

AUTOMATION OF A MANUAL PRODUCTION LINE

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Rezumat. *Subiectul principal al acestui studiu se referă la industria auto și la tehnologiile de ultimă oră din acest domeniu, special dezvoltate pentru a menține producția de autovehicule la cele mai înalte standarde și pentru a răspunde celor mai noi cerințe, cerințe ce devin din ce în ce mai riguroase. Cum aceste standarde și cerințe au atins un nivel foarte înalt, a fost nevoie de dezvoltarea unor noi tehnologii pentru ca industria să poată ține pasul cu acest trend. Standardele de calitate au atins un nivel în care resursa umană (operatorul) nu mai poate face față cerințelor. Acesta este punctul în care roboții și automatizările intervin mai mult ca oricând în industria auto, pentru o mai bună precizie și un proces de fabricație mai stabil și mai eficient, ingrediente cheie pentru o fabricație de succes.*

Abstract. *The main subject of this study has his roots in the automotive industry and all the cutting-edge technologies developed and available today, in order to keep the mass production of vehicles at the highest standards and to achieve all the latest requirements which are getting tougher and tougher day by day. As the standards and the requirements became higher, new manufacturing technologies were needed for the industry to keep up with the trends. The quality standards have reached a level where the human resource (operator) is not able anymore to match the requirements. This is the point where the Robots and the automations combined are introduced more than ever in the automotive industry, for a more accurate, stable and efficient manufacturing process, they key ingredients in the journey for a successful manufacturing.*

Keywords: Automation, Robots, Manufacture, Flow, Automotive industry.

1. Introduction

The performance of any successful business in the automotive segment can be reduced to one thing: stable and repeatable processes. The systems and processes in which as few variables are found are also the most secure, stable and reliable. These features are easily achieved nowadays with the help of the industrial robots, and they are essential in most industries, the automotive industry being no exception. The industrial robot is a physical, programmable system, able to perform various operations and sequences of operations for handling tools, parts or subassemblies, with a higher capacity, accuracy, speed with highest efficiency.

Due to the technological progress felt especially in the last 15 years, the automation of production processes has experienced a considerable boom,

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