

Table of Contents

Preface and Committees

Chapter 1: Modern Trends in Manufacturing Management

Deriving an Economic Model for the Production of New Materials J. Vlachý and F. Freiberg	3
Innovative Model of Economic Development in the Region S. Radchenko, J. Zajac, M. Kočíško, Z. Hutyrová, J. Zajac and A. Bernat	9
Cluster Policy and its Influence on Economic Competitiveness D. Spirkova, D. Caganova and J. Sujanova	16
Knowledge Model of Corporate Governance P. Taraba, K. Pitrová and M. Hart	22
Mathematical Methods in Planning Production Capacity as Exemplified by Enterprises of the Footwear Sector J. Nowakowska-Grunt and R. Salek	28
Linking Management Levels of the Production Process D. Dorčák and J. Lišuch	34
Qualitative Problems in Enterprises B. Skowron-Grabowska	38
Risk Assessment Using the AHP Method in the Automotive Industry D. Marasová, M. Andrejiová, A. Grinčová and P. Grendel	44
Selected Directions in Analysis of Innovative Activities in Enterprises M. Grabowska	50
Case Study of Production Diversification Strategy in an Industrial Company F. Freiberg, M. Žilka, B. Stieberová and P. Scholz	56

Chapter 2: Machines and Equipments of Manufacturing Systems

Measurement of the Distance between Axes of Holes with the Roundtest RA-120 P. Michalik, J. Zajac, Z. Hutyrová, D. Mital', J. Olhova, C. Robert, R. Čep and J. Petru	65
Non-Destructive Testing of Inhomogeneity of Wood Plastic Composite Z. Hutyrová, M. Hatala, J. Mihok, P. Michalik, J. Duplák and S. Radchenko	71
Product Quality Improvement Using Simulation Tools S. Hric, A. Vagaska, S. Radchenko, F. Murgas and M. Micko	77
Simulation of Robot Motion Operating in the Workcell to Specify Servomotors in its Individual Joints K. Monkova and A. Cizikova	83
Study the Quality of Welded Joints of Steel S235 D. Mital', P. Michalik, J. Zivčák, A. Czan, D. Stanceková, S. Radchenko and J. Vybostek	88
The Comprehensive Comparison of the Selected Cutting Materials with Standard ISO 3685 in Machining Process of Steel C60 J. Duplák, M. Hatala, J. Zajac, K. Vasilko, M. Kormoš and S. Jurko	93
The Principles of Fixtures Design and their Application at Virtual Modelling in CAD/CAM System K. Monkova, P. Monka, M. Somsak and A. Andrej	99
The Shift towards Smart, Green and Integrated Raw Materials Efficiency E. Oravcová and M. Zelko	105
The Comparison of Durability Ceramic Cutting Tools in Turning Process of Steel 80MoCrV4016 M. Hatala, J. Duplák, M. Kočíško, M. Kormoš, M. Mičko and M.J.A. Alowa	110
Upgrade of the Function Quality of the Machine Tools by the Oscillations Compensation D. Matiskova and M. Balara	116

The Simulation as a Tool for Technical Devices Design and Optimization S. Hric, D. Lehocka, J. Carach, F. Murgas and P. Pastucha	122
--	-----

Chapter 3: Logistics and RFID in Manufacturing Systems

EPCIS Implementation and Customization for Automotive Industry F. Benes, J. Svub, P. Stasa, V. Kebo and J. Unucka	131
Applying RFID for Synchronization of Factory Floor Documentation in Robotic Manufacturing Cells V. Modrak, P. Semančo and M. Straka	137
Application of RFID Technology in Public Transport Company M. Balog, E. Szilágyi and D. Marton	143
Application of RFID and ICT in Reverse Logistic in Poland J. Grabara, S. Nowak and A. Ulfik	150
Logistic of Building Simulation Model of Healthcare Facility for Further Performance Management – Case Study D. Onofreiová, J. Kováč and J. Janeková	156
Opportunity of RFID Using for Intermodal Transport in Security of Goods R. Hricová and M. Straka	162
Supply Chain Management in Condition of Production Company A. Csikósová and M. Antošová	168
Comparison of Reading Speed of Bar Codes and RFID R. Hricová, P. Šebej, A. Rosová and E. Weiss	173
Transport Effectiveness in Distribution of Steel Products B. Ślusarczyk and S. Kot	179

Chapter 4: Researching and Designing of Industrial and Manufacturing Systems

Production-Oriented Cell Formation Methods and Performance Indicators: Taxonomic Review and Trends P. Semančo and V. Modrak	185
Design Policies in Virtual Cellular Manufacturing Systems by Multi-Domain Simulation Environment P. Renna	192
Approach to Creating Structures of Production Systems J. Kováč and Š. Valenčík	198
Possibilities of Production Simulation in Software Product Tecnomatix – Plant Simulation at Wood Processing Example P. Malega and J. Kováč	204
Practical Requirements on Production Systems Š. Valenčík and J. Kováč	210
The Creation of the New Enterprise Planning and Control System for the Magnesite Extraction and Processing V. Šindler and J. Kerekanič	215
Application of Virtual Reality Means in Dashboard Function and Dashboard Assembly Fixture Ergonomic Analysis K. Senderská, A. Mareš and J. Kováč	221
Occupational Hazard Prevention in Manufacturing Systems J. Tabor	227
Optimizing Assembly Production Structures Based on Complexity Criterion V. Modrak and D. Marton	233
Application of the Ergonomic Redesign in Terms of Workplace Rationalization M. Flimel and D. Dupláková	239
Product Configurations in Terms of Mass Customized Assembly Systems V. Modrak and S. Bednar	245