UNIVERSIDAD DE SEVILLA

ROBOTICS, VISION AND CONTROL — GROUP —

MBZIRC Hexarotor

Self-designed hexarotor, controlled with a Pixhawk (Px4) autopilot. An intel Nuc (I5) is also embedded for more computational capability. It works with ROS and it can be simulated with Gazebo. Payload includes among others: laser sensors, GPS, stereo camera and an electromagnet. Self-designed robotics arms are also used in this platform. This provides a multitask aerial robot.

Key Features

- MTOW: 10kg
- Embedded sensors
- 2 radio links for communications (Ubiquiti)
- Endurance: 12 minutes
- Weight: 6 kg, 7.5 kg with arms
- Max speed: 5m/s Horizontal, 2m/s Vertical

Possible Applications

- Multipurpose aerial cooperation for structure assemble
- Object grabbing in inaccessible locations
- Use of tools for aerial repairs
- Obstacles detection and removal
- Load transportation

Access information

Corresponding infrastructure	Universidad de Sevilla Robotics, Vision and Control Group
Location	Camino de los Descubrimientos, 41092 Sevilla, Spain
Unit of access	Working day

Technical specifications

Degrees of freedom for the robotic arm	6
Average speed	2m/s Horizontal, 1m/s Vertical
Altitude	20m (software limit)
Power supply	6S LiPo
Interface	Ubuntu/ROS
Weight	6kg
Autopilot	Pixhawk (PX4)