Autonomous multimodal robotic perception system for intelligent wildfire detection and monitoring

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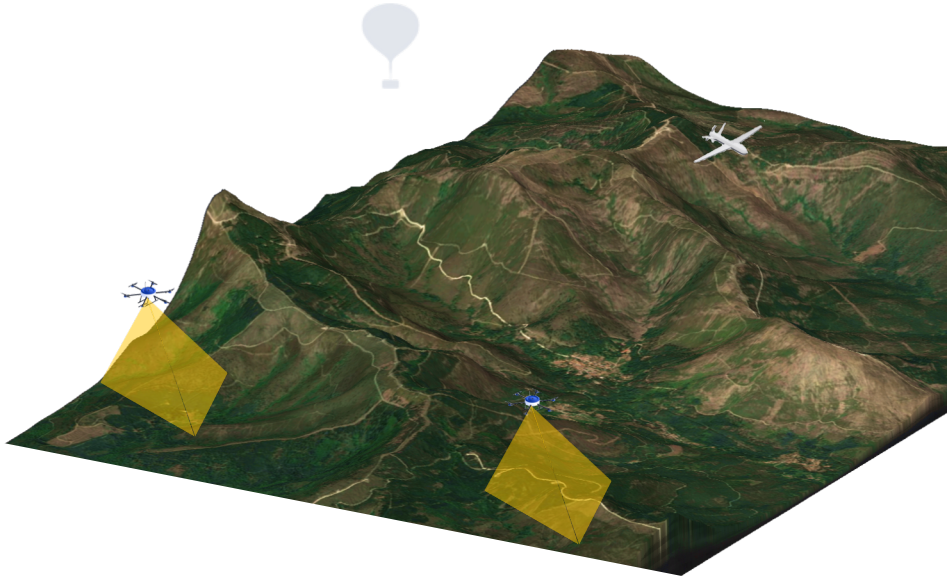
MOTIVATION: Wildfires have dire impacts on communities on social, cultural, environmental and economic levels. Since, fire events are becoming more frequent and severe, fire detection systems are crucial to **identify fire ignitions in an early stage**.

PROJECT GOAL:
This application aims to develop **perception solutions to be used onboard aerial robotic platforms** e.g. multi-rotor or fixed-wing drones or high-altitude balloons, which can be deployed in situations of increased fire risk.

Multi-modal sensors leverage different perception capabilities e.g. thermal, visible or synthetic aperture radar, to handle adverse weather conditions as overexposure to sunlight, clouds, or smoke.

IMPACTS: this solution can be integrated in a decision support system, to maximize the area monitored and optimize resource allocation in firefighting and civil protection operations.



DELIVERABLE:

- perception algorithms based on multi-modal sensors for autonomous fire detection and monitoring