FONDAZIONE BRUNO KESSLER
MAGAZINE

Future drones for emergency management

May 29, 2019

The first flight tests have already been carried out this spring in Trentino

Creating **a platform for drone management to be used in emergency situations, such as missing person searches or fire monitoring operations**. This is the goal of **UAV RETINA**, a European initiative promoted and funded by **EIT Digital** within the Digital Cities innovation area, which will be completed at the end of this year with the coordination of the **University of Rennes** (France) and the participation of **Fondazione Bruno Kessler** of Trento.

The first flight tests have already been carried out this spring in Trentino, at the **fire department in Marco (Rovereto)**, with encouraging results.

“The final goal”, explains Fabio Poiesi, researcher of the TeV Unit (FBK) ” is to create a start-up that will develop an autonomous and flexible platform dedicated to search and rescue operations, in particular to support the Fire Brigade or the Civil Protection in operations ranging from finding people to avalanche rescue, and finding improvised explosive devices.

The project was designed to develop drones equipped with sensors that collect images in the visible spectrum and thermal images and send them to a software system that analyzes them and spots useful elements to be brought to the attention of rescuers, so that they can make faster decisions.

Fondazione Bruno Kessler deals with the research and development part concerning strategic planning software modules and artificial vision systems.

In particular, the **Embedded Systems (ES) Unit** will provide artificial intelligence technologies to ensure that each operator can control multiple devices simultaneously and that each drone optimizes the movements, optimally flying over the area of interest as quickly as possible and making the most of the battery

The **Vision Technology Unit (TeV)** will provide expertise in image processing. Specifically, the researchers are dealing with the automated and real-time detection of people from thermal images that are fed to the operator during the rescue mission. The algorithm for image processing will work in a continuous learning mode, so that the operator's inputs are used for constant improvement in precision and accuracy.

Fondazione Bruno Kessler 's researchers involved in this project are **Alessandro Cimatti** (ES Head) and **Marco Roveri** (ES researcher), **Stefano Messelodi** (TeV Head), **Fabio Poiesi** (TeV researcher) and **Paul Chippendale** (TeV researcher) in direct contact with the SAPR group of the Permanent Corps of the **Fire Brigade of Trento**.

PERMALINK

https://magazine.fbk.eu/en/news/future-drones-for-emergency-management/

TAGS

- #digitalindustry
- #droni

RELATED MEDIA

- Progetto UAV RETINA: http://eole-eyes.irisa.fr/team.html

AUTHORS

- Viviana Lupi