

Application of Virtual Production to Optimize Industrial Production Units

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Abstract

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Abstract:

Our research focuses on the optimisation of a production line of a company producing and packaging cleaning products. The academic paper presents the up-scaling of the selected production system and the digital twin to realise it. It comprehensively portrays the malfunctions of the actual production process and discusses in detail the steps and results of constructing a virtual model using the Tecnomatix Plant Simulation modelling environment. Based on the simulation, several recommendations for improvement have been developed for the company in order to achieve a faster and more efficient production proceeding. The suggestions for upgrading the production line were incorporated into the simulation, and the new results were evaluated and compared with the original analyses. In the final chapter, the publication explains the OEE calculation made to support the recommended changes and describes further improvement options.

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