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A LEGO Mindstorms multi-robot setup in the Automatic Control Telelab

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Abstract: This paper presents an experimental setup for multi-robot systems based on the LEGO Mindstorms NXT technology. The team of mobile robots is supervised by a vision system, which allows one to simulate different types of sensors and communication architectures. The whole setup is embedded in the Automatic Control Telelab (*http://act.dii.unisi.it*), a remote lab featuring several educational experiences in control. Remote users can design control laws for the multi-agent system in the Matlab environment and test them by performing real experiments in the proposed setup. The paper presents some experiments showing how this remote lab can stimulate students' interest in mobile robotics.

Keywords: remote labs, mobile robotics, LEGO Mindstorms, multi-robot systems