Foreword

One of the greatest innovations of this century is the various developments in the information and communications (ICT) field. ICT has basically changed the way we live, operate, and interact with the world. There are several research and industrial oriented projects to tap the real ICT potential in the industrial environment. New paradigms like industrial informatics have emerged from the development of science, engineering and Information Technology, and the need to cope up with the technological requirements. Industrial informatics focuses on knowledge-based automation as a means to enhance fabrication and manufacturing processes in industries.

This book is a rare collection of chapters dealing with the conceptual knowledge of the latest tools and methodologies of industrial informatics and a variety of real world problems. The topics cover the state-of-the-art and future perspectives of industrial information technologies, where industry experts, researchers, and academics shared ideas and experiences surrounding frontier technologies, breakthrough and innovative solutions and applications. Each chapter presents the reader with an in-depth investigation regarding the role of information and communication technologies in the context of the industrial setting.

The reader will find in this book a variety of intelligence techniques and applications in an industrial setting. World reputed scholars author the selected chapters, and the editors have succeeded in bringing together various topics ranging from fundamentals of industrial informatics, computational intelligence in informatics algorithms, tools and case studies in industrial informatics, and finally, the latest emerging trends in the area. Most aspects of various industrial environments are critically examined in this book. The work in this book can be seen as a continuation of the quest for building intelligent informatics systems.

This book provides a stepping-stone for researchers to build on, providing the details not found in journal papers, with a quality missing in many papers. I would like to congratulate the editors for the timely edition of this valuable book, and I hope that researchers and others will be inspired by many of the ideas presented and will use and build upon them.

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Ajith Abraham's research and development experience includes over 20 years in academia and industry. He works in a multi-disciplinary environment involving machine (network) intelligence, cyber security, sensor networks, Web intelligence, scheduling, data mining, and applied to various real world problems. He has given more than 50 conference plenary lectures/tutorials and invited seminars/lectures in over 50 universities around the globe. He is an author/co-author of 750+ publications and some of the works have also won best paper awards at international conferences and also received several citations. Some articles are available in the ScienceDirect Top 25 hottest articles. Since 2008, he chairs the IEEE SMC Society Technical Committee on Soft Computing and also represents the IEEE Computer Society Distinguished Visitors Program in Europe (2011-13).