

Preface

Today, we are the witnesses of the most important revolution in global industry during the twenty-first century. Conversion of the business model of global producers towards the idea of INDUSTRY 4.0 will change the global manufacture into flexible, robust and cost-effective systems. Production will be more effective due to shifting decision systems in field, building intelligent middleware structures, as well as implementing different level of intelligent sensors and control in robotic setups. As a result, the work of engineers and managers will become safer, easier and more prosperous. Moreover, the quality of life of all citizens of the globalized world will increase significantly.

This book presents results of discussion during the International Conference on Systems, Control and Information Technologies 2016. It presents research results from top experts in the fields connected with the idea of INDUSTRY 4.0 and determining the efficiency of its implementation, especially intelligent systems, advanced control, information technologies, industrial automation, robotics, intelligent sensors, metrology as well as new materials. Each chapter presents a deep analysis of a specific technical problem which is in general followed by a numerical analysis and simulation, and results of solution implementation for real-world problems.

We strongly believe that the presented theoretical results, practical solutions and guidelines will be useful for both researchers and engineers working in the area of transformation of global industry towards INDUSTRY 4.0 approach.

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