



Press Release

Vienna, February 2018

Successful first SESAR 2020 Multiple Remote Tower validation for three airports

“Single” remote tower settings have already been deployed in former projects; however, most significant impacts in cost-effectiveness are to be expected with multiple and/or centre settings. The SESAR 2020 project PJ05 aims to bring the concept of remotely controlling multiple airports to the next maturity level. In November 2017, Frequentis AG, HungaroControl, DLR, and Selex ES GmbH (Leonardo LTP) conducted a first successful validation campaign on “Remote Tower for Multiple airports” in Braunschweig.

Multiple remote tower operations clearly show that it is possible for a single air traffic controller to safely provide air traffic control services remotely to more than one airport. At the DLR Air Traffic Validation Center in Braunschweig, a single remote tower controller controlled three airports simultaneously. In a human-in-the-loop real time simulation seven Hungarian civil and military controllers managed up to 30 movements per hour at three Hungarian airports, Budapest, Papa and Debrecen.

An integrated multi tower position, combining relevant information of three airports, were provided to the controllers. A new multi airport planning tool, closely integrated with the Frequentis electronic flight strip solution, called smartSTRIPS, was used to plan and organise the work over multiple airports. The out of the window view of the three airports was displayed on several large screens and augmented with radar and support information (“stitched view”). Wind shear information provided by Selex was integrated to represent an operational constraint and for testing the situational awareness. Integration of voice communication system in the video presentation and on the electronic flight strips system enabled the controller to handle the workload, plan the traffic and unambiguously associate an airport in a multi remote environment.

DLR researchers & Frequentis human factors experts assessed the controllers’ eye point of regard, their perceived situation awareness, workload and acceptance as well as efficiency and safety in handling the various traffic situations to judge about the overall operational feasibility of the concept and the design of the controller working position.

Also, the controllers themselves commented very positive on this evaluation test.

Emese Kisfaludy: *‘It was a great challenge to put our minds and skills on test as tower controllers. The developed technology, the HMI was very helpful and futuristic at the same time. There’s a lot to develop and research further to answer the uprising questions and make the multi-remote concept really safe, useful and efficient in the near future.’*

Gábor Draschitz: *'I was looking forward to starting off with this extraordinary, as an ATCO rather unusual, but exciting challenge of controlling the traffic of three airports at the same time and the testing of the new technology. I have really enjoyed controlling in the simulator, but it is clear that intensive technical development will be needed until this project determining the future of the aviation industry becomes successful, and a lot of effort awaits those working on the procedures and the legal environment.'*

The validation results showed the operational feasibility of the concept. Integration and a harmonised HMI have been identified to be the key elements of a multi-airport solution. In 2018, the second phase of this simulation campaign will be conducted at the DLR premises, building upon lessons learned in 2017. After that, it is planned to endorse this concept on a real-life validation platform based on Frequentis smartVISION Solution together with HungaroControl and Selex at HungaroControl's premises in Budapest.

More information about PJ05 / remote tower can be found on <http://www.remote-tower.eu/wp/>

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 730195.

Background information about DLR

DLR is the national aeronautics and space research centre of the Federal Republic of Germany. Its extensive research and development work in aeronautics, space, energy, transport and security is integrated into national and international cooperative ventures. In addition to its own research, as Germany's space agency, DLR has been given responsibility by the federal government for the planning and implementation of the German space programme. DLR is also the umbrella organisation for the nation's largest project management agency.

DLR has approximately 8,000 employees at 20 locations in Germany: Cologne (headquarters), Augsburg, Berlin, Bonn, Braunschweig, Bremen, Bremerhaven, Dresden, Goettingen, Hamburg, Jena, Juelich, Lampoldshausen, Neustrelitz, Oberpfaffenhofen, Oldenburg, Stade, Stuttgart, Trauen, and Weilheim. DLR also has offices in Brussels, Paris, Tokyo and Washington D.C.

Detailed information about DLR can be found on the website <http://www.dlr.de>

Background information about HungaroControl

HungaroControl is one of the most successful state-owned companies in Hungary, which provides air navigation services in the Hungarian airspace and (on a NATO assignment) in the upper airspace over Kosovo, trains air traffic control personnel and conducts air navigation research and development.

In the past years HungaroControl has been making impressive efforts in taking part and supporting innovations to improve flight safety, increase capacity, reduce airline costs, and enhance environmental protection. The company supports the Single European Sky programme aimed at improving the efficiency of European air transport.

Detailed information about HungaroControl can be found on the website <http://en.hungarocontrol.hu>

Background information about Selex ES GmbH (Leonardo LTP)

Selex ES GmbH, Gematronik Weather Radar Systems, is a German engineering company and is one of the TOP companies in the meteorological market. Worldwide, Selex ES GmbH has a leading position in the design, manufacturing and installation of weather radar systems. Today, Selex ES GmbH focuses on providing customized systems, turn-key solutions and integrated information systems in meteorology, hydrology and other related fields."

Detailed information about Selex ES GmbH can be found on the website <http://www.selex-es.de>

Background information about FREQUENTIS

The Austrian company Frequentis 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 has at its disposal a worldwide network of branches, subsidiaries and local representatives in more than 50 countries. Products and solutions from Frequentis can be found in over 25,000 workplaces and in over 130 countries. The company Frequentis is the world market leader in the field of voice communication systems, making our world safer day in, day out.

The Frequentis SESAR partners consortium (consisting of Atos, HungaroControl and Frequentis) engages in several projects in SESAR2020.

Detailed information about Frequentis can be found on the website www.frequentis.com

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