

MODELING OF THE MANUFACTURING SYSTEMS COMPETITIVENESS

Luiza Daschievici¹, Daniela Ghelase¹, Alexandru Epureanu¹ & Constantin Falticeanu²

¹ “Dunarea de Jos” University of Galati, Department of Manufacturing Science and Engineering
² Danubius University Galati

Corresponding author: Daschievici Luiza, luiza.tomulescu@ugal.ro

Abstract: The competitiveness characterizes the viability of an enterprise. In the economic literature competitiveness is analyzed in particular in econometric and managerial terms with almost no insight into the analysis of the manufacturing process role in ensuring and increasing competitiveness. This is why it is needed for manufacturing systems behaviour modelling based on in-process learning. Our approach is based on a real-time continuous awareness of the situations and decisions.

We define the competitiveness based control of the manufacturing systems as ability to perceive the environment, to take decision in time, as a result of the manufacturing system-market interaction, with no specific procedures. The manufacturing system environment provides on-line data on the actions undertaken which, properly analyzed and correlated, will further generate solutions in order to develop the control decision. This paper presents a method for modelling of the manufacturing systems competitiveness with application in part machining process control.

Key words: manufacturing system, competitiveness, online learning, adaptive control, technical-economical characteristics of manufacturing system