

Robotization of Enterprise Processes - The Prospect of Using Cobots as The Foundation of a Modern Industry 5.0 Organization

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Abstract

The article focuses on the application of BPMN 2.0 notation in production process management. It integrates with modern Industry 5.0 solutions, including cobots (collaborative robots). The authors analyse the efficiency of two variants of furniture production processes: one in which only human workers are involved and the other in which cobots and human workers are involved. The research found that the cobot variant significantly improved the efficiency of the production process, reducing production time by 4.76% and increasing the quantity of products produced by 35.5%. These results enable organisations to make strategic decisions about implementing robotic solutions that can save time and increase production efficiency. The integration of BPMN 2.0 notation into manufacturing processes enables the modelling, automation and monitoring of processes involving both humans and machines. It is an essential tool for organisations seeking to improve their efficiency and competitiveness in the marketplace.

Keywords: production process, BPMN 2.0, industry 5.0, cobots, robot process automation