

INDRA, LEONARDO AND THALES BRING INTEROPERABILITY AMONG CONTROL CENTERS IN EUROPE CLOSER AFTER FULFILLING SESAR JU VALIDATION

- **EUROCONTROL (MUAC), Germany (DFS), France (DSNA) and Italy (ENAV) successfully tested new solution developed by Indra, Leonardo and Thales and move forward towards final trial next year**
- **The three companies have joined forces with the ultimate objective of developing the technology that will help to boost air traffic management efficiency and safety in Europe**

July 24, 2019.- 4DTM (Four Dimensions Trajectory Management) project SESAR members Indra, Leonardo and Thales have conducted the first formal exercise to enable control centers across Europe to share complete information about air operations in real time. The ultimate objective is delivering the end of the project the tools that will help to increase efficiency and capacity of air traffic management throughout the continent. After this successful trial, the final exercise will take place next year, clearing the way for deployment.

Europe has some of the busiest airspace in the world, covering 11.5 million km² of airspace managed through 63 en-route centers. Today, when an aircraft crosses several borders, destination control and airports may not have access to complete and updated flight information.

Indra, Leonardo and Thales, within the framework of the 4DTM project, have developed the Interoperability (IOP) solution that will help to solve this problem, allowing all involved concerned ATC centers to know simultaneously the complete flight trajectory, thus supporting smoother coordination and transfer between Air Traffic Control centers improving European air traffic flows.

Taking place simultaneously in the Maastricht, Reims, Langen and Rome area control centers, the demonstration involved EUROCONTROL and French, German and Italian air navigation service providers (DSNA, DFS and ENAV, respectively). The solution was tested in a variety of en-route scenarios, covering different stages of the flight.

The technological solution is based on Flight Objects that allow all parties involved in the management of a flight to share, access and update information about its situation to have a consistent view of its development.

Air Traffic Controllers checked how the solution managed the Flight Objects using System-Wide Information Management (SWIM) to share updated trajectory information, and were able to coordinate the transfer of several flights across the concerned en-route ATC centers.

Results showed concept feasibility, increased situational awareness and seamless operations (for instance, change of route spanning several centers).

After further development, the consistent view of the flight will make it possible to schedule and execute flights more accurately, reducing workload and increasing efficiency.

The development of this solution follows the work conducted in the first phase of the SESAR program, which ended in 2016 with the release of SESAR Initial ground-ground Interoperability Solution¹. This solution was developed with the air navigation service providers in Germany (DFS), France (DSNA) and Italy (ENAV), EUROCONTROL (MUAC), Spain (ENAIRES), UK (NATS), and the air navigation service providers partnership COOPANS. The Network Manager also participated in the activity.

¹ More information at <https://www.sesarju.eu/index.php/sesar-solutions/initial-ground-ground-interoperability>

4DTM, Technological solutions for a single integrated view of the European flights

FO IOP is one of eight solutions currently being developed as part of the Four Dimensions Trajectory Management (4DTM) project, whose overall aim is to establish the technological building blocks for trajectory based operations.

The 4DTM consortium, led by Indra, is composed of 28 members spreading over air navigation service providers, technology firms and research bodies across the whole continent.

The project has received funding from the SESAR Joint Undertaking under European Union's Horizon 2020 research and innovation programme. www.sesarju.eu

About Indra

Indra (www.indracompany.com) is one of the leading global technology and consulting companies and the technological partner for core business operations of its customers world-wide. It is a world-leader in providing proprietary solutions in specific segments in Transport and Defense markets, and a leading firm in Digital Transformation Consultancy and Information Technologies in Spain and Latin America through its affiliate Minsait Its business model is based on a comprehensive range of proprietary products, with a high-value focus and with a high innovation component. In the 2018 financial year, Indra achieved revenue of €3.104 billion, with 43,000 employees, a local presence in 46 countries and business operations in over 140 countries.