

## MyGalileoDrone competition - 3rd place for ThunderFly s.r.o. and a great success of Czech drone industry

On 2nd February 2021 the European Global Navigation Satellite Systems Agency (GSA) announced the winners of MyGalileoDrone competition. The 3rd place went to Czech company ThunderFly s.r.o. that entered the competition with its [TF-ATMON](#) project, which offers a solution for performing in-situ measurements of various atmospheric parameters. The jury has selected the winning teams based not only on their innovative use of key Galileo differentiators, but also on their market-oriented approach and potential for wide uptake. The winning teams were announced during [Entrepreneurship Day](#), hosted by the GSA.

The whole competition went on for more than 6 months and involved 3 rounds during which different aspects of projects, their progress and aims were evaluated. From almost 200 project signing up for the competition only 10 entered the 3rd round and four of them received a financial award. The teams came from various locations in Europe and represent academia and industry alike. They include start-ups and SMEs from a broad spectrum of market segments.

### ThunderFly technologies

It has long been a challenge in many fields to measure atmospheric parameters in free space. These can include any of the atmospheric quantities like solid particles, radiation, gases, temperature or humidity.

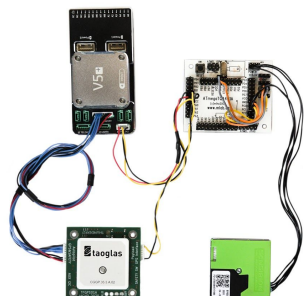
Today's solutions often lack flexibility, like having interchangeable sensors or being able to operate in areas of different sizes. UAV's are mostly not using real-time data to adjust the monitoring process and its trajectory leading to suboptimal results or often underestimating the situation. In order to perform high quality measurements they require qualified personnel that, except from being able to operate the drone itself, are expected to correctly estimate a measurement space that could be of interest for customers. Moreover, the most commonly used UAVs cannot work under unsatisfactory weather conditions. ThunderFly technologies are well suited to solve all of the above-mentioned problems thanks to a world-unique solution in the form of an unmanned autogyro in combination with additional equipment and software.

A video demonstration of TF-ATMON solution: <https://youtu.be/KUhktPDEi8I>

The technical solution consists of two parts - an unmanned carrier with a sensor and a ground station containing special software.

Drone only needs to connect to a special electronics with a sensor chosen according to the customer's needs. After switching on, the ground station automatically connects to the drone via a wireless communication link and launches a user interface. Now the operator is able to define an area of interest and begin the measurements. During the flight, the operator sees the measured values and automatic trajectory planning, both in real time. The planning process uses artificial intelligence algorithms to optimise the measurements so they are carried out in the shortest time possible but with high quality at the same time.

During myGalileoDrone competition, the functionality of the whole system was demonstrated on measuring the air pollution caused by airborne particles. These represent one of the biggest health risks stemming from our environment. The ThunderFly team is ready to carry out measurements of different atmospheric parameters as well because the whole system is designed to be as flexible as possible to enable integration of new sensors. In the future we expect expanding our services to make it possible to perform such measurements according to customers' needs.



**myGalileoDrone**  
**3<sup>rd</sup> prize**

of 40,000 EUR cash

is awarded to

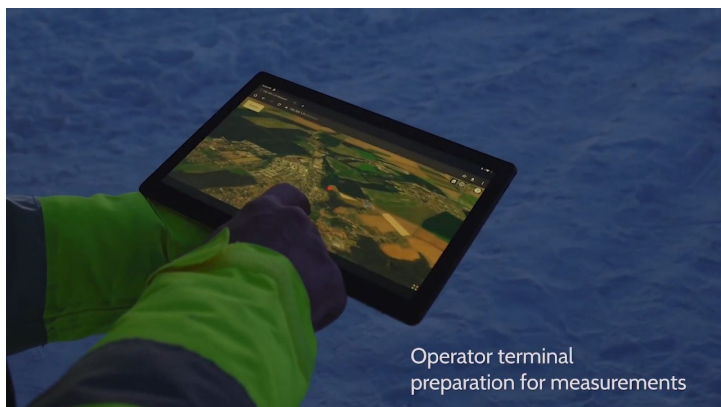
**TF-ATMON**

The atmospheric measurement by drones

**Petra Lavříková and ThunderFly team**



**myGalileoDrone**  
competition



Operator terminal  
preparation for measurements

Images in higher resolution are here:

[https://www.thunderfly.cz/tf-atmon/ThunderFly\\_PressRelease\\_MyGalileoDrone.zip](https://www.thunderfly.cz/tf-atmon/ThunderFly_PressRelease_MyGalileoDrone.zip)