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ScienceDirect

Procedia Manufacturing 13 (2017) 1426–1431

Procedia
MANUFACTURING

www.elsevier.com/locate/procedia

Manufacturing Engineering Society International Conference 2017, MESIC 2017, 28-30 June 2017, Vigo (Pontevedra), Spain

Study of the training needs of industrial companies in the Barcelona Area and proposal of Training Courses and Methodologies to enhance further competitiveness.

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Abstract

The analysis of educational needs has shown that post university training could be better fitted to meet the strategic needs of the industrial companies, thus filling the gap generated. From this information, expert learning, professional training and innovative methodologies have been proposed.

The study covers industrial companies focusing activities of: (i) Product and Process Design and Manufacturing, (ii) Production Management and Logistics and (iii) Automated and Robotized Manufacturing. These companies are considered a fair proxy of the Barcelona Area Industrial company sector. Moreover, it is concluded that in intermediate positions and executives, training should further address management and improvement of personal skills and soft skills.

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Peer-review under responsibility of the scientific committee of the Manufacturing Engineering Society International Conference 2017.

Keywords: Soft skills, training needs, technological skills, industry 4.0

1. Introduction

The study of educational research is born from the acquired experience and knowledge, the Human Resources Department and from the Training Area of the Fundació CIM Universitat Politècnica de Catalunya, during the last two years.

The Human Resources Department has been managing a Job Bank formed by 156 companies. Then, The Training Area of Fundació CIM has been making 44 Conducted Educational Contents for 44 different companies part of the technology and industrial area, thus the process of continuous improvement of the following programs: Product and

Process Design and Manufacturing, Production Management and Logistics and Automated and Robotized Manufacturing.

The different companies that collaborate with the Job Bank, which establish Collaboration Professional Agreements between highly qualified companies from the industrial area of Barcelona and students from several academic programs as Masters and postgraduate from the Training Area of Fundació CIM, has put on evidence the demand of new and specific profiles.

The reason of these new and specific profiles is produced for the rapid growth and the expansion of the industry 4.0, specifically in the case of the small and medium-size companies, which have difficulties of financing. This fact makes an increase in the investment of the digital transformation and adaptation to change of the production means.

Moreover, inside the “In Company Training Program” managing by the Training Area, it has been detected a specific training demand in the new technologies of the Industrial 4.0.

It has to be mentioned that, the area of training and the in-Company training programmer, it has detected a specific training in the new technologies of the industrial 4.0.

According to these arguments, the Fundació CIM has developed a study in order to: Identify the different skills that the employees of the industry 4.0 companies must have, to develop future training actions aimed to reduce the different gap skills and finally, to help the companies to develop efficient strategies to improve competitiveness.

2. Methodology

The study has been divided into 3 sections; Section I: Presentation of the used methodology in the study; Section II: An Executive Summary of the main results of the training needs of the companies; Session III: The different actions that must be promoted from the Postgraduate studies in order to reduce and promote the digital adaptation of the companies in the industrial area.

Section I: Methodology

This phase has focused on obtaining quantitative data generated from the primary sources and qualitative and quantitative data generated from secondary and primary sources.

Regarding to the primary sources, it has been elaborated a survey about training needs oriented to technical workers, section manager, Heads of Area and a survey addressed to a General Managers and/or the Head of the Human Resources Department.

Regarding the secondary sources, it has been consulted information of studies related to the emerging economic sectors of the metropolitan area of Barcelona and the educational offer of the Postgraduate Education in digital technology of the autonomous community of Catalonia.



Fig. 1. Primary and secondary sources of study

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