

Fire-fighting robot Fumo

- an assistant in everyday life

Just over three years ago, the fire-fighting robot Fumo was a simple prototype looking towards the future. It was developed by the robotic company Realisator, the idea being that it would be supplemented by applications based on the needs of the rescue services. Today, a flexible and robust basic model is ready for production for the first customers in the Swedish market.



In its basic version, the Fumo weighs approximately 180 kilos and fits in the luggage compartment of a passenger car of station wagon model or like here on the loading platform of a smaller pickup. The choice of applications is governed by the specific needs of the specific rescue service.

Photo: Janne Höglund

The first prototype was developed in collaboration with, among others, Södertörn's Fire Protection Association and with support from the Swedish Civil Contingencies Agency (MSB) and the Swedish Association of Local Authorities and Regions (SKL). The remote-controlled basic module could convey moving images and function as decision-making support for

operations, for example in tunnels and indoor car parks, but even then, there were plans for a much wider field of application for Fumo.

Several possible applications

Today, thanks to a collaboration with Scanfil in Ätvidaberg, Realisator has been able to manufacture a second-generation

Fumo - a version that, according to CEO Thomas Eriksson, and thanks to its flexibility, is attracting interest among the rescue services. - In addition to using Fumo for search and inspection, we can today supplement it for wireless image transfer or through optical fibre from the base unit to one's own equipment - for example a computer or tablet.

It is also possible to mount a fire extinguisher onto the robot in a protruding and secure position to thus be able to extinguish or cool a burning electric car in a garage, or cool gas cylinders. Tests have been done with a remote-controlled fire extinguisher fitted with a 150-metre-long large-diameter hose and a pressure of 10 bar. Mounted onto Fumo, a water flow rate of 2000 litres/minute and an elevation of up to 60 metres were obtained.

- The software in Fumo allows for most software applications, such as sensors and indication equipment, materials that many rescue services already have and that Fumo can access in a safe way, without exposing the staff to danger.

- It can also be used to pull out and pull in hoses or transport a pump in rugged terrain for example in the event of a forest fire.

Regional resource

A robot in the basic version weighs approx. 180 kilos and can carry a load of 200 kilos, and still be driven on a slope of up to a 35-degrees - for example down into a garage.

Fumo fits into the luggage compartment of a passenger car of station wagon model and is operational within just a few minutes. The robot is managed by one person and the base unit is ideally carried as a backpack.

- No special training is required to operate Fumo outdoors. A little more practice is required to get the most out of Fumo when working indoors and with fibre optics.

- It is basically only your own imagination and your own needs that define the limits for Fumo. We are constantly receiving new input from the rescue services regarding possible areas of application. Without a recurring dialogue with future users, Fumo would not have looked the way it does today. The pandemic has put a temporary stop to more tests and collaborations, but I hope we will be starting again soon, says Thomas Eriksson.

Growing interest

Now the next step is to establish Fumo on the Swedish market and at the same time continue our dialogue with the rescue services. The price

of a basic Fumo, including two cameras, a hand control and a base unit for transferring images, is around one million SEK. However, Thomas Eriksson is open to other financing alternatives such as long-term rentals.

- We are of course convinced that this is a good product, and we see increased interest from several rescue services. Fumo is an assistant in everyday life that contributes to a better working environment for staff and results in safer rescue efforts. I am convinced that there is an interest in this at fire stations around the country, says Thomas Eriksson.

Camilla Westemar



The Fumo fire-fighting robot with fire extinguisher and large-dimension hose.

Photo: Janne Höglund



“It is basically only your own imagination and your own needs that define the limits for Fumo”

Thomas Eriksson, Realisator

Fumo is in operational condition in just a few minutes, and the robot is easily operated by one person.

Photo: Janne Höglund