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**The role of full-scale prototyping of microcontroller control systems in the formation of “green” professional competencies of undergraduate students**

**Abstract:** The training of bachelors and their acquisition of professional competencies in automation and control of technical systems includes student research, project development, and the implementation of experimental work. The experience of professional training of students at the DSTU at the Department of Automation of Production Processes has shown that in the case of bringing student research and scientific and technical projects to the state of a 'working model', students achieve a significantly higher level of understanding of the relationships between the control object, the control system, and the environment. This understanding helps students better understand and assimilate interdisciplinary "green" competencies and contributes to the further implementation of energy-efficient and energy-saving solutions in the projects they develop.