Advances in

The Ergonomics in Manufacturing:

Managing the Enterprise of the Future

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Table of Contents

Section 2: Applied Ergonomics in Manufacturing I

Section 3: Ergonomics in Industrial Quality and Safety

Preface

Contemporary manufacturing enterprises aim to deliver a great number of consumer products and systems through friendly and satisfying working environments for people who are involved in manufacturing services. Human-centered design factors, which strongly affect manufacturing process, as well as the potential end-users are also crucial for achieving continuing progress in this respect. Researchers around the world attempt to improve the quality of consumer products and working environments. This book presents the results of their work. We believe that such findings can either inspire or support others in the field of manufacturing to advance their designs and implement them in the practice. Therefore, this book is addressed to both researchers and practitioners.

The papers presented in this book have been arranged into four sections. The first section covers a variety of topics that refer to human-centered organizations. This section starts with a general viewpoint of socio-technical systems, including organizational innovativeness and enterprise agility, followed by issues related to designing human-centered production systems. Such systems take into consideration workforce diversity, high-wage countries, work-related occupational safety, work environment factors, ICT, and demographic features. The last thematic part of this section is focused on assembly planning and production inventories management. The second section of the book presents the effects of applied ergonomics in manufacturing and work study concerning improvement of human skills, as well as quality and effectiveness of workforce. The presented chapters depict the influence of worker experience and the technology used to improve work effectiveness. Next, the comparison of non-expert and expert work is studied to find patterns that can be used to improve the technique of performing different tasks by less skilled employees. The third section deals with some outcomes ergonomics in industrial quality and safety, while the fourth and final section of this book is focused on ergonomic design of future production systems.

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