



## Laboratory space (equipment)

The laboratory space of the iCub Facility at the Istituto Italiano di Tecnologia is a fully equipped lab to support research and development in the field of humanoid robotics. It includes a complete electronics assembly, testing and re-working facility with the ability to design microcontroller and FPGA cards, develop firmware and system's software, test motors and sensors. The iCub Facility sports workstations and engineers to design mechanics with a 10+ years of experience in humanoid robotics. The Facility includes four iCubs and two R1 robots (see related technical sheets). The computational infrastructure consists of servers and small clusters (including GPUs) to train and run machine learning algorithms. In addition, measuring equipment includes a 10-camera Vicon system for motion capture and a virtual reality system (with goggles, e.g. Oculus) to study teleoperation of humanoids in complex application scenarios.



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## Key Features

- Teleoperation: Treadmill, virtual reality goggles
- Vicon: 10 cameras, force platform and motorized gantry system
- Robots: 4 iCub, 2 R1
- Size: ~500sqm
- Middleware: YARP, ROS

## Possible Applications

- Artificial Intelligence
- Human-Robot Interaction
- Vision – including stereoscopic vision, object recognition, visuo-tactile
- Study walking/whole-body control
- Manipulation – 9 degree of freedom hands
- Service robotics

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## Access information

<b>Corresponding infrastructure</b>	Instituto Italiano di Tecnologia iCub Facility
<b>Location</b>	Via Morego, 30, 16163 Genova GE, Italy
<b>Unit of access</b>	Working day

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## Technical specifications

No technical specifications specified.



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## Additional information

Additional example of applications may be found <https://github.com/robotology>

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<http://www.icub.org>