

CRONOS

Dynamic Data Management

» CRONOS is a modular, web-based platform designed to manage dynamic aeronautical data across AIS and MET domains.

Its flexible architecture supports both traditional messaging and modern SWIM-enabled digital services, ensuring scalability and future readiness.

Key highlights

- **Dynamic Data Management:** Web-based solution for managing aeronautical information in AIS and MET environments
- **Comprehensive Modules:** Supports digital and traditional NOTAMs, Flight Plans (FPL), ATS messages, OPMET data, and Pre-Flight Information Bulletins (PIB)
- **Dual-Mode Operation:** Exchanges traditional messages via AMHS/AFTN and distributes digital events through SWIM REST services and B2B Gateway
- **Flexible and Extensible Architecture:** Modular design allows adaptation to current operational needs and future expansions
- **High-Performance Dynamic Database:** Centralized, high-availability datastore supporting all types of aeronautical dynamic information



» Figure 1 CRONOS User interface

CRONOS Users and Interface

Users interact with the system using CRONOS web portal, that is automatically resizable to best fit on several devices (desktop, tablets). The 3D-Web-GIS environment enables collaborative decision making without compromising security, bringin uniformity to ground data networks.

External Users:

- Pilots
- Flight Dispatchers
- TAM Originators
- Aerodrome Operators

Internal users:

- ARO Operators
- NOF Operators
- MET Operators



» Figure 2 Airspace ePIB output

Operational Modules

FPL Module

- Wizard-driven creation of Flight Plans and Repetitive Flight Plans.
- Automatic routing validation, addressing calculation, and map based route construction.
- Built in workflow for FPL proposals, approvals, and version tracking.

NOTAM Module

- Guided creation and validation of NOTAM messages, linked NOTAMR/C, and geometry creation.
- Dedicated checklist management and complete proposal workflow for originators and operators.
- Supports ICAO-compliant Digital NOTAM creation using EUROCONTROL event schemas.

OPMET Module

- Creation of OPMET messages and automated handling of MET bulletins.
- Query tools for national and international weather data and chart retrieval.

Briefing Module (PIB)

- Creation of aerodrome, area, route and administrative PIB formats.
- Automatic PDF scheduling and distribution via email or FTP.
- ePIB visualization for enhanced pre flight situational awareness.

Integration & Interoperability

Standalone or with IDS AirNav Suite

- Integration with Aeronautical Database (AIXM 5 compliant) ensures consistent, validated static AIS data.
- Data Originator Portal enables submission of static data changes and NOTAM proposals through PLX task management.
- IAM (Identity Manager) integration for centralized user management.

With AMHS Systems

- Compatible with any market AMHS solution.
- Seamless interaction with Ubimex that ensures smooth integration between legacy AFTN systems and modern AMHS, providing full interoperability and bidirectional compatibility in compliance with ICAO and Eurocontrol standards.

SWIM-Ready Architecture

Supports digital event distribution, B2B interfaces, and ICAO data models (IWXXM, FIXM, AIXM).

- **Operational Efficiency:** streamlines workflows by encoding aeronautical data once at its source, reducing redundancy and ensuring system-wide data integrity
- **Enhanced information management:** filtering and visualization tools minimize information overload and support decision-making.
- **Improved pre-flight briefing:** Generates structured ePIBs, organized by feature or criticality, enriched with charts and images to improve situational awareness.
- **SWIM-Enabled Architecture:** designed to allow integration with SWIM and B2B Network Manager (Eurocontrol), allowing global interoperability.
- **High Flexibility & Standards Compliance:** manage, support, exchange and translate the last models into ICAO standard format for operator readability and usage (IWXXM, FIXM and AIXM).
- **Accessibility:** web-based responsive solution enabling internal and external users to send and manage data from every device.