

Aerial Robotic Testbed at IRISA

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The Aerial Robotic Testbed at IRISA is part of the Robstar platform which comprises indoor mobile robots, drones, ground manipulators and robotic vision setups.

Specifically, the Aerial Robotic Testbed features collinear quadrotors and fully-actuated hexarotors, serving as experimental platforms for validating research in the domain of aerial robotics. It also incorporates robotic arms which can be mounted on flying robots to enhance dexterity and facilitate physical interaction with the surrounding environment.

All the robotic systems are customly-built at IRISA leveraging a combination of commercially available components and 3D-printed parts. On the software side, the testbed relies on the open-source telekyb3 framework, which includes a collection of software packages and hardware specifications related to the control of Unmanned Aerial Vehicles.

The Rainbow group utilizes the Aerial Robotic Testbed for carrying out research in the fields of aerial robot physical interaction, aerial vision-based control, multi-robot coordination and navigation, and collaborative manipulation and transportation.

This presentation will provide an overview over the hardware and software architecture composing the Aerial Robotic Testbed, while highlighting its capabilities and the experimental results achieved so far.

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