SESAR2020: 2nd successful Multiple Remote Tower validation for three airports

The SESAR 2020 project PJ05 "Remote Tower for Multiple Airports" aims to bring the concept of remotely controlled multiple airports to the next maturity level. From 19th to 27th March 2018, the Lithuanian ANSP Oro Navigacija (ON), DLR and Frequentis AG performed a validation exercise for multiple Remote Tower at DLR in Braunschweig, to test the concept's operational feasibility.

In the test setting, one air traffic controller provided ATS to three Lithuanian airports simultaneously. In a real-time simulation at the DLR Air Traffic Validation Center, six Lithuanian controllers managed extensive traffic in a mixed VFR/IFR environment. They were provided with a newly developed flight strip planning system from Frequentis AG, a three-fold radar and a three-fold outside view, with integrated voice communication system and augmented weather information.

The validation exercise was planned and put into practice by human factors and simulation experts of DLR's Institute of Flight Guidance. In the V2 validation, the ATCOs ran four different scenarios, each lasting 50 minutes, with diverse use cases. Equipped with several support functions, such as weather, aircraft and vehicle information overlays (labels) on the panoramic screens, PTZ (pan-tilt-zoom) cameras, airport associated squelch indication, and the Frequentis planning tool, controllers handled up to 22 movements per scenario, both air traffic and ground movements.

ON air traffic controllers tested the Frequentis system in 2-day sessions each. For this test, the interaction screen was adapted to the ON controller's working procedures, so they had a split arrival and departure timeline available during the validation. The exercises were run in pairs, for the observing controller to analyse safety, workload and overall well-being of the executing controller.

The ON ATCOs comments, such as "very innovative, new system, that can have a future" as well as "interesting, like driving a new car", radiate optimism and confidence that these research activities are an important step into the right direction.

Thanks to the results from this V2 level, it is planned to take the operational feasibility of Multiple Remote Tower to the next step. Therefore, to collect even more controller feedback and to challenge them with particular, more detailed use cases, which have not been previously tested, air traffic controllers from another air navigation service provider will evaluate the concept on a V3 level at DLR's simulation platform with an adapted planning tool by Frequentis in November 2018.

Caption: High concentration during V2 validation at the DLR Air Traffic Validation Center

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

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, Oberpfaffen-hofen, 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 ORO NAVIGACIJA

Oro Navigacija is the sole provider of air traffic control, communication, navigation, surveillance and aeronautical information services in Lithuania. The services are rendered in an open and transparent manner without discrimination of any user on grounds of nationality or identity, or class of users.

The activities of Oro Navigacija are performed putting emphasis on the key performance areas, such as safety level, ATM capacity, cost effectiveness and environment.

Detailed information about Oro Navigacija can be found on the website https://www.ans.lt/en/

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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