

SAFIR-MED

Safe and Flexible Integration of Advanced U-Space
Services Focusing on Medical Air Mobility



About

SAFIR-Med is a research project funded by the European Union's Horizon 2020 Research and Innovation Programme, with an aim to contribute towards the contemporary cities getting familiar with their role in the UAS world and use this technology for the benefit of their citizens. Focusing on Medical Air Mobility, our vision to facilitate this transition by providing refinements to the current U-space architecture principles, proposing operational procedures and mechanisms which will enable Smart Cities to include UAM in their Transport Roadmaps.

The project has a total budget of 2.7 Million Euros and duration of 24 months (1 December 2020 – 30 November 2022). It brings together a consortium of 17 partners from 8 EU countries, including leading European research/academic institutions and SMEs for a strong industry presence, ensuring the sustainability of the project results, and high profile organisations for user involvement in the project. Transport authorities and policy makers as well as the citizens as end-users are represented by the city of Aachen.

The challenges for SAFIR-Med are to manage the high density of UAS traffic with safety, ensuring priority to drones, supporting medical operations, when needed. This will be accomplished by providing flight authorisations and ensuring deconfliction between drones at strategic, pre-tactical and tactical level. This includes allocation of areas of operations and validation of “free” trajectories requested by UAS operators. Then, to ensure medical drones' priority it will be required to enable the usage of pre-defined corridors, activated when needed, for the benefit of UAS operating in emergency as well as for inter UAM connections. This concept is a first step that will evolve based on experience acquired during this demonstration and emerging capabilities.

Our Medical Use Cases

According to the recent EASA study on the social acceptance of drones, the use cases that are valuable to all, such as emergency or medical services, receive the greatest public support. The (16) different scenarios of the project's demonstrations like Inter-hospital transports of blood samples and medical tissue, frozen sections transport, AED delivery at a football field and even a medical staff transport by taxi drone, will take place in mostly dense urban surroundings.

Demonstrations

- 1 Droneport / Antwerp, Belgium (de-risking process)
- 2 Antwerp / Belgium
- 3 MAHHL-Cities UAM Region / Aachen, Heerlen, Maastricht

Lessons learnt will be documented in a Performance Assessment and recommendations report, providing refinements to the current U-space architecture principles and creating measurable indicators for UAM which will enable Smart Cities to include UAM in their Transport Roadmaps and set relevant measurable goals aligned with the current Smart City concept and standards.

Demonstrations Open Days

SAFIR-Med will organise the Open Days events, during project demonstrations at Droneport, Antwerp and Aachen. During the Open Days events policy makers as well as city and hospital staff will be able to attend a seminar on the possibilities new technologies in UAM can offer to cities. Workshops and seminars taking place are aiming to provide knowledge on the project activities, outcomes and lessons learned and seeking to attract boost willingness to adopt project solutions.

Spotlight Event

In November 2021 the SAFIR-Med Project co-organised with SESAR JU an event that showcased how U-space services are used in medical use cases, aiming to make drone services for medical air mobility a reality.

Simulations

- I Athens / Greece
- II Prague / Check Republic

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Consortium



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