

Swiss mobile phone network already suitable for drone traffic management, concludes a joint study by skyguide, Swisscom and the ARCS

Geneva, 5 December 2018. Research specialists from the Aviation Research Center Switzerland (ARCS) commissioned by skyguide have demonstrated, together with telecom provider Swisscom, that Switzerland's existing mobile telephony infrastructure is suitable for ensuring the safe performance of drone flight operations in Swiss airspace. A series of measuring flights showed that the exchange of data between drones and U-Space providers would be adequately stable for such operations.

Skyguide will be offering drone pilots a registration system in summer 2019 that will lay the foundation for safely integrating commercial and non-commercial drone operations into Swiss airspace (U-Space). This will also require a real-time exchange of data between the drones concerned, a drone traffic management entity (similar to air traffic management for manned aviation) and the providers of geolocation services (airspace charts).

Skyguide commissioned the Aviation Research Center Switzerland (ARCS) to conduct a feasibility study into the use of the Swiss mobile telephony network for drone operations. The study, which is entitled "The Use of Mobile Telephony for Drones" and was led by Professor Michel Guillaume of the Zurich University of Applied Sciences (ZHAW), demonstrates that Switzerland's mobile telephony infrastructure can already ensure the data exchanges and the drone control within U-Space. The study was jointly conducted by the ZHAW, the University of St. Gallen, the Ecole Polytechnique Fédérale de Lausanne (EPFL) and Swisscom.

The findings are good news for Switzerland's rapidly growing drone industry. The study concludes that no costly new infrastructure will be required to ensure the safe integration of drone operations into Swiss airspace. The findings also open up attractive new business areas for Switzerland's telecom providers, as well as offering further development opportunities for the drone segment.

A follow-up study has now been envisaged for 2019 to further refine these initial findings and conclusions. Skyguide and the ARCS hope that new longer-term tests can be conducted here from the Dübendorf Innovation Park, which, with its particular focus on aviation research, has the competencies and the facilities required. Work is now proceeding on devising the corresponding research concept and clarifying the financing of these follow-up activities.

Klaus Meier, skyguide, Chief Information Officer:

"Skyguide is the first air navigation services provider to implement an integrated U-Space and thus ensures that drones are given safe access to the sky. And this study

shows that, working together with our partners, we can serve as a strong catalyst and enabler for the drone industry.”

Rico Schwendener, Swisscom, Head of Innovation:

“Swisscom is committed to working with its research partners to give Switzerland a pioneering role in the digitalization of airspace. And we are correspondingly pleased that, as is shown by this study, the Swisscom mobile telephony network can provide a sound foundation for the monitoring and management of unmanned air vehicles.”

Michel Guillaume, ZHAW, School of Engineering, Centre for Aviation

“As the findings of this study confirm, mobile telephony networks can make a major contribution to the traffic management system. And this technology can enable the drone business to reach further new heights.”

The Aviation Research Centre Switzerland (ARCS), which was established in 2017, is a national network for aviation research. The overall objective of the ARCS is to promote innovations in Swiss aviation and conduct research and development projects to this end. The ARCS works closely with the authorities and the aviation industry. Its members are the University of Zurich, the University of St. Gallen, the ZHAW and the EPFL.

Skyguide is responsible for providing air navigation services in Switzerland and in certain adjacent parts of neighbouring countries. With its workforce of some 1 500 employees who are active at 14 locations in Switzerland, skyguide safely and reliably guides some 1.2 million civil and military flights a year through Europe’s busiest airspace.

Skyguide is well integrated into the international air navigation services community and, with its innovative and customer-minded solutions, helps enhance Switzerland’s appeal as a place to live, work and do business. The company is majority-owned by the Swiss Confederation, and is headquartered in Geneva.

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