



Swiss Alps to be Laser Scanned by Drones; Swiss-Austrian Consortium Partners for Flight Tests

Dufour Aerospace, RIEGL, BSF Swissphoto and the SLF collaborate on innovative flight tests of large-scale area.

Zurich, February 28, 2024: A Swiss-Austrian consortium will test large-area laser scanning applications in the Swiss Alps, using innovative drones. The partners are Dufour Aerospace, RIEGL, BSF Swissphoto and the SLF, who will collaborate for a series of test flights over several months.

There is growing interest among various private and public stakeholders in high-resolution, up-to-date and cost-effective data, particularly in the area of alpine environmental hazards or energy production. Today, aeroplanes and helicopters are used for large-scale, high-resolution laser scanning. This test series will demonstrate the efficiency of drone application with a view to a lower environmental impact and significant cost reductions.

Dufour Aerospace will support the project with its 3-metre-wingspan AeroMini and 6-metre-wingspan Aero2 UAS platforms. **RIEGL** will provide the laser scanners and help with the integration. **BSF Swissphoto** will contribute to data validation and assess the commercial relevance of the technology and the processes. **The WSL-Institute for Snow and Avalanche Research SLF** will ensure that the data quality meets quality requirements, and serves applied science use cases and supports the field test with experienced personnel.

Dufour Aerospace Co-founder and CEO Thomas Pfammatter said: "This is a fantastic opportunity to demonstrate the capabilities of our AeroMini and Aero2 vertical take-off-and-landing uncrewed aerial systems in relevant applications. We'll have a shared, clear aim of increasing efficiency in data generation medium and long-term, supported by renowned, experienced partners. We can't wait to start."

RiCOPTER UAV GmbH (a RIEGL company) Managing Director Michael Mayer said: "While we already have a lot of experience with using our high-end sensors with UAS, this is nowadays mostly limited to smaller areas using multicopter types, single-rotor drones or VTOLs of smaller scale. This project will help us to understand the potential of drones in larger scale, covering large application areas in order to exploit the performance of our high-end devices even more. As a quality-conscious high-end producer of laser scanners, we are predestined to contribute our expertise."

BSF Swissphoto CEO Jörg Wertli said: "For some time, drones have been around for aerial geo data acquisition, but only usable for small areas. Dufour Aerospace develops a platform suitable for projects that can only be realised with crewed planes today. The planned test series lays the basis for autonomous, large area aerial geo data acquisition. We are excited to be part of it."

WSL-Institute for Snow and Avalanche Research SLF, Dr. Yves Bühler said: "As a leading national research institute, we rely on up-to-date, cost-effective and high-quality data for our own analyses as well as for services. We are pleased to represent the applied science side of this test setup and to contribute our experience in high alpine terrain. We are convinced that much progress is still possible, especially in the field of snow- and mountain hazard research."

The test series is expected to begin this spring in Dübendorf, Switzerland, with basic functional tests and will then be extended to the Alpine region in the course of 2024 and 2025, depending on the results from each individual test series. This project is also supported by the Fondation The Ark and armasuisse.

About Dufour Aerospace:

Dufour Aerospace develops efficient and sustainable aircraft for cargo transportation, logistics and public safety. It uses distributed electric propulsion and a hybrid module to be able to meet today's Advanced Air Mobility and medium-sized drone market requirements. The company was incorporated in 2017 and has its headquarters in Visp, Switzerland, with a design office and flight testing facilities in Dübendorf, Switzerland. Currently, Dufour Aerospace employs 47 employees.

www.dufour.aero

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About RIEGL:

With more than 40 years of experience in the research, development and production of laser rangefinders, distance meters, and LiDAR sensors and systems, RIEGL is constantly innovating in the field of 3D measurement technology.

We combine our powerful laser scanners and laser scanning systems for terrestrial, industrial, mobile, airborne, bathymetric and UAV-based laser scanning with specially developed RIEGL software packages for data acquisition and processing to create systems optimized for the most challenging surveying tasks.

Based on RIEGL's Ultimate LiDAR technology, RIEGL UAV LiDAR sensors and systems offer a wide range of functions to meet the requirements of the various tasks of UAV-based data acquisition in surveying. The wide range of devices distributed by RiCOPTER UAV GmbH, a RIEGL Group company, enables users to find exactly the right sensor for their specific surveying task.

RIEGL has always been committed to delivering the highest performance, quality, reliability, and longevity of all its products and services, and strict adherence to applicable international standards is a priority.

www.riegl.com

About BSF Swissphoto:

BSF Swissphoto is a Swiss-German service provider for airborne surveying. We acquire geo data using modern, sustainable aircraft and latest technology sensors, both large format cameras and laser scanners. With a diverse team spread across the three locations in Berlin, Zagreb and Zurich, we deliver various products based on the acquired data, ranging from traditional Orthophotos, high precision elevation models to complete 3D city visualisation. In addition to our core business of airborne surveying, we consult governments in the field of land administration.

www.bsf-swissphoto.com

About WSL-Institute for Snow and Avalanche Research SLF:

The SLF is well known worldwide as a leading research institute in its field. Along with basic research, the SLF performs applied research and provides various services, such as the Avalanche Bulletin. The SLF carries out advanced research while at the same time contributing to the resolution of urgent social issues, such as warning of natural hazards or analysing climatic and environmental changes in mountain areas.

Research for people and the environment:

- The SLF monitors and researches the condition, origin and evolution of natural hazards, snow, permafrost and mountain ecological systems.
- The SLF develops concepts, strategies and specific measures to protect populations against natural hazards, in particular avalanches.
- The SLF develops sustainable solutions for socially relevant issues, in collaboration with partners in the scientific and social sectors.

The SLF is part of the Swiss Federal Research Institute WSL, making it part of the ETH domain.

www.slf.ch

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