Electronic AIP (eAIP)

Fourteenth Multilateral Workshop/Meeting of the SAM Region
for the transition of AIS to AIM (SAM/AIM/14)

ABOUT US

Our Mission

AIM for Safer Skies

To enable State AIS and AIM staff to achieve their operational goals by providing Software, Services, Training and Support in the field of Aeronautical information Management.

M-AIS ACTIVITIES

SOFTWARE

M-AIS offer a range of effective Aeronautical Publishing and AIXM Data solutions.

SERVICES

We provide many tailored services to our customers to ease the transition and migration to AIM.

TRAINING

Our training specialists share their own expert knowledge and experience to ensure that each course achieves the best results.

SUPPORT & MAINTENANCE

Customer relationships are vital to everything we do. we employ a full maintenance and support team to manage customer enquiries.

OUR WORK WITH AERONAUTICAL DATA

EAD

Data Integration for FrameAPS, AIP / eAIP / and DITA for more than 12 releases and 4 AIXM Data model changes

UK NATS

AIXM 4.5 and AIXM 5.1 Suite creating, managing and publishing datasets for all UK data from 2005 until 2019.

THALES France

Development of joint AIXM technology from 2005 until 2011. Multiple countries using the software, successful joint IPR venture.

Global Customer Base

AIXM 4.5 and AIXM 5.1 eAIP customers for Software, Services training and support. Currently undergoing intensive AIP table data review for AIXM usage with Central European Client.

Worldwide Projects

Global Implementations and Training for AIXM

- M-AIS provid AIXM 5.1, Dataset and PANS-AIM training and consultancy to a worldwide clientele.
    - **Software** – AIXM Data Management Suite and FrameAPS
    - **Services** – eAIP and AIXM Data Migration
    - **Training** - AIM, AIXM, Cartography, eAIP and PBN Data Coding and Visualisation training.
    - **Support and Maintenance** - Multiple AIXM and eAIP support contracts

Your Presenter:

Antonio Locandro

- Instrument Flight Procedure Design Expert
- Aeronautical Information Expert
  - +13 Year Industry Experience
  - Aeronautical Charting & GIS Expert
  - AIM and IFP Training Expert
  - Participant of ICAO AIXM CCB and Advisor to IFAIMA for ICAO AIM WG-A
  - Participated as expert for ICAO Technical Cooperation Bureau for Obstacle Assessment for Airport Master Plan

What is the eAIP?

Annex 15

Aeronautical information product. Aeronautical data and aeronautical information provided either as digital data sets or as a standardized presentation in paper or electronic media. Aeronautical information products include:

— Aeronautical Information Publication (AIP), including Amendments and Supplements;

— Aeronautical Information Circulars (AIC);

— aeronautical charts;

— NOTAM; and

— digital data sets.

Note.—Aeronautical information products are intended primarily to satisfy international requirements for the exchange of aeronautical information.

Anexo 15

5.2 Aeronautical information in a standardized presentation

5.2.1 Aeronautical information provided in a standardized presentation shall include the aeronautical information publication (AIP), AIP Amendments, AIP Supplements, AIC, NOTAM and aeronautical charts.

Note 1.— Detailed specifications about AIP, AIP Amendments, AIP Supplements, AIC and NOTAM are contained in the PANS-AIM (Doc 10066).

Note 2.— Cases where digital data sets may replace the corresponding elements of the standardized presentation are detailed in the PANS-AIM (Doc 10066).

5.2.1.1 The AIP, AIP Amendment, AIP Supplement and AIC shall be provided on paper and/or as an electronic document.

5.2.1.2 **Recommendation**.— *The AIP, AIP Amendment, AIP Supplement and AIC when provided as an electronic document (eAIP) should allow for both displaying on electronic devices and printing on paper.*

PANS AIM Doc 10066

7.5 Chapter 5 — Aeronautical Information Products and Services

7.5.1 Chapter 5 outlines the specifications regarding the provision of aeronautical information products (in printed or electronic form) and services. This includes the Aeronautical Information Publication (AIP), AIP Amendments and Supplements and Aeronautical Information Circulars (AIC).

5.2.4 Electronic AIP (eAIP)

Note.— Guidance material for the production and provision of the eAIP is contained in Doc 8126.

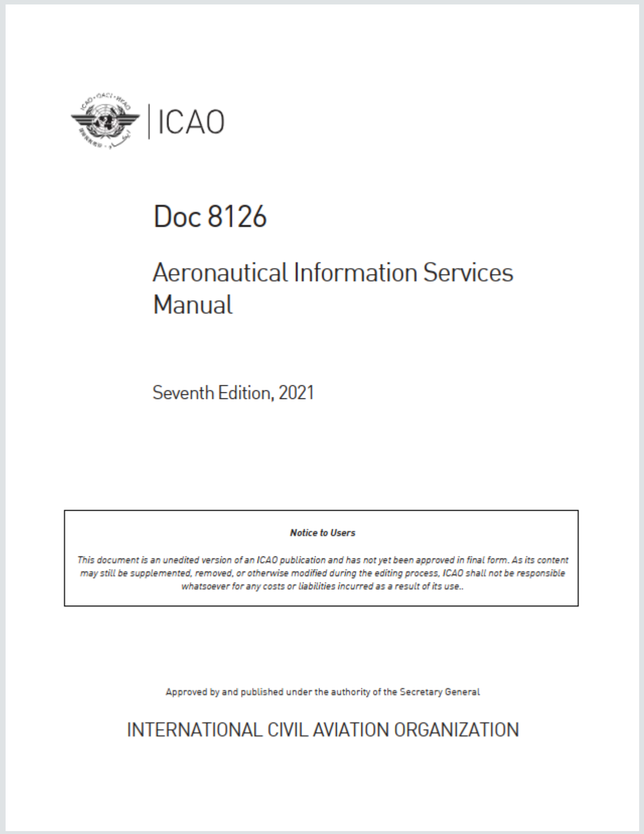
5.2.4.1 When provided, the information content of the eAIP and the structure of chapters, sections and sub-sections shall follow the content and structure of the paper AIP. The eAIP shall include files that allow for printing a paper AIP.

5.2.4.2 New or revised information shall be identified either by an annotation against it in the margin or by a mechanism that allows comparing the new/revised information with the previous information.

5.2.4.3 When provided, the eAIP should be available on a physical distribution medium (CD, DVD, etc.) and/or online on the Internet.

Note.— Guidance material on the use of the Internet is contained in Guidelines on the Use of the Public Internet for Aeronautical Applications *(Doc 9855).*

ICAO Doc 8126 7th Edition (Unedited)



ICAO

Doc 8126

Aeronautical Information Services Manual

Seventh Edition, 2021

Notice to Users

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Approved by and published under the authority of the Secretary General

INTERNATIONAL CIVIL AVIATION ORGANIZATION

PART III - Aeronautical Information in a Standardized Presentation and Related Services

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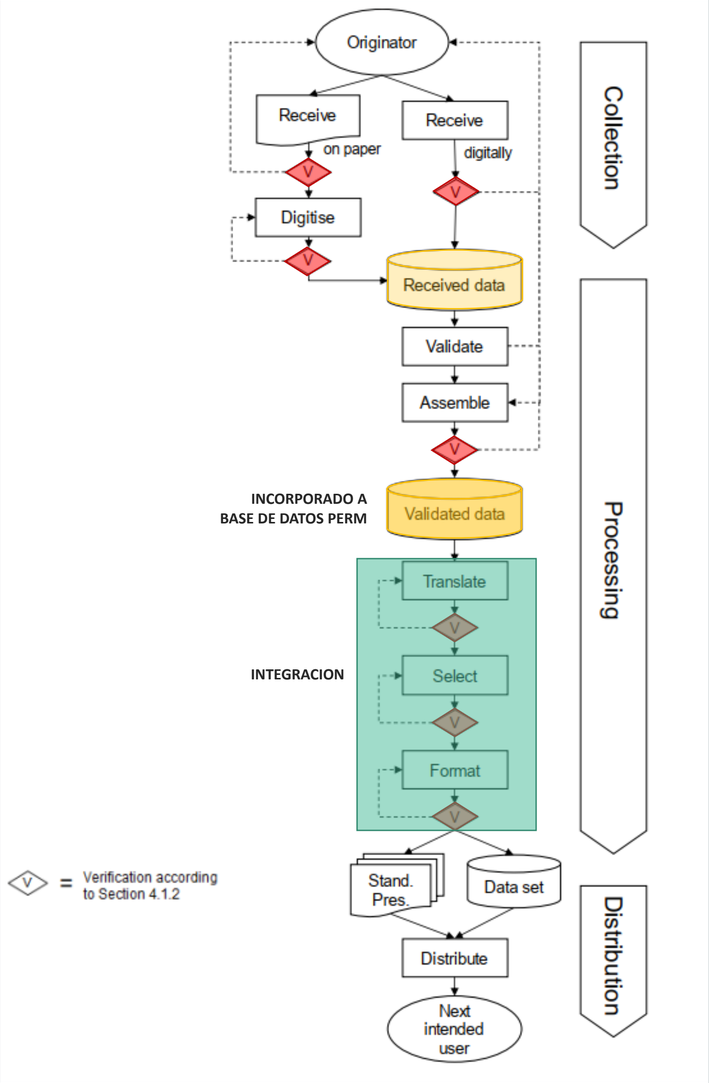

ICAO Doc 8126 7th Edition (Unedited)

4.2 INTEGRATION

4.2.1 Once all validated data is assembled and stored in a database, the data is integrated into aeronautical information products and services by translating, selecting and formatting the data according to the appropriate product specification.

4.2.2 When data must be translated (e.g. geographical coordinate transformations, procedure encoding) verification must be applied to ensure the integrity of the original data is maintained after translation.

4.2.3 Specific data elements are then selected and included in aeronautical information products and services, e.g. an AIP amendment or an AIP data set.

4.2.4 The selected data is converted to a format that is acceptable to the next intended user. Examples of data interchange and file formats include AIXM and JSON for data sets, and HTML and PDF for electronic AIP.

4.2.5 Once the data has been formatted and verified, a digital data error detection technique, such as systematic cycling codes, including the use of hash functions and CRC are applied to protect the data during transmission.

4.2.6 Guidance on preparing aeronautical information in a standardized presentation can be found in Volume III — *Aeronautical Information in a Standardized Presentation and Related Services*.

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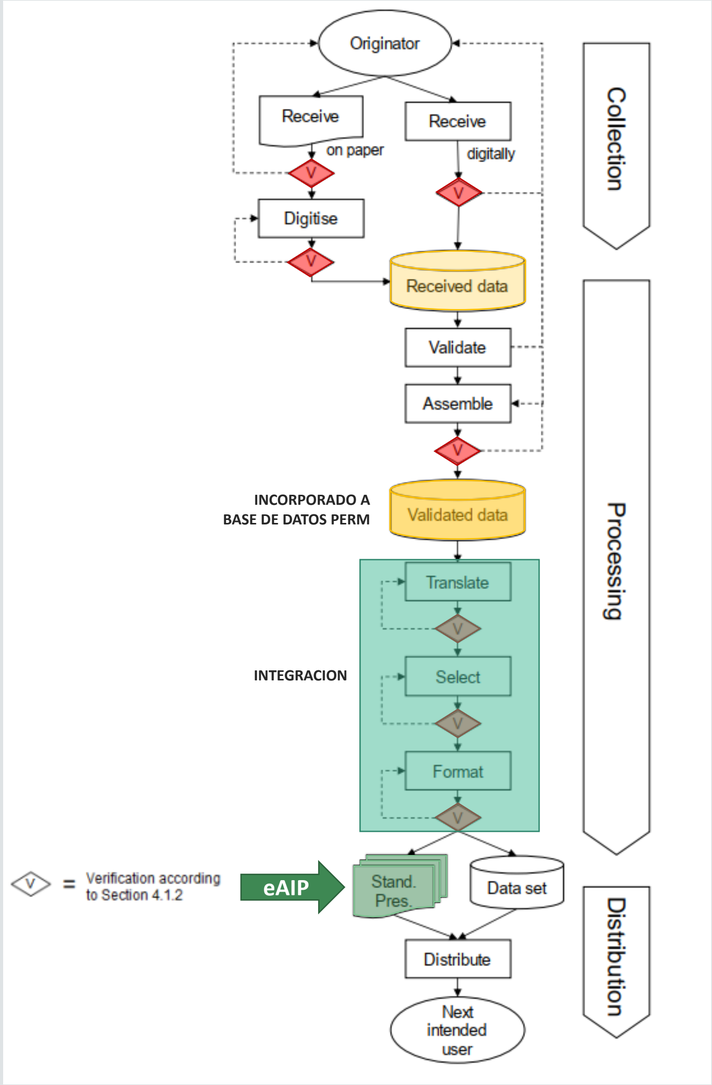


ICAO Doc 8126 7th Edition (Unedited)

2.9 ELECTRONIC AIP

2.9.1 Introduction

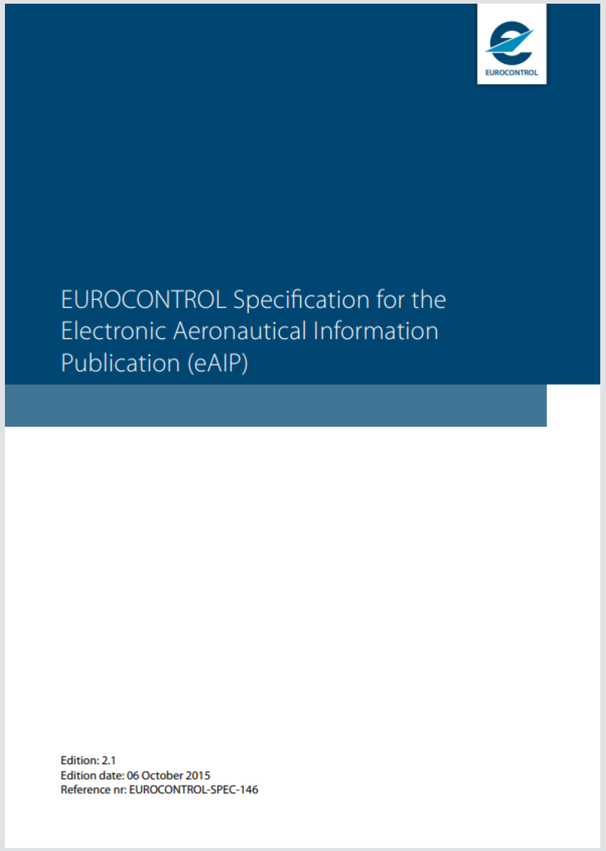
2.9.1.1 Annex 15 specifies that the AIP, AIP amendment, AIP supplement and aeronautical information circular (AIC) can be provided as an electronic document, referred to as an electronic AIP (eAIP), which is either complementing the printed version of the AIP or represents the sole means of publication.

Note.— An example of guidance regarding the visualization of the contents of the AIP is given in EUROCONTROL Specification for the Electronic Aeronautical Information Publication (eAIP) (EUROCONTROL-SPEC-146).

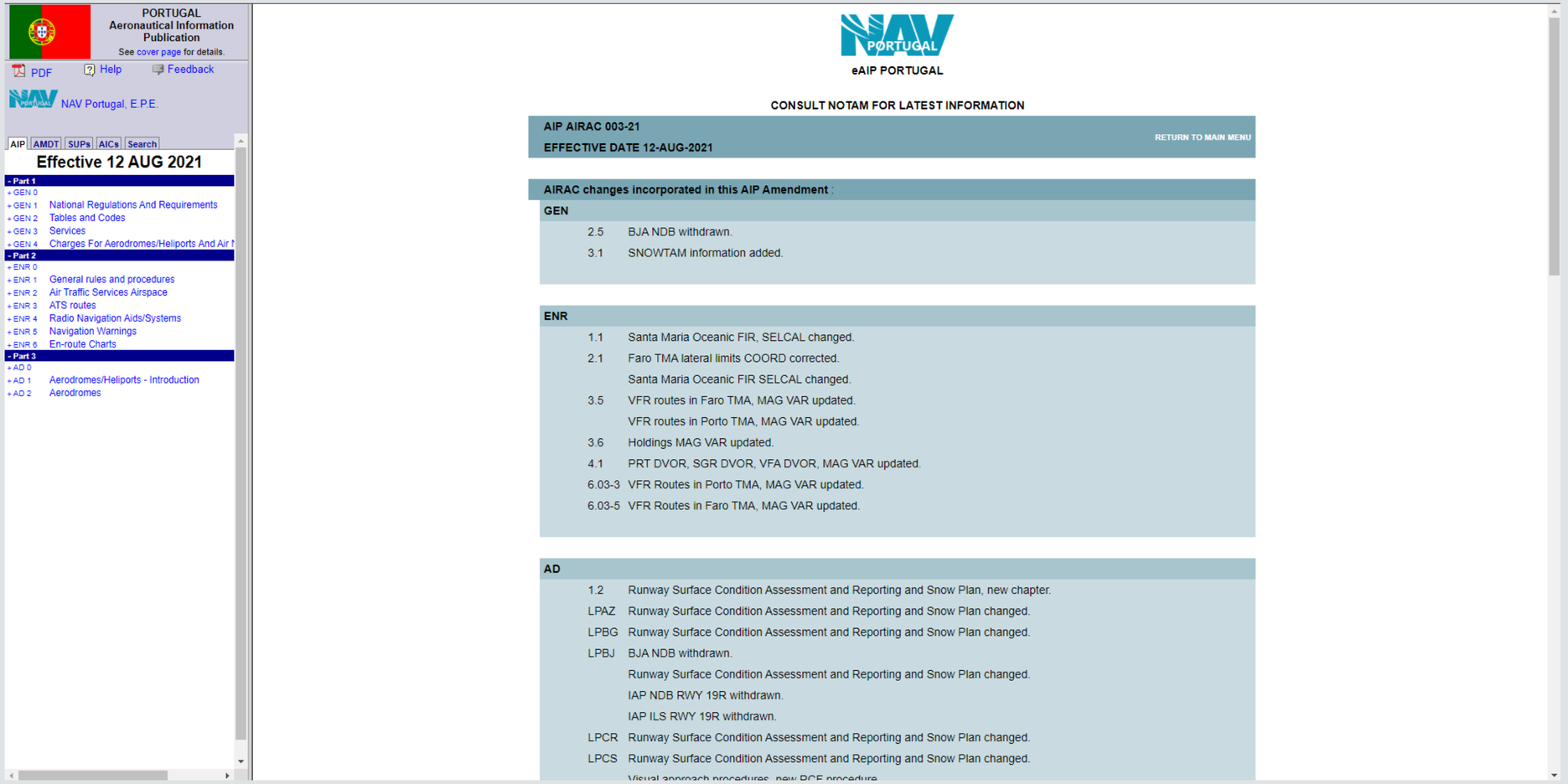
eAIP (EUROCONTROL specification)

EUROCONTROL-SPEC-146

de facto standard



eAIP (EUROCONTROL specification)



ICAO Doc 8126 7th Edition (Unedited)

2.9.2 Production

2.9.2.1 An eAIP is produced using aeronautical information stored in a database. The data is extracted into a structured document using dedicated eAIP editing software. Web technologies like Extensible Markup Language (XML) and document type definition (DTD) are used in the process of creating a structured document that can subsequently be transformed into HTML for on-screen display, or PDF for printing or download. Charts and graphics can be represented in various formats; for example, using pdf, portable network graphics (PNG), or scalable vector graphics (SVG) formats.

Note.— The World Wide Web Consortium (W3C) is the main international standards organization for World Wide Web technologies (see www.w3c.org).

ENR 4 RADIO NAVIGATION AIDS/SYSTEMS

ENR 4.1 RADIO NAVIGATION AIDS - EN-ROUTE

Name of station (MAG Variation (VOR Declinati	I	Fre en CH	urs erat	Coordina s	ELEV DME antenna	FRA Relevance / Remarks Legend for FRA Relevance: (E) Horizontal entry point; (X) Horizontal exit point; (I) Intermediate point; (A) Arrival connecting point; (D) Departure connection point.
1	2		4	5	6	7
ALCARIA RUIVA DME	DML	CH 92X	H24	374203N 0074549W	360 M	NIL / Coverage: 140 NM / FL 150
ARGA DME	DSA	CH 99X	H24	414755N 0084237W	800 M	NIL / Coverage: 088°/268° 80NM / FL400
AROUCA DME	DAR	CH 96X	H24	405600N 0081331W	730 M	NIL / Coverage: 225°/045° 73NM / FL400
ARRABIDA DME	ARR	CH 20X	H24	382934N 0085744W	1200FT	FRA (I) / Coverage: 150NM FL100 Not usable: 110°/180° 240°/260°
ARRUDA NDB (03° W - 2013)	LAR	382 KHZ	H24	385940N 0090225W		NIL / Coverage: 50NM
BEJA TACAN	BEJ	CH 105X	H24	380742N 0075536W	700FT	NIL / Coverage: 150NM / FL300 Not usable: BTN R060 and R070 all levels
CASCAIS DVOR/DME (03° W - 2020)	CAS	114.30MHZ CH 90X	H24	384454N 0092143W	700FT	FRA (I) / Coverage: 60NM DVOR Sectors not usable: 030°/060° BYD 20NM BLW FL100 290°/350° BYD 10NM BLW FL100
ESPICHEL DVOR/DME (03° W - 2013)	ESP	112.50MHZ CH 72X	H24	382527N 0091108W	180 M	FRA (IAD) / Coverage: 203°/315° - 200NM FL500 315°/203° - 80NM FL500 Not usable: 060°/080° BLW 4000FT BYD 30NM
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Digital vs Electronic

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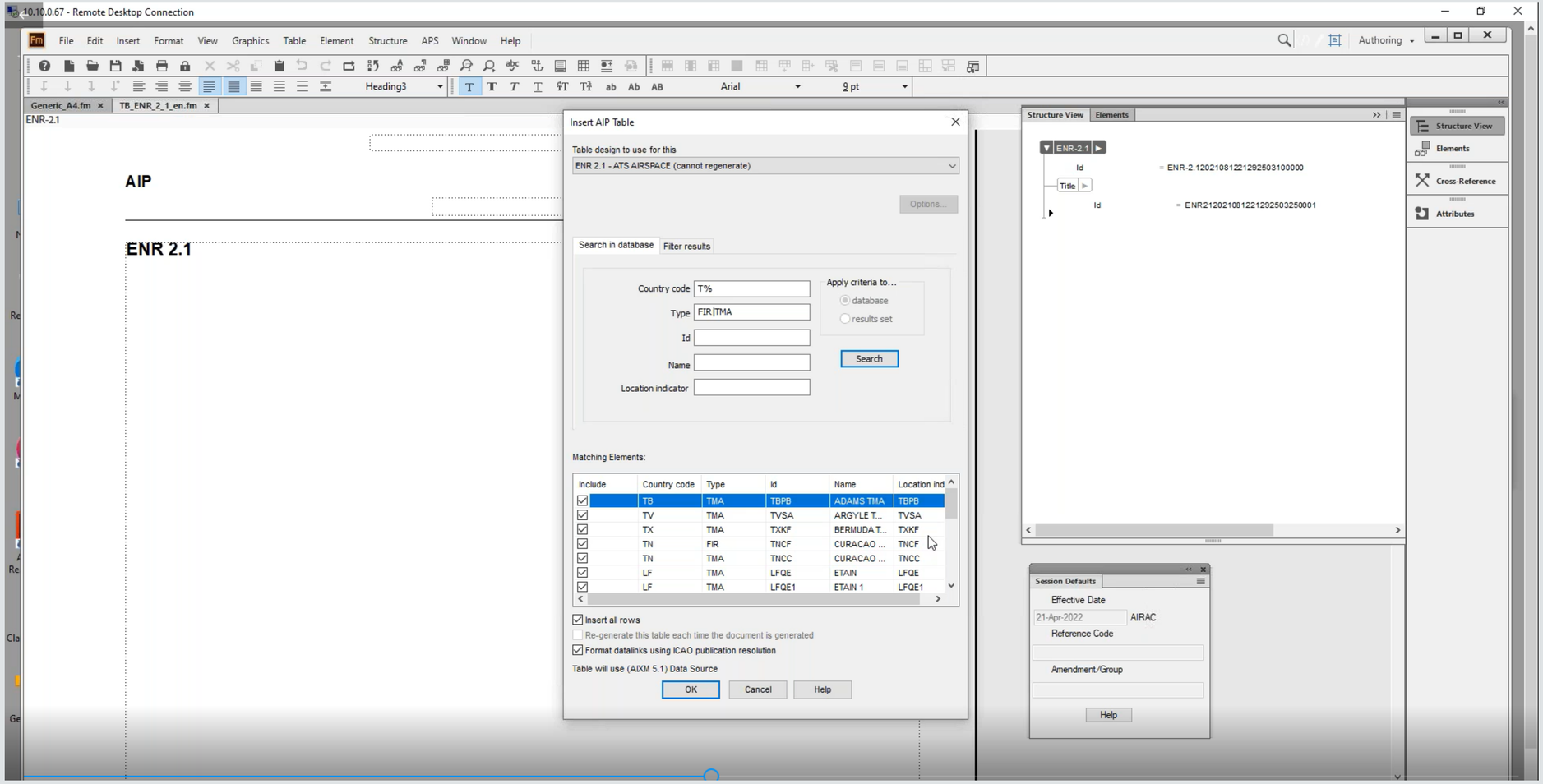
eAIP Workflow Demostration

APSXML (eAIP)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ENR-2.1
AIP
ENR 2.1
Insert AIP Table
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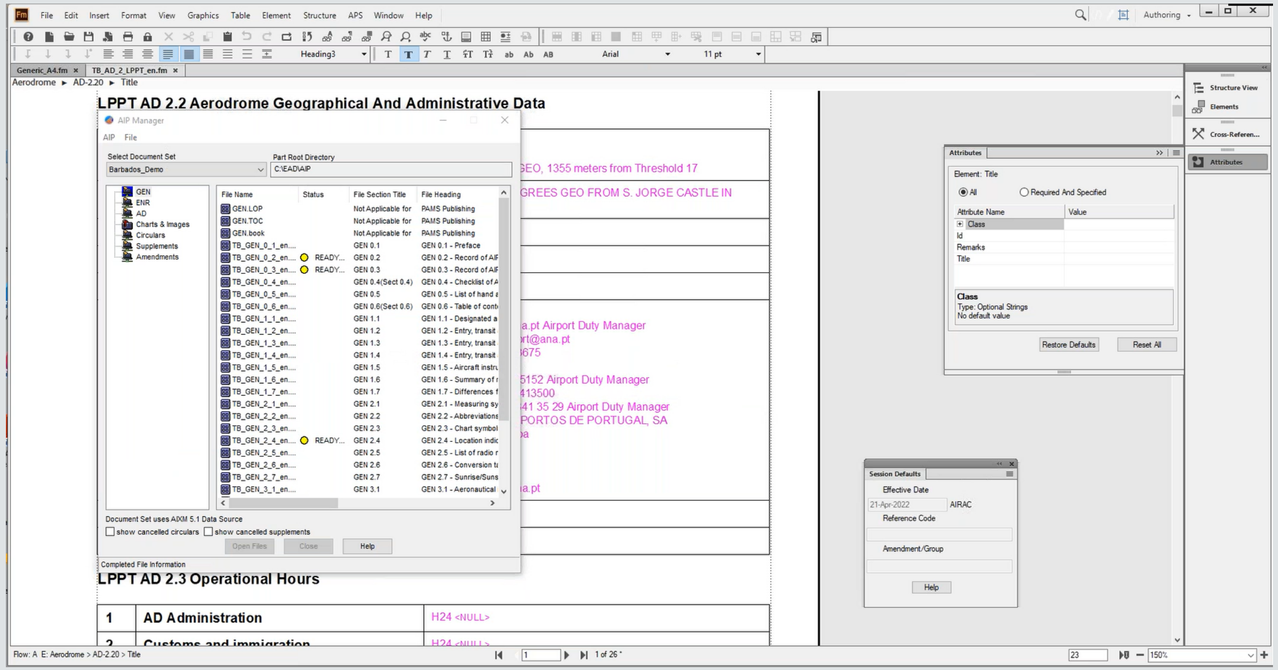
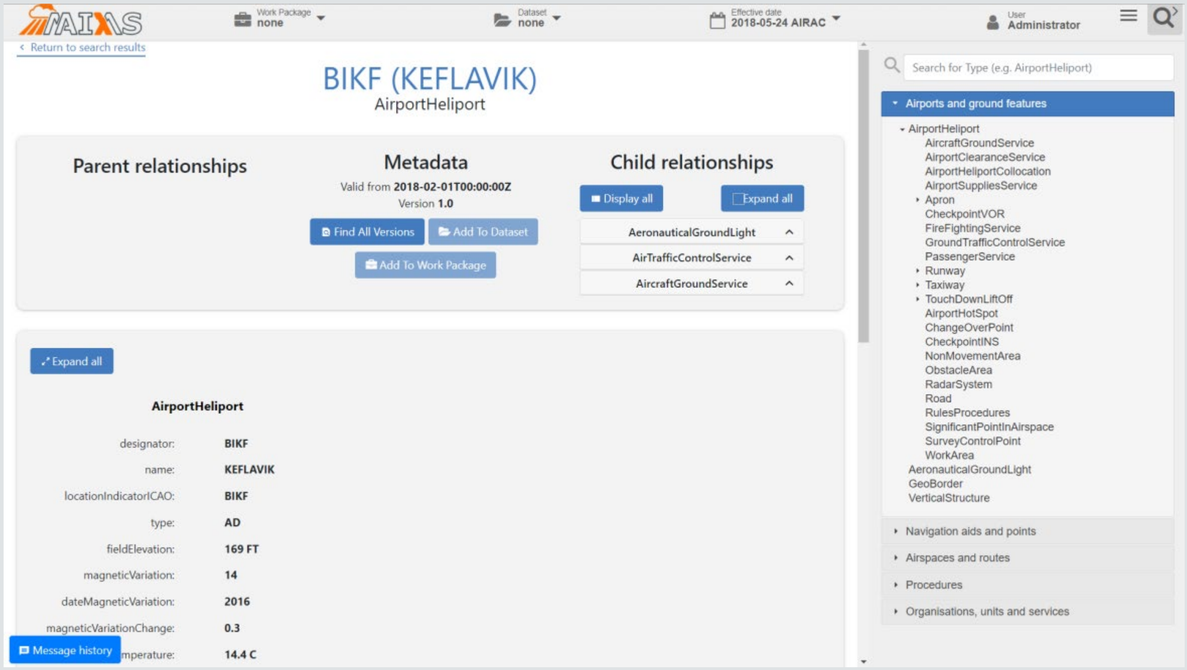
Software eAIP & AIXM

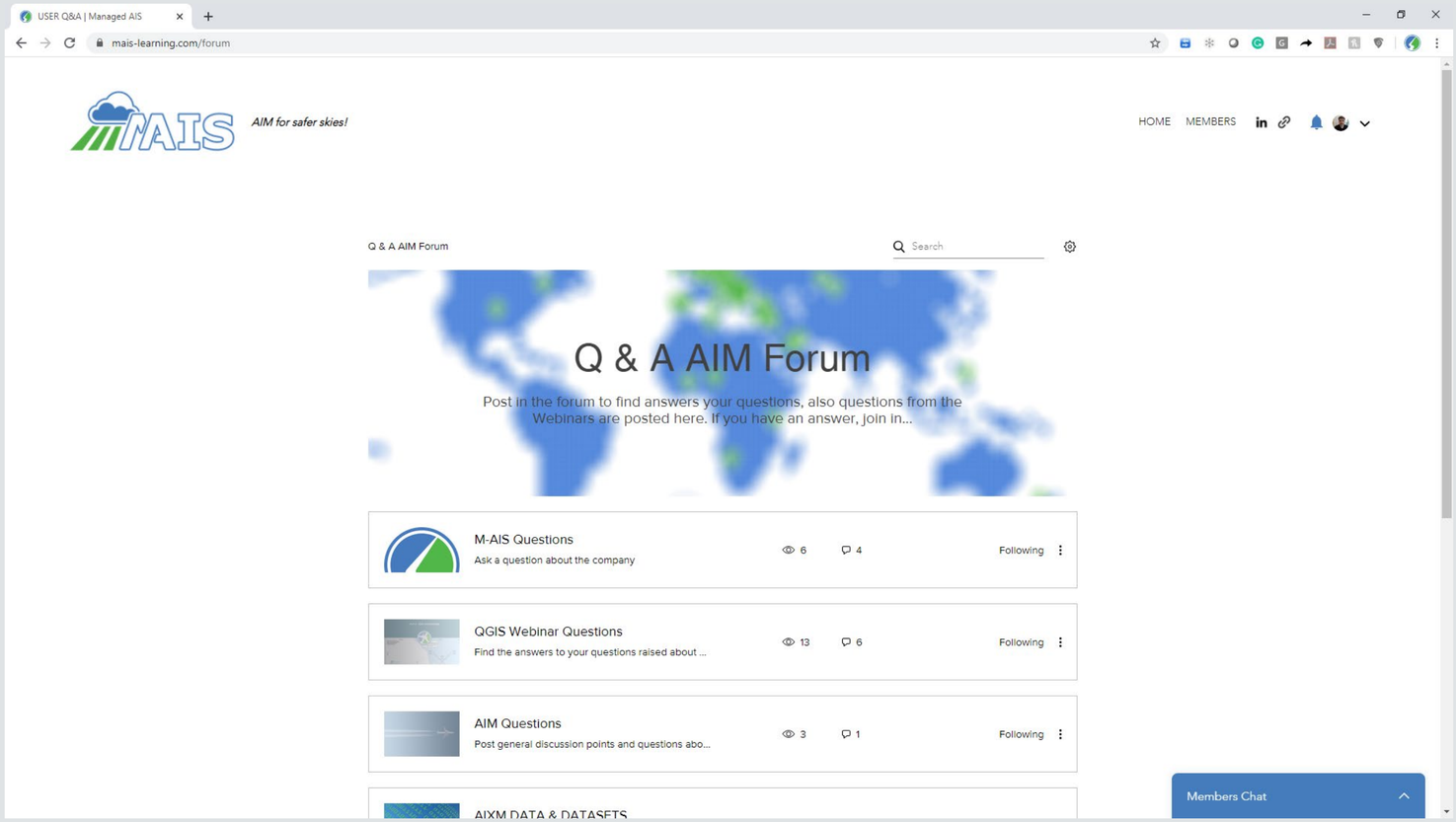




https://www.m-ais.com/

Additional resources and Forum

MAIS-LEARNING.COM



https://www.mais-learning.com/aim-forum

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