

PROCEEDINGS

**of the 6th International Conference on Mass Customization and
Personalization in Central Europe (MCP-CE 2014)**

**September 24 – 26, 2014
Novi Sad, Serbia**

Organised by:

**UNIVERSITY OF NOVI SAD - FACULTY OF TECHNICAL SCIENCES
Department of Industrial Engineering and Management**

MY PRODUCT – Center for Product Development and Management

in cooperation with

**Ministry of Education, Science and Technological Development of the Republic of Serbia,
Provincial Secretariat for Science and Technological Development
of Autonomous Province of Vojvodina**

Editors:

Zoran Anišić & Cipriano Forza

Published by:

Faculty of Technical Sciences in Novi Sad

Title

Proceedings of the 6th International Conference on Mass Customization and Personalization in Central Europe, MCP-CE 2014

Publisher

UNIVERSITY OF NOVI SAD – FACULTY OF TECHNICAL SCIENCES
DEPARTMENT OF INDUSTRIAL ENGINEERING AND MANAGEMENT
21000 Novi Sad, Trg Dositeja Obradovića 6, Serbia

Editors

Dr Zoran ANIŠIĆ & Dr Cipriano FORZA

Technical Editors

Mr Nikola SUZIĆ, Nemanja SREMČEV

Manuscript Submitted for Publication

01.09.2014.

Printing

Graphic Center GRID, Faculty of Technical Sciences

Circulation 100**CIP classification**

CIP-Katalogizacija u publikaciji
Biblioteka Matice srpske, Novi Sad

005:001.895(4-191.2)(082)

005.591.6(4-191.2)(082)

INTERNATIONAL Conference on Mass Customization and Personalization in Central Europe (6 ; 2014 ; Novi Sad)

Proceedings of the 6th International Conference on Mass Customization and Personalization in Central Europe (MCP-CE 2014), September 24-26, 2014, Novi Sad, Serbia / organized by University of Novi Sad, Faculty of Technical Sciences [and] My Product, Center for Product Development and Management ; organized in co-operation with Ministry of Science of Republic of Serbia, Provincial Secretary for Science and Technological Development of Autonomous Province of Vojvodina ; editors Zoran Anišić, Cipriano Forza. - Novi Sad : Faculty of Technical Sciences, Department of Industrial Engineering Management, 2014 (Novi Sad :

Grafički centar Grid). - 241 str. : ilustr. ; 30 cm

Tiraž 100. - Bibliografija uz svaki rad. - Registar.

ISBN 978-86-7892-626-6

- a) Менаџмент - Централна Европа - Зборници
- b) Предузетништво - Иновације - Централна Европа - Зборници

COBISS.SR-ID 289389575



PREFACE

The 6th MCP-CE Conference marks the 10-year-anniversary since the organization of the first MCP-CE Conference and, therefore, to us as organizers it has special significance. We are very proud of this fact, not only because the conference has survived, but because year after year it grew and expanded so that today the MCP-CE Conference is a recognizable and respectable event in the field of mass customization and open innovation in this part of Europe.

We have received forty interesting papers prepared by authors from 15 countries, which is satisfactory, given the fact that the MCPC World Congress has also been held in 2014. We are glad to note that the topics covered in these conferences show this field to be vibrant and dynamic. From the analysis of the themes it can be concluded that the interest in problems of configurators and configuration systems has not diminished and there is a noticeable, growing interest in additive manufacturing and 3D printing, as well as in the product innovation process through customer or crowd co-creation, powered by social networks and platforms.

It is important to point out that this year's conference in Novi Sad is supported by a considerable number of companies and, more importantly, this is not just a single financial support for the organization of the conference, but the result of a long-term cooperation in various collaborative projects, whose results will be presented during the conference. This support is extremely important to us, because we are thus receiving positive confirmation about the quality of our work with the desire to give a significant contribution to the companies we work with. We sincerely hope that this publication will be a step in that direction.

There are two workshops running parallel to the conference, the 16th Configurator Workshop (CSW) which is narrowly focused on the issues of modeling, realization and implementation configurator products and services as a key aspect of the mass customization strategy. The other event is the 1st Doctoral Students Workshop (DSW) organized by the MC-OI Network for the first time in order to bring together young researchers doing their doctoral studies with an aim to focus their attention towards solving the current problems and challenges in the field of mass customization and open innovation, guided by leading European experts in the field. The goal of the DSW is to become a regular accompanying event in the future.

We are especially grateful to everyone who has supported us over the past ten years and to all those taking part in this jubilee year to share with us their knowledge, experience, and have a pleasant time socializing. Thank you for participating in this festive event.

Novi Sad, September 2014

Dr Zoran ANIŠIĆ
Chairperson of MCP-CE 2014

Organizers:

University of Novi Sad - Faculty of Technical Sciences
Department of Industrial Engineering and Management

My Product – Center for Product Development and Management

Scientific Committee

Chairman

Cipriano Forza, University of Padova, Italy

Committee Members

- Alessio Trentin, University of Padova, Italy
- Alexander Tsigkas, Democritus University of Thrace, Greece
- Cipriano Forza, University of Padova, Italy
- Danijela Lalić, University of Novi Sad, Serbia
- Duško Lukač, Köln University of Applied Sciences, Germany
- Bojan Lalić, University of Novi Sad, Serbia
- Boris Tudjarov, Technical University of Sofia, Bulgaria
- Christos Chatzopoulos, Democritus University of Thrace, Greece
- Ivica Veža, University of Split, Croatia
- Ilija Ćosić, University of Novi Sad, Serbia
- Igor Fürstner, Subotica Tech, Serbia
- Matti Sievanen, Tampere University of Technology, Finland
- Maciej Piotrowski, UITM, Poland
- Marcel Weber, Windesheim University of Applied Sciences, Zwolle, Netherlands
- Paul Blažek, cyLEDGE Media GmbH - Vienna, Austria
- Robert Freund, Martin-Luther-University Halle-Wittenberg, Germany
- Valentina Gečevska, University "St. Cyril and Methodius", Skopje, Macedonia
- Zoran Anišić, University of Novi Sad, Serbia

Organizing Committee

Chairman

Zoran Anišić, University of Novi Sad, Serbia

Committee Members

- Nikola Suzić
- Jelena Demko Rihter
- Nemanja Sremčev
- Anja Orčik

Financing and publishing of this Proceedings was supported by **Ministry of Education, Science and Technological Development** of the Republic of Serbia, **Provincial Secretariat of Science and Technological Development** of Autonomous Province of Vojvodina.

TABLE OF CONTENT

Nizar Abdelkafi, Stephan Melchert P2P BUSINESS MODEL OPPORTUNITIES IN THE CASE OF ELECTRIC MOBILITY	1
Zoran Anisic, Igor Fuerstner, Anja Orcik, Atila Nadj iDEA LAB PLATFORM FOR STUDENT INNOVATION CONTEST – FIRST RESULTS IN THE APPLICATION	8
Jocelyn Bellemare THE TREND OF MASS CUSTOMIZATION IN THE FASHION & APPAREL INDUSTRY	14
C. Torsten Bernasco Lisboa, Vladimir Puhacac ECONOMIES OF MASS CUSTOMIZATION – VALUE CREATION VIA MASS CUSTOMIZATION	20
Maria Mikela Chatzimichailidou, Christos G. Chatzopoulos, Stefanos Katsavounis REDUCING UNCERTAINTY IN A MASS CUSTOMIZATION COMPANY BY DEMAND SITUATION AWARENESS	27
Maria Mikela Chatzimichailidou, Robert Freund, Ioannis Dokas DISTRIBUTED SITUATION AWARENESS AS A ‘MIDDLEWARE’ BETWEEN THE NEW ECONOMIC SOCIOLOGY AND EMBEDDED OPEN INNOVATION	37
Christos G. Chatzopoulos FLOW CUSTOMIZER: A SYSTEM THAT REVEALS HOW MASS CUSTOMIZATION AFFECTS CONTINUOUS FLOW MANUFACTURING	44
Zlatko Čović, Igor Fürstner ENHANCING THE CREATIVITY THROUGH ENGINEERING COMPETITIONS FOR STUDENTS	54
Michiel de Jong, Marcel Weber CREATING CUSTOMER LOYALTY IN THE BUSINESS CUSTOMER JOURNEY	58
Jelena Demko-Rihter, Vladimir Njegomir ENTREPRENEURSHIP BEYOND STARTUP: THE EXAMPLE OF INSURANCE COMPANIES AND INVESTMENT FUNDS	62
Svetoslav Dimkow DISTRIBUTED MANUFACTURING SYSTEM CONTROL IN THE IMPLEMENTATION OF MANUFACTURING STRATEGY FOR MASS CUSTOMIZATION IN FURNITURE INDUSTRY	67
Mishko Djidrov, Slavco Cvetkov, Teodora Stojanova, Aleksandar Krstev INFLUENCE OF INNOVATION AND ENTREPRENEURSHIP ON THE ECONOMIC GROWTH	73
Cipriano Forza, Thomas Aichner, Alessio Trentin MASS CUSTOMIZATION AND COUNTRY-OF-ORIGIN EFFECTS IN B2B	77

Sladjana Gajic, Angela Fajsi, Milos Jovanovic, Slobodan Moraca, Bojan Lalic PROJECT MANAGEMENT METHODS FOR STIMULATING CO-CREATION IN IT PROJECTS	83
Valentina Gecevska, Radmil Polenakovik, Bojan R. Jovanovski, Dragan Sutevski INNOVATIVENESS AS SMES SUCCESS FACTOR FOR GROWTH IN REPUBLIC OF MACEDONIA	88
Hassan Kalantari Daronkola, Soullis Tavrou DESIGN AND MANUFACTURE OF PERSONALIZED PRODUCTS	93
Marija Karać, Dejan Savić 3D PRINTING SCALE MODEL FOR EDUCATIONAL PURPOSES	100
Mirko Karakašić, Milan Kljajin, Jože Duhovnik MFF CONTRIBUTION IN PRODUCT DEVELOPMENT PROCESS	108
Dragica Koldžin THE QUADRUPLE HELIX ELEMENTS OF THE INNOVATION SYSTEM IN AP VOJVODINA	114
Matthias Kulcke DESIGNFUNDING AS AN INSTRUMENT FOR CO-CREATION EFFICIENCY ENHANCEMENT	120
Dusko Lukac TRENDS IN THE AUTOMATED MASS PRODUCTION	123
Marko Mäkipää, Timo Ingalsuo, Mikko Ruohonen, Heljä Franssila, and Evgeni Pajunen LEAN INFORMATION MANAGEMENT UTILIZING INDUSTRIAL INTERNET	127
Anna Myrodiya, Lars Hvam FRAMEWORK FOR DEVELOPING PRODUCT STRATEGY FOR CONFIGURE-TO- ORDER PRODUCTS	131
Slavka T. Nikolic, Danijela Lalic, Jelena Stankovic DILEMMAS AND CONTROVERSIES OF MC BRAND(ING)	140
Anja Orcik, Zoran Anisic CO-CREATION: HOW, WHEN, WHERE AND WHO?	146
Anja Orcik, Sarah Schoellhammer THE UEBERMORGENWERKSTATT: CUSTOMIZABLE INNOVATION IN A CO- CREATIVE ENVIRONMENT	152
Dr Fanke Peng, Mouhannad Al-Sayegh PERSONALISED SIZE RECOMMENDATION FOR ONLINE FASHION	157
Golboo Pourabdollahiana, Frank Steinerb, Ole Horn Rasmussenc, Stephan Hankammerb IMPACT FACTORS OF MASS CUSTOMIZATION ON SUSTAINABILITY	162

Enrico Sandrin, Alessio Trentin, Cipriano Forza ORGANIZATIONAL ANTECEDENTS OF MASS CUSTOMIZATION	169
Sara Shafiee, Lars Hvam, Martin Bonev HOW TO SCOPE A PRODUCT CONFIGURATION PROJECT IN AN ENGINEERING COMPANY	176
Teodora Stojanova, Dejan Mirakovski, Valentina Gecevska, Simeon Simeonov, Mishko Djidrov CUSTOMER INVOLVEMENT INTO PRODUCT CREATION PROCESS IN MACEDONIAN COMPANIES	185
Clarissa Streichsbier, Paul Blazek, Martina Partl THE IMPACT OF THE PRODUCT CONFIGURATOR USER INTERFACE ON CUSTOMER PURCHASE DECISIONS	190
Ian Sutherland, Hans Lundberg, Paul Blazek, Birgit Penzenstadler, Hagen Habicht INVESTIGATING THE MOMENT-TO-MOMENT UNFOLDING OF INNOVATION AND LEADERSHIP WITH INNOTRACING	195
Nikola Suzic, Cipriano Forza, Zoran Anisic MASS CUSTOMIZATION TECHNIQUES – STATE OF THE ART	204
Igor ter Halle, Marcel Weber RETAIL INNOVATION: CAN AN APP SAVE THE CITY CENTRE?	212
Alexander Tsigkas DE-SIGN THINKING FOR MINI-INNOVATION: A WAY TO RE-THINK TECHNOLOGY IN MCP	219
Ivica Veza, Bozenko Bilic, Nikola Gjeldum, Marko Mladineo MODEL OF INNOVATIVE SMART ENTERPRISE	224
Petar Vrgovic MEASURING ORDINARY EMPLOYEE’S INNOVATION POTENTIALS	230
INDEX OF AUTHORS	234