Digital Clouds Services

Accelerating Estonian U-space as drone usage soars

he economic potential of drones is boundless; as Europe announces the adoption of U-space drone regulations, Maria Tamm, Estonian Air Navigation Services, UTM Project Manager, explains how digital cloud services will support the growing drone ecosystem:

Drone usage in Estonia is soaring **Aerial viewoof thallpot**ential is clear for industry and infrastructure. But to unleash the possibilities that drones have to offer we need a concept to enable them to safely share the airspace with manned aviation.

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All airspace users must be aware of one another and be contactable.

Worldwide, ANSPs are keen to solve this dilemma and profit from the clear economic benefits of drones. In Estonia we are no different and Estonian Air Navigation Services (EANS) is developing the concept of operations with (global ATM solutions provider) Frequentis for accelerating the roll-out of Estonian U-space. We have been working on this for some time, in various projects, including the SESAR Gulf of Finland (GOF) U-space project, in 2019, where we were able to take part in trials for multiple drone use cases; from parcel deliveries to search and rescue. The key has always been the integration of air traffic management (ATM) and unmanned traffic management (UTM) on the same platform, providing shared situational awareness for all parties. To push forward with our own plans for an Estonian U-space we engaged Frequentis, who we had worked with on the GOF trials. Frequentis had delivered the flight information management system (FIMS) for the project, which provides the Common Information Services (CIS) function and initial

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U-space service provider (USSP) capabilities to the GOF trials. This gives real-time situational awareness to air traffic controllers, enabling both manned flights and drones to safely share the same airspace, providing controllers with the complete air situation picture.

It was during the start of the pandemic that we first decided to enlist the help of Frequentis to temporarily reinstate the CIS, to allow us to utilise drones to deliver medical supplies to remote Estonian islands when air traffic was grounded. This again gave us the assurance of the technological capabilities and confidence in the knowledge of their experienced team.

Drone services in the cloud

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The project we are jointly working on delivers a system, hosted in the Frequentis cloud environment. This allows use cases and business cases to be trialled. The flexibility of the system and experience we had gained from previous projects allows the system to be adapted to EANS needs and to advance the Estonian drone ecosystem.

This also brings us a step closer to a U-space roadmap for Estonian airspace, enabling us to decide on how best to proceed with deploying U-space in the upcoming years, to support the growing unmanned ecosystem. Participation in the GOF2.0 very large demonstration (VLD) project will enable validating the solution in selected complex UAS use cases performed and adapting the solution while leveraging the experience gained in the project activities.

As GOF2.0 brings together the regulatory landscape with technological solutions to enable U-space service provision, we are able to gain further knowledge on how to achieve deployment of U-space and to work towards the operational solution for Estonian U-space. **ATM**



About...

...THE AUTHOR

Maria Tamm is leading the development of the Estonian U-space concept for EANS and co-ordinating its innovation and unmanned aviation activities. Prior to joining EANS in 2010; she was leading the SESAR JU VLD GOF U-space project and is currently the main co-ordinator of the GOF2.0 Integrated Urban Airspace VLD project, funded by SESAR JU.

...EANS

Estonian Air Navigation Services (EANS, business name Lennuliiklusteeninduse Aktsiaselts) is a next-generation air navigation services provider, headquartered in Tallinn, Estonia. EANS is one of the drivers of the safe airspace integration of UAVs within the SESAR GOF (Gulf of Finland) trials and of developing unified ATM in Estonia.

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