

## FOREWORD

IT&C influence more and more deep our contemporary society and consider increasingly the integrated processes in engineering. Modern technology is becoming more present in scientific activities, without imposing any limitations; it dominates with authority on all the other fields of human presence and activity. At the same time, the revolution in informatics and technology determines fast and profound changes in the premises of our lives.

Taking into account all the above, in 2009, the Polytechnic University of Bucharest has organized a scientific session using *Innovation and manufacturing* subject under the patronage of AOSR (Academy of Romanian Scientists). During this scientific session, in Technical Sciences section, The Working Group "*Productica*" was presented for the first time. *Productica* was the affiliated to the Creativity Development Centre - AOSR.

A first step in this direction was made in 2010, when, based on the 12<sup>th</sup> research themes set by the working group members, several research cores were formed by a scientific coordinator and one or more PhD / MA / students. Each research theme was presented in the form of an article and has been discussed during a videoconference that took place on April 2010, at the AOSR. Moreover, in September 2010, the *Productica Group* was invited to participate with 25 scientific papers in the autumn scientific session of the Academy of Romanian Scientists.

Due to the outstanding results, in 2011, The Working Group "*Productica*" has developed and becomes Commission "Productica – Dacia Renault" (CPDR). This commission operates under the auspices of the Academy of Romanian Scientists, on Technical Sciences section, and aims to coordinate the research activities, engineering and technology transfer in different areas such as industrial engineering and management, through a network of university research centres, laboratories and research institutes, local boards of industrial centres and profile companies.

The results of the research that were obtained in 2012 by the Commission "Productica – Dacia Renault" have materialized in 27 articles that were presented in the spring scientific session of the CPDR called "*A universe of science: past, present and future*" that took place on May 24-25, 2012 in Bucharest.

PRODUCTICA 2013 was organized by the Academy of Romanian Scientists in collaboration with POLITEHNICA University of Bucharest. This scientific event was part of the Fifth Congress of AOSR held in Bucharest on 30-31 May 2013 and was included in Section 3 (Green Technologies, Smart Technologies) with subjects in the following areas: Green business development, Green Innovation for products and technology, Innovation Management, Corporate Social Responsibility, Smart automation and digital manufacturing.

On 9 May 2014, the VI edition of the Scientific Session PRODUCTICA 2014 “FROM PRODUCTIVITY TO INNOVATION IN GLOBAL COMPETITIVENESS” organized by the Academy of Romanian Scientists in collaboration with POLITEHNICA University of Bucharest was part of the Spring Scientific Session of AOSR held in Bucharest. The main topics were debated this year cover the following areas: Open Innovation and Business Competitiveness, Industrial Automation and Control Solutions, Productivity Continuous Improvement, Innovative materials and devices, Future of Learning & Development.

This year, the VII edition of the Scientific Session PRODUCTICA 2015 “*Integration of Research and Innovation in Business Environment*” was organized by the Academy of Romanian Scientists in collaboration with POLITEHNICA University of Bucharest. This scientific event was part of the Spring Scientific Session of AOSR held in Bucharest on 29 May 2015 and the main topics were debated cover the following areas: Research during PhD and postdoctorate, Innovation and Transfer of Knowledge, Business environment and best practices.

Of real interest for the audience were the four presentations made by videoconference from Nantes and Bordeaux by the doctoral students François Goossens, Quentin Cosson-Coche, Wadii Yousfi and Mathieu Ladonne. At the same time the presentation “Pick and place machine - VISIONBOT” made by the young inventor Ionuț Budișteanu was highly appreciated and for a long time debated.

The scientific papers presented this year provide a unifying framework for a wide range of engineering disciplines and industrial applications. The PRODUCTICA PROCEEDINGS 2015 reflects this diversity by giving prominence to experimental application and industrial/academical studies.

*President of the Commission CPDR - Professor Miron ZAPCIU*  
*Scientific secretary of the Commission CPDR – Lecturer Dana TILINĂ*