



Digital AIM Products

ROUTE FOR SUCCESSFUL IMPLEMENTATION

GroupEAD

FROM PAPER TO DIGITAL

The history of paper is a fascinating journey that traces back over two millennia. Originating in ancient China, this invention revolutionized the way information was stored and disseminated, as it provided a more convenient and versatile alternative to earlier writing surfaces.

**As paper spread across the world,
it became the primary medium for
creating and preserving knowledge.**

Paper was used as a standard for long time since then, however, in our time, we have witnessed the transition from physical paper books to digital presentations a shaped by the advent of the digital age. With the creation of the World Wide Web and the rise of portable electronic devices like e-readers and tablets, reading and sharing information have become more efficient and environmentally friendly, resulting that today, vast digital libraries and databases, provide millions of titles and resources at the fingertips of anyone with an internet connection.

“CONVENTIONAL vs DIGITAL” IN AIM

The Aeronautical Information Service was not the exception in this digitalization process. The conventional AIS products, like AIP, Supplements and AIC, use text and graphics as tools for information exchange between humans. But what if the information has to be exchange between computers, and then shown in friendly formats to humans?

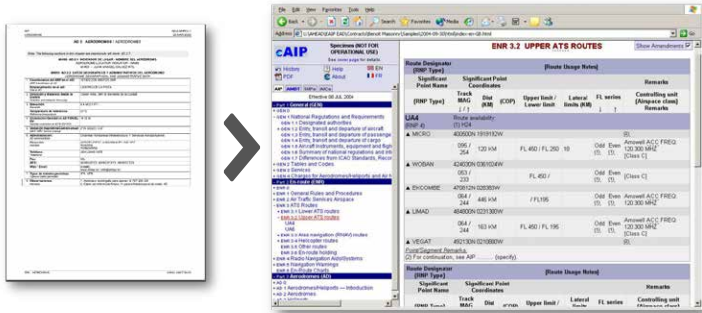
These formats are ideal for reading and understanding complex ideas, but they can be difficult to process and analyse by automated systems. Additionally, updating or modifying the content of these documents can be time-consuming, and searching for specific information within them may not always be efficient.

The emergence of digital products in the form of data sets response to the need of machine processing and analysis of aeronautical information.” They consist of structured, organized data, stored in databases or other data management systems. This structured organization allows for easy querying, filtering, and analysis of the data using computer algorithms and applications.

Digital data sets can be easily updated, manipulated, and combined with other data sources, making them highly versatile and adaptable.

**The primary difference between
conventional and digital products lies
in their intended use and presentation.**

AIP vs EAIP



Over the years, the AIP has evolved to keep pace with the growing complexity of the aviation industry. It has transitioned from printed to electronic formats, with most of the countries now offering electronic AIPs (eAIPs) that are more easily accessible and updated more frequently.

Is the eAIP an AIM digital product?

Although the eAIP is indeed a digital version of the conventional AIP where there might be some data processes involved in its production, its primary focus remains on human-readable content, with text, images, and charts organized in a structured layout.

The primary focus of the eAIP remains on human-readable content

In other words, it is still a representation of the AIP which is considered by ICAO as an AIM Product in "Standardized Presentation" therefore not fully complying with the definition of an AIM Digital Product.

AIP vs DIGITAL DATA SETS



Digital data sets, on the other hand, are collections of structured, machine-readable aeronautical data that can be easily processed, analysed, and integrated with other data sources and software systems.

These digital data sets adhere to specific data models and formats, such as the Aeronautical Information Exchange Model (AIXM), which allow for efficient data exchange and interoperability among various systems, taking into account that Digital data sets are designed to support advanced applications, such as flight planning software, air traffic management systems, and other decision-making tools within the aviation industry.

The primary difference between the AIP and digital data sets, lies in their intended use and format.

NOTAM vs DIGITAL NOTAM

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G.../22 NOTAMN
Q)LSAS/QIRLC/IV/NBO/A/000/999/4727100833E005
A)LSZH
B)2205010000
C)2205312359
E)Rwy 10/28 CLOSED DUE TO RUBBER REMOVAL
EQUIPMENT AND VEHICLES MOVING ON AND IN THE VICINITY OF THE RWY.
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A conventional text-based NOTAM can sometimes be difficult to read, interpret, and integrate with other systems due to the dense nature of the text and the use of numerous abbreviations.

Digital NOTAM, on the other hand, is a modernized approach to sharing NOTAM information using a machine-readable format, what enhances the ability to filter, sort, and display NOTAM information more effectively, reducing the risk of human errors in interpreting the information and improving overall situational awareness.

Digital NOTAMs utilize structured data models, such as AIXM, which enable efficient processing, analysis, and integration with other data sources and aviation systems.

The primary difference between conventional NOTAM and Digital NOTAM lies in their format and usability.

Conventional NOTAMs are primarily designed for human consumption, while Digital NOTAMs are machine-readable data that can be more easily processed and integrated into various aviation applications.

With the future implementation of the Digital NOTAM and SWIM, the ePIB can be also further enhanced to include the retrieval of the digital aeronautical data, including NOTAM, Digital NOTAM, Flight data and MET data.

The ePIB will also support the graphical representation of data such as meteorological charts, as well as increase the usability of briefing material by making it searchable and interactive. In addition, relevant information can be selected more easily from digital data compared with briefing notes which may include sometimes tenths of pages for cross-continent flights.

PIB vs EPIB



Real-time simulations assessed enhancements in pilot briefing applications based on digital NOTAMs, digital MET, and air traffic flow management data, with the aim of improving situational awareness for pilots and reducing briefing times.

CONVENTIONAL vs DIGITAL AIM SERVICES

A PIB is a traditional paper-based document, while an ePIB, or electronic Pre-flight Information Bulletin, is the digital version of the traditional PIB. It provides the same critical aeronautical information as the PIB but in an electronic format that can be accessed on various devices, such as computers, tablets, and smartphones, it offers, therefore, improved accessibility, customization, real-time updates, integration with other tools, and environmental benefits.

So far, ICAO has defined the Aeronautical Information -conventional- Services as: Distribution Service, Pre-flight information service and Post-flight information service.

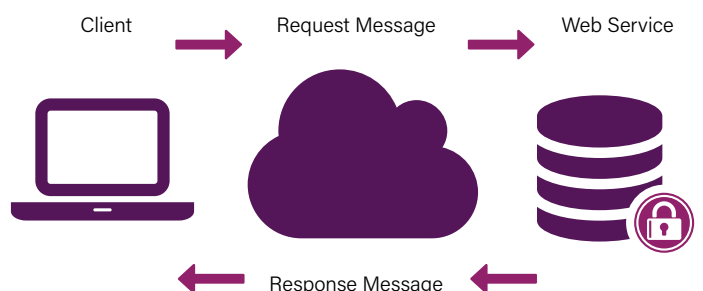
The conventional AIS Service focuses on providing aeronautical information in paper-based or static electronic formats, designed primarily for human consumption.

Digital AIM Services, however, will utilize structured, machine-readable data formats that offer improved accessibility, efficiency, integration, and customization.

The primary difference between a PIB and an ePIB lies in their format and delivery method.

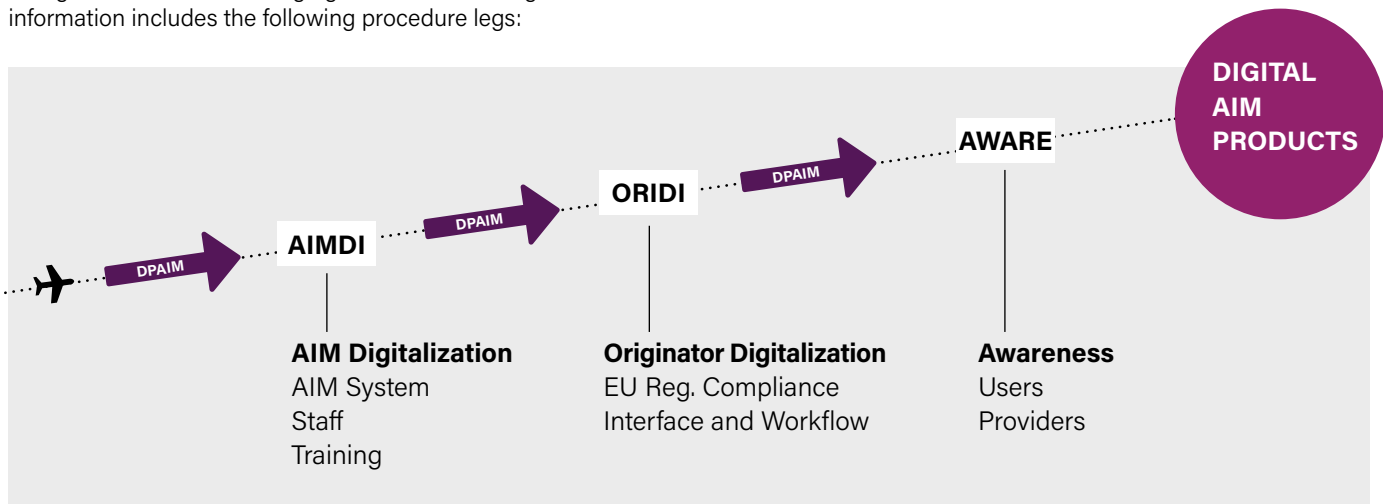
There will be various ways to provide Digital AIM Services, including web-based platforms, mobile applications, web services and APIs, integration with Electronic Flight Bags (EFBs), data subscriptions and feeds, collaboration tools, virtual and augmented reality, and customized dashboards and analytics.

These methods aim to improve accessibility, efficiency, and user-friendliness of aeronautical information, enhancing safety and decision-making in the aviation industry.



ROUTE FOR IMPLEMENTATION OF DIGITAL AIM PRODUCTS AND SERVICES

Our proposed route to successfully implement Digital AIM Products and Services, ensuring a smooth transition from traditional to digital methods of managing and disseminating aeronautical information includes the following procedure legs:



DEP – AIMDI

- Assess current infrastructure and processes
- Define requirements and objectives
- Procure and implement an AIM system
- Train staff and stakeholders

AIMDI – ORIDI

- Develop and implement interfaces and workflows
- Digitalize data originators (e.g. Aerodrome operators)
- Monitor and evaluate progress

ORIDI – AWARE

- Engage with users and providers to raise awareness of the new digital AIM products and services.
- Continuously improve, implement user feedback and lessons learned.

NEED HELP IMPLEMENTING THE AIM DIGITAL PRODUCTS IN YOUR ORGANIZATION?

Transitioning to AIM digital products is a complex process involving infrastructure adaptation, technology integration, and staff training.

GroupEAD supports the AIM community with consultancy and training, helping organizations successfully navigate the digitalization process, improve efficiency, accuracy, and safety in aviation, and embrace advanced AIM systems with confidence.



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Contact us at info@groupead.com and let's define together an efficient and successful roadmap towards the implementation of the AIM Digital Products and Services in your organization.

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