

NT21

Creating an ethernet communication between a Simatic S7-1200 PLC and Arduino Mega for an omnidirectional mobile platform and industrial equipment

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Abstract. The degree of automation in the industry increases more and more every year, trying to make equipment that collaborates less and less or not at all with the human operator. The basis of all automatic industrial equipment is PLCs. This paper presents a method of extending the number of inputs and outputs of a Siemens Simatic S7-1200 PLC, using an Arduino Mega development board, using an ethernet communication. Following the realization of this communication, the number of inputs and outputs will increase considerably, being able to connect various sensors used for the construction of an omnidirectional mobile platform, but also for equipment for industry. The advantages of using this communication are multiple both financially and in terms of flexibility and integration of robotic systems in industrial equipment.

The full paper is published in IOP Conf. Series: Materials Science and Engineering, Volume 968:

<https://iopscience.iop.org/article/10.1088/1757-899X/968/1/012022/pdf>
