

EXPLOR'ATM

European-wide exploration platform
for overall ATM needs

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A EUROPEAN-WIDE INNOVATIVE PLATFORM OFFERING
INTEROPABLE SERVICES AND VISUAL APPLICATIONS
FOR ATFCM&AIM NEEDS

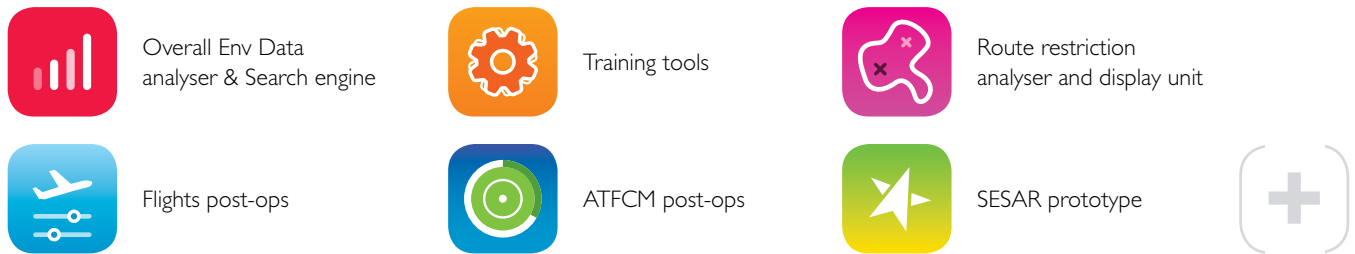
DSNA has developed a very effective tool that provides for easier ATFCM & AIM data preparation and post-operations analysis including replay. With EXPLOR'ATM, aeronautical data never felt like this before! This platform also offers Application Programming Interfaces (APIs) and advanced applications interoperable web-oriented technologies. When operational needs and innovation fly together over system-wide services!



Air navigation services have to lead more and more complicated studies and post-operations analysis on ATM topics. Today, they use unfriendly databases or files designed in a disparate way. For the staff, these actions are often time consuming and in particular, the graphic visualisation is very poor. This is why EXPLOR'ATM was born, designed by users for users! **Based on a service-oriented architecture, this innovative platform offers support for enhanced analysis and preparations as well as for training purposes or mockup prototyping with very limited effort.**

A STORE – USER ORIENTED DESIGNED TO BE IN LINE WITH SWIM

HMI – Web based applications and plain software



Data layer – Data comes from different sources such as the Network Manager:



Software development enabled in AGILE way with very short and efficient sprints thanks to APIs services provided by the platform. It is based on the latest generation of format : geojson, json, AIXM, KML, CZML...

A WIDE RANGE OF SERVICES WITH HIGH ADDED VALUE FUNCTIONALITIES

Basic services

Aeronautical Information Management (AIM), Air-Traffic Flow and Capacity Management (ATFCM), other environmental data (meteo, costs, regulatory aspects...).

Enhanced services

In-depth analysis (post-operation vs current situation, cross-check, "Diff" analysis...) using advanced queries.

Advanced services

Multi-purpose services potentially using advanced algorithms (end-to-end scenarios, forecast, patterns, training tools...).

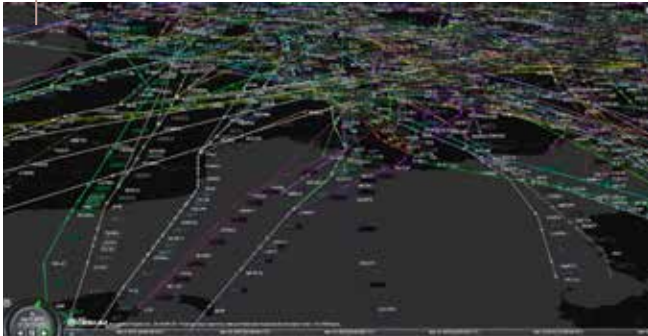
In 2018, the first applications delivered by the platform are related to ATFCM focus:

- pre-operation and post-operation analysis,
- ATFCM situation replay,
- dashboard,
- traffic flows and airspace environmental data search engine
- difference monitoring from AIRAC cycles ("CACDiff"), including route/flight restrictions ("RADiff").

SOME EXAMPLES OF EXPLOR'ATM SERVICES

Easy and quick to find for any AIM object

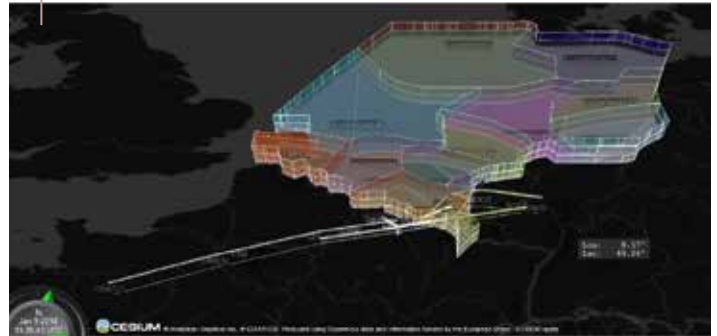
(points, routes, SID/STAR, airspace...) in the vicinity of the location referred to by the mouse in a web HMI. And you can see a wide range of data, European-wide and beyond!



Search engine

- List of elementary matching objects
- Multi criteria and in-depth searching
- Map display
- Inter dependencies between objects

Display in a dynamic 4D webpage of all Maastricht UAC sectors combined with a route flying through a sector.



Env&Airspace data differences analyser

- Analysis of differences of two environmental datasets related to 2 AIRAC cycles on any object (points, airspaces, SID/STAR...)
- List of creations, deletions, modifications including comparisons of changes



Post-operations analysis, training:ATFCM regulations in Europe

- Tactical sector load breakdown and anticipation based on post-ops analysis
- Airspace user view on the regulation impact
- Replay of ATFCM situations for European-wide whole week



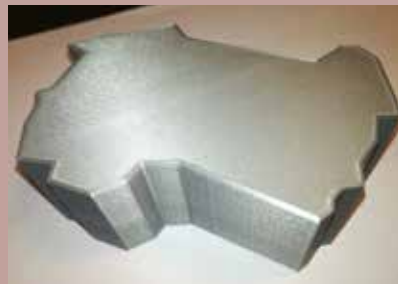
Traffic count differences analyser

- Analysis of differences of breakdown of traffic counts/loads along their forecast for a given sector (elementary or collapsed)
- Replay of iterative traffic forecast along a given period for a given sector

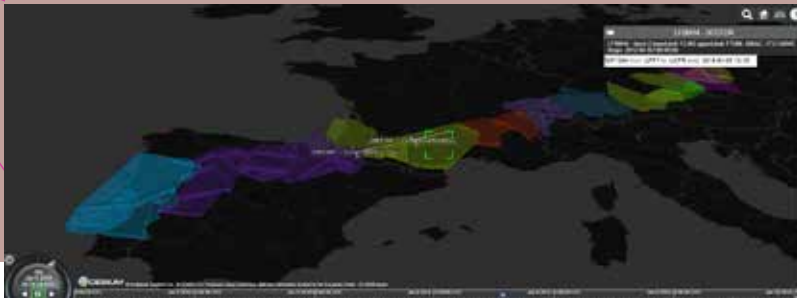
You are Air Navigation Service Provider, Airspace User, Computerised Flight Plan Service Provider, Airport Operator, Meteo Service Provider, Manufacturer, R&D Institute, Training Academy...: EXPLOR'ATM is designed for you!

- > You use the most advanced applications and services in Europe: a reliable, high-performance solution.
- > You benefit from full functionalities with updates. Very advanced features for modelling and displaying AIM and ATFCM objects in 4D on a global map are provided.
- > You reduce your investment and operating costs.

“The way forward is to expand EXPLOR'ATM approach to a large SWIM ATM community to deliver constantly growing multi-purpose services.”



Volume of controlled airspace by Paris-CDG and Paris-Orly Approaches
Piece achieved from the platform EXPLOR'ATM on 3D printer.



4D flight profile replay enabling comparison; air situational display.

PIONEER USERS TALK ABOUT



“We didn't understand why eastbound traffic flow has become so important. EXPLOR'ATM has enabled us to have a clear, post-operations analysis: an air navigation operator had reorganised its airspace by moving a big, prohibited area, generating a major modification of traffic flow. With the function Replay, we were able to have a better understanding of our overloaded operational situations.”

“EXPLOR'ATM offers very interesting prospects in terms of sharing and analysing ATM data at the European scale environmental data, flow & flight data, performance data. Understanding, explaining, demonstrating, evaluating, sampling: crucial activities that this modular web-platform makes easier. In a nutshell, a new, remarkable tool not only for SESAR research and development, but also for any operational entities!”

Contact

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About DSNA

DSNA, the French Air Navigation Service Provider, handled 3 million flights in 2017 with the record one-day peak in Europe: 11,016 flights on July 7th, 2017. DSNA is member of FABEC, SESAR JU and the A6 Alliance. It is also member of the consortium in charge of SESAR Deployments.