

SkyfloX Novel Aircraft-Based Earth Observation System Receives Funding from European Space Agency



Esch/Belval, Luxembourg, 15 October 2019 – Luxembourg-based start-up SkyfloX has signed a multi-million Euro contract with the European Space Agency (ESA) Business Application Programme to co-fund the development of services using its revolutionary aircraft-based Earth observation system ORCA.

The ORCA (**O**ptical and **Rf** Constellations on **A**irplanes) project plans to use commercial airliners as a platform carrying small remote-sensing equipment, which would image the ground as the planes travel on their regular routes. A constellation of such payloads, hitching a ride on the thousands of aircraft flights crossing the continents every day, would provide coverage and revisit frequencies impossible with satellite-based systems and at the fraction of the cost.

The pilot project, co-funded by ESA's Business Applications Program, is the first step towards ORCA's commercial deployment, which will enable a whole new range of applications such as early forest fire detection, disaster relief, affordable infrastructure monitoring, resource management or detailed monitoring of the environment and the atmosphere.

"We are very pleased to enter this contract with ESA, partnering with world leaders in the field of Earth observation, aerospace and aviation," said Emmanuel Rammos, the General Director of SkyfloX. "With over 30,000 flights per day over Europe alone – all of them potential ORCA-carriers – ORCA is 'the missing layer' from which SkyfloX aims to extract additional value. As the airplanes are 'sensor agnostic platforms', this hosts an untapped promise for countless Earth observation and telecommunication applications."

The payload, about the size of a small suitcase, is designed not to interfere with any regular aircraft operations, and will be controlled remotely by an ORCA operator (thus, no intervention is required by the pilot or the airline). Unlike a payload on a satellite, equipment on an aircraft can easily be repaired, changed or updated, providing additional advantages compared to space-based systems.



ESA will co-invest in the pilot project together with SkyfloX and its partners, which include major airlines **Luxair** and **Transavia**, as well as strategic aerospace players such as Germany-based **Safran Engineering Services** and **Kampf Telescope Optics**, Luxembourg's **Euro-Composites** and **EmTroniX**, and Swedish **Spacemetric**.

Laurence Duquerroy, the ESA technical officer for this project, stated: *"This contract is a key step towards the development of services based on SkyfloX' ground-breaking ORCA constellation, which can become a key element in the next generation of geospatial and geo-analytics services. It will make use of advanced navigation, telecom, and EO technology, and will complement existing satellite systems with affordable, high-quality Earth observation data, enabling services that were either inconceivable or too expensive with existing systems."*

Transavia's Innovation Lead Brit Haarmans stated: *"At Transavia, we consider this a revolutionary project, which will allow us to improve present-day earth observation. In this way, our flights can contribute to monitoring air quality, deforestation and pollution."*

SkyfloX also cooperates with several key companies in Earth Observation and Geospatial Analytics, including among others **HEXAGON**, **Esri Deutschland**, **EarthLab Luxembourg**, **UTILIS**, **The Sniffers** and the **National Observatory of Athens**, in order to better adapt its products to the market needs.

After full certification of the payload under the European Union Aviation Safety Agency (EASA) regulations, and obtaining permission to install on passenger airplanes, SkyfloX aims to operate the first Earth-observing equipment on operational civil transport airplanes by the end of 2020.

About SkyfloX

SkyfloX is a disruptive European Space Agency 'spin-off'. The company's unique constellation will offer unprecedented cost/performance ratio to the high spatial and temporal resolution Earth observation and telecommunication markets, enabling a wide range of new applications. The ORCA concept is patented by ESA and licensed to SkyfloX for development and commercialisation.

About ESA Business Applications and Space Solutions

Since the programme's inception in 2008, ESA Business Applications has invested more than €200M in over 500 business ideas, addressing innovative services for new markets and industries worldwide. Funding supports everything from early stage feasibility studies to large-scale demonstration projects. See business.esa.int

For more information visit www.skyfloX.eu or contact us via info@skyfloX.eu