name	Navaid.name and/or VOR.name Or DME.name Or Glidepath.name Or Localizer.name Or NDB.name
Aerodrome served	Navaid.servedAirport

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Hours of operation	Navaid.NavaidOperationalStatus[operationalStatus='OPERATIONAL'].timeInterval and/or VOR.availability.NavaidOperationalStatus[operationalStatus='OPERATIONAL'].timeInterval Or DME.availability.NavaidOperationalStatus[operationalStatus='OPERATIONAL'].timeInterval Or Glidepath.availability.NavaidOperationalStatus[operationalStatus='OPERATIONAL'].timeInterval Or Localizer.availability.NavaidOperationalStatus[operationalStatus='OPERATIONAL'].timeInterval Or NDB.availability.NavaidOperationalStatus[operationalStatus='OPERATIONAL'].timeInterval
Magnetic variation - Angle	VOR.magneticVariation VOR.magneticVariationAccuracy Or DME.magneticVariation DME.magneticVariationAccuracy Or Glidepath.magneticVariation Glidepath.magneticVariationAccuracy Or Localizer.magneticVariation Localizer.magneticVariationAccuracy Or NDB.magneticVariation, NDB.magneticVariationAccuracy
Magnetic variation - Date	VOR.dateMagneticVariation Or DME.dateMagneticVariation Or Glidepath.dateMagneticVariation Or Localizer.dateMagneticVariation Or NDB.dateMagneticVariation

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Frequency	Localizer.frequency or Glidepath.frequency or VOR.frequency or MarkerBeacon.frequency or NDB.frequency or SDF.frequency Or DME.ghostFrequency
Channel	TACAN.channel or DME.channel or Azimuth.channel
Position	(Navaid.location.ElevatedPoint, Navaid.location.ElevatedPoint.horizontalAccuracy) and/or (VOR.location.ElevatedPoint, VOR.location.ElevatedPoint.horizontalAccuracy) Or (DME.location.ElevatedPoint, DME.location.ElevatedPoint.horizontalAccuracy) Or (Glidepath.location.ElevatedPoint, Glidepath.location.ElevatedPoint.horizontalAccuracy) Or (Localizer.location.ElevatedPoint, Localizer.location.ElevatedPoint.horizontalAccuracy) Or (NDB.location.ElevatedPoint, NDB.location.ElevatedPoint.horizontalAccuracy)

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Elevation	Navaid.location.ElevatedPoint.elevation, Navaid.location.ElevatedPoint.verticalAccuracy, Navaid.location.ElevatedPoint.verticalDatum, (DME.location.ElevatedPoint.elevation, DME.location.ElevatedPoint.verticalAccuracy, DME.location.ElevatedPoint.verticalDatum) Or (Glidepath.location.ElevatedPoint.elevation, Glidepath.location.ElevatedPoint.verticalAccuracy, Glidepath.location.ElevatedPoint.verticalDatum) Or (Localizer.location.ElevatedPoint.elevation, Localizer.location.ElevatedPoint.verticalAccuracy, Localizer.location.ElevatedPoint.verticalDatum) Or (NDB.location.ElevatedPoint.elevation, NDB.location.ElevatedPoint.verticalAccuracy, NDB.location.ElevatedPoint.verticalDatum) Or (VOR.location.ElevatedPoint.elevation, VOR.location.ElevatedPoint.verticalAccuracy, VOR.location.ElevatedPoint.verticalDatum)
Magnetic bearing /True bearing	Localizer.magneticBearing, Localizer.magneticBearingAccuracy, Localizer.trueBearing, Localizer.trueBearingAccuracy
Zero bearing direction	VOR.zeroBearingDirection
Purpose (A, E)	Navaid.purpose
Runway served	Navaid.runwayDirection
Type of supported Operations (e.g. ILS CAT)	Navaid.signalPerformance
Course Quality	Navaid.courseQuality
Integrity Level	Navaid.integrityLevel
Datum	Navaid.Datum
Collection	Navaid.NavaidComponent.collocationGroup
Station declination (angle) for ILS and VORDME;	Localizer.declination
Declination	VOR.declination

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Azimuth remarks	Azimuth.annotation
Angle i.e. GP angle	Glidepath.slope
RDH	Glidepath.rdh
DOC(designated operational coverage)	RadioFrequencyArea, RadioFrequencyArea.equipment_navaidEquipment, VOR.annotation Or DME.annotation Or Glidepath.annotation Or Localizer.annotation Or NDB.annotation
Operating authority	NavaidEquipment.authority.OrganisationAuthority.name or NavaidEquipment.annotation or Navaid.annotation
Remarks	Navaid.annotation, VOR.annotation Or DME.annotation Or Glidepath.annotation Or Localizer.annotation Or NDB.annotation

2.12 Aeronautical Ground Light

The mapping will be for the following section (ICAO Doc. 10066 PANS-AIM paragraph 5.2.1.1.3) respectively:

- ✓ ENR 4.5 “Aeronautical Ground Lights — En-route” – *line j;*

AIXM 5.1/AIXM 5.1.1 Mapping details

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Type	AeronauticalGroundLight.type
Name	AeronauticalGroundLight.name
Intensity	AeronauticalGroundLight.annotation.Note
Characteristics	AeronauticalGroundLight.colour, AeronauticalGroundLight.flashing, AeronauticalGroundLight.annotation.Note
Hours of operations	AeronauticalGroundLight.annotation.Note
Position	AeronauticalGroundLight.location.ElevatedPoint

2.13 En-Route Holding

The mapping will be for the following section (ICAO Doc. 10066 PANS-AIM paragraph 5.2.1.1.3) respectively:

- ✓ ENR 3.6 “En - Route Holding” – *line f;*

AIXM 5.1/AIXM 5.1.1 Mapping details

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Identification	N/A
Type	HoldingPattern[type=’ENR’].type
Fix	HoldingPattern.holdingPoint.EnRouteSegmentPoint.pointChoice_fixDesignatedPoint Or HoldingPattern.holdingPoint.EnRouteSegmentPoint.pointChoice_navaidSystem
Waypoint	HoldingPattern.holdingPoint.EnRouteSegmentPoint.pointChoice_fixDesignatedPoint Or HoldingPattern.holdingPoint.EnRouteSegmentPoint.pointChoice_navaidSystem
Inbound track	HoldingPattern.inboundCourse
Turn Direction	HoldingPattern.turnDirection
Speed	HoldingPattern.speedLimit
Level - Minimum holding level	HoldingPattern.lowerLimit, HoldingPattern.lowerLimitReference
Level - Maximum holding level	HoldingPattern.upperLimit, HoldingPattern.upperLimitReference
Time/distance outbound	HoldingPattern.outboundLegSpan_endTime.HoldingPatternDuration.duration Or HoldingPattern.outboundLegSpan_endDistance.HoldingPatternDistance.length
Special holding entry procedure	HoldingPattern.instruction

PANS-AIM	AIXM 5.1/AIXM 5.1.1
Controlling Unit	AirTrafficControlService.Name, AirTrafficControlService.call-sign, AirTrafficControlService.radioCommunication, AirTrafficControlService.clientHolding, RadioCommunicationChannel.frequencyTransmission

3 Metadata to be included in AIP Data set File

3.1 Scope

Metadata shall be collected for aeronautical data processes and exchange points throughout the aeronautical information data chain, from origination to distribution to the next intended user.

Each quality management system shall include the necessary policies, processes and procedures, including those for the use of metadata, to ensure and verify that aeronautical data are traceable throughout the aeronautical data chain in order to allow any data anomalies or errors detected to be identified by root cause, corrected and communicated to affected users.

3.2 Metadata requirements

Generally, AIS has the responsibility to verify the collected data from the surveyor/originator. Moreover, AIS has the obligation to provide data sets to the next intended user.
Metadata is essential in the understanding, processing and delivery of information by using an information service. Metadata should enable information service consumers to evaluate the originating source of information, the quality of service and information before consuming the information service.

Information service providers should specify the origins and/or sources of the data and they should also provide information on any subsequent modifications applied in the *Source of Information* metadata field of the information Service Overview.

If an information service provider does not make the source of information available, the *Source of Information* metadata field shall specify “NIL”.

Information service providers shall provide a description of the geographic coverage of the data and information exchanged in the information service payload in the *Geographical Extent of Information* metadata field of the information Service Overview to allow information service consumers understand the geographical coverage of the information being provided.

The geographic coverage should be expressed in terms of ICAO region, FIR, Aerodrome, polygon, etc. More granular information such as coverage at Airport X, FIR Y should be provided as it may facilitate search responses when provided.

The *Figure* below is summarizing the ICAO Annex 15 requirements regarding the metadata thru the data chain in general, but the specific metadata requirements are shown in the “ICAO Data Set” section of the Figure. These should be supplemented by the need to use the ISO 19100 series as the reference framework, the need for data protection and the need to include specific requirements for geographical information metadata (ref. ISO Standards 19115).

The metadata to be collected shall include, as a minimum (ICAO Doc. 10066 PANS-AIM):

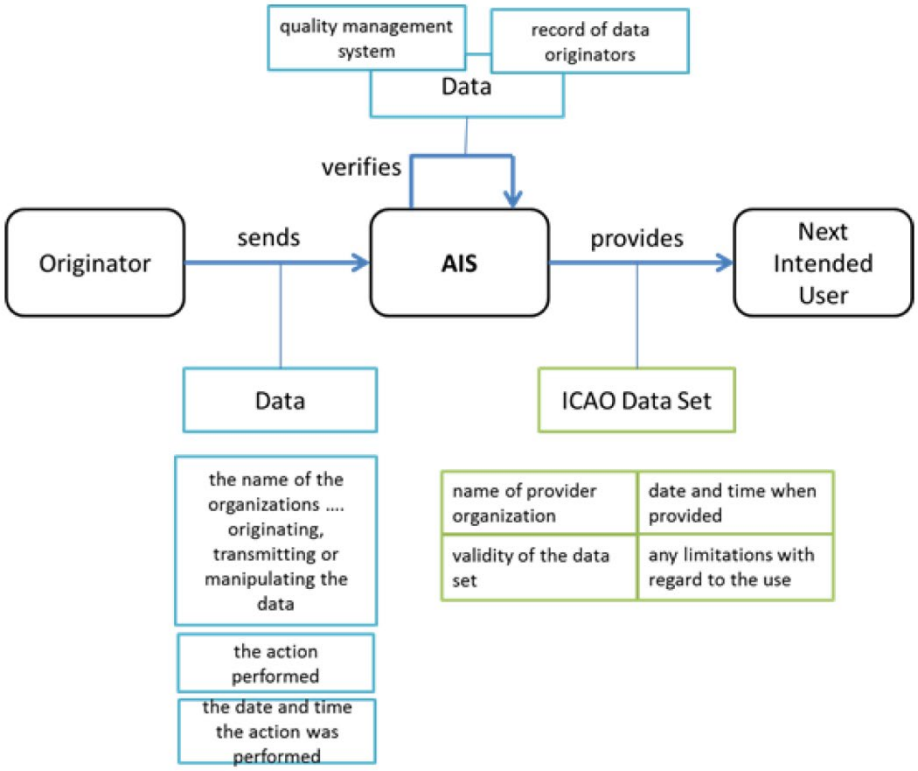
a) The names of the organizations or entities providing the data set;

b) The date and time when the data set was provided;
c) Period of validity of the data set (not required, validity of each feature lifetime will be present with each feature);
d) Any limitations with regard to the use of the data set;

Additionally, metadata included in AIP Data sets are:

i. AIP Amendment Number
ii. Publication Date
iii. Effective Date

For Example: AIP AMDT No: AIRAC AMDT 12/2025, Publication date: 2025-10-16T00:00:00.000Z, Effective date: 2025-11-27T00:00:00.000Z



Below is a sample Metadata code and value list highlighted in “yellow” that is included in AIP Data set.

Important Note: Metadata will be present at Message Level.

```
<aixm:messageMetadata xmlns:xs="http://www.w3.org/2001/XMLSchema"
                      xmlns:gmd="http://www.isotc211.org/2005/gmd"
                      xmlns:gco="http://www.isotc211.org/2005/gco"
                      xmlns:aixm="http://www.aixm.aero/schema/5.1">
    <gmd:MD_Metadata>
      <gmd:characterSet>
        <gmd:MD_CharacterSetCode
codeList="http://www.aixm.aero/schema/5.1/ISO_19139_Schemas/resources/Codelist/gmxCodelists.xml#MD_CharacterSetCode"
                                 codeListValue="utf8">utf8</gmd:MD_CharacterSetCode>
      </gmd:characterSet>
      <gmd:contact/>
      <gmd:dateStamp>
```

```
        <gco:DateTime>2025-10-17T06:30:02.759Z</gco:DateTime>
      </gmd:dateStamp>
      <gmd:identificationInfo>
        <gmd:MD_DataIdentification>
          <gmd:citation>
            <gmd:CI_Citation>
              <gmd:title>
                <gco:CharacterString>Publisher identifier</gco:CharacterString>
              </gmd:title>
              <gmd:date>
                <gmd:CI_Date>
                  <gmd:date>
                    <gco:DateTime>2025-10-17T06:30:02.759Z</gco:DateTime>
                  </gmd:date>
                  <gmd:dateType>
                    <gmd:CI_DateTypeCode
codeList="http://www.aixm.aero/schema/5.1/ISO_19139_Schemas/resources/Codelist/gmxCodelist
s.xml#CI_DateTypeCode"
                                         codeListValue="creation">creation</gmd:CI_DateTypeCode>
                  </gmd:dateType>
                </gmd:CI_Date>
              </gmd:date>
              <gmd:date>
                <gmd:CI_Date>
                  <gmd:date>
                    <gco:DateTime>2025-10-16T00:00:00.000Z</gco:DateTime>
                  </gmd:date>
                  <gmd:dateType>
                    <gmd:CI_DateTypeCode
codeList="http://www.aixm.aero/schema/5.1/ISO_19139_Schemas/resources/Codelist/gmxCodelist
s.xml#CI_DateTypeCode"
                                         codeListValue="publication">publication</gmd:CI_DateTypeCode>
                  </gmd:dateType>
                </gmd:CI_Date>
              </gmd:date>
            </gmd:CI_Citation>
          </gmd:citation>
          <gmd:abstract>
            <gco:CharacterString>AIP AMDT No: AIRAC AMDT 12/2025, Publication date: 2025-10-
16T00:00:00.000Z, Effective date: 2025-11-27T00:00:00.000Z</gco:CharacterString>
          </gmd:abstract>
          <gmd:pointOfContact>
            <gmd:CI_ResponsibleParty>
              <gmd:organisationName>
                <gco:CharacterString>General Civil Aviation Authority AIM
Department</gco:CharacterString>
              </gmd:organisationName>
              <gmd:contactInfo>
                <gmd:CI_Contact>
                  <gmd:phone>
                    <gmd:CI_Telephone>
                      <gmd:voice>
                        <gco:CharacterString>00971 2 599 6895</gco:CharacterString>
                      </gmd:voice>
                      <gmd:facsimile>
                        <gco:CharacterString>00971 2 599 6889</gco:CharacterString>
                      </gmd:facsimile>
```

```
                    </gmd:CI_Telephone>
                  </gmd:phone>
                  <gmd:address>
                    <gmd:CI_Address>
                      <gmd:city>
                        <gco:CharacterString>Abu Dhabi</gco:CharacterString>
                      </gmd:city>
                      <gmd:postalCode>
                        <gco:CharacterString>666</gco:CharacterString>
                      </gmd:postalCode>
                      <gmd:country>
                        <gco:CharacterString>United Arab Emirates</gco:CharacterString>
                      </gmd:country>
                      <gmd:electronicMailAddress>
                        <gco:CharacterString>aim@szc.gcaa.ae</gco:CharacterString>
                      </gmd:electronicMailAddress>
                    </gmd:CI_Address>
                  </gmd:address>
                </gmd:CI_Contact>
              </gmd:contactInfo>
              <gmd:role>
                <gmd:CI_RoleCode
codeList="http://www.aixm.aero/schema/5.1/ISO_19139_Schemas/resources/Codelist/gmxCodelist
s.xml#CI_RoleCode"
                                 codeListValue="publisher">publisher</gmd:CI_RoleCode>
              </gmd:role>
            </gmd:CI_ResponsibleParty>
          </gmd:pointOfContact>
          <gmd:language>
            <gco:CharacterString>eng</gco:CharacterString>
          </gmd:language>
        </gmd:MD_DataIdentification>
      </gmd:identificationInfo>
    </gmd:MD_Metadata>
  </aixm:messageMetadata>
```