



## Vicon Indoor Testbed

Indoor testbed for the assessment and validation of air traffic automation techniques and multivehicle systems (both coordination and cooperation). This testbed is based on an indoor positioning system that uses 20 VICON cameras. This system can calculate the position and attitude of any moving object within the volume of the testbed (15x15x5 m) in real time (with an update rate of up to 500 Hz). CATEC has 10 light unmanned quadrotors that can be used to emulate the trajectory of any type of aircraft. These rotorcrafts can carry up to 500 g of payload. In addition, CATEC has 4 coaxial quadrotors with significantly higher payload capacity up to 2 kg which are used to test aerial manipulation techniques. Finally, the testbed is integrated with a software development environment which allows the simulation of the algorithms before they are tested in within the testbed.



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## Key Features

- Update rate: 500Hz
- Safe to users
- Size: 15x15x5m
- Vicon cameras: 20
- UAVs available: 10 small quadrotors and 4 medium size

## Possible Applications

- Modelling of routes and moves
- Indoor flying tests
- Position recording for datasets ground truth creation
- Online position localization for aerial systems
- Online cooperation of aerial systems (positioning)

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## Access information

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

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## Technical specifications

<b>Drones available</b>	10 small and 4 medium size
<b>Update rate</b>	500 Hz
<b>Size</b>	15x15x5
<b>Number of cameras</b>	20
<b>Payload of each drone</b>	500g small, 2kg medium

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## Additional information

<http://www.catec.aero/en/avionics-unmanned-systems/equipment.htm>