

Aeronautical Information and Charts Authoring and Publishing



Solution criteria

- Data Centric AIXM 5 Solution for Aeronautical Information Management, supporting custom extensions to AIXM model
- GIS – based charting tool, providing geospatial functions
- Structured document processor for AIP authoring
- Bilingual publication support
- Single source of aeronautical data
- AIXM temporality
- Document version control
- Data change impact analysis
- Data consistency checks
- Multiple AIP publication types, ICAO Annex 15 or custom
- Standard ICAO charts or custom
- Fully customisable symbolisation and layout
- Auto-generated tables
- Auto-generated customisable features, including IAP profiles, MSA circle, compass rose, scale bar, labels, symbols
- Automated label placement/deconfliction

Introduction

An increasing number of airspace movements, high requirements for safe performance of air operations and prime importance of navigation data are the key drivers for deployment of a solution to provide comprehensive, up-to-date and authoritative aeronautical information.

The challenge at hand

The evolution of Aeronautical Information Services (AIS) requires an integrated, data centric approach, aligned with the ICAO Roadmap for the transition from AIS to AIM and compliant with ADQ Implementing Rules. All segments of aviation operations from flight planning through navigation to air traffic control, make use of a variety of charts, standardised by ICAO into seventeen different types.

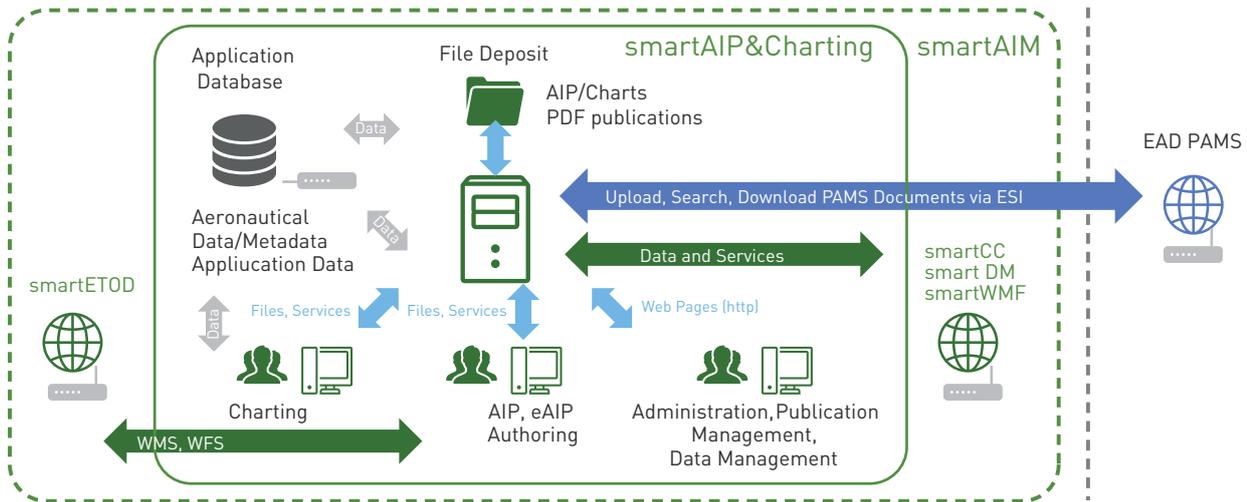
The solution

The data centric paradigm of aeronautical information builds on top of a harmonised AIXM 5 data presentation, processed by corresponding application components, based on Service Oriented Architecture (SOA).

ICAO Annex 4 – Aeronautical Charts - defines the obligations of States to make available certain ICAO aeronautical chart types, and specify chart coverage, format, identification and content including standardised symbols and colour usage.

Frequentis addresses both the need for uniformity and consistency in the provision of a managed aeronautical publication – Aeronautical Information Publication (AIP), including a broad range of aeronautical charts, providing current high-quality information with a wide-range of variety to serve various purposes.

The management and authoring of digital AIP and aeronautical charts based on the AIXM 5 data shall guarantee aeronautical information in easy-to-use publication packages, for both digital and paper formats, including common eAIP or general purpose PDF or georeferenced multi-layered PDF, as well as the publication of ICAO data sets according to ICAO Annex 15 Amendment 40.



Further details about the solution

Frequentis safety-critical communication and information solutions leverage more than seventy years of experience showcasing true leadership in this market. During this timeframe, more than twenty years of AIM-specific experience has built the foundation for shaping this focus within the company. Frequentis supports these users with its interoperable information management components for everyone along the aeronautical digital data chain, increasing efficiency and quality in automated data handling from data origination at airports to data ingest of airlines. Since 2003, the European AIS Database (EAD), owned by EUROCONTROL and developed by Frequentis, has provided a cross-border, high-quality service for dynamic and static aeronautical information.

An Aeronautical Information Publisher (AIP) tool provides all of the means necessary for the creation and editing of aeronautical publications such as AIPs, eAIPs, supplements, amendments and circulars. The automated publication generation process ensures that the requirements of the organisation are addressed and managed by workflows. This allows users to automatically populate publications with the latest aeronautical information while keeping all controls, validations and approvals in the hands of respective stakeholders. The document management component handles multiple publications with multiple temporal versions. The system automatically selects the appropriate temporal data version based on the effective date.

In order to handle tabular data efficiently, a flexible table generator not only generates standard tables automatically, but also makes it possible to easily and effortlessly redefine custom table definitions that access data directly from the AIXM database or perform custom data processing and transformation tasks.

Multilingual support comes from both dual-flow AIPs (side-by-side language versions) and publications where different languages appear in single flows. Consistency is ensured by linking to common data features. If an aeronautical feature is updated in the database, it is automatically updated in all language versions of the publication.

Publication management components give the user considerable control over publications and their content. This setup makes it possible to separate the publication assembly and authoring roles. Document management allows handling of multiple publication types with full temporal version control.

Another important feature is the integration of text with graphical contents (charts) in the overall publication solution. Both text components and charts are handled as items in a publication tree. Graphical products can be easily linked with the textual components of a publication. The publication engine automates publication in XML, HTML (eAIP), PDF and publication to PAMS.

FREQUENTIS

FREQUENTIS AG
 Innovationsstraße 1
 1100 Vienna, Austria
 Tel: +43-1-811 50-0
 www.frequentis.com

The information contained in this publication is for general information purposes only. The technical specifications and requirements are correct at the time of publication. Frequentis accepts no liability for any error or omission. Typing and printing errors reserved. The information in this publication may not be used without the express written permission of the copyright holder.