



# EAD Evolution

## Introducing EAD Release 6

### Network Management

Since the European AIS Database (EAD) started operations in 2003, both the available services and systems have been extended and kept up to date through a well defined series of software releases. Each EAD Release incorporates a major upgrade of the services and systems and sees implementation every 12 to 16 months. Other changes, most often based on operational requirements while not affecting the core structure of the system, are covered in Extensions within a Release around every 4 to 6 months.



Up until now, SDO for example evolved in 2007 through these processes from its initial AIXM version 3.3 to AIXM 4.5;

while INO has developed from an initial NOTAM application to a fully matured product used by many EAD Data Providers in the ECAC region. However, the increasing need for dynamic updates of data will bring "static" and "dynamic" data closer together than ever before with the digital NOTAM challenging the original ICAO concept. Additional regulatory requirements coming from ADQ and INSPIRE will drive the future developments of the EAD even further.

Future systems, for use by Data Providers and Data Users, will no longer work in isolation, requiring access to a common data source. EAD/SDO is the recognised repository of aeronautical and airspace data, maintained by the ECAC States' Data Providers. The completeness of this data in EAD is important to avoid dissemination of the data while being used operationally by Data Users the world over.

As such, the new Release of the EAD, Release 6 (R6), will bring the EAD another step further in its development, preparing the database for the important, phased implementation of SDO to AIXM 5.1 later this year. This brochure provides a high level overview of the most important changes implemented with R6, including INO, SDO functions in the Graphical Tool, the AIP Production Tool as well as the Basic Software.

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## Other INO DP improvements

Further improvements to the INO DP service include:

- Activation of the multi-language NOTAM parts, implemented with R5E4, for ESI clients
- SNOWTAM validation enhancements, further improving the SNOWTAM creation and processing
- Briefing Box integration, providing the possibility of sending and receiving AFTN messages via the Briefing Facility instead of the MHS connection
- Improvements for NOTAM proposal handling



## INO service for Data Users

### GEO Viewer

As a new element, the Geo Viewer allows users to display static data during data user actions and is capable of visualising SDO entities (aerodromes, routes, NAVAIDS etc.) as well as shapes like centre points / radius, polygons and combined geometries like narrow route shapes. It refreshes automatically based on user actions in INO DU. The Geo Viewer can be started from any of the following screens through a dedicated icon: Aerodrome PIB, Area PIB, Route PIB, Narrow Route PIB, Route Management, New FPL and the FPL dialog screen.

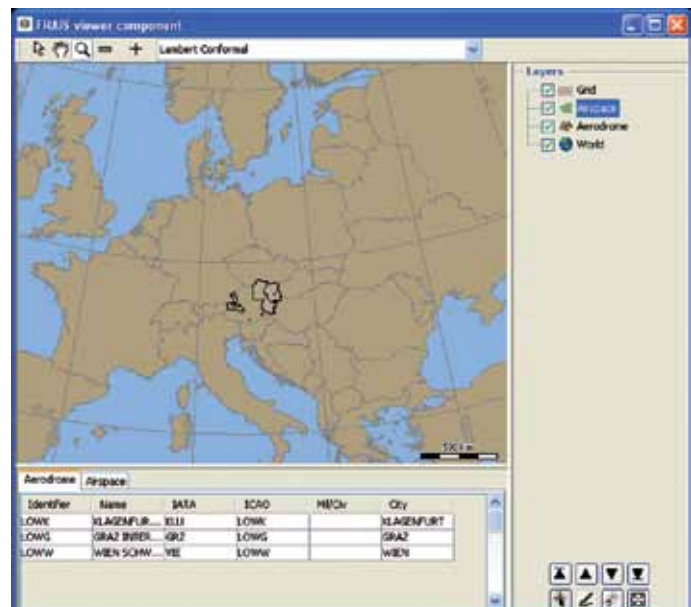


Figure 3 INO DU – Geo Viewer

# FPL capability and new Web HMI for public user Websites & FPL with type

This change will provide public user web sites with flight plan capability through a link that is built between Briefing Facility application and the user web site. The new capabilities allow the user to:

- Automatically derive list of FPLs relevant to the user based on login. User will be able to see the FPL status (saved, pending, active or rejected).
- Save the flight plan or flight plan template for later processing or use.
- Send the flight plans to IFPUV and display the validation result.
- Send the flight plan to the ARO for further processing (after this step the flight plan will appear in the list of the ARO).
- Send a cancellation message for the active flight plan.
- Send a delay message for the active flight plan.
- Send a change message for the active flight plan.

The representation will include a notes field. This field is optionally filled by the ARO for each of the follow up messages sent by the ARO.

Figure 4 Custom Websites: New FPL

With the addition of new web capabilities of the Briefing Facility, a new source of flight plan proposal is available for ARO using the Briefing Facility – FPLs submitted via webpage. This change integrates the “Internet” FPLs into

## Other INO DU improvements

Change to the ESI part of the Polygon Based Filtering Capabilities of the Special Area PIB, already introduced with R5E4, are now enabled for the ESI users. Furthermore, with R6, The INO DU via ESI will be enhanced with the functionality to automatically resolve cases of ambiguous

Figure 5 BF – FPL List, Internet FPL “Item I”

the Briefing Application including mechanisms to give feedback to the end user.

As such, all FPLs received via webpages will be automatically identified in the FPL List with dedicated Column/Icon. Also, new distribution configuration is added to indicate which follow up messages shall be delivered to the end user in form of an email or SMS. This configuration can be defined for each single client. The following workflow is proposed for this new function:

- A website user uses the webpage to create a new FPL
- FPL is displayed in the Briefing Facility with the Internet indicator in front. The state of FPL is “saved” (inactive)
- The ARO operator opens the proposal according to the procedures and chooses either: reject, modify or distribute the FPL.
- Each change of state is displayed in the corresponding flight plan list of the website user and can be commented by the operator.
- Once the FPL is distributed, the website user can propose to delay or cancel the FPL.
- This action will lead to an important notification in the Briefing Facility List. The ARO operator can then choose to send the related message (DLA or CNL) or to reject the proposed action with a comment.

The Internet mode of the Briefing Facility application is only available for organisations with an Internet FPL enabled.

route element situation (e.g. two points located closely to each other). The route validation shall not provide an error via ESI, but automatically resolve the ambiguity by choosing the first point and continue with the route validation.

# Graphical Tool

A number of interesting new features are added to the SDO section of the Graphical Tool with Release 6, making it even more useful for both Data Providers (GV - graphical validation of data) and Data Users (GR – graphical reporting). This section provides an overview of the most important changes. A detailed description can be found in the Release Content Documentation, available on [www.eurocontrol.int/ead](http://www.eurocontrol.int/ead)

## SDO GV/GR - Extended list of pre-defined queries

Procedures are now added to the list of pre-defined queries for NAVAIDS and Designated Points. It will therefore be possible in SDO GR and SDO GV to query which SID, STAR or IAP a NAVAID or Designated Point is associated with. The menu structure for this enhancement will be:

Query --> Predefined --> Navaid --> all Navaid:

or

Query --> Predefined --> Point --> Designated Point:

- IAP based on (related Navaid or Point)
- SID based on (related Navaid or Point)
- STAR based on (related Navaid or Point).

Predefined Queries will also be extended for Stopway with the following available possibilities: based on Runway Centre line where the corresponding Stopway is retrieved, based on Stopway where the corresponding Airport is retrieved and again based on Stopway retrieving all other Stopways from the same Airport.

The layers created based on such a predefined query will be named:

- RWY Centre Line Associated Stopway
- Stopway Associated Airport
- Other Stopways Of Same Airport

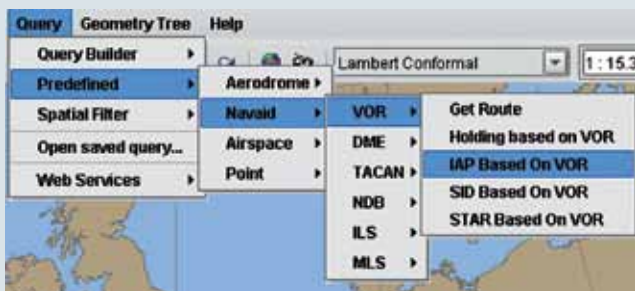


Figure 6 SDO GV/GR – Predefined Query Navaid



Figure 7 SDO GV/GR – Predefined Query Stopway

## SDO GR - Dockable Panels

The dockable panels functionality which is already available in SDO GV will be also applied to SDO GR. The following components will become dockable (position of the component can be changed by user):

- Layer List Component
- Map Legend / Map Overview

- Tabular View
- Altitude slider

The Map, including the main Menu Bar, the toolbar and the redlining bar will remain undockable.

# SDO GR - Altitude Slider for SDO GR

The altitude slider functionality, which is already available in SDO GV, will also be applied to SDO GR. A slider will be available where the max and min altitude can be selected and only this airspace is drawn on the map whose upper and lower limit intersects or are within the max and min value of the slider.



Figure 8 Altitude Slider for SDO on Dockable Panel

The user will have the ability to specify the upper and lower limit either by inserting the value into the input fields or by dragging the arrows directly in the slider. Additionally, the user will have the possibility to specify the unit of the upper and lower levels with a drop down list - the available units being FL, FT, M and SM. By switching the unit, the level indication in the slider is automatically adjusted.

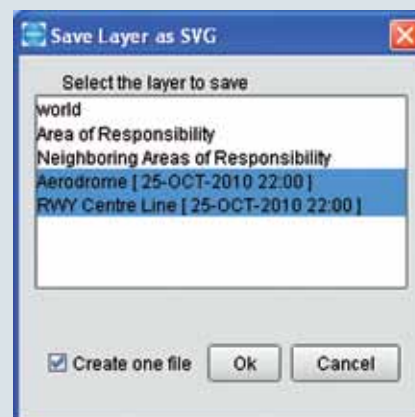
The Altitude Slider is applied for all available airspace queries (all airspace queries which are listed in the Layer list). The status (colour) of the "ALL" button is also applied for all airspace queries - so if in all airspace queries/layers there are no airspaces without specified upper and/or lower limits the font colour of the button will not be in red.

## Other SDO GR/GV enhancements

In the Graphical Validation Tool, GV, the new measurement unit, ft (Feet), will be added to the user preference dialog window.

Another new feature is that the Area of Responsibility will become selectable and with a right mouse click context menu the user will have the possibility to use the shape of the Area of Responsibility as spatial filter. Once that shape of the AOR has been chosen as spatial filter, it can be used for queries and will be treated as a normal spatial filter. It will also be possible to convert a buffer (created with redlining function) into a spatial filter, which can be used for any query.

Furthermore the SVG Export feature in SDO GV will be enhanced to allow users more flexibility in the way they want to export the data of their interest.



# AIP Production Tool

A number of changes will be introduced with Release 6 regarding the AIP Production. These range from technical improvements resulting in reduced working time for Data Providers during the AIP document generation process, to an enhanced document template usability. Also included are the support for non-ICAO tables and subsections, allowing more than one Location Table indicator in a GEN2.4 document.

Further improvements include additional structured table generation tools for AD sections 2, 3 and 4, while additional table generators for AD2.22 will also be included. This change will be implemented to comply with the ICAO requirement to include path terminator information whenever available for all IAP, SID & STAR procedures that are published in the Chart section of the AIP.

Another change will enable FrameAPS users to generate tables that are compliant with the ICAO coordinate resolution. They will also be able to configure the order in which circulars and supplements are displayed within the AIP manager. The same sort ordering is applied in the presentation within the eAIP.

## Basic Software

Basic software comprises the software that allows recognised Data Users through EAD Pro, as well as the general public through EAD Basic, to access the EAD. With EAD R6, the supported web browser version will be Microsoft Internet Explorer 8 (IE8), addressing the scripting issues that existed when the EAD (R5E4) was used with IE8. In addition, the Java version in use will also be upgraded Java 1.6.20.

From Release 6, Adobe Acrobat Reader version 9.2 and FastViewer version 3 will be the versions to be installed in EAD client workstations and used in EAD Installer for EAD Pro clients.

A detailed description of all new functions and features that are being introduced with EAD Release 6 is available in the EAD R6 Release Document that can be downloaded via [www.eurocontrol.int](http://www.eurocontrol.int).

All inquiries regarding the EAD can be sent to:  
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