Contents

Part I Invited Papers

The Future of Manufacturing Utilizing Tagging Technology ................. 3
Gisele Bennett

Fault Detection in Dynamic Vehicle Routing Operations ............... 13
Antonio G. N. Novaes, Edson T. Bez and Paulo J. Burin

Part II Transport Logistics and Dynamic Routing

Knowledge Sharing in Intermodal Transport: A Multi-Agent Based Perspective ................................................................. 35
Jiani Wu and Hans-Dietrich Haasis

Emissions Minimization Vehicle Routing Problem in Dependence of Different Vehicle Classes ........................................ 49
Heiko W. Kopfer and Herbert Kopfer

Product Intelligence in Intermodal Transportation: The Dynamic Routing Problem ................................................................. 59
Vaggelis Giannikas and Duncan McFarlane

Cargo Telematics for Operational Transport Excellence and Strategic Knowledge Management ....................... 71
Matthias Klumpp, Christof Kandel and Erik Wirsing
Part III  Production Logistics and Job Shop Scheduling

Towards an Integrated Production and Outbound Distribution Planning Method ........................................ 85
Bernd Scholz-Reiter and Christian Meinecke

Supply Chain Integration by Human-Centred Alignment of Lean Production Systems ................................ 93
Yılmaz Uygun and Natalia Straub

The Multiple Batch Processing Machine Problem with Stage Specific Incompatible Job Families .................. 113
Marc-Andrè Isenberg and Bernd Scholz-Reiter

Scheduling Multiple Batch Processing Machines with Stage Specific Incompatible Job Families .................. 125
Marc-Andrè Isenberg and Bernd Scholz-Reiter

A Comparison of Network Characteristics in Metabolic and Manufacturing Systems .................................... 141
Till Becker, Mirja Meyer, Moritz E. Beber, Katja Windt and Marc-Thorsten Hütt

Part IV  Modeling, Simulation, Optimization and Collaboration

Conflicting Optimization Goals in Manufacturing Networks: A Statistical Analysis Based on an Idealized Discrete-Event Model . . . 153
Reik V. Donner and Jörg Hanke

Modeling the Basic Cause-Effect Relationship Between Supply Chain Events and Performance .................. 163
Georg Heinecke, Jonathan Köber, Andreas Kunz and Steffen Lamparter

The Importance of Managing Events in a Build-to-Order Supply Chain: A Case Study at a Manufacturer of Agricultural Machinery .................................................. 175
Jonathan Köber and Georg Heinecke

A Dynamic Approach to Measure the Effect of Postponement Strategy on the Performance of Manufacturing and Logistics Processes ............................................................ 187
Luiz Eduardo Simão and Mirian Buss Gonçalves
Event Management for Uncertainties in Collaborative Production
Scheduling and Transportation Planning: A Review .......................... 199
Bernd Scholz-Reiter, Yi Tan, Nagham El-Berishy
and José B. S. Santos Jr.

Study on the Application of DCOR and SCOR Models
for the Sourcing Process in the Mineral Raw Material Industry
Supply Chain ................................................................. 211
Raul Zuñiga, Marcus Seifert and Klaus-Dieter Thoben

Part V  Identification Technologies

Service Oriented Platform for RFID-Enabled Real-Time
Fleet Advanced Planning and Scheduling in Industrial Parks .......... 223
L. Y. Pang, George Q. Huang and R. Y. Zhong

Towards Agile and Flexible Air Cargo Processes with Localization
Based on RFID and Complex Event Processing ......................... 235
David Rüdiger, Moritz Roidl and Michael ten Hompel

Smart Agri-Food Logistics: Requirements for the Future Internet ... 247
C. N. Verdouw, H. Sundmaeker, F. Meyer, J. Wolfert and J. Verhoosel

Design and Implementation of a Virtual Reader for Generating
Multiple Tag Data .......................................................... 259
Jiwan Lee, Wooseok Ryu, Joonho Kwon and Bonghee Hong

Dynamic Tag Identity-Based Encryption Scheme
for Logistic Systems ....................................................... 267
Jongseok Choi and Howon Kim

Queuing Buffer Method for Enhancing Reliability
of Capturing Application .................................................. 277
Taewoo Nam, Inhwan Lee, Byeongsam Kim and Keunhyuk Yeom

Part VI  Mathematical Modeling in Transport
and Production Logistics

Dynamic Optimization Model for Planning of Integrated
Logistical System Functioning .......................................... 291
Iryna V. Morozova, Mykhaylo Ya. Postan and Sergey Dashkovskiy
A Graph Model for the Integrated Scheduling of Intermodal Transport Operations in Global Supply Chains ............................................. 301
Willian Chaves Mates, Enzo Morosini Frazzon, Jens Hartmann
and Sérgio Fernando Mayerle

Exploitation of Due Date Reliability Potentials: Mathematical Investigation of the Lead Time Syndrome ........................................ 313
Mathias Knollmann and Katja Windt

A Multi-Level Programming Model and Solution Algorithm for the Location of Distribution Centers with Uncertainty Demand . . . 327
Patareeya Lasunon and Raknoi Akararungruangkul

A Method to Estimate the Accumulated Delivery Time Uncertainty in Supply Networks ................................................................. 337
Mehdi Saafai, Safir Issa, Marcus Seifert, Klaus-Dieter Thoben
and Walter Lang

An LMI Approach to Exponential Stock Level Estimation for Large-Scale Logistics Networks ......................................................... 349
Hamid Reza Karimi

Part VII Information, Communication, Risk, and Failure

Characterization of Thermal Flow Sensors for Air Flow Measurements in Transport Containers ......................................................... 361
Safir Issa and Walter Lang

Design and Implementation of Location-Based Handoff Scheme for Multimedia Data ................................................................. 371
Dong Hyun Kim and Jong Deok Kim

Reconfiguring Multi-Rate Wi-Fi Mesh Networks with Flow Disruption Constraints ................................................................. 383
Yafeng Zhou, Sang-Hwa Chung and Han-You Jeong

Marco Lewandowski, Oliver Siebenand, Stephan Oelker
and Bernd Scholz-Reiter
A Procedure for the Selection of a Supply Network Risk Mitigation Strategy in Relational Arrangements .......................... 405
José B. S. Santos Júnior, Sérgio A. Loureiro and Orlando F. Lima Júnior

Optimization of Failure Behavior of a Decentralized High-Density 2D Storage System ........................................... 415
Kai Furmans, Kevin R. Gue and Zäzilia Seibold

Part VIII Autonomous Control

Distributed Reinforcement Learning for Optimizing Resource Allocation in Autonomous Logistics Processes ................. 429
Jan Ole Berndt and Otthein Herzog

Improving Returnable Transport Equipment Management with an Autonomous Approach ................................. 441
Rebecca Aggarwal and Ming K. Lim

Stability Analysis Scheme for Autonomously Controlled Production Networks with Transportations ......................... 453
Sergey Dashkovskiy, Michael Görges and Lars Naujok

Towards the Learning Behaviour and Performance of Artificial Neural Networks in Production Control ............... 465
Bernd Scholz-Reiter and Florian Harjes

Part IX Global Supply Chains and Industrial Application

A Framework of the Forces Influencing the Adaptation of the SCOR Model to the Situation of the Manufacturing Industry in Developing Countries ................................................ 477
Fasika B. Georgise, Klaus-Dieter Thoben and Marcus Seifert

The Impact of Near Sourcing on Global Dynamic Supply Chains: A Case Study .................................................. 489
Anna Corinna Cagliano, Alberto De Marco and Carlo Rafele

Simulation-Based Analysis of Integrated Production and Transport Logistics .................................................. 499
Enzo Morosini Frazzon, Joarez Pintarelli, Thomas Makuschewitz and Bernd Scholz-Reiter
Logistics Integrated Product Development in the German Automotive Industry: Current State, Trends and Challenges ........ 509
Ingrid Göpfert and Matthias Schulz

Efficient and Safe Transporting of Steel Sheets with Permanent Magnets ........................................ 521
Johannes Schröck and Bernd Orlik

Part X  Considerations for a Future Internet of Things

The Effective Method for Distributed Information Gain in EPC Network ........................................... 531
Taewoo Nam, Byeongsam Kim and Keunhyuk Yeom

Man–Machine-Interaction in the Field of Logistics: Example “Internet of Things” ............................ 545
Lars Windelband and Georg Spöttl

Sensor Reader Emulator for Integrating Sensor Networks into EPCglobal Network ......................... 557
Joo-Ho Lee, Oh-Heum Kwon and Ha-Joo Song

A Design of Distributed Discovery Service of EPCglobal ................................. 571
Gihong Kim, Bonghee Hong and Joonho Kwon
Dynamics in Logistics
Third International Conference, LDIC 2012 Bremen, Germany, February/March 2012 Proceedings
Kreowski, H.-J.; Scholz-Reiter, B.; Thoben, K.-D. (Eds.)
2013, XIV, 580 p., Hardcover
ISBN: 978-3-642-35965-1