



CRIDA, an R&D subsidiary of ENAIRe, receives an award for an artificial intelligence project that improves air traffic planning based on meteorology

- Last week, ISOBAR, a consortium led by CRIDA, an R&D subsidiary of ENAIRe, was presented the SESAR Digital Sky Exploration Research Award by the European Commission's SESAR JU
- The project uses artificial intelligence and the prediction probabilities of meteorological phenomena to improve air traffic management

Madrid, 14 March 2023

The ISOBAR project, headed by CRIDA, an R&D subsidiary of ENAIRe, is a consortium of eleven members that last week received the Exploratory Research Award at the Digital Sky ceremony organised by SESAR 3 Joint Undertaking, the public-private partnership of the European Commission that is working toward the European Digital Sky.

ISOBAR was created to improve the response of air traffic flow management to critical meteorological events that have an impact on airspace capacity, such as a major storm that reduces its availability. The project is based on artificial intelligence modules that help air traffic controllers to balance demand and capacity. This has all been evaluated operationally through real-time simulations.

The highlights of the solution are:

- Improved air traffic flow management process
- Meteorology engine with artificial intelligence that provides forecasts tailored to traffic management needs

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- Integration of data from various air traffic management (ATM) and meteorological sources
- Transforming weather forecasts into an estimate of the impact on both air traffic capacity and demand
- Development of automated tools that propose solutions to imbalances between demand and capacity

In one of the exercises to operationally evaluate the ISOBAR solution, a scenario with border air traffic between Spain and France was simulated that involved collaborative decisions between the European Network Manager, EUROCONTROL, and the French and Spanish air navigation service providers, DSNA and ENAIRe, respectively.

ISOBAR is owned by Carlos III University of Madrid (UC3M), Cranfield University (CU), EUROCONTROL, Ecole Nationale de l'Aviation Civile (ENAC), Direction des Services de la Navigation Aérienne (DSNA), Swiss International Air Lines Ltd. (SWR), Sopra Steria Group (SSG), Earth Networks (EN), Spain's National Meteorological Agency (AEMET) and Météo-France (MF).

About CRIDA

CRIDA A.I.E. is a non-profit group set up by ENAIRe, the Polytechnic University of Madrid (UPM) and Ingeniería y Economía del Transporte, S.A. (INECO).

Its mission is to improve the efficiency and performance of Spain's air traffic management system by developing R&D ideas and projects that provide quantifiable solutions through system performance indicators, while considering the Spanish system as an integral part of a global system.

To do this, it must analyse the system's benefits quantitatively and systematically, diagnose problems and identify their causes, propose and design innovative alternatives, identify and validate the optimal alternatives, and actively collaborate in the process of implementing the selected solution.

The system must be analysed in direct collaboration with ENAIRe, as the main partner, thereby contributing to its mission of providing air navigation services safely while ensuring quality, efficiency and respect for the environment.

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About ENAIRe

ENAIRe is the air navigation service provider in Spain.

As a company of the Ministry of Transport, Mobility and the Urban Agenda, it provides en route control services for all flights and overflights from five control centres in Madrid, Barcelona, Seville, Gran Canaria and Palma, as well as approach services to every airport in the country.

In addition, 45 control towers receive ENAIRe's communication, navigation and surveillance services, and 21 airports, including the country's busiest, rely on its aerodrome control services.

ENAIRe is Europe's fourth largest air traffic manager and participates in the A6 Alliance, a coalition of air navigation providers responsible for over 80% of European air traffic, and which is seeking to modernise the air traffic management system. It is also a member of other international alliances promoting the Single European sky, such as SESAR Joint Undertaking, SESAR Deployment Manager, ITEC, CANSO and ICAO.

ENAIRe, as the agency appointed by the Ministry of Transport, Mobility and Urban Agenda to implement the U-space system in Spain, will be the provider of the Common Information Services (CIS), which are essential for administering U-space services to drones and Urban Air Mobility, in interaction with local air traffic control services, so that all types of aircraft can fly safely in the same airspace.

ENAIRe has received the highest score in Europe on the aviation safety key performance indicator. It has also been awarded the EFQM 500 Seal for its safe, efficient, innovative and sustainable management of air navigation services.