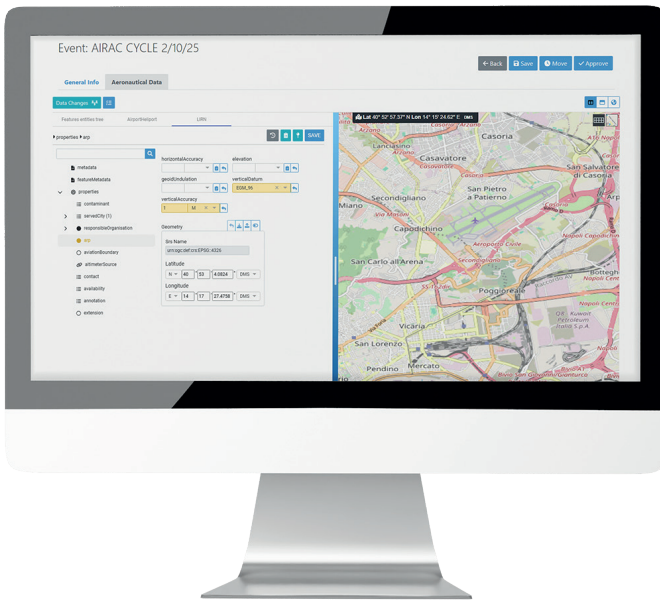


# AeroDC

## Aeronautical Data Core

» The AeroDC Data Maintenance Framework is IDS AirNav’s new-generation environment for managing static and dynamic aeronautical information. Built on a unified data model and an event-based architecture, it ensures consistent, high-quality, and interoperable aeronautical data across the entire AIM ecosystem.

The framework supports the full lifecycle of aeronautical information - origination, editing, validation, storage, publication, and distribution - and provides the foundation for future digital AIM services and SWIM-compliant data exchange.



» Figure 1 Data Editing



» Figure 2 Data Changes History

### Key Features:

- **Unified Aeronautical Data Model:** a single authoritative data core (AeroDC) for all aeronautical features, supporting temporality, versioning, and full traceability.
- **Event-Based Editing & Temporality:** modern data maintenance approach where each change is captured as an event.
- **Advanced Validation & Rule-Driven Integrity:** built-in rule engines ensure data consistency, integrity, and alignment with ICAO, EUROCONTROL and AIXM standards.
- **High Interoperability with AIM Ecosystem:** native support for AIXM 5.x, GeoPackage, and web services for seamless integration with design tools and publication systems.
- **Scalable Multi-Product Integration:** full integration with IDS AirNav Suite
- **Continuous & On-Demand Update Mechanisms:** automatic synchronization with operational databases, ensuring real-time alignment and controlled updates.

## Modular Architecture

The Data Maintenance Framework is built on a modular, service-oriented architecture designed for scalability and extensibility:



## Operational Benefits

High Data Quality & Compliance: ensures adherence to international AIM standards with automated integrity checks, robust temporality management, and structured change workflows.

- **Operational Efficiency:** eliminates manual interventions through automation (event propagation, validation, update synchronization) and intuitive user interfaces.
- **Interoperability & Future-Proofing:** built to support modern data exchange ecosystems, enabling seamless integration with external stakeholders, and SWIM infrastructures.
- **Minimized costs:** eliminates reliance on third parties components and streamlines maintenance across multiple AIM tools.
- **Consistent, Single Source of Truth:** unifies all aeronautical data into one authoritative environment, reducing discrepancies and ensuring consistency across all operational products.

## Functionalities

- **Advanced Temporality & Version Control:** support for multiple instances management at the same effective date with activation/deactivation.
- **Automated Data Validation:** rule-based checks, topology validation, constraint enforcement, and cross-feature consistency analysis.
- **Event-Driven Change Management:** all modifications captured as events, enabling traceability, rollback, and alignment with operational workflow.
- **Data Conversion & Interfacing:** import/export in AIXM, GeoPackage, XML, and other interoperable formats (integration with legacy data sources when required).
- **Dataset Generation & Distribution:** production of AIP datasets, AIXM exports, and SWIM-compliant data services for internal and external consumers.