

## Special issue: Advances in Engineering Networks

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### 1. Introduction

This special issue of the International Journal of Production Management and Engineering is dedicated on the most recent and relevant research, theories and practices in Industrial Engineering and Operations Management presented at the 12th International Conference on Industrial Engineering and Industrial Management and XXII Congreso de Ingeniería de Organización - CIO18.

The CIO'18 was held on 12th and 13th July 2018 in Girona and was organized by the Universitat de Girona (UdG) and the Asociación para el Desarrollo de la Ingeniería de Organización (ADINGOR) and with the collaboration of GRADIENT and GREPP (UdG Research groups).

The assistance was 104 participants. Talking about classifications we could say that they are 35% women and 65% men, and about affiliation to ADINGOR, 60% belong to association. Finally, there were 244 authors from 4 countries and they contributed with a total of 100 communications, which were presented in parallel sessions (59 papers), in poster session (33 papers) and 8 in Doctoral symposium. Nine of the best communications were selected to be published in this special issue.

We gratefully acknowledge the authors and particularly the reviewers, whose valuable comments have improved the quality of the selected papers, which were extended (and again reviewed by pairs) after the conference in order to be published in this special issue.

### 2. Overview of the Papers

The papers chosen for this special issue were selected for their quality and their scientific rigor. The topics are diverse, but all refer to problems related to the CIO's scope. The conference was a forum to disseminate, to all branches of academy and industry, information on the most recent and relevant research, theories and practices in Industrial Engineering and Operations Management. The CIO 2018 Conference motto was: "Advances in Engineering Networks". The mission was to promote links between researchers and practitioners from different branches, to enhance an interdisciplinary perspective of industrial engineering and management.

The first is article is **Patentometric: monitoring the scientific and technological trends of Additive Manufacturing in Medical Applications** by Izaskun Alvarez, Enara Zarrabeitia, Rosa Rio-Belver, Iñaki Bidosola, Itziar Martinez de Alegria. This is about the use of patent statistics to monitor what is the state of the inventive activity of Additive Manufacturing in medical applications.

The next one is also related to Basque Country, based on **Analysis of technological knowledge flows in the Basque Country** by Javier Gavilanes-Trapote, Ismael Etxeberria-Agiriano, Ernesto Cilleruelo, Gaizka Garechana, Iñaki Bidosola the paper is about the influence of a region in technological knowledge generation by patents data.

Third article is **Methodology to Validate Results from European Projects: The C2NET Case Study** by Raquel Sanchis, Beatriz Andres, Raúl Poler. Con-

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cretely they present the optimiser Module of this project which has been diffused in many publications.

The next one is **Testing successful Business Model using through System Dynamics** by Jaione Ganzarain, Maria Ruiz and Juan Ignacio Igartua is related to face the firm performance complexity with a systemic view in order to understand better the phenomena.

The next one is also related to a model applied in a R&D center: **A Multicriteria Decision Model for the Evaluation and Selection of Technologies in a R&D Centre** by Rafael Lizarralde, Jaione Ganzarain, Ander Olan. A new approach linked to key factors as technology, economy, human and organisational factors is presented and applied in an R&D center in Basque Country

The last article is related to a project to implement green technology in a big city: **Electrification of Madrid Fleet Public Transport Company (EMT): Strategic Analysis and Implementation** by Jaime García Hernanz, Gustavo Morales, Gonzalo Fernández Sánchez, Eduardo Pilkington González, Teresa Sánchez-Chaparro. This is a study of a future strategic plan of the company applied in Madrid in order to support that the electrification of the whole fleet is the best option in the long term.

We hope you enjoy the reading of these papers and contribute to extend the knowledge of these topics in the area of Industrial Engineering.