

# Preface

## **Rapid Modelling - Increasing Competitiveness - Tools and Mindset**

Despite the developments in the field of lead time reduction over the past 25 years, long lead times continue to have a negative impact on companies' business results, i.e., customer dissatisfaction, loss of market shares, and missed opportunities to match supply and demand. Increased global competition requires companies to seek out new ways of responding to volatile demand and increased customer requirements for customization with continuously shorter lead times. Manufacturing companies, as well as service firms, in the developed economies are in the doldrums because low responsiveness make them vulnerable to low-cost competitors. Companies that are equipped for speed, with innovative processes, will outperform their slower competitors in many industries but the knowledge concerning lead time reduction, which has been developed globally, has yet to be combined into a unified theory.

The purpose of this proceedings volume of selected papers presented at the 1st rapid modelling conference "Increasing Competitiveness - Tools and Mindset" is to give a state of the art overview about actual works in the field of rapid modelling in combination with lead time reduction. Furthermore, new developments will be discussed. In general, Rapid Modelling is based on queuing theory but other mathematical modelling techniques as well as simulation models to facilitate the transfer of knowledge from theory to application are of interest in this context as well. The interested reader, e.g.,

- researchers in the fields of
  - operations management
  - production management
  - supply chain management
  - operations research or
  - industrial engineering as well as

- practitioners with any connection to either
  - manufacturing or
  - service operations

should have a good overview about what is going on in this field. The objective of this conference is to provide an international, multidisciplinary platform for researchers and practitioners to create and exchange knowledge on increasing competitiveness through speed. Lead time reduction (through techniques ranging from quick response manufacturing to lean production) is achieved through a mutually reinforcing combination of changed mindset and analytical tools. We accepted papers that contribute to these themes in the form of:

- Theory Pieces and Reviews
- Modelling and Simulation
- Case Study and Action Research
- Survey and Longitudinal Research

Based on these research methods, the proceedings volume has been divided into four chapters and brings together papers which present different research methodologies. These papers are allocated based on their primary research methodology. All papers passed through a double-blind referee process to ensure their quality. Therefore, this book should serve as a valid source for research activities in this field.

While the RMC09 (1st rapid modelling conference “Increasing Competitiveness - Tools and Mindset”) takes place at the University of Neuchâtel, located in the heart of the city of Neuchâtel, Switzerland, it is based on a collaboration with the project partners within our IAPP Project (No. 217891), see also <http://www.unine.ch/ienekje>. We are happy to have brought together authors from Algeria, Australia, Austria, Bahrain, Belgium, England, Finland, France, Germany, Hungary, Italy, Sweden, Switzerland and the United States of America.

## Acknowledgement

We would like to thank all those who contributed to the conference and this proceedings volume. First, we wish to thank all authors and presenters for their contribution. Furthermore, we appreciate the valuable help from the members of the international scientific board, the referees and our sponsors (see the Appendix for the appropriate lists).

In particular, our gratitude goes to our support team at Enterprise Institute at the University of Neuchâtel, Gina Fiore Walder who organized all the major and minor aspects of this conference project. Ulf Richter, who handled the promotion process as well as the scientific referee process. Gina Fiore Walder, Yvan Nieto, Gil Gomes dos Santos supported by Arda Alp and Boualem Rabta handled the majority of the text reviews as well as the formatting work with LaTeX. Ronald Kurz created the logo

of our conference and he took over the development of the conference homepage <http://www.unine.ch/rmc09>.

Furthermore, we would like to give special thanks to Professor Rajan Suri, the founding director of the Center for Quick Response Manufacturing, University of Wisconsin-Madison, USA, who supported the development of our conference with valuable ideas, suggestions and hints. Furthermore, he authored the forward of this book based on his leading expertise in the field of Rapid Modelling as well as Quick Response Manufacturing.

Finally, it has to be mentioned that the conference as well as the book are supported by the EU SEVENTH FRAMEWORK PROGRAMME - THE PEOPLE PROGRAMME - Industry-Academia Partnerships and Pathways Project (No. 217891) "How revolutionary queuing based modelling software helps keeping jobs in Europe. The creation of a lead time reduction software that increases industry competitiveness and supports academic research."

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