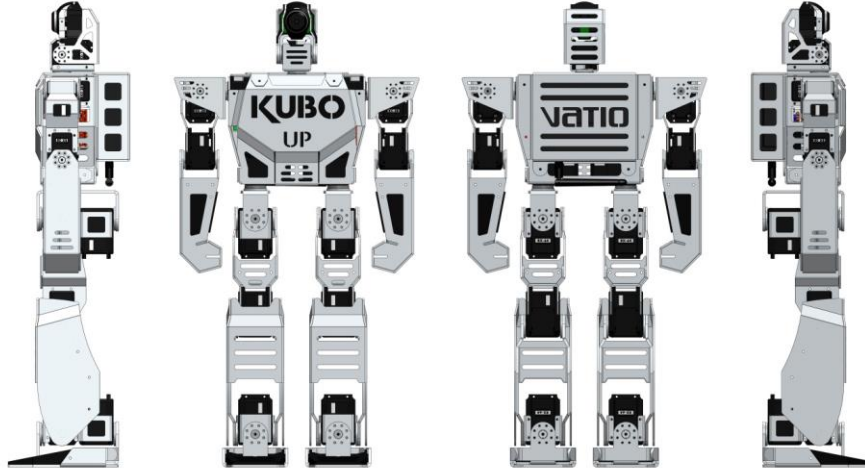


Team VATIO-UP One-Page specifications

RoboCup 2017 - Nagoya, Japan. Humanoid League, Kid Size

1.- Robot picture.



2.- Robot Name.

The team consists of two robots with the same structure and components: **KUBO and AXIS.**

3.- Number of degrees of freedom: **20 DOF**

4.- Height, weight and walking speed: **56 cm, 4.8 kg, 0.43 m/s**

5.- Type of motors and controller.

Dynamixel – **8 RX28** (arms and head) and **12 RX64** (legs). The controller is a custom made embedded system with a microcontroller ATXMEGA128 and other components for communication with sensors and the main computing unit, and the power management components. This module is connected to the GPIO's ports in the Orange Pi Plus2 board.

6.- Computing unit.

The **Orange Pi Plus2** board have an CPU H3 Quad-core Cortex-A7, Mali400MP2 GPU @600MHz SDRAM 2GB DDR3 (shared with GPU), 16GB EMMC Flash on-board flash storage, and using Linux Debian 7.4 as OS.

<http://www.orangepi.org/orangepiplus2/>

7.- Camera.

CMUcam5, or WebCam Logitech E3500, via USB 2.0 port.

<http://www.cmucam.org/projects/cmucam5/wiki>

8.- Sensors

CHR-UM6 Orientation sensor, Gyros (3x), Accels (3x), Mag (3x). Estimation in Roll, Pitch, Yaw, Quaternion.

<http://www.pololu.com/catalog/product/1255>

9.- Batteries

Two packages of rechargeable LiPo batteries of **18.5 volts at 30C 850mAh.**