



SESAR Virtual Centre Executive Day at Frequentis: Taking Virtual Centre to the next level

Europe's Air Traffic Management (ATM) is a highly-fragmented network composed of country-based systems and processes. It is currently not capable of responding flexibly to the increasing complexity of traffic flows and related capacity shortcomings. The European Commission mandated a study on this topic and, in particular, in relation to the current lack of capacity in Europe. The ATM Masterplan and Airspace Architecture Study (AAS) identified the need for more flexibility and a dynamic use of airspace amongst the Air Navigation Service Providers (ANSPs), opening the Dynamic Airspace Configuration amongst the European ANSPs with the capability of delegating overloaded airspace to available resources in Europe.

On 16 October 2019, during the SESAR (Single European Sky ATM Research) Virtual Centre Executive Day in Vienna hosted by Frequentis, new and innovative ways to improve this situation by mapping the operational needs such as rationalisation of infrastructure, delegation of airspace, and contingency on interoperable infrastructures were demonstrated at nine European sites and Frequentis headquarters. Nearly a hundred participants, including high-level aviation stakeholders, witnessed a live demonstration of this solution lead by Thales, which was rounded off by a lively panel discussion on the deployment of Virtual Centre.

Today, Air Traffic Management in Europe mostly consists of country-based systems and processes, which require customised systems and solutions at each ATM provider. This has led inevitably to a lack of interoperability and higher costs of air navigation services across Europe and an inefficient usage of resources. This is one of the major findings of the [Airspace Architecture Study](#) recently published.

The demonstrations follow extensive research and validation conducted within the framework of the virtual centre project (PJ.16.03) by SESAR Joint Undertaking Members and partners, namely COOPANS, DFS, DSN, Enaire, ENAV, Eurocontrol, Frequentis, HungaroControl, Indra, Leonardo, LPS SR, NATS, SINTEF, Skyguide, Thales (lead partner), and Air Navigation Services of the Czech Republic.



The project work also builds on outcomes from the first SESAR research and innovation programme (SESAR 1) which confirmed the technical feasibility of the concept. The European experts attending this year's event were impressed by the presentations and the maturity of the Virtual Centre solution, witnessing a live demonstration conducted by seven Air Navigation Service Providers, transferring airspace and flights between ANSPs and showcasing the benefits that full delegation and optimisation of sectors across Europe can provide.

This concept refers to the notion of Data Service Provision captured within the Airspace Architecture Study and is built upon a number of elements, including system-wide information management principles of data exchange protocols and open service-oriented architecture, which would not prevent further development in other domains.

The Virtual Centre concept is achieved by decoupling the controllers and their workstations from the ATM data service providers, such as flight data, radar, and weather information. This innovative architecture, which was successfully demonstrated during the live demo on 16 October, allows ATM service providers to manage the airspace and air traffic in a flexible and efficient manner. Benefits of the Virtual Centre solution thus not only comprise increased cost efficiency with the rationalisation and standardisation of systems and services and increased flexibility made possible through workload balancing, but also increased operational flexibility and better service continuity.

This optimisation in the use of ATM infrastructures and airspace optimisation in terms of its usage, design, and configuration therefore represents important milestones in the modernisation of ATM, as described in the Airspace Architecture Study.



This project has received funding from the SESAR Joint Undertaking under the European Union's Horizon 2020 research and innovation programme under grant agreement No 734141.





About FREQUENTIS

The Austrian company Frequentis headquartered in Vienna is an international supplier of communication and information systems for control centres with safety-critical tasks. Such 'control centre solutions' are developed and marketed by Frequentis in the business sectors Air Traffic Management (civil and military air traffic control, air defence) and Public Safety & Transport (the police, fire brigade, ambulance services, shipping, railways). Frequentis operates a worldwide network of branches, subsidiaries and local representatives in more than 50 countries. Products and solutions from Frequentis can be found in over 30,000 operator working positions and in about 140 countries. Founded in 1947, Frequentis is, by its own estimation, the global market leader in voice communication systems for air traffic control with a market share of around 30%. Moreover, the Frequentis Group's systems are globally leading in AIM (aeronautical information management) and aeronautical message handling systems, as well as in GSM-R systems in the field of Public Transport.

The shares of Frequentis AG are traded on the prime market on the Vienna Stock Exchange and in the general standard on the Frankfurt Stock Exchange under the ticker symbol FQT (ISIN: ATFREQUENT09).

For more information, please visit www.frequentis.com

About SESAR Joint Undertaking

As the technological pillar of the Single European Sky initiative, SESAR aims to modernise and harmonise air traffic management in Europe. The SESAR Joint Undertaking (SESAR JU) was established in 2007 as a public-private partnership to support this endeavour. It does so by pooling the knowledge and resources of the entire ATM community in order to define, research, develop and validate innovative technological and operational solutions. The SESAR JU is also responsible for the execution of the European ATM Master Plan which defines the EU priorities for R&D and implementation. Founded by the European Union and Eurocontrol, the SESAR JU has 19 members, who together with their partners and affiliate associations will represent over 100 companies working in Europe and beyond. The SESAR JU also works closely with staff associations, regulators, airport operators, airspace users and the scientific community.



Our partners

