Annual Media Conference
Fact Sheet Rega Drone

Zurich Airport
Wednesday, 13 April 2022

Author **Rega Media Service**
Phone no. **044 654 37 37**

The further developed Rega drone

The Rega drone unites cutting-edge technology with Rega's decades of experience in conducting search operations for missing, injured or ill persons. It autonomously scans large search areas and is equipped with various search systems. The Rega drone is deployed when, for example, the rescue helicopter is forced to remain on the ground due to poor visibility.

The key facts in brief

Technical specifications
The Rega drone has a rotor diameter of 2.8 metres, is 2.2 metres long and 75 cm high. It is powered by a two-wave turbine, which provides it with sufficient power reserves even at high altitudes. With an overall weight of around 25 kilos, it is versatile in its use. Like many other aircraft in Switzerland, the drone is equipped with the FLARM anti-collision system and an ADS-B receiver. The FLARM signals are evaluated on board. If necessary, the drone will automatically alter its flight path in order to avoid an impending collision. The drone can also operate without visual contact with the pilot according to the so-called BVLOS (Beyond Visual Line of Sight) procedure.

How the Rega drone works
With the airborne mobile phone location device, "Lifeseeker", the drone can locate a mobile phone with an accuracy of a few metres, even if there is no mobile phone coverage in the search area. The system is able to set up an artificial mobile phone network cell and animate the mobile phone of the missing person to dial into it. The targeted search for a missing person using the mobile phone location device is always carried out on behalf of the police.

Another search system that has been specially designed for use with the drone is the so-called human detection pipeline. Thanks to a self-learning algorithm, this system can automatically detect persons in the terrain on the real-time images delivered by the thermal imaging camera

and relay this data to the Rega drone specialist, who coordinates the search operation from his workplace at the Rega base in Wilderswil.

The most important FAQs

Why does Rega need a drone?
Rega's drone system is used to search for missing, injured or ill persons. It serves to supplement Rega's conventional search resources – for example, if the helicopter crew are unable to fly due to adverse weather conditions or if a search at night at a low flying altitude in an area with an abundance of cables and other obstacles is too dangerous. The drone expands Rega's scope of operations and provides it with additional possibilities to help people in distress.

For what kind of missions is the drone used?
The Rega drone is primarily used on search missions for missing, injured or ill persons. In adverse weather conditions, the mountain rescuers from the Swiss Alpine Club (SAC) are needed to rescue the person once he or she has been found. One scenario for the use of the Rega drone would be a missing hiker who cannot be searched for by helicopter due to bad weather. Such search operations are performed in collaboration with the police. The decision as to which search method and tactics are the most suitable is made after the alarm has been raised, based on the information available at the time and on the topography and weather conditions in the search area.

How many search operations does Rega coordinate per year?
The Rega Operations Centre at Zurich Airport coordinates around 250 search operations for missing, injured or ill persons per year.

Does the Rega drone replace personnel or the helicopter when out on a search mission?
No. Even if the drone is unmanned and can fly autonomously, it still needs a well-trained drone crew to coordinate the search with the various rescue teams, to determine the search strategy and to operate the drone. The drone will always remain an aid to supplement conventional search methods. If the search for a missing, injured or ill person proves successful, people will always be needed to fly medical assistance to the site of the incident and to rescue the person in distress.