ANALYSIS OF METHODS AND SOLUTIONS REGARDING INTERCONNECTIVITY OF THE PRODUCTION SYSTEM ELEMENTS WITH INTEGRATED ROBOTS

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Rezumat. *Având în vedere nivelul ridicat al tehnologiei industriale care se așteaptă să fie pus în aplicare în toate sectoarele de producție și anume a 4-a Revoluție Industrială (Industria 4.0), acest articol conține o identificare a metodelor și soluțiilor pentru interconectivitatea dintre sistemul de producție și roboții industriali. Conexiunea dintre două echipamente industriale include software-ul și tipul de conexiune hardware. De aici putem dezvolta noi metode de analiză, clasificare și soluții pentru interconectivitatea acestora. Cercetările în acest domeniu pot duce la o normalizare conceptuală, dar și la analiza lor în timp, din care putem trage concluzii despre îmbunătățirea fluxului de producție.*

Abstract. *Considering the high level of industrial technology that is expected to be implemented in all production sectors, namely the 4th Industrial Revolution (Factory 4.0), this article contains an identification of methods and solutions for interconnectivity between the production system and industrial robots. The connection between two industrial equipments includes the software and the hardware type of connection. From here we can develop new methods of analysis, classification and solutions for their interconnectivity. Research in this field can lead to a conceptual normalization, but also to their analysis over time, from which we can draw conclusions about improving the production flow.*

Keywords: Production system, Industrial Robot, Industrial Engineering, Inter-connectivity

1. Introduction

Today's competitive market imposes many changes that become something usual and the speed of manufacturing processes is high, so manufacturing technology must be prepared to meet new requirements. As long as the demand for a product grows exponentially in a short time, manufacturing technology must respond as quickly as possible to this necessity. Behind the manufacturing processes there are a lot of production systems with all the auxiliary components, depending on the complexity of the production. Next we will refer to a flexible production system and take an example of hybrid machine tool that, through terminology, combines the cutting process with additive manufacturing. This machine offers flexibility

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