IDS AirNav
an enav group company

CRONOS OPERATOR

Unit 5 – ATN, MET and Briefing Module

enav group

CRONOS Training

Unit 1

CRONOS Introduction

- General CRONOS introduction
- System overview
- Graphical User interface overview

Unit 2

CRONOS Administration

- Settings
  - Security
  - System Option
  - Location
  - NOTAM Option
  - FPL Option
  - OPMET Option
  - PIB Option
  - Security
  - Distribution
  - Network
  - Database
  - Aircraft
  - Predefined Flight Routes
  - Auditing
  - B2B Subscriptions

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- SDO Feature
- NOTAM
- NOTAM Checklist
- NOTAM Proposal
- SNOWTAM Creation
- SNOWTAM Proposal workflow
- ASHTAM
- Digital NOTAM

Unit 4

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- FPL validation
- FPL distribution
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- ATS proposal workflow

Unit 5

CRONOS ATN, MET and Briefing Module

- ATN Messages
- MET Module
- Briefing Module
- Publications
- Post-flight report workflow
- SDO Browse

Who we are

CRONOS

CRONOS is a dynamic aeronautical information management system addressed to managing aeronautical dynamic data. Its set of web-based modules and modular and extensible features meet current requirements while allowing for future enhancements and expansions. These modules provide digital and traditional NOTAMs, Flight Plans (FPL) and Air Traffic Service (ATS) messages as well as OPMET and Pre-flight Information Bulletins (PIB).

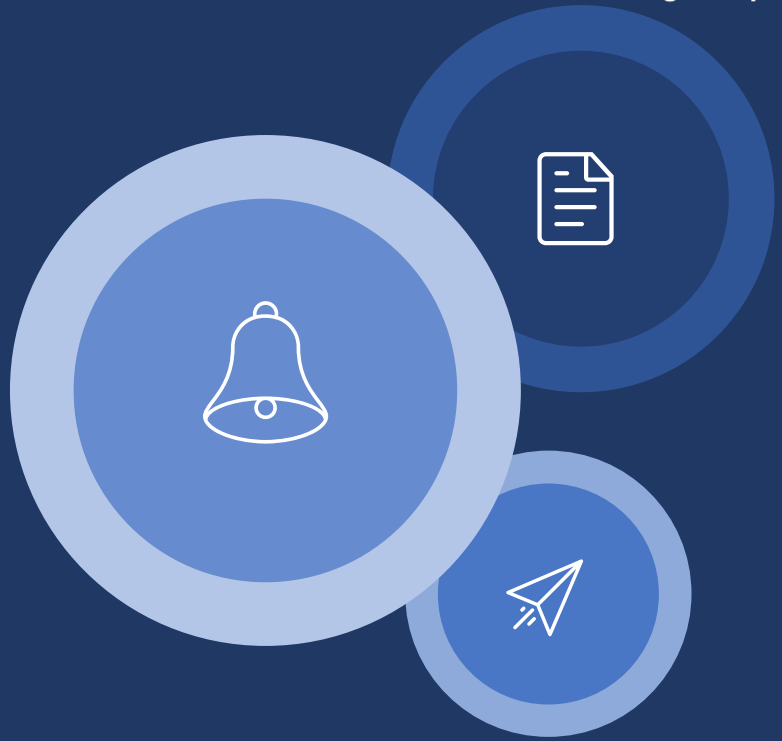
Trainer Name/Surname

Verification & Validation Team
IDS AirNav

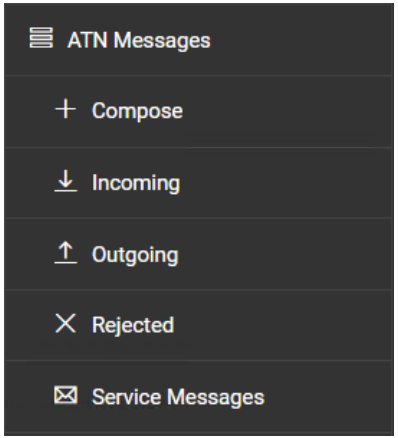
Trainer Mail contact

ATN MESSAGES

AFTN/AMHS traffic



ATN MESSAGES

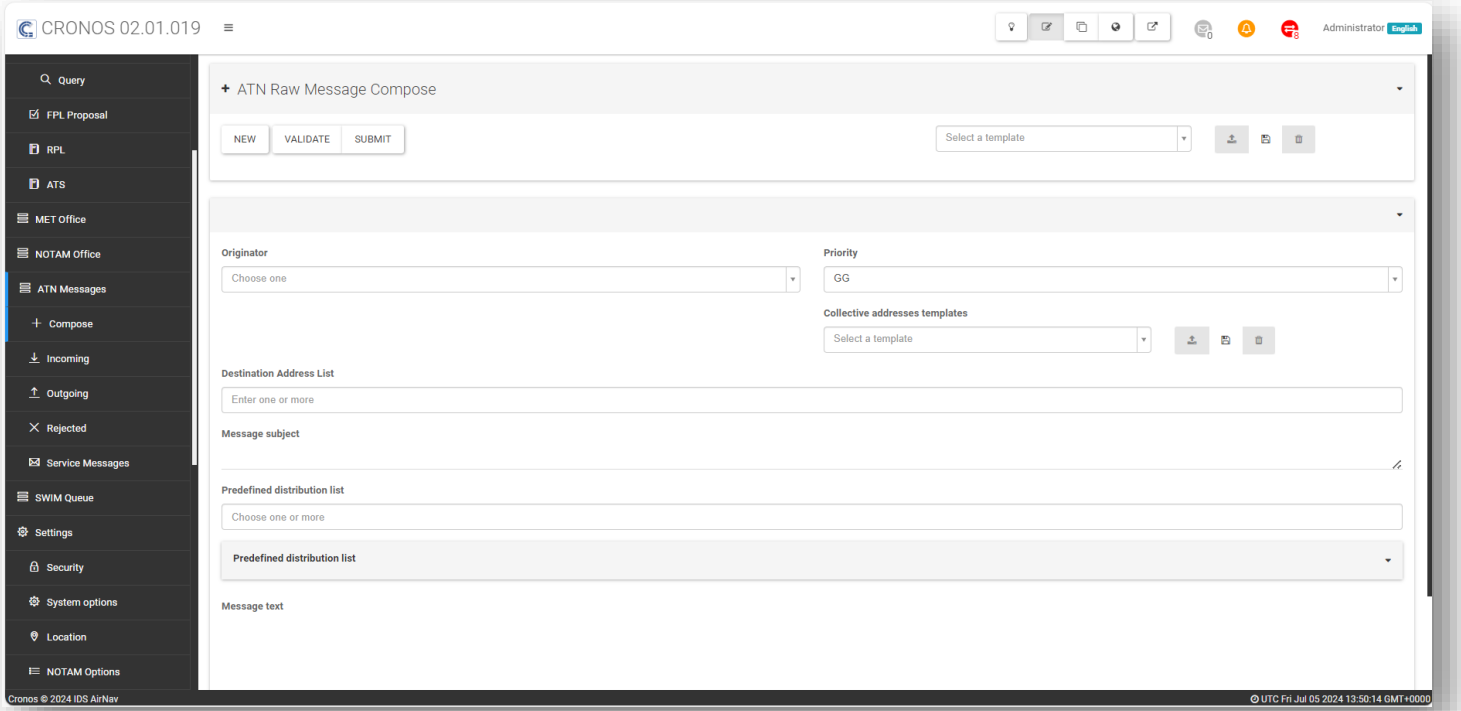


All messagges sent/received via AFTN/AMHS are available in ATN Messages menu.

- **Compose**, allows to send raw text messages;
- **Incoming**, where all incoming messages are available;
- **Outgoing**, where all outgoing messages are available;
- **Rejected**, list of rejected messages exept NOTAMs (that have NOTAM rejected section)
- **Service Messages**, where all servce messages are available.

ATN COMPOSE

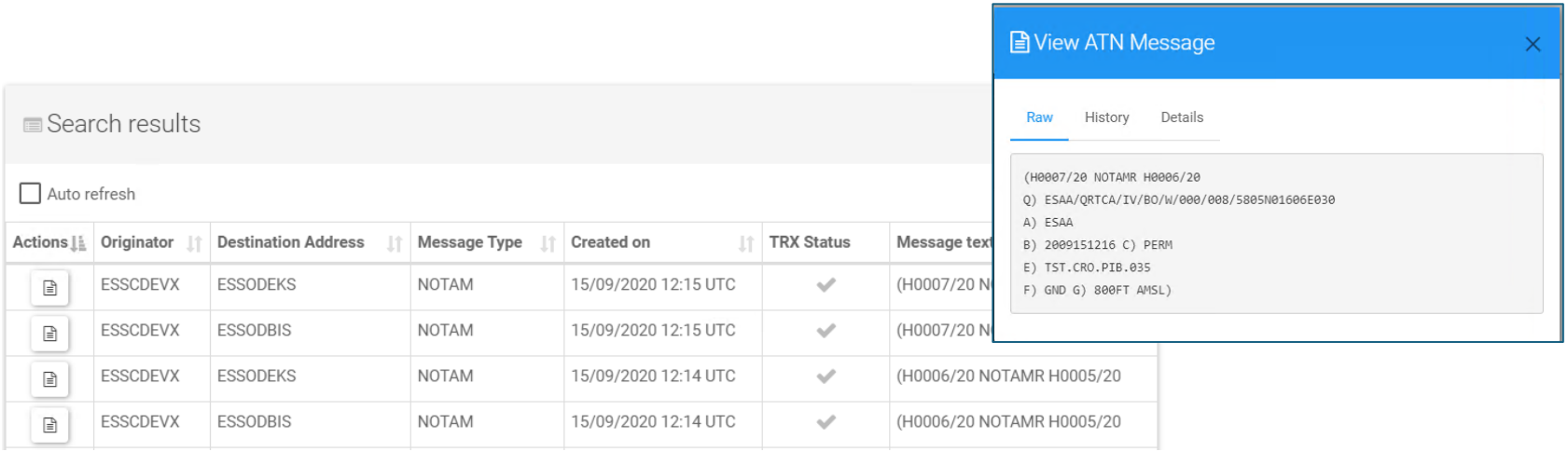
In ATN compose is possible to send raw text messages selecting originator, priority, destination addresses and message text.



ATN INCOMING/OUTGOING

Incoming and outgoing messages can be search filtering them via originator address, destination address, message type and received from-to.

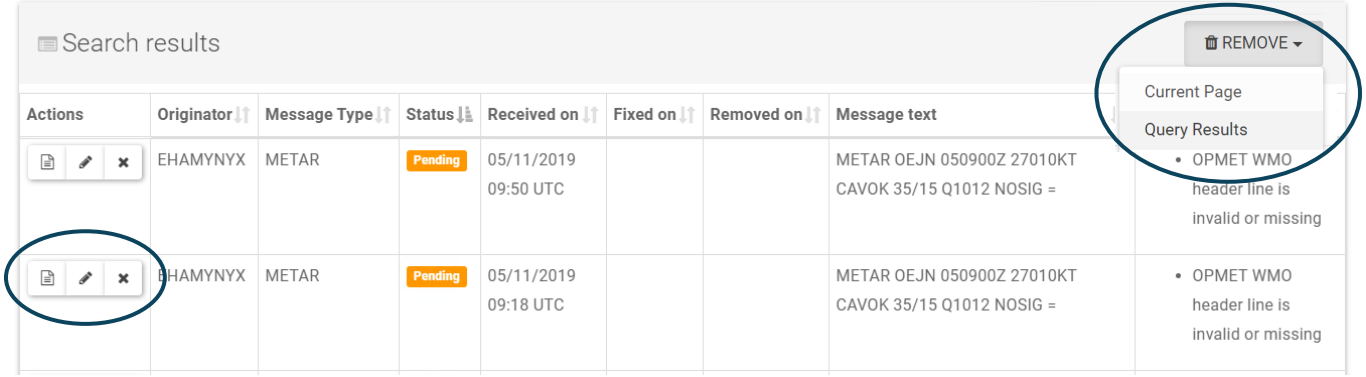
Raw message can be shown clicking on button under action column.



ATN REJECTED

Incoming message that don’t pass the CRONOS validation will be rejected. Rejected messages can be filtered by originator address, message type, status, fixed from-to, received from-to and removed from-to. By actions column message can be displayed, fix or removed. Collective remove can be performed by “Remove” button.

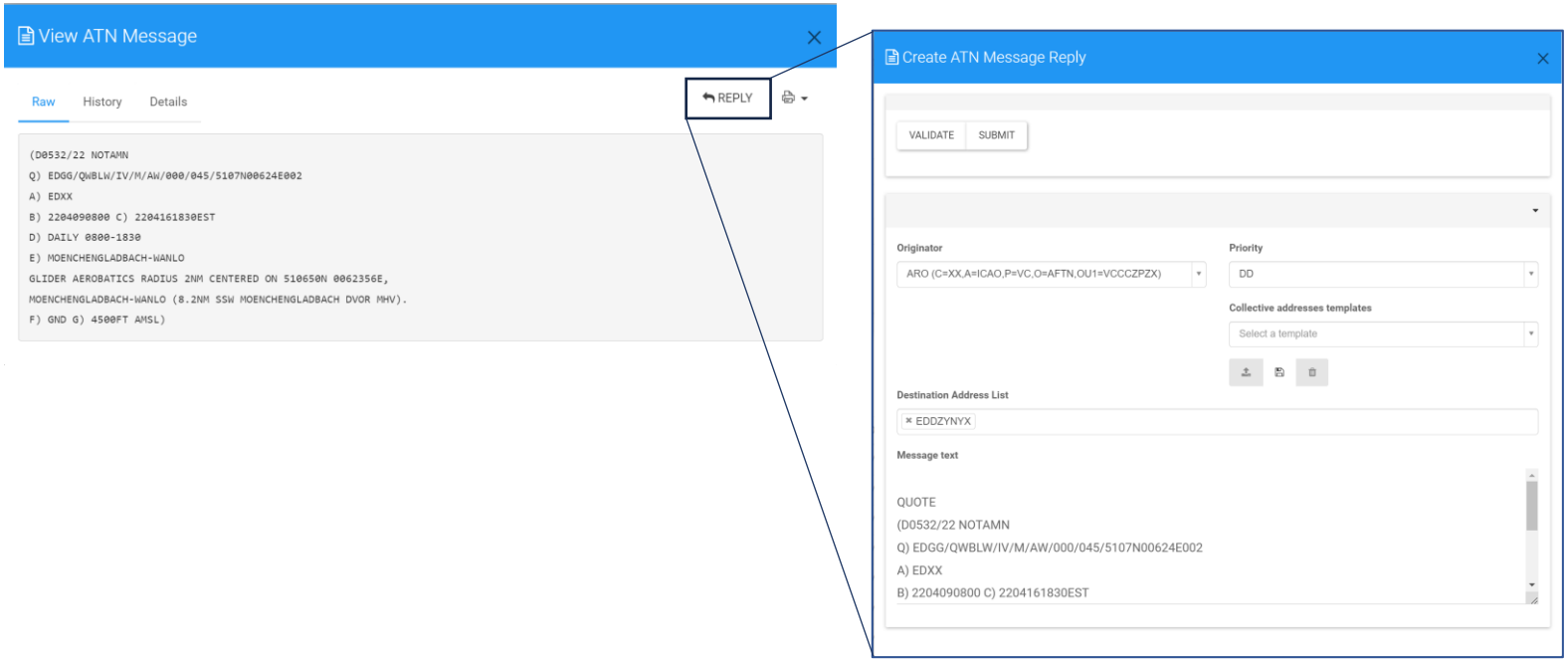
Some validation rules can be set by administrators. Ones the messages has been fixed, the information will be stored in database.



! The messages can be deleted in the rejected queue, but not in the system. Deleted messages remain available under status “removed” or in ATN Messages > Incoming

REPLY

In Incoming and Rejected, under message details the ‘Reply’ button is available to create a reply AFTN/AMHS message.



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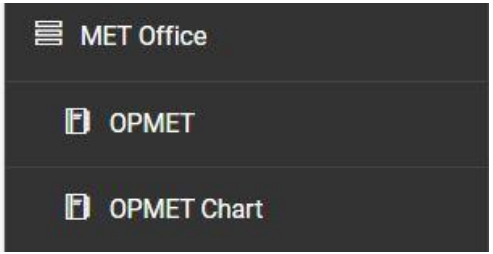
OPMET OFFICE

OPMET Bulletins Creation and query.

MET OFFICE



CRONOS provides functionalities for the management of OPMET messages (reports or forecasts) and bulletin, automatic request-reply via RQM or REST interfaces by following ICAO Regulation

- **Create**: to create a OPMET messages
- **Query**: functional page to query, filter, and sort created/submitted OPMET messages

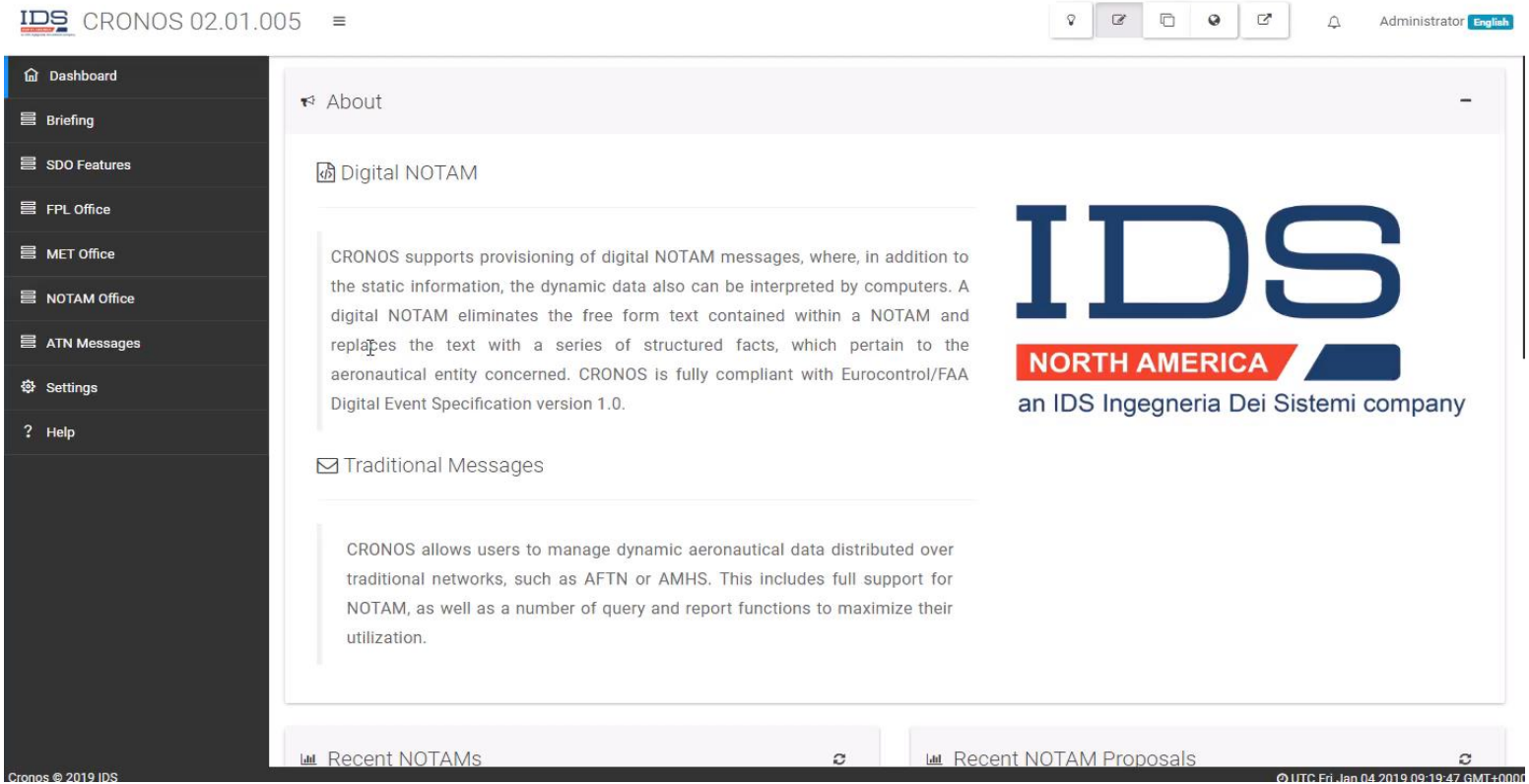
OPMET CREATE

OPMET Create page displays a window which allows the composition, validation and submission of OPMET Messages.

- Once the composed OPMET Message is validated successfully, then it is possible to submit it.
- Before submission of the composed message, it is possible to save it as an OPMET Template, for future re-use.
- The system fills automatically the ‘Report Type’ field, after the selection of the Met Type, the Distribution ID and priority. It also requires a precise form for each message in order to validate it or not.

If distribution in bulletin is active, OPMET will be distributed in collective bulletins according distribution set in OPMET Data Type Settings.

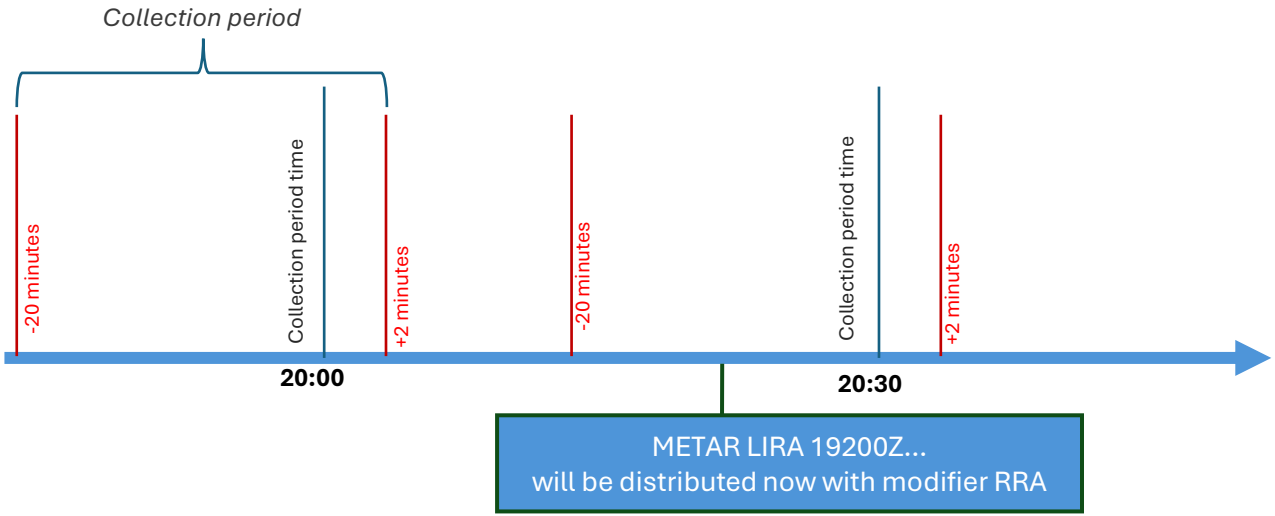
OPMET CREATE



*Old Version

OPMET BULETIN DISTRIBUTION

If OPMET is created inside collection period with proper observation time and bulletin ditribution set, it it will be distributed at the end of collection period. Otherwise, if observation time is refered to a past collection period, it will be distributed with delay modifier RRx.



IWXXM

In OPMET Create the system allows also the transformation of IWXXM (ICAO Meteorological Information Exchange Model) into TAC messaging format and import it.

Body format type

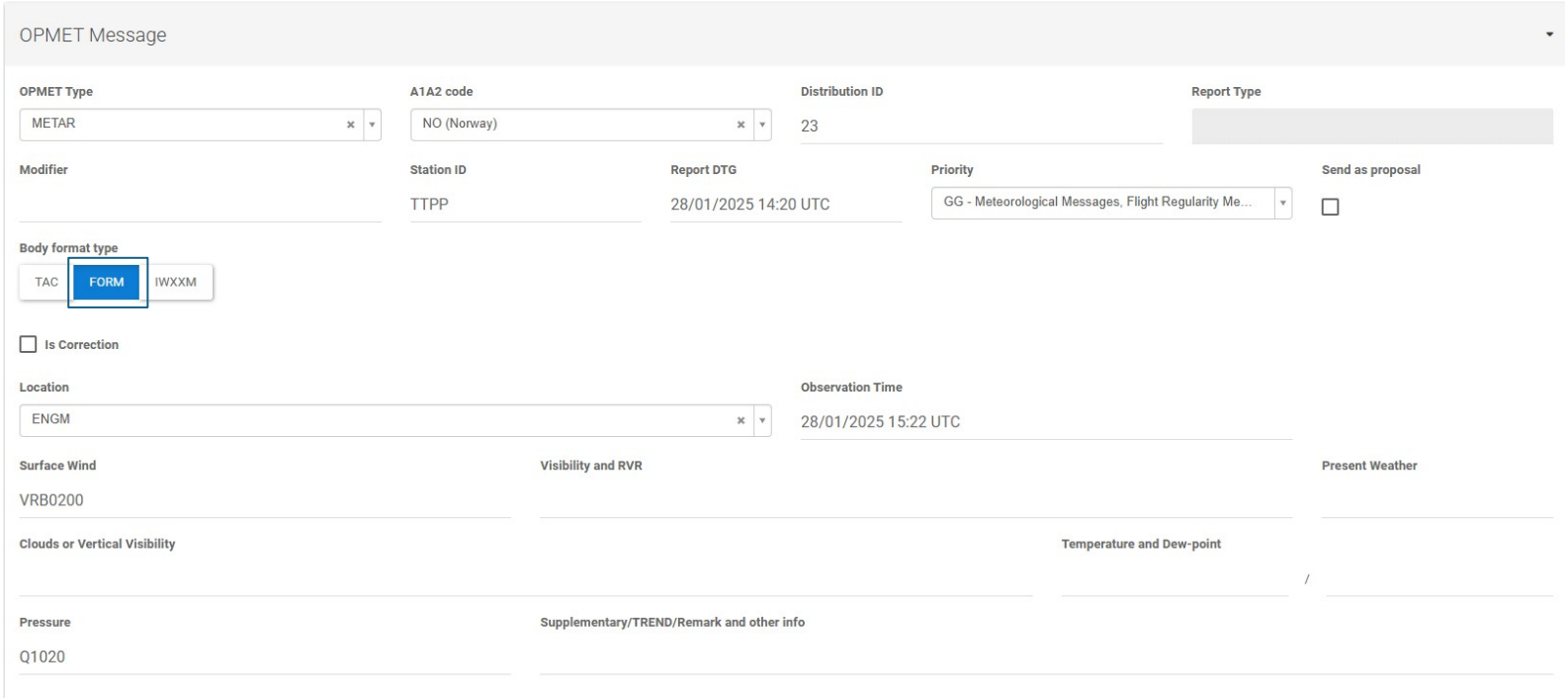
TAC | IWXXM

METAR LKKV 251200Z 21002MPS VCSH 27/10 Q1010 RETS WS R18C R11/1//99=

```
<iwxxm:METAR xmlns:iwxxm="http://icao.int/iwxxm/2.1" xmlns
    :xlink="http://www.w3.org/1999/xlink" xmlns:gml="http://www
    .opengis.net/gml/3.2" xmlns:om="http://www.opengis.net/om/2
    .0" xmlns:metce="http://def.wmo.int/metce/2013" xmlns:aixm
    ="http://www.aixm.aero/schema/5.1.1" xmlns:sams="http://www
    .opengis.net/samplingSpatial/2.0" xmlns:sam="http://www
    .opengis.net/sampling/2.0" xmlns:xsi="http://www.w3.org
    /2001/XMLSchema-instance" xsi:schemaLocation="http://icao
    .int/iwxxm/2.1 http://schemas.wmo.int/iwxxm/2.1.1RC1/iwxxm
    .xsd http://def.wmo.int/metce/2013 http://schemas.wmo.int
    /metce/1.2/metce.xsd http://www.opengis.net/samplingSpatial
    /2.0 http://schemas.opengis.net/samplingSpatial/2.0
    /spatialSamplingFeature.xsd" gml:id="metar-LKKV
    -20070725T12Z" status="NORMAL" automatedStation="false"
    permissibleUsage="OPERATIONAL">
<iwxxm:observation>
<om:OM_Observation gml:id="obs-LKKV-20070725T120000Z">
<om:type xlink:href="http://codes.wmo.int/49-2/observation-type
    /iwxxm/2.1/MeteorologicalAerodromeObservation"/>
<om:phenomenonTime>
<gml:TimeInstant gml:id="ti-20070725T12Z">
<gml:timePosition>2007-07-25T12:00:00Z</gml:timePosition>
</gml:TimeInstant>
</om:phenomenonTime>
<om:resultTime xlink:href="#ti-20070725T12Z"/>
```

OPMET CREATE

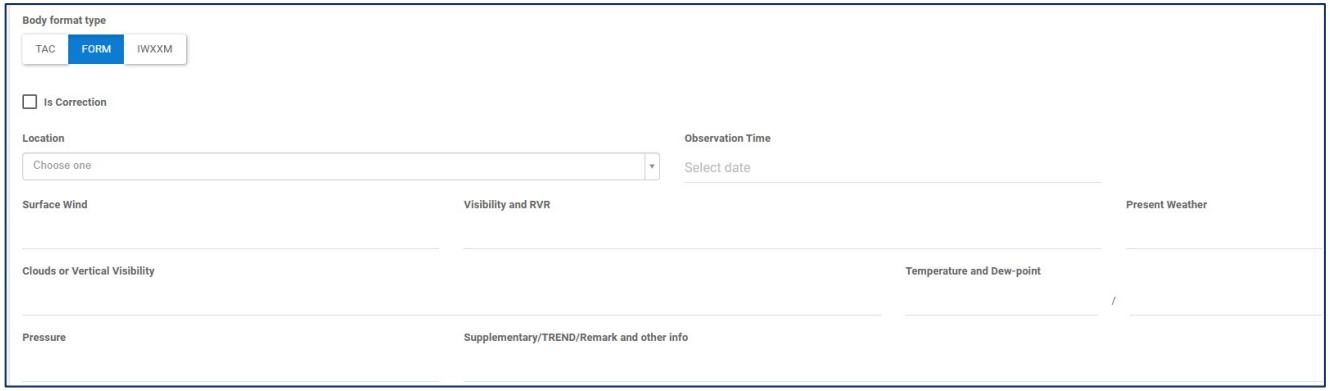
In OPMET Create, for OPMET METAR and SPECI, an additional body format "FORM" with a dedicated wizard is available.



OPMET CREATE

Mandatory fields:

- Location
- Observation Time
- Surface Wind
- Visibility
- Temperature
- Pressure



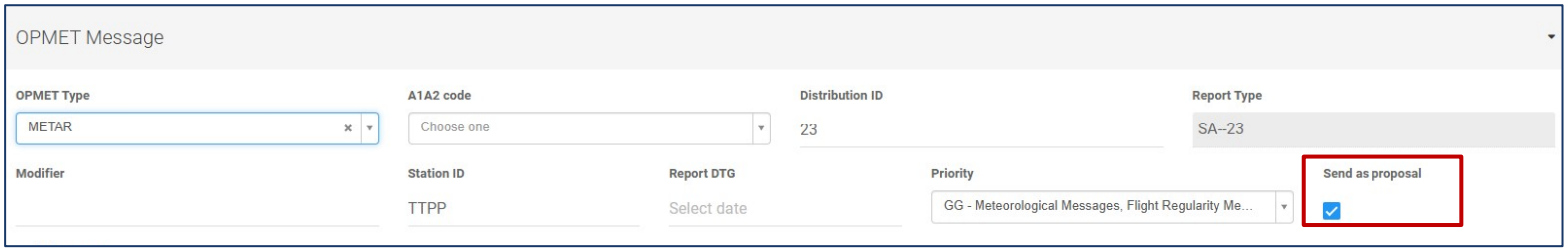
The remaining fields are optional

OPMET CREATE

It is possible to send an OPMET as proposals via AMHS without saving them in the database.

Permissions needed:

•Add a new permission: **"OPMET - send OPMET as proposal"**.
•Only users with this permission will see a checkbox labeled **"Send as Proposal"** in the OPMET Create page for METAR and SPECI types.



Validation

When creating an OPMET with the "Send as Proposal" checkbox enabled, the system should:
Display the warning:
"OPMET will not be stored. It will only be sent via ATN as a proposal.“

Validate at least one **distribution list** of type **"Proposal"** that exists for the specified location.
If no such list exists, display the error:
"No distribution list configured for proposal for this location."

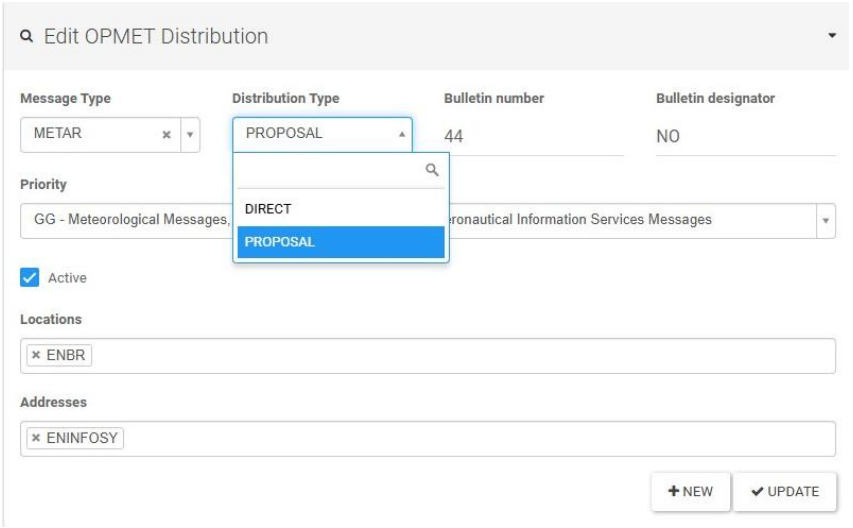
OPMET CREATE

Behavior for "Send as Proposal“

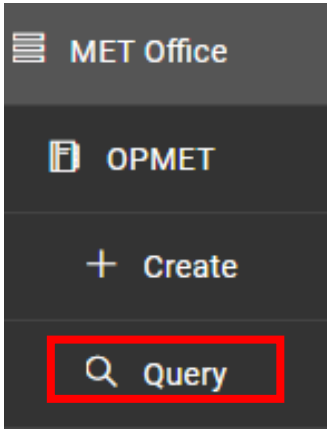
If the "Send as Proposal" checkbox is enabled:

- The system does not save the OPMET in the database (OPMET Query).
- The system send the OPMET bulletin as a single message via ATN, addressed to all recipients found in the distribution lists of type **"Proposal"** for the specified location.
- The originating address for proposals should be configured in a dedicated System Option variable.

aim.opmet.proposal.originatorAddress



OPMET QUERY



OPMET Query page displays an interactive window for searching, filtering, sorting OPMET Messages

Default Query filter is set to

- Status = ‘Active’

The Query filter conditions are organized in three tabs

- STATUS
- LOCATION
- TIME

It is possible to view more details of the Message and create a PDF document

OPMET QUERY

OPMET Query **STATUS** tab includes:

- GENERIC TEXT SEARCH
- ITEMS per page: 10, 25, 50, 100
- Opmet Types (i.e. METAR, TAF, SIGMET)
- STATUS: Active, Expired
- TRANSMISSION STATUS: Pending, Transmitted, Foreign, Error

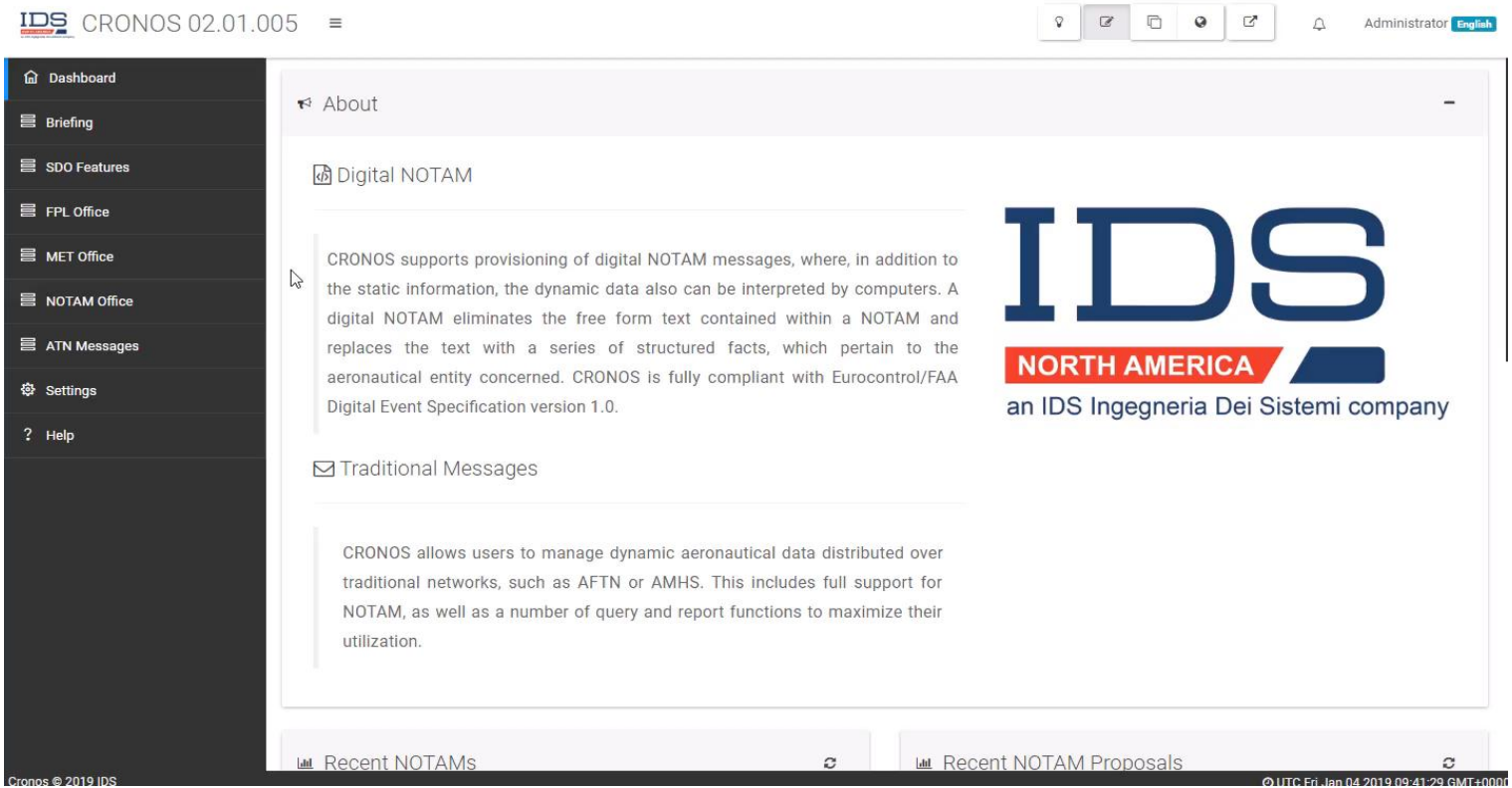
OPMET Query **LOCATION** tab icludes:

- AERODROMES: filter for aerodromes
- FIRs: filter for FIRs
- Report station: filter for Report Stations stored in the Database

OPMET Query **TIME** tab includes:

- Observation Time (From – To)
- Forecast Time (From – To)

OPMET QUERY

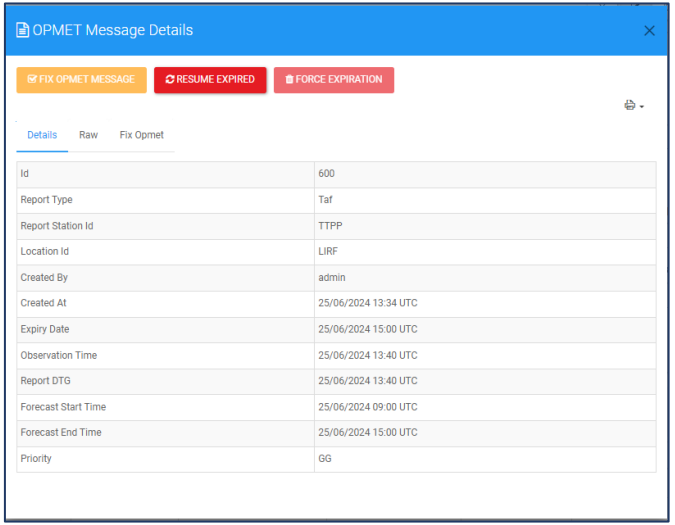

IDS CRONOS 02.01.005
Administrator English
Dashboard
Briefing
SDO Features
FPL Office
MET Office
NOTAM Office
ATN Messages
Settings
Help
About
Digital NOTAM
CRONOS supports provisioning of digital NOTAM messages, where, in addition to the static information, the dynamic data also can be interpreted by computers. A digital NOTAM eliminates the free form text contained within a NOTAM and replaces the text with a series of structured facts, which pertain to the aeronautical entity concerned. CRONOS is fully compliant with Eurocontrol/FAA Digital Event Specification version 1.0.
IDS
NORTH AMERICA
an IDS Ingegneria Dei Sistemi company
Traditional Messages
CRONOS allows users to manage dynamic aeronautical data distributed over traditional networks, such as AFTN or AMHS. This includes full support for NOTAM, as well as a number of query and report functions to maximize their utilization.
Recent NOTAMs
Recent NOTAM Proposals
Cronos © 2019 IDS
UTC Fri Jan 04 2019 09:41:29 GMT+0000

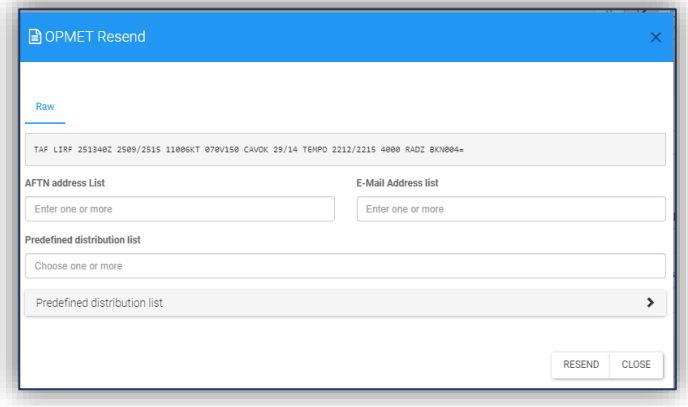
OPMET QUERY ACTIONS

Actions	Location	Type	Modifier	Station	Time	Status	Transmission Status
	LIRF	LONG		TTPP	25/06/2024 13:40 UTC	Expired	Foreign

Resend opmet

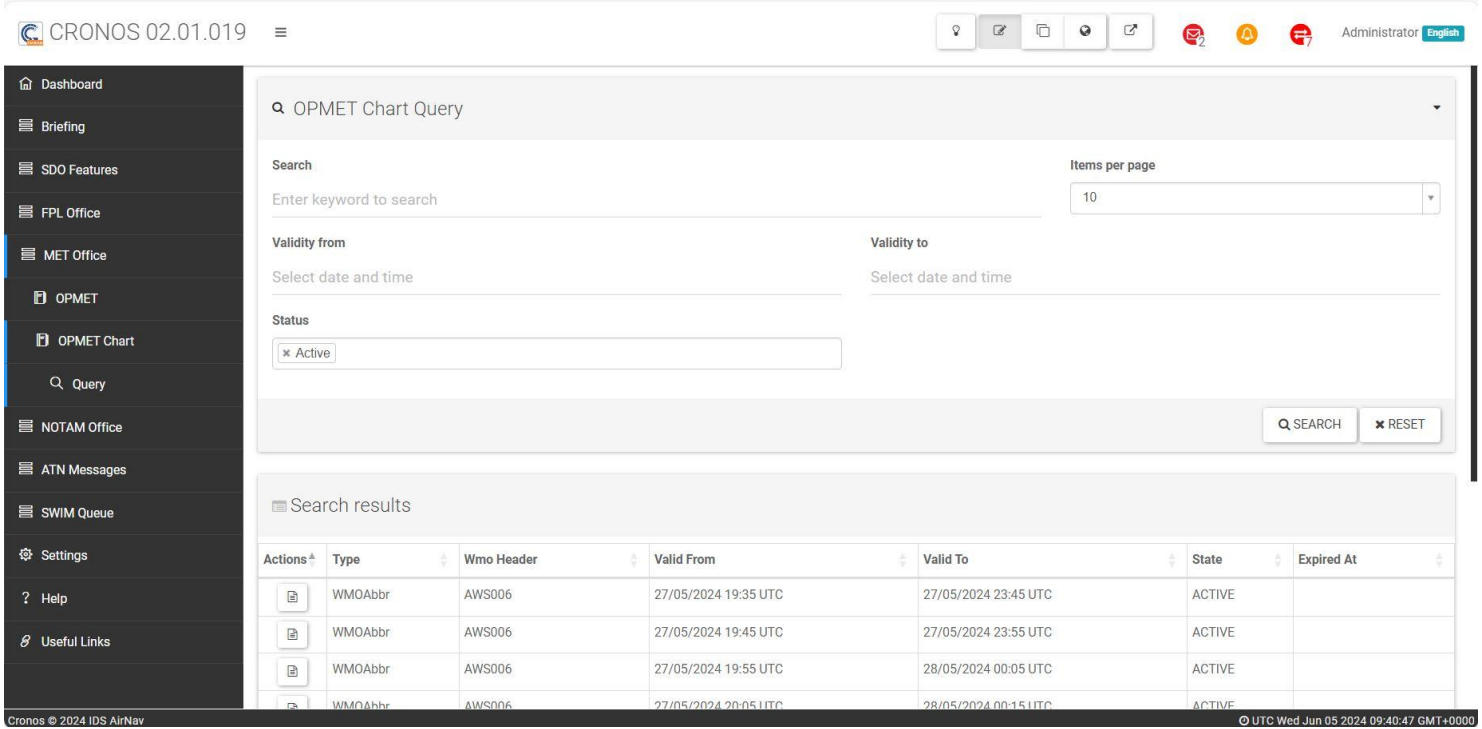
Opmet details



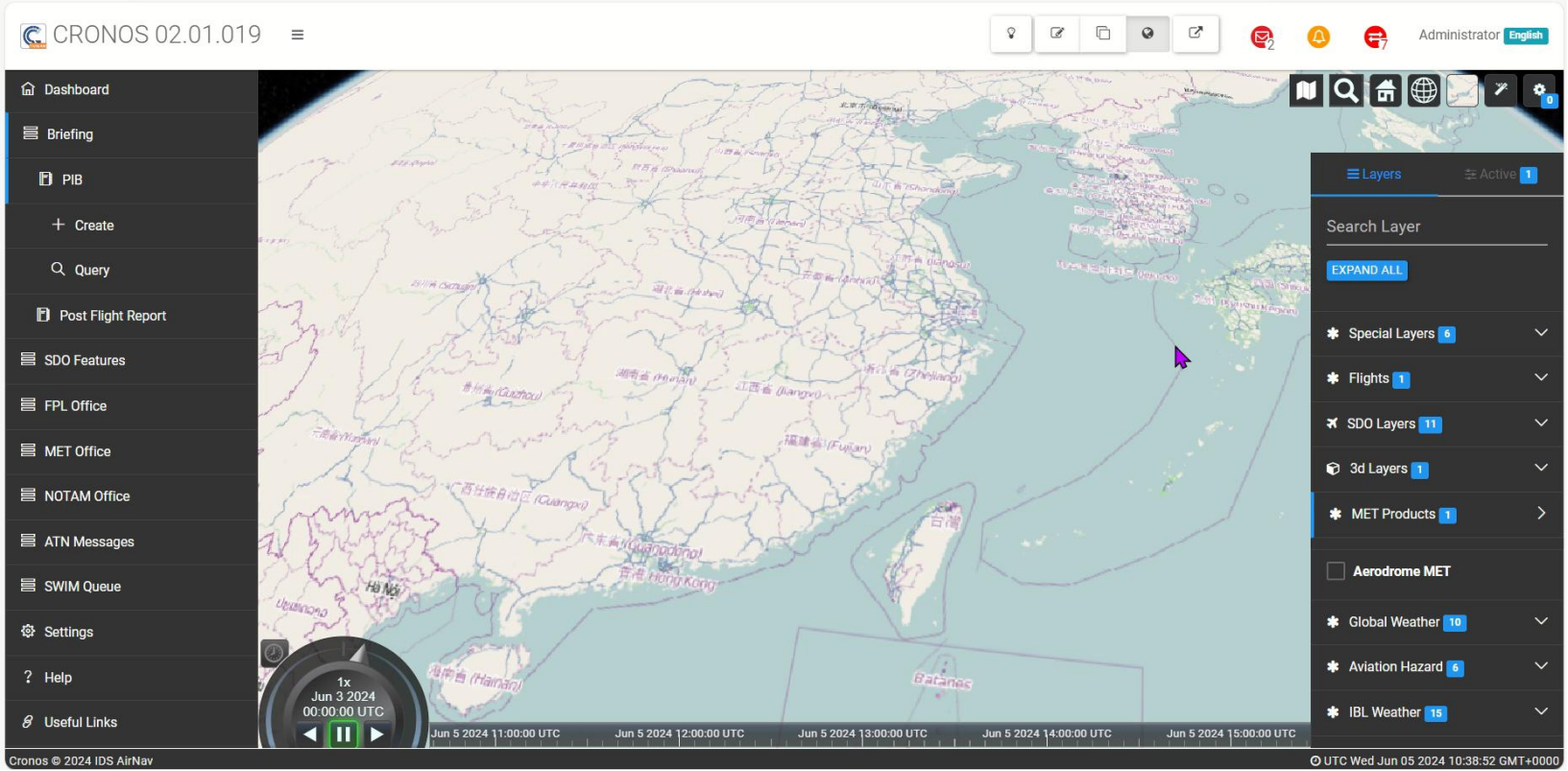


OPMET CHART

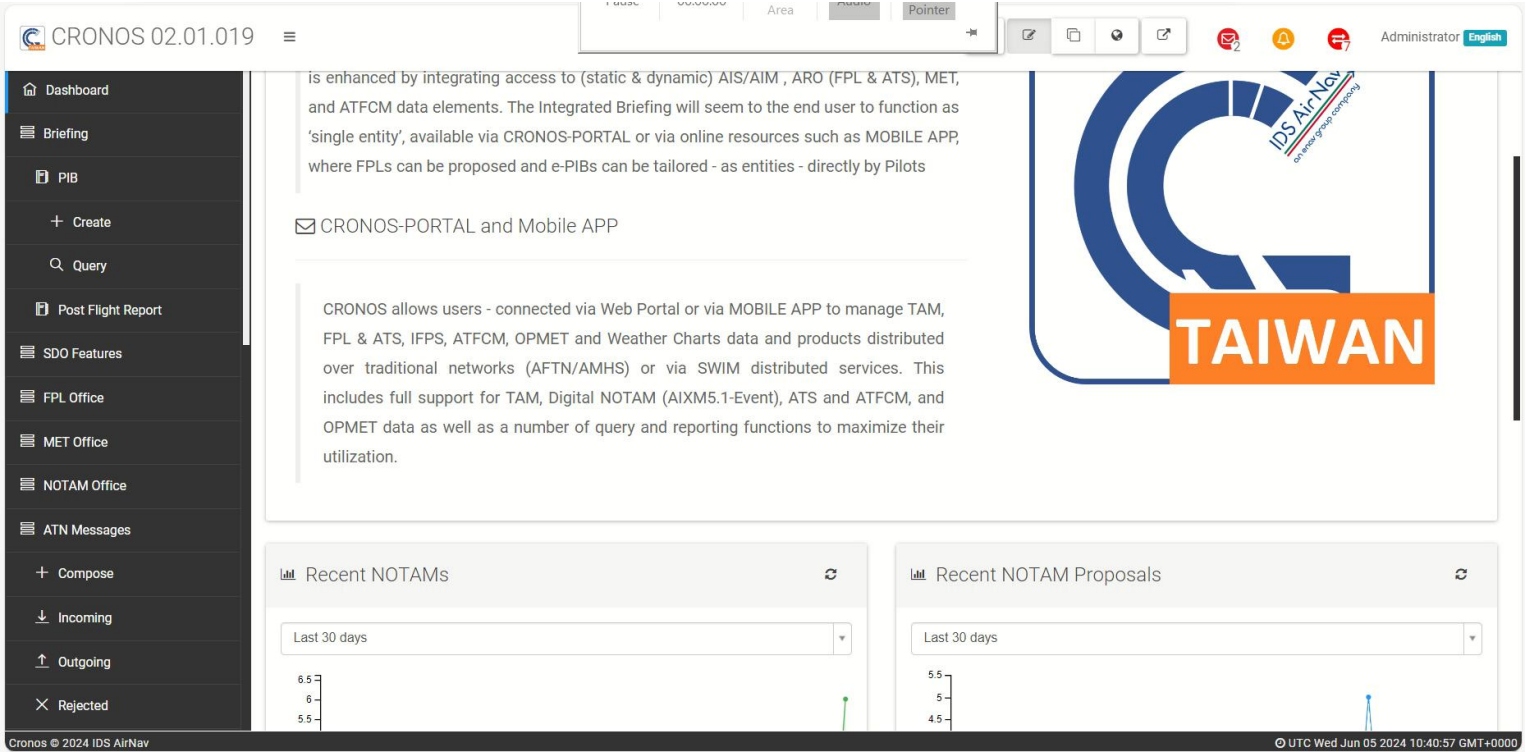
To visualize and print the charts



MET PRODUCTS ON MAP



TAMC and AMQP management for OPMET and Charts



EXERCISE OPMET

Save an OPMET message and search it in the OPMET query page

i.e. METAR
A1A2 DN (Danmark)
Distribution ID 21
Station ID EKCH

Body TAC: METAR EKCH yyhhmmZ AUTO 22009KT 9999 SCT014/// BKN069/// 14/12 Q1002 TEMPO 4000 SHRA BKN014 SCT015CB=

BRIEFING MODULE

Preflight Information bulletins

PREFLIGHT INFORMATION BULLETIN

Pilots and Airline users or Aircraft Operators can access the CRONOS Briefing Module to gather, filter and sort aeronautical and weather information on an integrated Briefing session.

CRONOS provides possibility to create several different types of bulletins (AIS PIB only or MET PIB only, or integrated AIS-MET PIB)

After creation of a PIB, and having configured bulletin type, content, schedule, and distribution channel, configured bulletin can be generated as Master

At any modification change in terms of Aeronautical or Weather data, CRONOS will provide user to receive notifications related to the created PIB

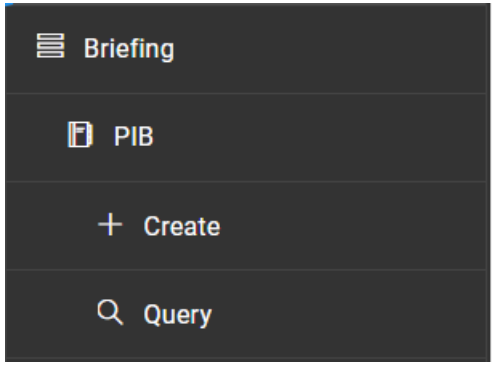
These data changes can result on the production of a

- Updated PIB based on MASTER content or
- Updated PIB based on the last Update PIB received

PIB Distribution is automatic, based on the configured PIB schedule

Distribution network channels are email or (s)-FTP servers

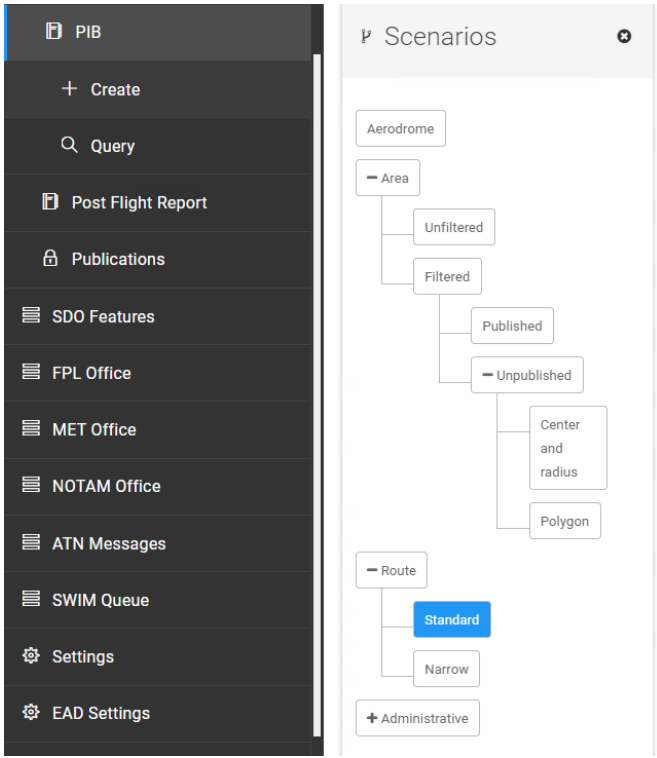
BRIEFING



PIB menu is composed by

- **Create**: to setup PIB instances
- **Query:** to query PIB Instances and the related PIB output reports

PIB - CREATE

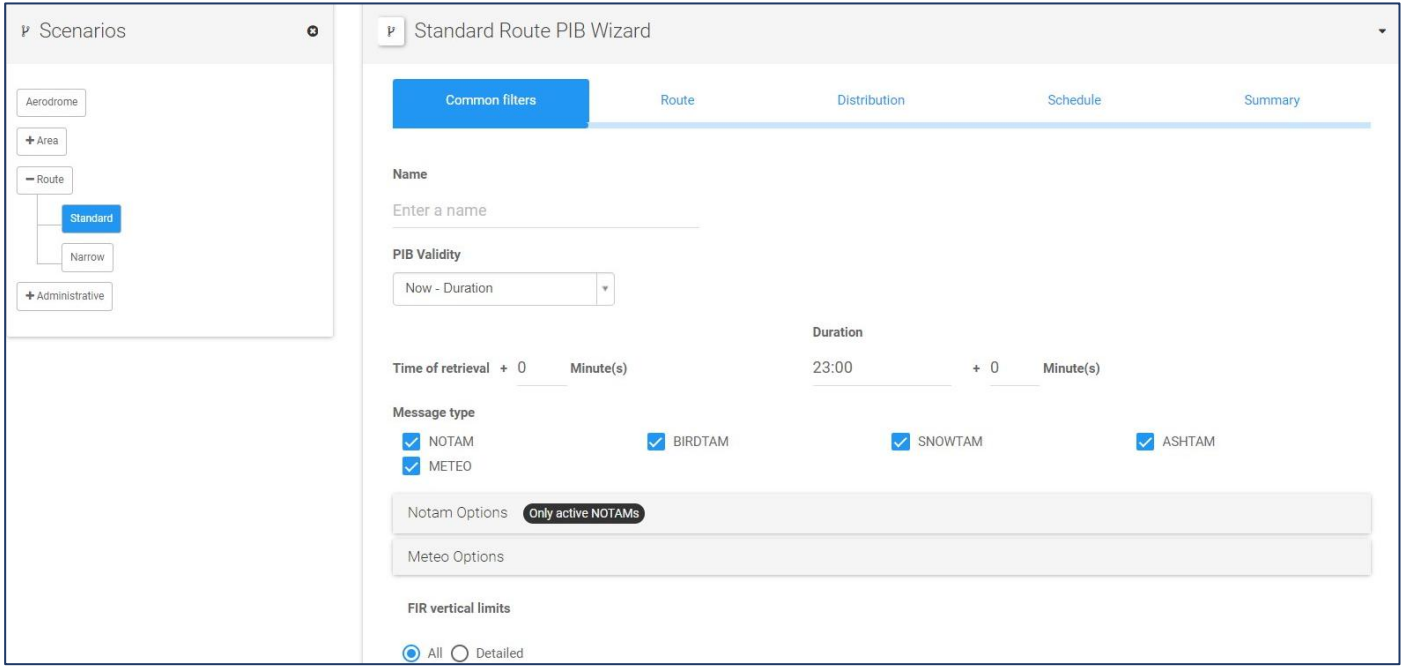


Different scenarios are available:

- **Aerodrome**, to see aerodrome NOTAMs
- **Area**, to see FIRs and aerodromes NOTAMs with possibility to filter the area with published geometry (like R, P, D, CTR etc) or unpublished geometry (polygon or circle)
- **Route**, with possibility to see all NOTAMs of the FIRs encountered in the route (standard) or see only NOTAMs that intersect the route with a defined buffer zone.
- **Administrative**, by FIR, Aerodrome or NOF.

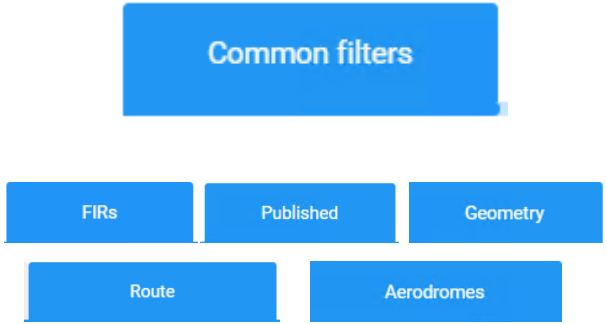
PIB – CREATE (ROUTE)

In the PIB setup the filters and tabs depend on scenario selected



ⓘ Default value for PIB Validity can be chosen in PIB Options

PIB – CREATE



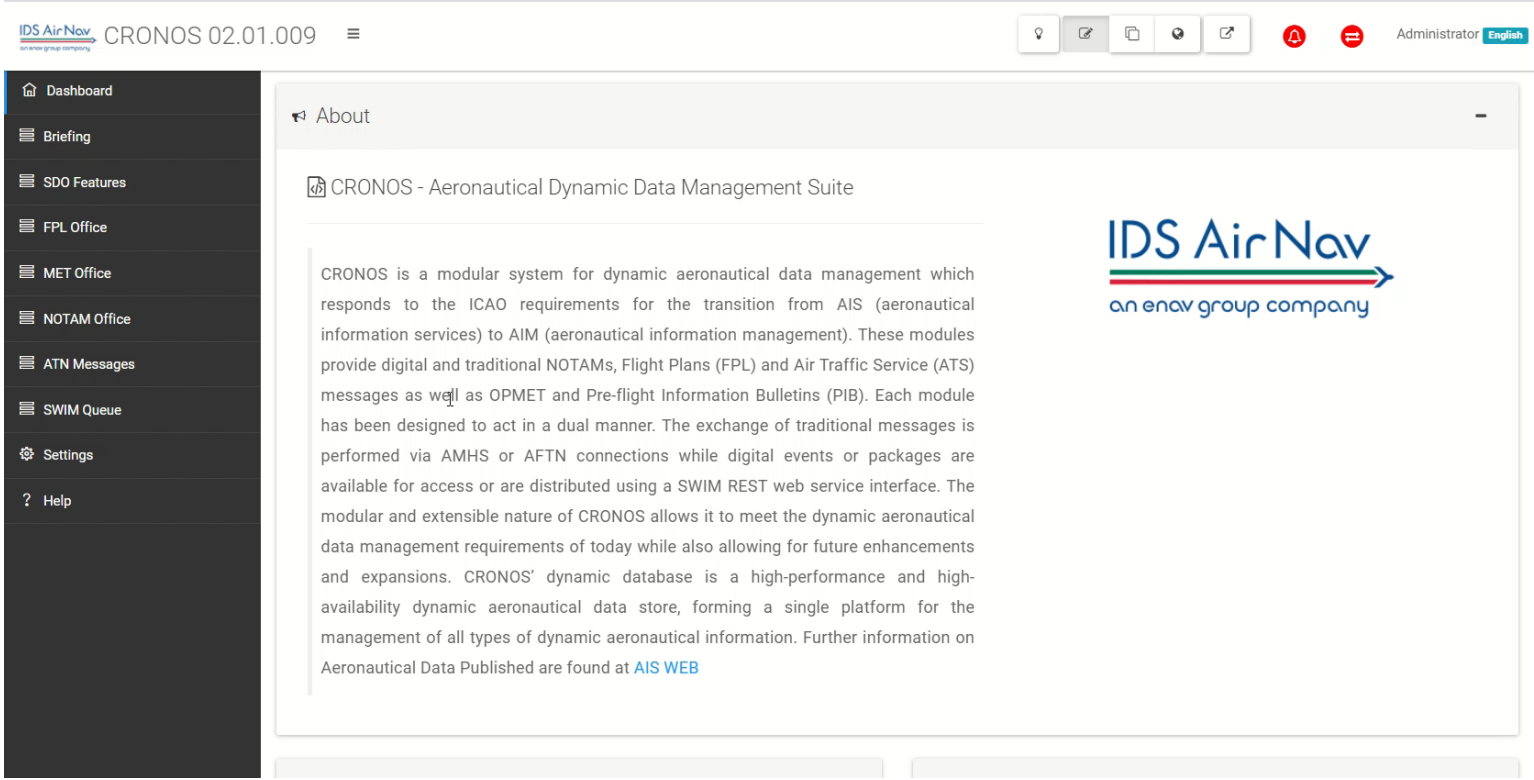
In common filters tab name, validity type/time and message type to include are available

FIR, aerodromes, published, geometry and route tabs are used to set up spatial horizontal and location filters.

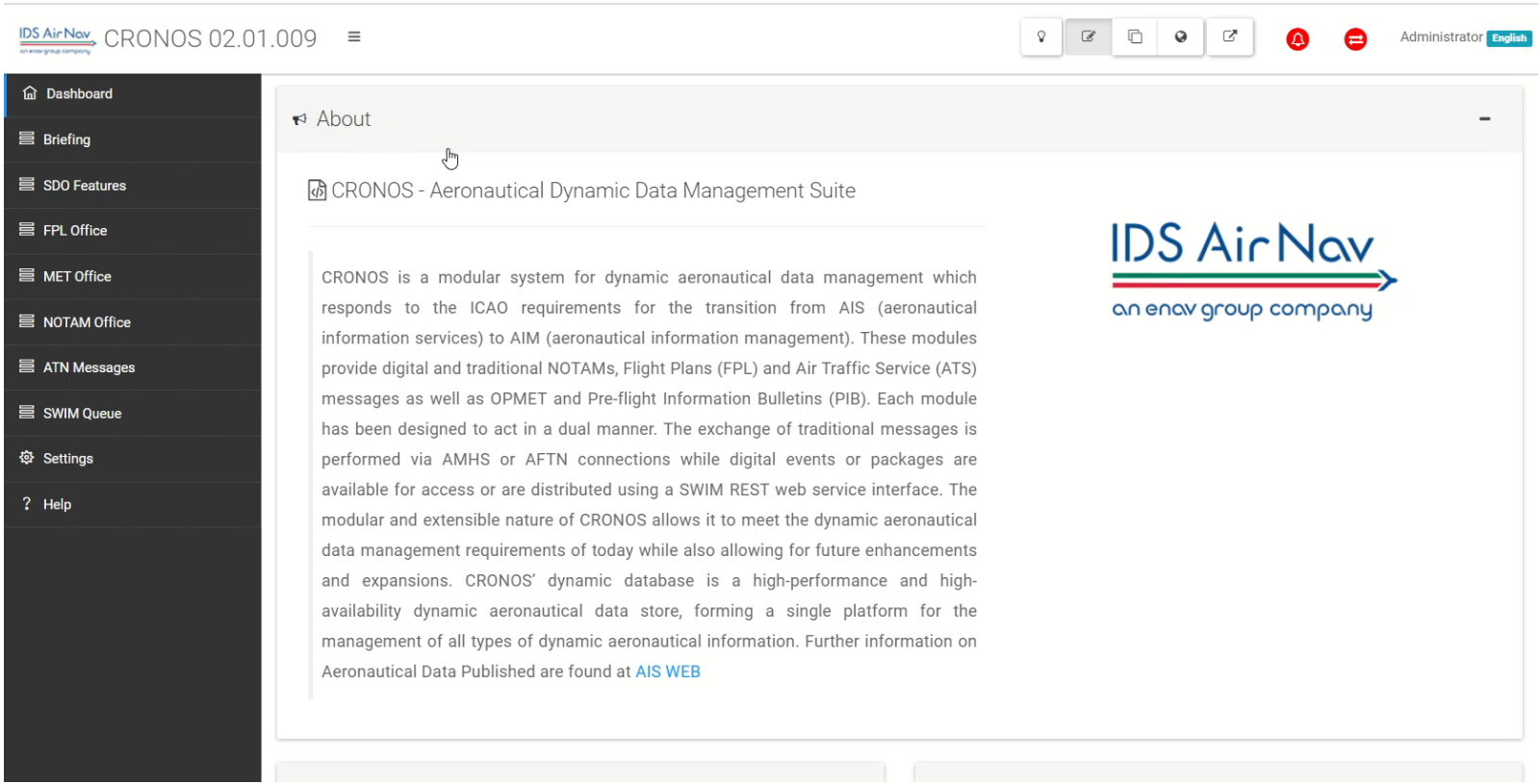
In distribution tab the email or FTP addresses have to be set. Immediate notification period can be set also: if new message will be sent out an update of PIB will be distributed.

In schedule tab the automatic generation and distribution time can be scheduled.

PIB – CREATE (AERODROME)

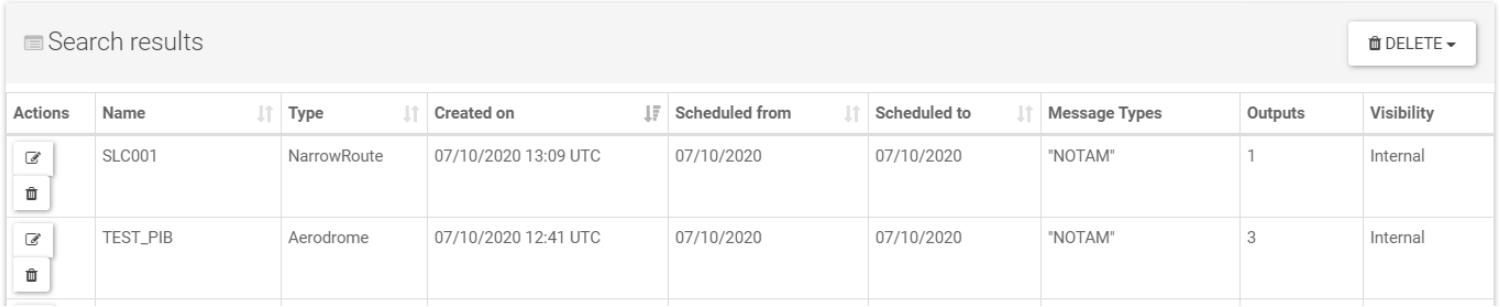


PIB – CREATE (NARROW)



PIB QUERY

Created PIB instances can be found into PIB Query page under the Results table.
Multiple options for filtering and sorting are available



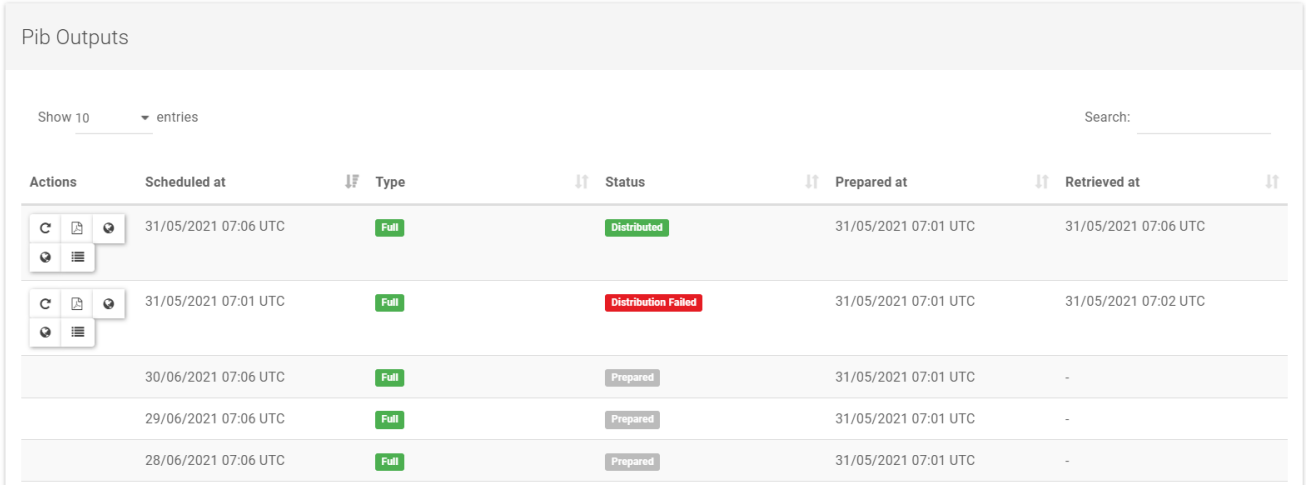
Actions	Name	Type	Created on	Scheduled from	Scheduled to	Message Types	Outputs	Visibility
	SLC001	NarrowRoute	07/10/2020 13:09 UTC	07/10/2020	07/10/2020	"NOTAM"	1	Internal
	TEST_PIB	Aerodrome	07/10/2020 12:41 UTC	07/10/2020	07/10/2020	"NOTAM"	3	Internal

Under actions column the PIB instance can be deleted of edited

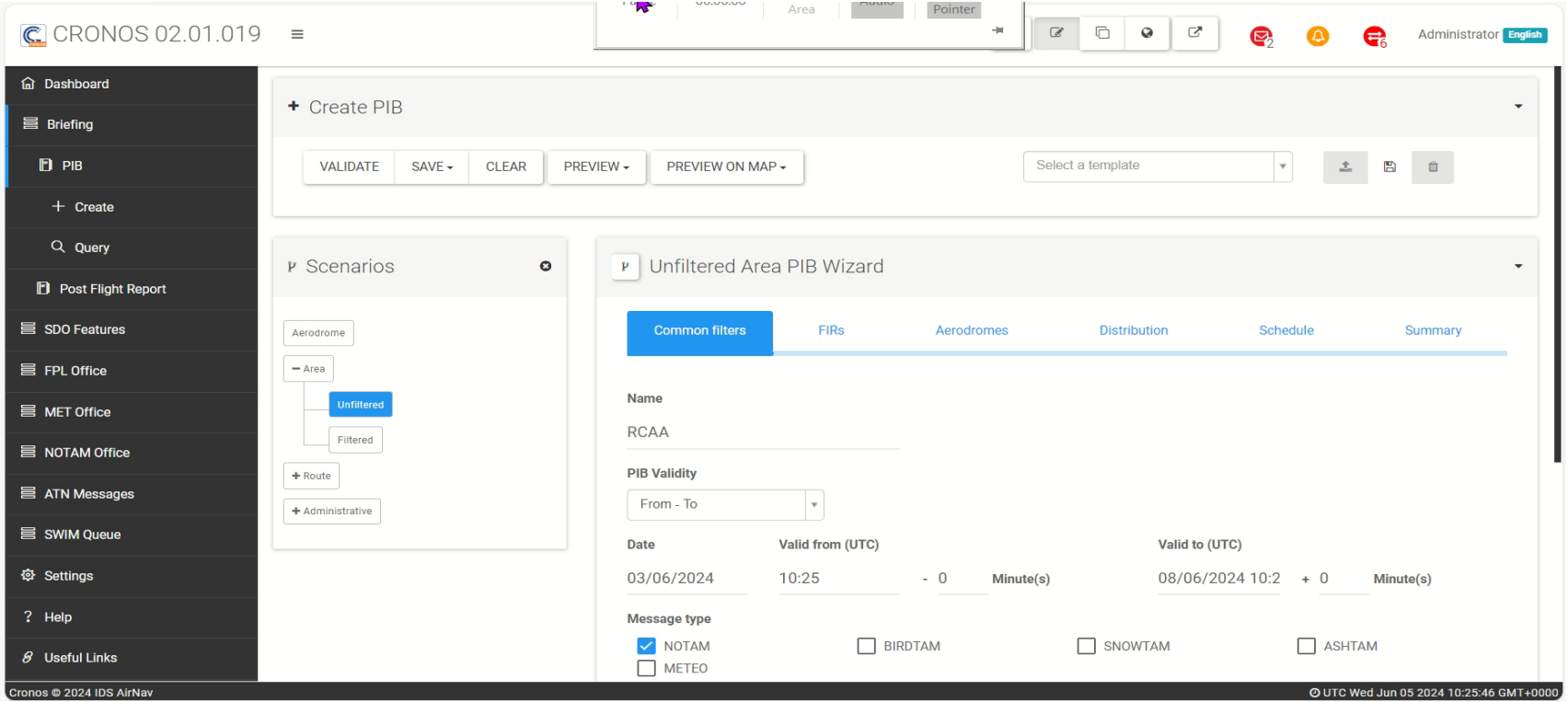
PIB EDIT

From edit page it is possible to Review PIB Setup and all the PIB outputs produced and the ones that are scheduled for distribution are shown.

Options to Generate an Update, Download a PDF report, show on map NOTAM and OPMET and show the distributions are available.



PIB SUMMARY SECTION



EXERCISE PIB

Schedule a PIB report of every scenarios available.

Create a new NOTAM and check present of it in new PIB or in updates of old ones.

Configure an immediate notification period and check how it works.

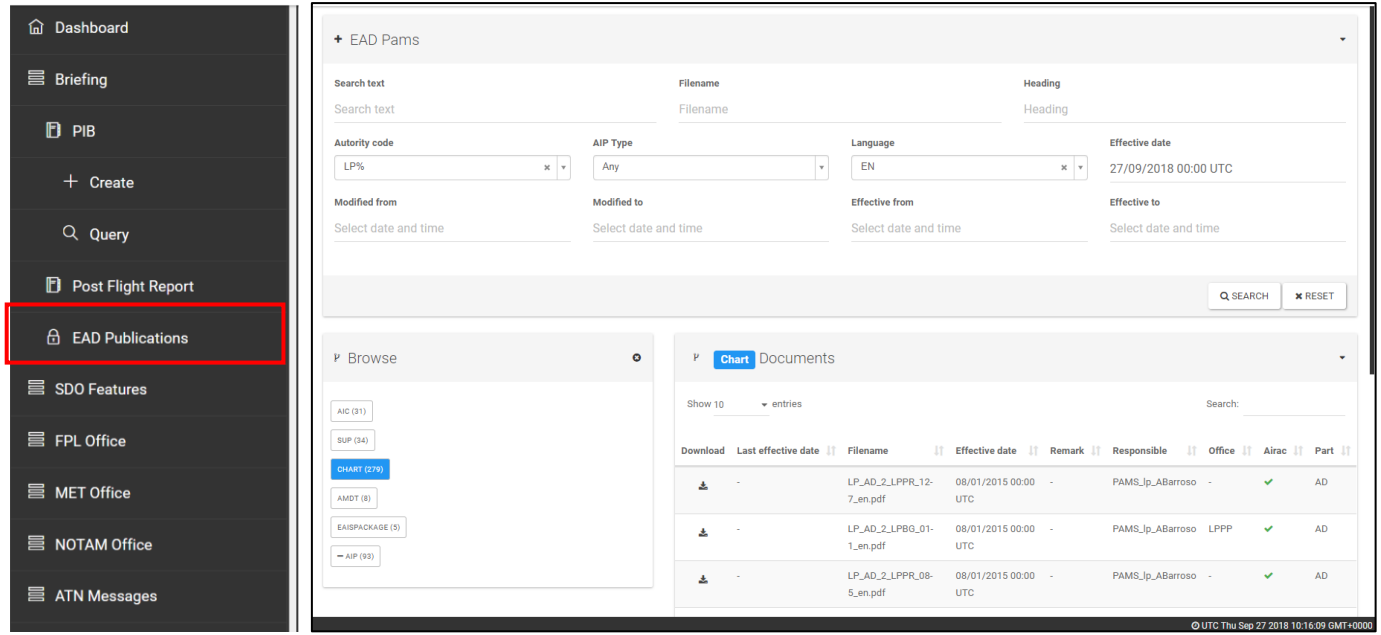
Browse SDO data and work with map

PUBLICATIONS

PAMS repository

PUBLICATIONS

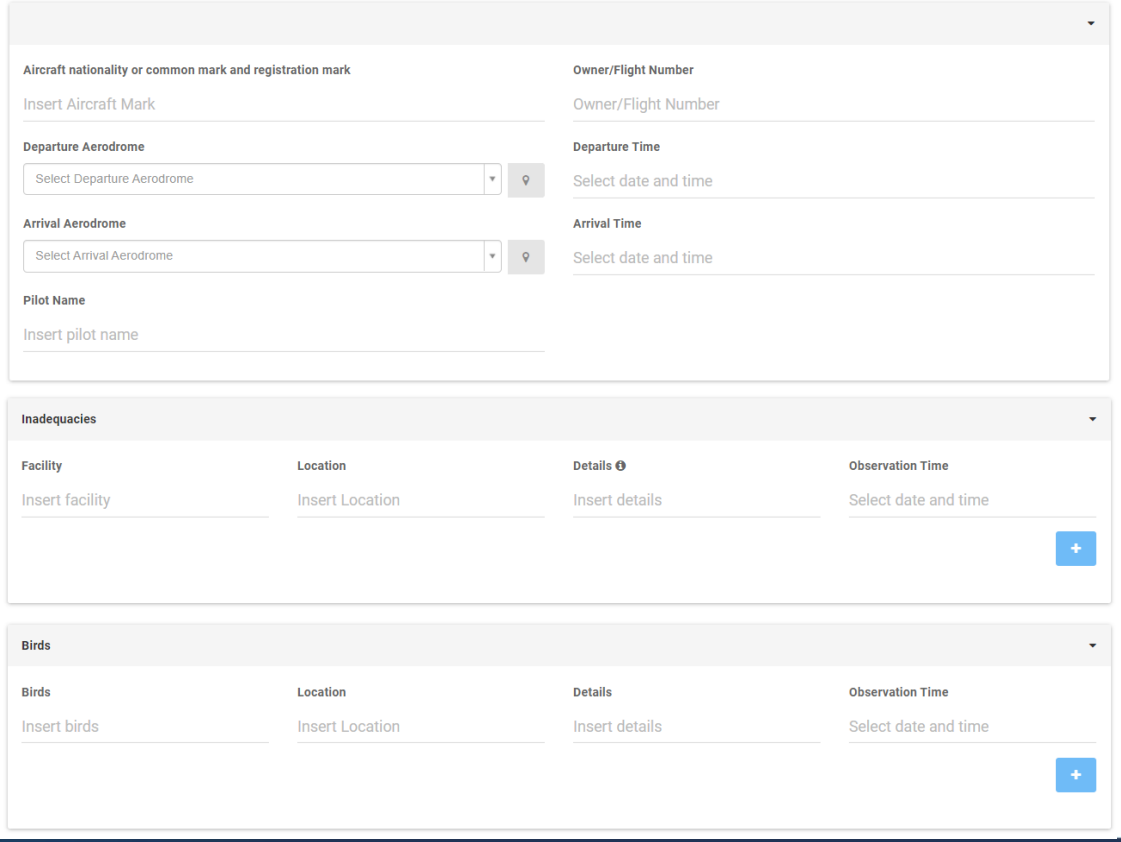
For all those Customers having agreement with Eurocontrol, CRONOS provides also possibility to query EAD PAMS repository of aeronautical products. EAD PAMS, literally Published AIP Management System, makes available an electronic library for retrieval of aeronautical documents and packages, including maps and charts present into Eurocontrol repositories.



POST-FLIGHT REPORT

PFR workflow

POST-FLIGHT REPORT INTERFACE

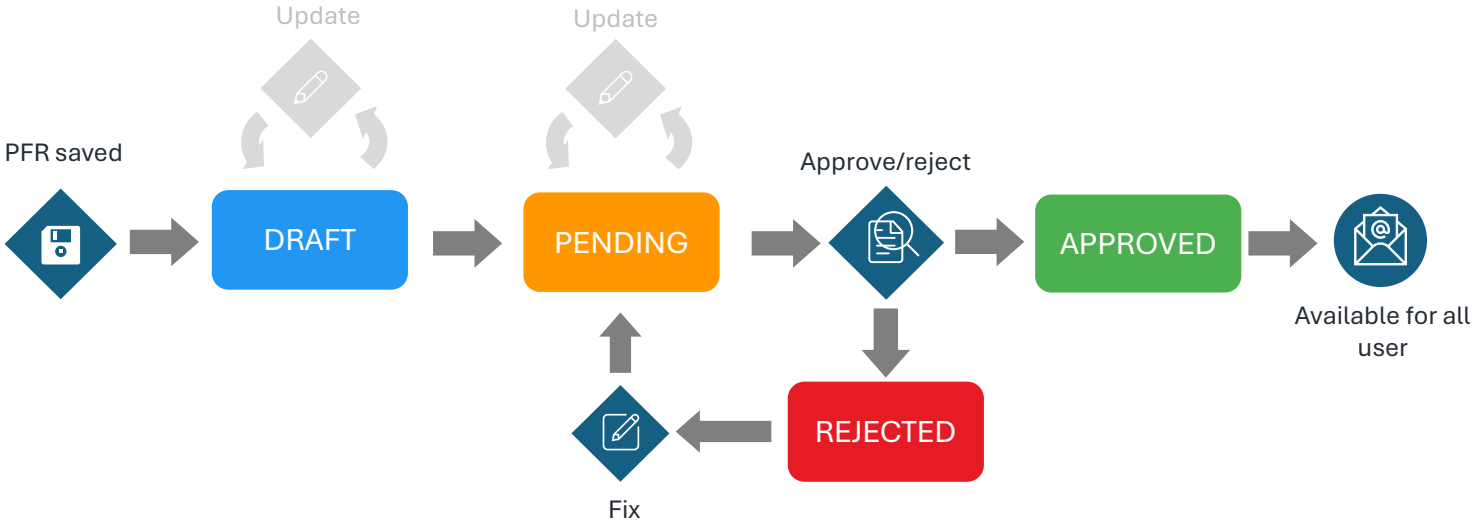


Post Flight-Reports are in the form of a searchable web page that can be viewed at any time.

The Post-Flight Report may contain text relating the flight experience in chronological order and reporting a list of inadequacies found on facilities, or bird encountered during flight.

PFR WORKFLOW

Once PFR is saved as draft, the PFR can be submitted for approval and then, if approved, it will become available for all users.



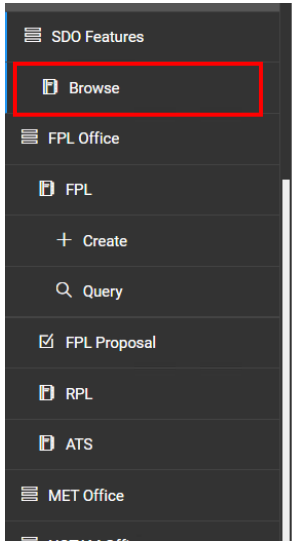
SDO BROWSER

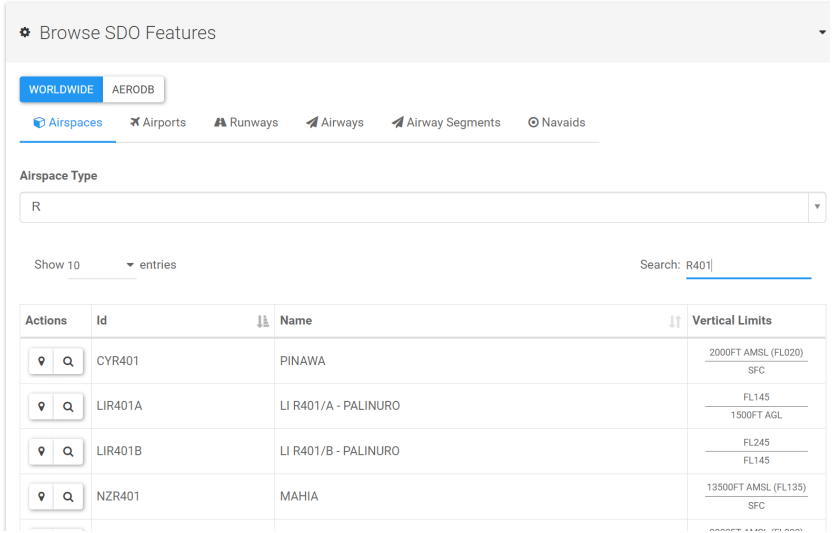
Worldwide and AeroDB

SDO BROWSER

The typical system of a Briefing process is concerning relevant dynamic data (NOTAM and related special series NOTAM such as SNOWTAM or ASHTAM, or OPMET messages). CRONOS – SDO Features area is to allow Briefing users to browse the datastore for both data repositories of Static AIS Data:

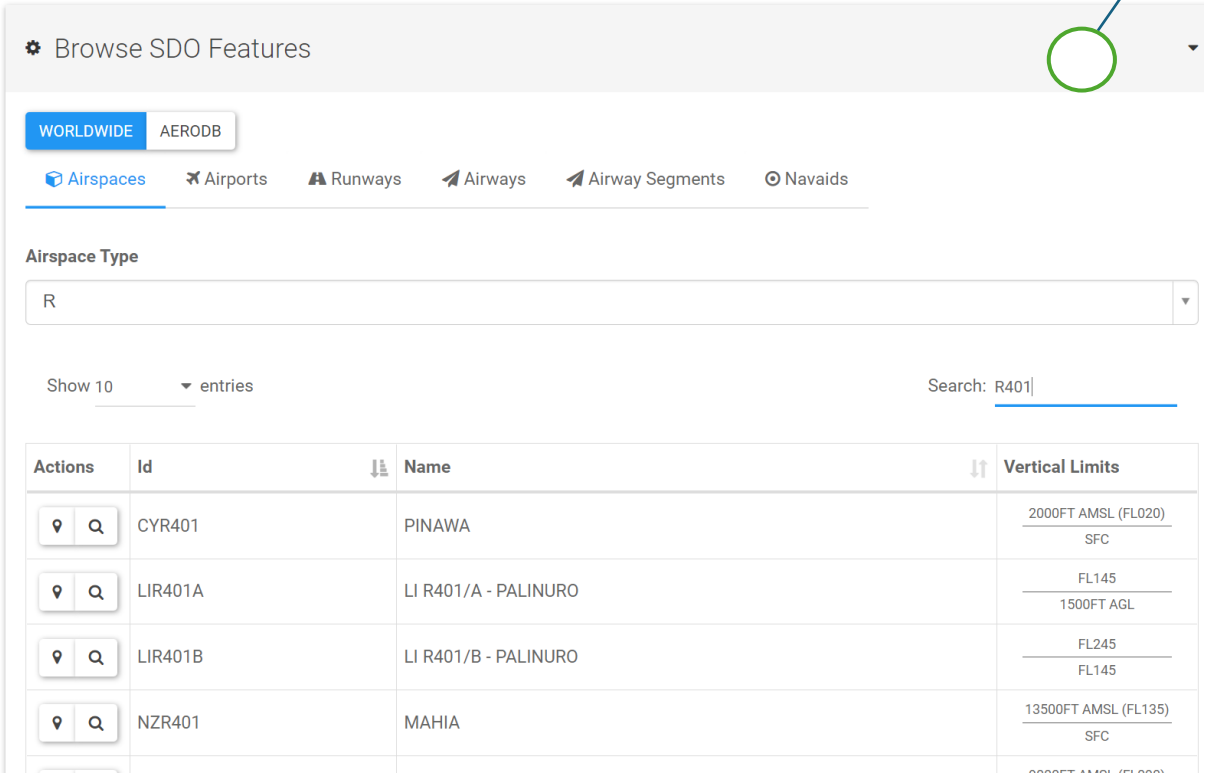
- AeroDB (meaning national publication data)
- Worldwide international data





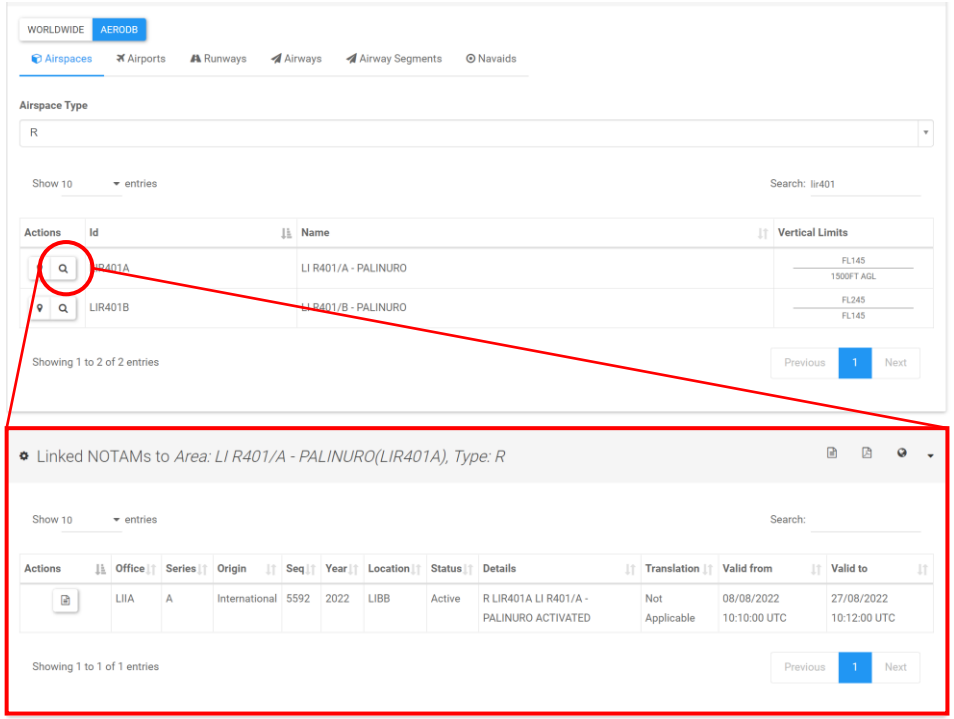
AIXM 5.1 EXPORT

Possibility to export information via AIXM 5.1



NOTAM SEARCH FROM SDO

From actions column, valid NOTAMs that have the selected SDO element as SDO linkage can be retrieved

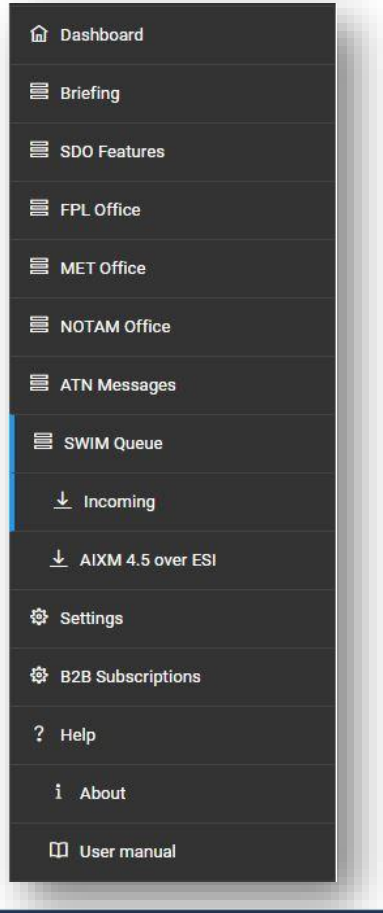


SWIM QUEUE

INCOMING AND AIXM 4.5 OVER ESI

SWIM QUEUE

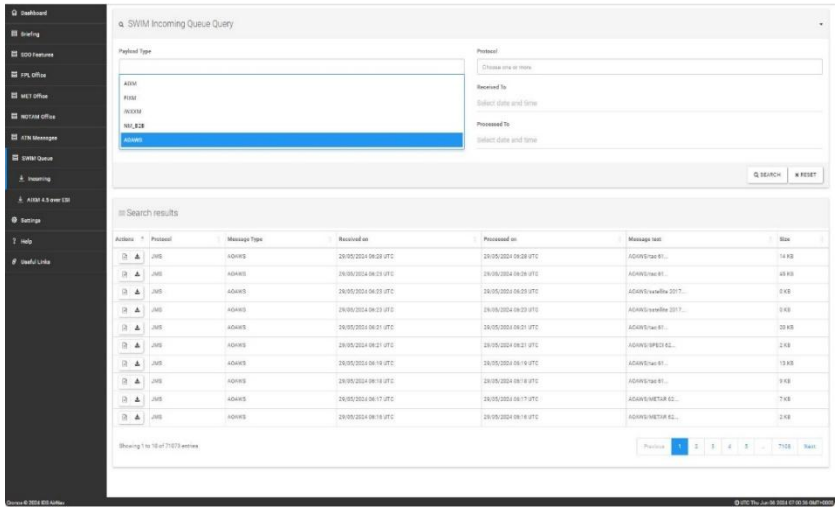
The System Wide Information Management (SWIM) is a concept born to complement human-to-human with machine-to-machine communication and improve data distribution and accessibility in terms of quality of the data exchanged.

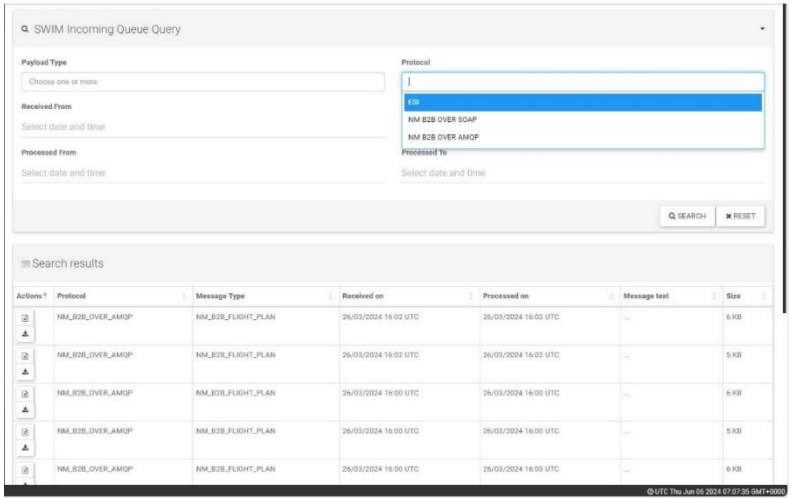


SWIM QUEUE

INCOMING → To query SWIM Query packages

For each item presented into the Search Results' list, the following options are available:
-to display details and metadata of the selected package
-to download a copy of the information package locally





IWXXM preview and storage with new version to receive MET data

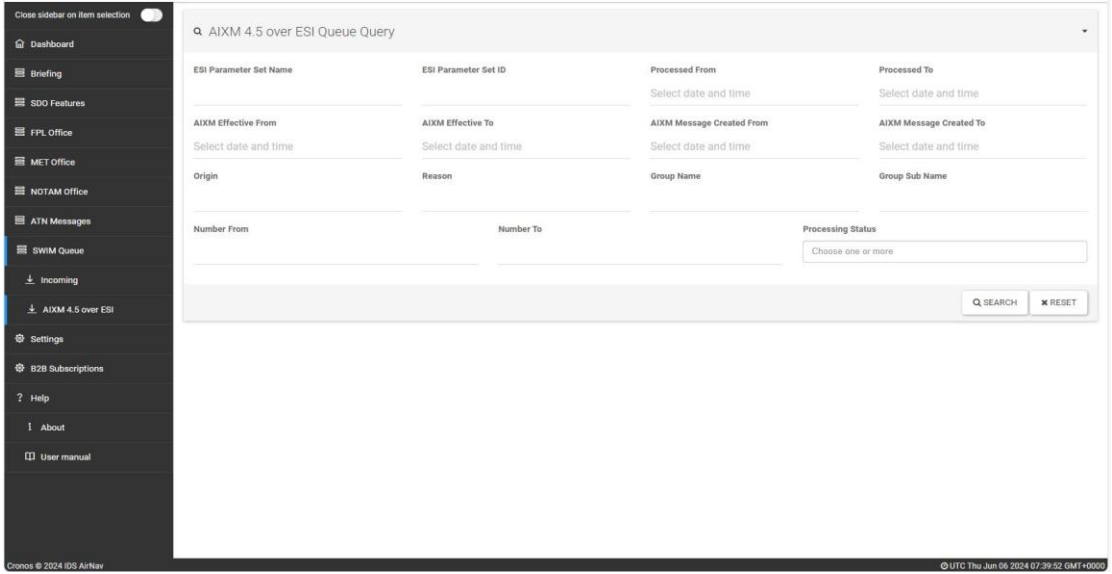
SWIM QUEUE

AIXM 4.5 over ESI

AIXM4.5 packages from EAD (by means of ESI Protocol) are used to maintain an “up-to-date” Nav-DB datasets for Briefing purposes.

For each item presented into the Search Results’ list, the following options are available:

- to display details and metadata of the selected package
- to download a copy of the information package locally



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THANK YOU

Thank you for your attention!
We really hope you enjoyed the training