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CRONOS

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Dynamic AIM System

CRONOS is a very innovative product, designed from the ground up as a digital dynamic AIS, ATS, and MET management system, a step ahead of the upcoming ICAO and Eurocontrol specifications. A set of web-modules for the management of aeronautical, air navigation, and meteorological data with features such as embedded modularity and extensibility meet the specific requirements of today while allowing for future enhancements and expansions for tomorrow. Based on the latest available web-technology, fully integrated with the IDS AirNav Suite, which is based on an AIXM 51 compliant aeronautical database, CRONOS provides further functionalities to manage traditional TAM messages, Digital NOTAM packages, OPMET data and Weather charts, iWXXM packages, Flight Planning data, and Pre-flight Information Bulletins (PIB). The CRONOS platform can be connected to multiple communication networks of different types (AFTN, AMHS, Web Services, APIs, EAD Service Layer, NM, email, ftp) to receive real-time aeronautical and weather information with confidence and dispatch integrated and automated Pre-Flight Information Bulletins over different network communication patterns (s-FTP, e-mail, APIs). CRONOS can be configured as a standalone product or can be integrated within the IDS AirNav Suite.

CRONOS Web-UI

Users interact with the system using CRONOS web-portal, that is automatically resizable to best fit on several devices (desktop, tablets). The CRONOS Web-UI provides several modules for:

- TAM (NOTAM and Digital NOTAM, SNOWTAM, ASHTAM) management
- Flight (ATS, AFTCM, IFPS) management
- MET (OPMET, Weather Charts, iWXMM) management
- Full integrated Briefing (Pre and Post Flight) management
- SDO (world-wide or national AeroDB geography) data consultation
- EAD PAMS Products (Publications, eAIS packages, Charts) consultation and download

A key characterstic of CRONOS portal is the visualization and interaction with its managed data with a rich 3D-Web-GIS responsive environment, to help enabling collaborative decision making, without compromising security, and to bring uniformity to ground data networks. Web based applications are a must-have in any enterprise level solution, as it enables Users to access their system services from any networked device (computer or tablets) regardless of the location or operating system and with no local software installation.

Dynamic DB

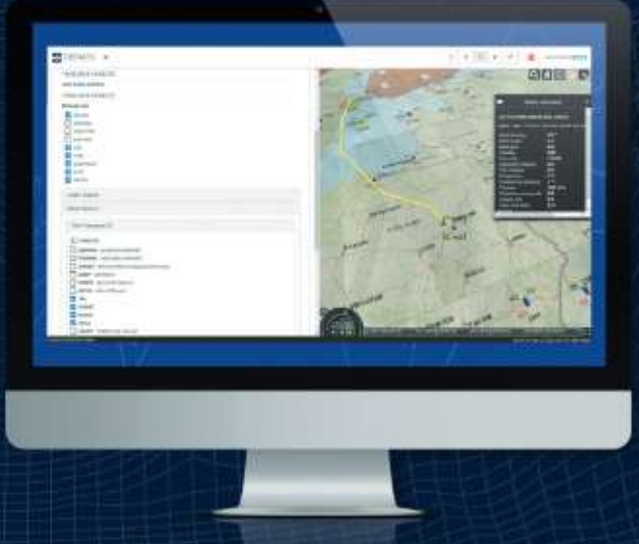
CRONOS Dynamic Database is the core of the system. It is a high-performance and high-availability datastore, forming a single platform and fully integrated with IDS AirNav AeroDB, for the management of all types of dynamic aeronautical, flights, and weather information.

SDO Baselines and Updates

IDS AirNav AeroDB serves as a national validated repository of static AIS data in compliance with AIXM51 standards. This data is shared with CRONOS for the composition and validation of dynamic AIM information, ensuring a high level of data integrity. AIXM Snapshots, ARINC or DAFIF datasets can be off-line imported into CRONOS DB by means of SDO-Importer tool, to have a worldwide repository of aeronautical data, merged together with national datasets coming from AeroDB. The provision of an always updated aeronautical briefing information service dictates the further need to have always updated SDO data, and CRONOS makes use of Eurocontrol Network Manager web-services to always merge AIXM updates data into CRONOS Navigation database (NavDB).

CRONOS Web-Services

Lessons from the european SESAR SWIM experience has brought CRONOS to an additional asset value: (Web) APIs including HTTP(s), REST, SOAP (and well supported open-standards) that are available for data exchange in a secured manner.



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Benefits

- **Increased Efficiency:** the information is encoded only once, at the point of origin. For the end user, using a digital platform will enable radical improvements in information filtering capabilities, in stopping information overload and in reducing the time spent on analyzing irrelevant information.
- **Consistent Quality:** with digital information, it is possible to put in place exhaustive and cost-efficient data validation and evaluation procedures. For example, the unavailability of a critical navaid could immediately trigger incremental PIB notifications to pilots with affected flight plans.
- **Better pre-flight briefing:** in a digital aeronautical information platform it is possible to structure PIB by applying human factor principles that maximize the transfer of information to the pilot's working memory. For example, information can be grouped by feature affected or ordered by the criticality of the information. It can include images, weather charts and a structure that facilitate reading and create a clearer picture of a situation which could affect a pilot's flight.
- **Innovation:** by embedding a digital NOTAM platform, CRONOS is a cutting edge system, but with immediate practical benefits for the end users. It will bring new value to investments made in recent years (such as the European AIS database, which delivers static data in digital format).
- **Data Quality:** by allowing Pilot Users or Regional Sites or Entities to request and propose Proposals of Flights or Aeronautical Events onto a digital platform, any modification changes is tracked from the point of data origination to the information distribution
- **AIREON READY SOLUTION:** cronos is able to use aireon ads-b data for different support function providing a further level of safety and optimization of the FPL based on real time or historical data

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