

1. Record Nr.	UNINA9910476914503321
Autore	Matt Dominik T
Titolo	Implementing Industry 4.0 in SMEs : Concepts, Examples and Applications // edited by Dominik T. Matt, Vladimír Modrák, Helmut Zsifkovits
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Palgrave Macmillan, , 2021
ISBN	9783030705169 3030705161
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (xxxiv, 429 pages) : illustrations (some color)
Collana	Business and Management Series
Classificazione	BUS042000
Altri autori (Persone)	MattDominik T ModrakVladimir <1957-> ZsifkovitsHelmut
Disciplina	658.4038028563
Soggetti	Technological innovations Innovation and Technology Management
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes index.
Nota di contenuto	Section I: Implementing Industry 4.0 for Smart Manufacturing in SMEs -- 1. Status of the Implementation of Industry 4.0 in SMEs and Framework for Smart Manufacturing -- 2. Computational Intelligence in the Context of Industry 4.0 -- 3. AI and ML for Human-Robot Cooperation in Intelligent and Flexible Manufacturing -- 4. Industrial Assistance Systems to Enhance Human-Machine Interaction and Operator's Capabilities in Assembly -- Section II: Implementing Industry 4.0 for Smart Logistics in SMEs -- 5. Investigation of the Potential to Use Real-Time Data in Production Planning and Control of MTO Manufacturing Companies -- 6. Readiness Model for Integration of ICT and CPS for SMEs Smart Logistics -- 7. Automated Performance Measurement in Internal Logistics Systems -- 8. A Case Study: Industry 4.0 and Human Factors in SMEs -- Section III: Organizational and Management Models for Smart SMEs -- 9. Transition of SMEs Towards Smart Factories: Business Models and Concepts -- 10. Towards SME 4.0: The Impact of Industry 4.0 Technologies on SMEs' Business Models -- 11. General Assessment of Industry 4.0 Awareness in South India – A Precondition for Efficient Organization Models? -- 12. Implementation

Sommario/riassunto

This open access book addresses the practical challenges that Industry 4.0 presents for SMEs. While large companies are already responding to the changes resulting from the fourth industrial revolution, small businesses are in danger of falling behind due to the lack of examples, best practices and established methods and tools. Following on from the publication of the previous book 'Industry 4.0 for SMEs: Challenges, Opportunities and Requirements', the authors offer in this new book innovative results from research on smart manufacturing, smart logistics and managerial models for SMEs. Based on a large scale EU-funded research project involving seven academic institutions from three continents and a network of over fifty small and medium sized enterprises, the book reveals the methods and tools required to support the successful implementation of Industry 4.0 along with practical examples. Dominik T. Matt holds the Chair for Production Systems and Technologies and heads the research department "Industrial Engineering and Automation (IEA)" at the Faculty of Science and Technology at the Free University of Bozen-Bolzano (Italy). Further he is the Director of Fraunhofer Italia Research in Bolzano. His research focuses on Industry 4.0 and smart factories, the adoption of artificial intelligence in manufacturing as well as the digital transformation of industrial companies. Vladimír Modrák is Full Professor of Manufacturing Technology at Technical University of Kosice, Slovakia. He obtained his PhD at the same University in 1989. His research interests include cellular manufacturing design, mass customized manufacturing and planning/scheduling optimization. He is a Fellow of the European Academy for Industrial Management (AIM) since 2015. Helmut Zsifkovits is Professor of Industrial Logistics at Montanuniversität Leoben, Austria. He graduated from the University of Graz, Austria. His research interests include logistics systems engineering, supply chain strategy and operations management. He has teaching assignments at universities in Austria, Latvia, Colombia, and Germany, and professional experience in automotive industry, logistics consultancy and IT. In 2020, he was elected the president of the European Certification Board for Logistics (ECBL).
