Customization 4.0
Elevating Mass Customization to a New Level
The MCPC 2017 Program at a Glance

**Plenary I:** Smart Customization
- Parallel Session 1.1: How Smart Customization Transforms Industries: The Example of the Textile Industry
- Parallel Session 1.2: MCP Success Factors and Best Practices (I)
- Parallel Session 1.3: Managing Variety, Product Families and Platforms
- Parallel Session 1.4: MCP for Apparel and Textiles (I)
- Parallel Session 1.5: Smart Customization: Data-Driven Approaches for MCP (I)

**Plenary Session II:** Digital Manufacturing and Industry 4.0
- Parallel Session 2.1 + 3.1: Digital Manufacturing and Digital Business Models for MCP
- Parallel Session 2.2: MCP for Apparel and Textiles (II)
- Parallel Session 2.3: Smart Customization: Data-Driven Approaches for MCP (II)
- Parallel Session 2.4: Choice Navigation: Matching Customer Needs and Preferences (I)

**Plenary III:** Sustainability and Mass Customization
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- Parallel Session 4.2: MCP Success Factors and Best Practices (II)
- Parallel Session 4.3: Platforms, Ecosystems, and Business Models for Digital Manufacturing
- Parallel Session 4.4: Choice Navigation: Matching Customer Needs and Preferences (II)

**Plenary IV:** Learning from Experience: Success Factors & Key Insights by Mass Customization Pioneers
- Parallel Session 5.1: Mass Customization-Driven Industry Development. The Example of the UNESCO World Heritage Town Røros
- Parallel Session 5.2: Environmental and Sustainability Assessment of MCP
- Parallel Session 5.3: Digital Manufacturing: Implementation, Usage, and Value Capture
- Parallel Session 5.4: DCC Tour
- Parallel Session 5.5: ACAM Tour
- Parallel Session 5.6: Demo Factory
- Parallel Session 5.7: Transfer
- Parallel Session 5.8: Transfer
- Parallel Session 5.9: Christmas Market
MCPC 2017 – PhD Workshop (Pre-Event)

Time: Sunday, 19.11.2017 14:00-18:00
Place: Technology and Innovation Management Group
RWTH Aachen University
Kackertstr. 7 /// 52072 Aachen
Room B301

12 PhD-students can actively present their current research project (10 minutes presentation + 10 minutes discussion) and receive feedback on their work. Up to 13 PhD-students can participate in the workshop without presenting their own work but actively discussing other research projects and asking questions. Registration: Email with short explanation of motivation to hello@time.rwth-aachen.de
DAY 1: Monday, 20 Nov 2017

Plenary Session I: Smart Customization
Monday 20.11.2017 /// 08:30 – 10:00 /// Plenary

Keynote 1: Customization 4.0
Presenter: Frank T. Piller, RWTH Aachen University

Keynote 2: 25 Years of Mass Customization
Presenter: B. Joseph Pine II, Strategic Horizons

Parallel Session 1.1: How Smart Customization transforms industry: The example of the Textile Industry
Monday 20.11.2017 /// 10:30 – 12:00 /// Plenary

Smart Customization in the Textile Industry [104]
Presenter: Thomas Gries, RWTH Aachen University

Lessons from the Adidas Speed Factory Concept [103]
Presenter: Jan Hill, Adidas

Lessons from a New York Fashion Start-Up [101]
Presenter: Kali Ventresca, Impish Lee

Parallel Session 1.2: MCP Success Factors and Best Practices (I)
Monday 20.11.2017 /// 10:30 – 12:00 /// EUROGRESS 1

Mass Customization in Food Industries: Case and Literature Study [40]
Presenter: Sofie Bech, Aalborg Universitet
Co-Authors: Sofie Bech, Anne-Sophie Schou Joedal, Thomas Ditlev Brunoe, Kjeld Nielsen
Product Configuration in the ETO and Capital Goods Industry: A Literature Review and Challenges [39]
Presenter: Bjørn Christensen, Aalborg Universitet
Co-Authors: Bjørn Christensen, Thomas Ditlev Brunoe

The customer order decoupling point: a literature review [64]
Presenter: Violetta Giada Cannas, Politecnico di Milano
Co-Authors: Violetta Giada Cannas, Margherita Pero, Tommaso Rossi

The Individualization of Mass Customization: Exploring the Value of Individual Thinking Style through Consumer Neuroscience [68]
Presenter: Frances Turner, Menlo College

Customer Willingness to Pay and Wait for Mass-Customised Products [29*]
Presenter: Hassan Kalantari Daronkola, Swinburne University of Technology
Co-Authors: Hassan Kalantari Daronkola, Lester Johnson

Let’s Travel Together: Differences between Tourism Customization for Oneself and for a Group of Strangers [51*]
Presenter: Zhu Wangsheng, Renmin University of China
Co-Authors: Zhu Wangsheng, Liang Zhou, Kanliang Wang

Parallel Session 1.3: Managing Variety, Product Families and Platforms
Monday 20.11.2017 /// 10:30 – 12:00 /// EUROGRESS 2

Data Driven Product Family Modelling with Feedback [44]
Presenter: Thomas Ditlev Brunoe, Aalborg Universitet
Co-Authors: Thomas Ditlev Brunoe, Kjeld Nielsen

Production Platform Development through the Four Loops of Concern [45]
Presenter: Daniel G. H. Sørensen, Aalborg Universitet
Co-Authors: Daniel G. H. Sørensen, Jacob Bossen, Mads Bejlegaard, Thomas Ditlev Brunoe, Kjeld Nielsen
Managing Customized and Profitable Product Portfolios using Advanced Analytics [58]

Presenter: Merle-Hendrikje Jank, RWTH Aachen University
Co-Authors: Günther Schuh, Michael Riesener, Merle-Hendrikje Jank

Product and service variety versus internal performance – towards new balances [79]

Presenter: Khaled Medini, École des Mines de Saint-Étienne
Co-Authors: Khaled Medini, Abderrahmane Moujahid, Xavier Boucher, Alain Bernard

Which variety is free? Discerning the impact of product variety in the process industry [31*]

Presenter: Alexandria Moseley, Technical University of Denmark
Co-Authors: Alexandria Moseley, Anna Myrodia, Lars Hvam, Zaza Nadja Lee Herbert-Hansen

Plenary Session II: Digital Manufacturing & Industry 4.0
Monday 20.11.2017 /// 13:30 – 15:00 /// Plenary

Keynote 3: Complexity Management 4.0
Presenter: Günther Schuh, RWTH Aachen University and e.Go AG

Keynote 4: Production 4.0: Producing with Light
Presenter: Reinhart Poprawe, RWTH Aachen University

Parallel Session 2.1 + 3.1: Digital Manufacturing and Digital Business Models for MCP
Monday 20.11.2017 /// 15:30 – 18:30 /// Plenary

The new way of making Products [32]
Presenter: Martijn Joris, Twikit

Yuniku – The first Fully Personalized Eyewear: An innovation with a transformative potential [19]
Presenter: Alireza Parandian, Materialise
MC supporting tools based on MC strategies [27]
Presenter: Joao Teixeira Soares, EULA IT GmbH

Open Experience and Formulor make complex production facilities accessible for everyone over internet [35]
Presenter: Konstantin Krahtov, Open Experience GmbH

Next Generation of Furnishing Retail based on Artificial Intelligence [69]
Presenter: Sili Peng, MEIZHAI

Mass Customization 4.0 in AEC: Additive Manufacturing for Innovative Building Systems [82]
Presenter: Ingrid Paoletti, Politecnico di Milano

Parallel Session 2.2: MCP for Apparel and Textiles (I)
Monday 20.11.2017 /// 15:30 – 17:00 /// EUROGRESS 1

The Future of Footwear: From Mass Customization to Factory on Demand [25]
Presenter: Andrey Golub, ELSE Corp

Individual on-demand produced clothing - ultra fast fashion production system [30]
Presenter: Daniel Bücher, RWTH Aachen University

Fashion & Apparel Industry 4.0 and Smart Mass Customization Approach for Clothing Product Design [36]
Presenter: Jocelyn Bellemare, ESG Uqam

TCBL – Textile and Clothing Business Labs [73]
Presenter: Dieter Stellmach, Deutsche Institute für Textil + Faserforschung Denkendorf
Parallel Session 2.3: Smart Customization: Data-Driven Approaches for MCP (I)
Monday 20.11.2017 /// 15:30 – 17:00 /// EUROGRESS 2

Presenter: Michael Bartl, HYVE
Co-Authors: Michael Bartl, Marco Maier, Daniel Richter

User-centered Service Innovation for Commercial Vehicles: Plugging in the Handyman market [67]
Presenter: Nicole Eikelenberg, Ford Motor Company
Co-Authors: Nicole Eikelenberg, Kate Spierings, Froukje Sleeswijk-Visser, Dirk Snelders

Conceptualizing User Toolkits to Customize Ordinary Products in Accordance with Customer Preferences [78]
Presenter: Morgane Benade, Mines ParisTech
Co-Authors: Morgane Benade, Christoph Ihl, Frank Piller

Consumer’s Response to Smart Products for Product Customization in the Usage Stage [33]
Presenter: Ning Wang, RWTH Aachen University
Co-Authors: Ning Wang, Frank Piller, Kanliang Wang

Understanding personalisation: an academic perspective [57*]
Presenter: Iryna Kuksa, Nottingham Trent University
Co-Authors: Iryna Kuksa, Tom Fisher

Parallel Session 2.4: Choice Navigation: Matching Customer Needs & preferences for Company Capabilities (I)
Monday 20.11.2017 /// 15:30 – 17:00 /// Luxemburg

The Relevance of Mobile Optimized Product Configurators [08]
Presenter: Klaus Pilsl, Combeenation GmbH
Co-Authors: Paul Blazek, Klaus Pilsl
The Importance of Choice Navigation in Starting Configurator Projects [41]
Presenter: Ottar Bakås, SINTEF
Co-Authors: Ottar Bakås, Børge Sjøbakk, Maria Thomassen, Lars Skjelstad, Paul Blazek, Martina Partl

Design and development of the CEM-dashboard – a diagnostic tool to determine your current position and improvement directions in customer experience management [50]
Presenter: Marcel Weber, Amsterdam Business School - University of Amsterdam
Co-Authors: Marcel Weber, Arend Hofsink

Firm-offering Solutions in MC Product Ordering Systems: Staring vs. Waypoint Solutions [70]
Presenter: Seiji Endo, Tokai University

An Adaptive Reference Model for Product Configurators [72*]
Presenter: Sarah Hönigsberg, TU Chemnitz
Co-Authors: Sarah Hönigsberg, Christoph Kollwitz, Barbara Dinter

Parallel Session 3.2: MCP for Apparel and Textiles (II)
Monday 20.11.2017 /// 17:00 – 18:30 /// EUROGRESS 1

myShopNET: personalized consumer goods e-commerce platform [02]
Presenter: Rafael H. Stark, Desinope

Presenter: Rohana Zur. Universiti Kebangsaan Malaysia
Co-Authors: Syaimak Abdul Shukor, Rohana Zur

Presenter: Hala Hawa, Carleton University
Customizing the Implementation of Mass Customization in the U.S. Textiles and Apparel Industry [53*]

*Presenter:* Julie Becker, Eastern Michigan University

Business model development regarding mass customization aspects basing on the new 3D large circular knitting technology [84*]

*Presenter:* Kristina Simonis, RWTH Aachen University

*Co-Authors:* Kristina Simonis, Lena Roisin Weber, Stephan Hankammer

Parallel Session 3.3: Smart Customization: Data-Driven Approaches for MCP (II)

Monday 20.11.2017 /// 17:00 – 18:30 /// EUROGRESS 2

Next best action - a tool to uniquely and efficiently service each customer at every touch point [66]

*Presenter:* Erik Kayser, Implement Consulting Group

*Co-Authors:* Erik Kayser, Jonas Sjögren, Magnus Fransson

Demand Engineering in Mass Customization Using a Data Driven Approach [61]

*Presenter:* Rui Xu, Stanford University

*Co-Authors:* Rui Xu, Shuhui Qu, Ying Liu, Jie Wang

Adapting Product-Service System methods for the digital era – requirements for Smart PSS engineering [56]

*Presenter:* Simon Hagen, Universität Osnabrück

*Co-Authors:* Simon Hagen, Friedemann Kammler, Oliver Thomas

Datamodels for PSS development and configuration: existing approaches and future research [03]

*Presenter:* Daniel Schreiber, Leibniz Universität Hannover

*Co-Authors:* Daniel Schreiber, Paul Christoph Gembarski, Roland Lachmayer
A SYSTEMS ENGINEERING FRAMEWORK FOR MASS-CUSTOMISATION IN CONSTRUCTION [06*]

Presenter: Tanawan Wee, Imperial College London
Co-Authors: Tanawan Wee, Marco Aurisicchio

Uncovering the Potential Benefits of Data Analytics for Mass Customization [71*]

Presenter: Hendrik Wache, TU Chemnitz
Co-Authors: Hendrik Wache, Christoph Kollwitz, Barbara Dinter

Parallel Session 3.4: Choice Navigation: Matching Customer Needs & preferences for Company Capabilities (II)
Monday 20.11.2017 /// 17:00 – 18:30 /// Luxemburg

User Interface Modifications in Established Product Configurators [09]

Presenter: Paul Blazek, cyLEDGE Media
Co-Authors: Paul Blazek, Clarissa Streichsbier, Martina Partl, Lars Skjelstad

Custom furniture with the help of online configurators [28]

Presenter: Daniel Lorch, Designstudio DLID / Faust Linoleum

Front-end/Back-end Integration in Mass Customization: Challenges and Opportunities [47]

Presenter: Børge Sjøbakk, SINTEF
Co-Authors: Børge Sjøbakk, Maria Thomassen, Lars Skjelstad, Ottar Bakås

An Evaluation Model For Web-based 3D Mass Customization Toolkit Design [63]

Presenter: Huiwen Zhao, Bournemouth University
Co-Authors: Huiwen Zhao, Leigh McLoughlin, Valery Adzhiev, Alexander Pasko

Customizing For Others or Customizing For Oneself: The Perspective of Information Presentation Format [20*]

Presenter: Sarah Liang Zhou, Renmin University of China
Co-Authors: Sarah Liang Zhou, Wangsheng Zhu, Kanliang Wang
DAY 2: Tuesday, 21 Nov 2017

Plenary Session III: Sustainability & Mass Customization
Tuesday 21.11.2017 /// 08:30 – 10:00 /// Plenary

Keynote 5: Mobility
Presenter: Pim van der Jagt, Ford Motor Company

Keynote 6: Lifecycle management in the era of the IoT - Optimizing for People, Planet and Profit
Presenter: Wolfgang Budde, Philips Lighting

Parallel Session 4.1: Promising Practices and Success Factors for Bridging MCP, Industrie 4.0, and Sustainability
Tuesday 21.11.2017 /// 10:00 – 11:30 /// Plenary

Mass customization and personalization: a way to improve sustainability beyond a common paradox [83]
Presenter: Claudio R. Boër, SUPSI
Co-Authors: C.R. Boër, C. Redaelli, D. Boër, M. T. Gatti

Industry 4.0 & Sustainability [102]
Presenter: Dieter Wegener, Siemens

Circular Economy by Co-Creation [26]
Presenter: Dominik Walcher, FH Salzburg

Sustainability Mass Customization as a Means to Foster Sustainable Consumption [16]
Presenter: Stephan Hankammer, RWTH Aachen University
Parallel Session 4.2: MCP Success Factors and Best Practices (II)

Tuesday 21.11.2017 /// 10:00 – 11:30 /// EUROGRESS 1

Flexibility in Mass Customization of Houses [37]
Presenter: Salman Khalili-Araghi, University of Calgary
Co-Authors: Salman Khalili-Araghi, Branko Kolarevic

Validation of Metrics for Mass Customization [43]
Presenter: Thomas Ditlev Brunoe, Aalborg Universitet
Co-Authors: Kjeld Nielsen, Thomas Ditlev Brunoe

Teaching solution space development: Experiences from the Hanover Knowledge-Based-Design-Lab [52]
Presenter: Paul Christoph Gembarski, Leibniz Universität Hannover
Co-Authors: Paul Christoph Gembarski, Roland Lachmayer

Choicla: Intelligent Group Decision Technologies for Business Environments [74]
Presenter: Stefan Reiterer, Selectionarts
Co-Authors: Martin Stettinger, Alexander Felfernig, Paul Blazek, Stefan Reiterer

Can the SME successfully adopt Mass Customization? [76]
Presenter: Henrike Boer, Aalborg Universitet
Co-Authors: Henrike Boer, Kjeld Nielsen, Thomas Ditlev Brunø

Productivity, Challenges and Applying Mass Customization in the Building and Construction Industry [77]
Presenter: Thomas Ditlev Brunø, Aalborg Universitet
Co-Authors: Kim Nørgaard Jensen, Kjeld Nielsen, Thomas Ditlev Brunø, Jesper Kranker Larsen
Parallel Session 4.3: Platforms, Ecosystems, and Business Models for Digital Manufacturing
Tuesday 21.11.2017 /// 10:00 – 11:30 /// Eurogress 2

Presenter: Zoran Anišić, Univerzitet u Novom Sadu
Co-Authors: Dinu Dragan, Zoran Anišić, Srdjan Mihic, Vladimir Puhalač

A Marketplace for Smart Production Ecosystems [23]
Presenter: Alois Haselböck, Siemens
Co-Authors: Deepak Dhungana, Alois Haselböck, Richard Taupe

From Mass Customisation to Mass Entrepreneurship: The Impact of 3D Printing on Entrepreneurship [54]
Presenter: Thierry Rayna, École Polytechnique
Co-Authors: Thierry Rayna, Ludmila Striukova

A digital fabrication infrastructure enabling distributed design and production of custom furniture [80]
Presenter: Andrea Francesco Barni, SUSPI
Co-Authors: Andrea Francesco Barni, Donatella Corti, Paolo Pedrazzoli, Diego Rovere

Facilitating sustainable business model innovation through Mass Customization [81*]
Presenter: Hannah Fabry, RWTH Aachen University

Parallel Session 5.1: Mass Customization-Driven Industry Development – World Class Manufacturing in a UNESCO World Heritage Town
Tuesday 21.11.2017 /// 10:00 – 11:30 /// Plenary

Knowledge and motivation [111]
Presenter: B. Joseph Pine II, Strategic Horizons

Project design [112]
Presenter: Lars Skjelstad, SINTEF
Industrial benefits [113]

Presenter: Tor Lømo-Hansen, Røros Windows and Doors

Customer interaction [114]

Presenter: Paul Blazek, cyLEDGE Media; Martina Parl, cyLEDGE Media

Parallel Session 5.2: Environmental and Sustainability Assessment of MCP

Tuesday 21.11.2017 /// 10:00 – 11:30 /// EUROGRESS 1

A preparatory approach to Environmental Assessment for sustainable mass customization [42]

Presenter: Luca Canetta, SUPSI; Alena Zoe Hänsch, e-hoch-3

Co-Authors: Alena Zoe Hänsch, Maike Hora, Alessandro Fontana, Stephan Hankammer, Luca Canetta, Shirin Gomez

Exploring drivers and barriers for sustainable use of resources: The case of high-tech mass customizers in the German textile industry [46]

Presenter: Leontin Karl Grafmüller, HHL Leipzig Graduate School of Management

Co-Authors: Paula Rassmann, Leontin Karl Grafmüller

Opportunities and Challenges of sustainable product-service systems for mass customization – a case study on Televisions [48]

Presenter: Maike Hora, e-hoch-3

Co-Authors: Alena Zoe Hänsch, Julia Mohr, Iris Steinberg, Shirin Gomez, Maike Hora

Mass customization and environmental sustainability: a large-scale empirical study [55]

Presenter: Enrico Sandrin, Università di Padova

Co-Authors: Enrico Sandrin, Alessio Trentin, Cipriano Forza

Effects of Mass Customization on Sustainability - A Literature-based Analysis [60]

Presenter: Paul Christoph Gembarski, Leibniz Universität Hannover

Co-Authors: Paul Christoph Gembarski, Thorsten Schoormann, Daniel Schreiber, Ralf Knackstedt, Roland Lachmayer
Parallel Session 5.3: Digital Manufacturing: Implementation, Usage, and Value Capture
Tuesday 21.11.2017 /// 12:00 – 13:30 /// Eurogress 2

Design for Mass Individualisation: Introducing Networked Innovation Approach [04]
Presenter: Ravi K. Sikhwal, Imperial College London
Co-Authors: Ravi K. Sikhwal, Peter R. N. Childs

Exploring Barriers towards the Development of Changeable and Reconfigurable Manufacturing Systems for Mass Customized Products: an Industrial Survey [18]
Presenter: Ann-Louise Andersen, Aalborg Universitet
Co-Authors: Ann-Louise Andersen, Jesper Kranker Larsen, Thomas Ditlev Brunoe, Kjeld Nielsen, Christopher Ketelsen

Added Perspectives to Social Manufacturing Platforms [34]
Presenter: Marek Spacek, Université de Sherbrooke

Automated processing of planning modules in factory planning by means of constraint-solving using the example of production segmentation [49]
Presenter: Jan Winkels, TU Dortmund
Co-Authors: Julian Graefenstein, Jan Winkels, David Scholz, Oliver Seifert, Michael Henke, Jakob Rehof

Impacts of Industry 4.0 on the specific case of mass customization through modeling and simulation approach [62]
Presenter: Ali Raza, Politecnico di Milano

Social Value Creation through Mass Customization [07*]
Presenter: Soujanya Mantravadi
Co-Authors: Soujanya Mantravadi, Janardhan Vellikad

Plenary Session IV: Learning from Experience: Success Factors & Key Insights by Mass Customization Pioneers
Tuesday 21.11.2017 /// 14:30 – 16:00 /// Plenary
Keynote 7: Lessons learned from a Mass Customization Pioneer. The Case of Adidas
Presenter: Christoph Berger, Adidas

Keynote 8: It’s not easy, but has to look easy: How to create a big profitable customization company [12]
Presenter: Philipp Rooke, Spreadshirt

How to create a profitable mass customization business [21]
Presenter: Daniel Rüben, Custom Gateway

The value of MCP for the next practice on Sustainability [38]
Presenter: Yasuyuki Cho, yckyoto.com

Guided Tour I: Digital Capability Center (DCC) Aachen
Tuesday 21.11.2017 /// 16:30 – 18:00 /// DCC Aachen by McKinsey & RWTH ITA

Guided Tour II: Aachen Center for Additive Manufacturing (ACAM)
Tuesday 21.11.2017 /// 16:30 – 18:00 /// ACAM, RWTH Aachen

Guided Tour III: RWTH Demo Factory for Industrie 4.0
Tuesday 21.11.2017 /// 16:30 – 18:00 /// RWTH Demo Factory Aachen, WZL & FIR