Sharing open hardware through ROP, the robotic open platform.


Summary: The robot open source software community, in particular ROS, drastically boosted robotics research. However, a centralized place to exchange open hardware designs does not exist. Therefore we launched the Robotic Open Platform (ROP). A place to share and discuss open hardware designs. Among others it currently contains detailed descriptions of Willow Garage’s TurtleBot, the NimbRo-OP created by the University of Bonn and the AMIGO robot of Tech United Eindhoven. Eventually, ROP will contain a collection of affordable hardware components, allowing researchers to focus on cutting-edge research on a particular component instead of having to design the entire robot from scratch. As an example of how the Robotic Open Platform is able to facilitate this knowledge transfer, we introduce TURTLE-5k: A redesign of an existing soccer robot by a consortium of our university and companies in the wider Eindhoven area. Cooperating with industrial partners resulted in a significant cost reduction.

Keywords: Open Hardware; RoboCup; Low-Cost Robot Design; Robotic Open Platform; TURTLE-5k; Robotics Hardware

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