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FREQUENTIS digital cloud services: Paving the way for Estonian U-space

Estonian Air Navigation Services (EANS) has been working with Frequentis to create an environment where drones and civil aviation can coexist in the shared airspace. By integrating air traffic management (ATM) and unmanned traffic management (UTM) on the same platform, situational awareness and safety will be enhanced, allowing increased use of drones in Estonia. The project will accelerate the roll out of Estonian U-space (unmanned airspace) and allow drones to serve critical industry.

The project delivers a pre-operational system, hosted in the Frequentis cloud environment, to allow use cases and business cases to be defined, verified, and trialed. The flexibility of the system, and the experience Frequentis gained from previous projects, allowed the system to be adapted to the needs of EANS. This has allowed EANS to take a leading role in creating the Estonian drone ecosystem and a step closer to their U-space roadmap for Estonian airspace.

"The usage of drone-based services is increasing constantly and drone traffic volume in urban air space is one of the biggest challenges we have to face. To cope with future demand and to continue providing safe airspace operations, we must ensure that all airspace users are aware of each other. It is crucial to have an efficient unmanned traffic management (UTM) system in place that also interacts with manned aircraft operations," said Jaanus Jakimenko, Head of CNS Department and Member of the EANS Management Board. "EANS worked with Frequentis on the SESAR Gulf of Finland (GOF) U-space trials in 2019. This experience gave us the knowledge and ability to quickly support the use of drones for emergency services during the 2020 COVID-19 lockdowns. It has also given us the needed assurance of Frequentis technological capabilities and knowledge of their experienced team. We are looking forward to enhancing our airspace operations in line with the growth of drone usage."

The 2019GOF project focused on ATM/UTM integration testing the U-space concept of operations in seven advanced drone trials. During the 2020 COVD-19 lockdown the Frequentis flight information management system (FIMS) was reactivated and, as a result, enabled EANS to support Estonian emergency services with series of essential drone operations. The cloud-based system is provided as managed service in the Frequentis cloud environment, allowing validation of use cases and business cases as well as UTM/UAS trials. Furthermore, the cloud architecture enables a fully optimised deployment process, without the need for on-site activities. This ensured project success despite the challenges of COVID-19. The current solution will enable EANS to move forward with realising Estonian



U-space concept of operations and started implementing technological solution to provide drones safe and secure access to the airspace. The current cooperation will validate the pre-operational system for EANS for monitoring and authorizing unmanned flights and create preliminary capabilities for common information sharing as outlined in the new U-space regulatory framework. The validation of the preoperational solution will enable EANS to decide on how to best proceed with deploying U-space in the upcoming years and support the growing unmanned ecosystem.

"The FIMS provides Common Information Services (CIS) and U-space services ensuring a single source of truth where necessary, a foundation for U-space, which allows real-time situational awareness for air traffic controllers, drone operators and service providers, enabling both manned flights and drones to safely share the same airspace," says Guenter Graf, Vice President Frequentis New Business Development "The Frequentis platform allows drone operators to see airspace restrictions and flight rules, file flight plans, and receive updates from Air Traffic Controllers in real time, supporting ANSPs with their goals for increased drone services to support their future tech economy."

About FREQUENTIS

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 (police, fire brigade, ambulance services, shipping, railways). As a global player, 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 approximately 140 countries. Founded in 1947, Frequentis considers itself to be the global market leader in voice communication systems for air traffic control with a market share of around 30%. In addition, the Frequentis Group's AIM (aeronautical information management) and AMHS (aeronautical message handling) systems, as well as GSM-R systems for Public Transport are industry leading global solutions.

Frequentis AG shares are traded on the Vienna and Frankfurt Stock Exchange under the ticker symbol FQT (ISIN: ATFREQUENT09). In 2019, the Frequentis Group had about 1,850 employees worldwide and generated revenues of EUR 303.6 million and EBIT of EUR 17.2 million.

For more information, please visit www.frequentis.com

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About EANS

Estonian Air Navigation Services (EANS, Lennuliiklusteeninduse Aktsiaselts) is a next generation air navigation services provider, headquartered in Tallinn, Estonia. We provide safe and efficient air navigation services together with air traffic management consultation and training services.

We are well integrated into international air navigation services community and shaping the future of air traffic management within European Union. Coming from one of the worlds most advanced digital societies, Estonia, gives us the strength, knowledge, and expertise to make the digital transformations in air navigation industry real.

Together with almost 200 employees we are designing innovative and sustainable integrated airspace, via dynamic cross-border FINEST collaboration with our neighbors in Finland. We are one of the drivers of the safe airspace integration of unmanned aerial vehicles within the Single European Sky Initiative Gulf of Finland (GOF) 2.0 and developing unified air traffic management in Estonia. Our remote tower technology is one of a kind and enables us to control air traffic at several aerodromes simultaneously from one working position, ensuring safe and high-quality services even in poor weather visibility conditions.

EANS is a state-owned public limited company under the jurisdiction Ministry of Economic Affairs and Communication of Republic of Estonia.

For more information, please visit www.eans.ee

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