The ERGOMAN Project: designing the new Process Ergo-Designer profile and training model

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Abstract

In the last twenty years ergonomics has received a great attention from different points of view: the design of products/services, the prevention/reduction of safety and health problems, to face human-machine interaction problems. Often all training activities and model related to ergonomics refer to curriculum profiles that are focused on product design rather then process design, but this last one become crucial when the attention is driven on the design of production lines or , in general, of workplaces. In fact the human is central to process flexibility due to the ability to adapt to changing production scenario, equipment configurations, apply discretion and make choices difficult to program into equipment. If there is a mismatch between the workload exposure and the person ability, repercussions can include reduced productivity, injury and quality problems. Continuous inflexibility production lines are more easily designed for optimal worker performance. High value added process in industry customizes products and create high-value low-volume intelligent solutions, and this needs flexibility. Thus the challenge is to train students, post graduated and professionals with adaptive, quick-response, process ergonomics design and evaluation skills, for modern flexible manufacturing process to improve quality, productivity and health of the worker. Trying to give an answer to this challenge, ERGOMAN, a Leonardo project funded by the European Commission, got some results presented in this paper: a competence needs analysis made in industries; the definition of a new competence profile for designers of ergonomic production processes and workplaces (Process Ergo-Designer); the identification of a suitable training model to train the different targets on the identified needed knowledge areas. The results of the project are exploitable in all EU-countries because the professional profile has been designed to respond to industrial needs and to European standards.