FEBRUARY 2021 | 1ST PRESS RELEASE OF SAFIR-MED PROJECT

Europe launches large-scale demonstrations for medical drones

Drones are emerging as a viable solution for urgent and reliable medical transport. SAFIR-Med, a recently-launched U-space large-scale innovation project will demonstrate how drones can be used to support Europe's healthcare system to accelerate the adoption of drones into the healthcare system in a safe, sustainable and socially acceptable way.

SAFIR-Med will perform 3 flight demonstrations and 2 simulated demonstrations of Medical Urban Air Mobility

SAFIR-Med (Safe and Flexible Integration of Advanced U-space Services for medical Air Mobility) will leverage the expertise of 17 renowned project partners supported by 8 cross industry advisory board members to demonstrate advanced U-space services enabling the highest possible operational safety level. These include detect-and-avoid as a service, dynamic geofencing and air traffic prioritization rules. Five drone platforms (passenger eVTOL, hydrogen fuel cell VTOL, AED medical drone, X8 medical transport and tiltwing VTOL drone) will be combined with manned aviation in operational exercises validating technology in real urban environment. The demonstration results will be further virtually enhanced through large-scale simulations in order to evaluate the maximum airspace capacity of the given locations.

The demonstrations will take place in collaboration with healthcare actors like hospitals and medical spaces in the cities of Antwerp (BE), Aachen (DE), Heerlen (NL) and Maastricht (NL), leveraging the MAHHL trans-border region. The project results will then be further validated by simulating demonstrations in two additional locations in Europe, namely Athens, Greece and

Prague, Czech Republic. Prior to the operational environment demonstrations, a de-risking exercise at the DronePort BVLOS test-facility (BE) will take place.

All lessons learnt from the project will be documented in a performance assessment and recommendations report, which will include refinements to the current U-space architecture principles, proposals for improved operational procedures and mechanisms for an effective interface with Air Traffic Control (ATC) and U-space service providers and a suggestion of a set of Urban Air Mobility indicators to complement the existing smart urban mobility indicators used by European cities.

The results of the SAFIR-Med project will enable European cities to get acquainted with their role in U-space management, to keep up with relevant regulatory changes, to include Urban Air Mobility in their urban development agendas and to start using the technology for the benefit of their citizens. The project is among several managed by the SESAR Joint Undertaking in an effort to deliver solutions for U-space, the European Commission's initiative on the safe and secure integration of drones in European airspace.

To achieve this, for the next two years SAFIR-Med will collaborate with representatives from the entire urban air mobility value chain as either project partners (ANSP/ATC, USSP, Operator, UAS Manufacturers, cities) or advisory board members (public authorities including cities, healthcare actors, technology & service providers).

The SAFIR-Med project partners are:

- Helicus (Project coordinator and medical flight operator)
- Future Needs Management Consulting (Urban Air Mobility indicators for Smart Cities, Dissemination & Communication, Business Sustainability, Ethics & Data Protection)
- Skeyes (Air Traffic Control / ATC)
- Unifly (Unmanned Traffic Management software)
- AgentFly Technologies (Flight simulation and aerospace digital twin)
- Hellenic U-Space Institute (U-space services simulation)
- SkeyDrone (U-Space Service Provider / USSP)
- Droniq (U-Space Service Provider / USSP)
- NSX (Software platform integrator, following Normalised Systems Theory)
- INVOLI (Real time air traffic awareness)
- RWTH Aachen University, Institute of Flight System Dynamics (Demonstration Coordination and flight-permit in MAHHL-Region)
- flyXDrive (Tiltwing VTOL manufacturer)
- TUDelft, MAVlab (AED Medical drone and Detect-And-Avoid)
- HyFly (Hydrogen fuel cell VTOL)
- SABCA (X8 medical transport drone)

- EHang (Passenger eVTOL)
- City of Aachen (representing the MAHHL-Urban Air Mobility Initiative)

The SAFIR-Med advisory board members are:

- EASA (European Aviation Safety Agency)
- The Red Cross
- Baloise Insurance
- Zuyderland (healthcare group)
- Droneport (BVLOS test centre for unmanned aviation)
- Proximus (Telecom Operator)
- City of Antwerp
- Port of Antwerp

The SAFIR-Med project started on the 1st of December 2020 and the kick-off meeting took place on the 28th of January 2021. Over the following months project news, publications and outputs will be available on the official project webpage at www.safir-med.eu and distributed via the project social media channels on LinkedIn and Twitter @SAFIRmedEU . For more on U-space, visit www.sesarju.eu/uspace.

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