AMSD (Autonomic Modular Scouting Drone): In Services for Society

Stasik, Szymon (School: Liceum Ogolnoksztatcaae nr I im. Marii Sklodowskiej-Curie w Suchej Beskidzkiejm)
Jurzak, Jakub (School: Liceum Ogolnoksztatcaae nr I im. Marii Sklodowskiej-Curie w Suchej Beskidzkiejm)

Our project is AMSD drone and its aim is to help with rescuing people’s lives. In order to achieve that, we came up with an innovative, half-autonomic method of controlling the device. We can quickly go through dangerous places and give firefighters and paramedics crucial information about the site of the accident without risking rescuers' lives. Because of modular structure, we can adapt our drone to any environment, allowing it to get to places normally unreachable for people. In the assumption, our modular drone can work in high temperatures and because of thermal camera, camera with depth sensor and several other sensors, our device helps with locating victims and sends in real time information to rescuers about their state of health and crucial data about the site of accident. To increase performance of the drone, the rescuer makes key decisions and the drone follows the instructions seeking specified location avoiding any obstacles on its way. To let the operator have a better view of the circumstances, all the data is displayed on a generated map of the site of the accident. During the exploration, the drone constantly monitors vital functions of all the rescuers, increasing overall safety. In order to even more decrease the time needed for rescue action we can have more than one drone working in cooperation. So far we have constructed and tested two prototypes of the main module and three side modules: a wheeled module, a module with tracks and a flying module. We are constantly improving them according to the suggestions given by firefighters with whom we cooperate. Our biggest achievement is the use of our drone in fire drills and reducing the time of rescue action by half. We have also tested our prototype in hard-to-reach places like mountains and mines.

Awards Won:
Third Award of $1,000