Pushing the U-space envelope

Proving Operations of Drones with Initial UTM (PODIUM) is a SESAR/Horizon 2020 Very Large Scale Demonstration Project. The main objectives of PODIUM have been to demonstrate current state-of-the-art U-space/UTM concepts and systems in operational environments; to assess their maturity; and to make recommendations regarding their deployment.

Led by EUROCONTROL, the consortium consists of stakeholders in the aviation and drone industry. Throughout late 2018 and 2019, PODIUM has performed 18 operational scenarios for VLOS and BVLOS flights, involving around 73 actual flights and 138 flight authorisation workflows at Hans Christian Andersen Airport, Odense; the Drones Paris Region cluster, Brétigny-sur-Orge; Rodez-Aveyron airport; the Netherlands RPAS Test Centre, Marknesse; and Groningen Airport Eelde.

EUROCONTROL

AIRBUS

DELAIR

DRONES PARIS REGION

dgac DSNA

integra Aerial Services

nlr

NAVIAIR

orange

UNIFLY

sesarju.eu/projects/podium

SESAR JOINT UNDERTAKING

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 783230

PODIUM

U-SPACE TAKES OFF

Proving Operations of Drones with Initial UTM

Challenges

“I can’t see the drone!” As long as drones are operated as VLOS, the drone pilot can avoid other traffic based on the “see and avoid” principle. The application of the see and avoid principle to detect small drones is very challen-ging, however, both now and increasingly in the future, considering both BVLOS flights and increasing drone traffic and complexity.

To ensure an equivalent level of manned aviation safety, additional means for drone operations are required. PODIUM has set out to demonstrate how a current state-of-the-art UTM solution can support situational awareness, leading to safety and flight efficiency benefits.increased efficiency through the UTM system.

“70% of my effort relates to getting the flight authorisation!” Today, drone operators often need to carry out a number of manual processes before being able to actually fly an operation. All that extra time and effort represent a serious strain on the commercial viability of certain drone operations. PODIUM set out to demonstrate flight authorizations with increased efficiency through the UTM system.

If you can’t measure U-space, you can’t improve it!

PODIUM has collected and analysed feedback from drone operators, air traffic controllers and supervisors in the form of 41 post demonstration questionnaires; 5 facilitated de-briefing sessions; and observations from EUROCONTROL validation experts and partners.

Initial results

Drone operators, air traffic controllers and supervisors participating in PODIUM strongly confirm the need and potential benefits for UTM/U-space solutions that can ease the workload and reduce delays for acquiring flight authorisations, and that can improve communications and situational awareness for both mission preparation and mission execution.

The PODIUM project is in the process of finalising its final demonstration report and aims to publish in November 2019. The drone pilots, air traffic controllers and supervisors have largely confirmed the operational and technical acceptability of the current PODIUM U-space/UTM solution. But a true innovator is somebody who aims to make something better, like U-space, and this will be reflected in the recommendati-ons for improvements, notably related to situational awareness in the flight execution phase.

Stay tuned on LinkedIn @U-space PODIUM