1. Record Nr. UNINA9910372735903321 Autore Matt Dominik T **Titolo** Industry 4.0 for SMEs [[electronic resource]]: Challenges, Opportunities and Requirements / / edited by Dominik T. Matt, Vladimír Modrák, Helmut Zsifkovits Pubbl/distr/stampa Cham, : Springer Nature, 2020 Cham:,: Springer International Publishing:,: Imprint: Palgrave Macmillan, , 2020 3-030-25425-9 **ISBN** Edizione [1st ed. 2020.] 1 online resource (412) Descrizione fisica Disciplina 658.514 Soggetti Management Industrial management Small business Big data Innovation/Technology Management **Small Business** Big Data/Analytics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Part I. Introduction to Industry 4.0 for SMEs -- 1. SME 4.0: The Role of Nota di contenuto Small- and Medium-Sized Enterprises in the Digital Transformation: Dominik T. Matt and Erwin Rauch -- Part II. Industry 4.0 Concepts for Smart Manufacturing in SMEs -- 2. SME Requirements and Guidelines for the Design of Smart and Highly Adaptable Manufacturing Systems; Erwin Rauch, Andrew R. Vickery, Christopher A. Brown and Dominik T. Matt.-3. Implementation of Industrial Internet of Things and CPS in SMEs for Distributed and Service-oriented Control: Rafael A. Roias and Manuel A. Ruiz Garcia -- 4. The Opportunities and Challenges of SME Manufacturing Automation: Safety and Ergonomics in Human-Robot

Collaboration; Luca Gualtieri, Ilaria Palomba, Erich J. Wehrle and Renato Vidoni -- Part III. Industry 4.0 Concepts for Smart Logistics in SMEs -- 5. Requirement Analysis for the Design of Smart Logistics in SMEs; Patrick Dallasega, Manuel Woschank, Helmut Zsifkovits, Korrakot

Tippayawong and Christopher A. Brown -- 6. Consistent Identification and Traceability of Objects as an Enabler for Automation in the Steel Processing Industry: Helmut Zsifkovits, Johannes Kapeller, Hermann Reiter, Christian Weichbold and Manuel Woschank -- 7. State-of-theart Analysis of the Usage and Potential of Automation in Logistics; Hlemut Zsifkovits, Manuel Woschank, Sakgasem Ramingwong and Warisa Wisittipanich -- Part IV. Industry 4.0 Managerial, Organizational and Implementation Issues -- 8. The Development of an Organizational Maturity Model in terms of Mass Customization: Vladmír Modrák and Zuzana Šoltysová -- 9. Implementing Industry 4.0 in SMEs: A Focus Group Study on Organizational Requirements; Guido Orzes, Robert Poklemba and Walter T. Towner -- 10. Smart SME 4.0 Implementation Toolkit; Apichat Sopadang, Nilubon Chonsawat and Sakgasem Ramingwong -- Part V. Case Studies and Methodical Tools for Implementing Industry 4.0 in SMEs -- 11. The Digitization of Quality Control Operations with Cloud Platform Computing Technologies: Kamil Zidek, Vladimír Modrák, Ján Pitel and Zuzana Šoltysová -- 12. The Implementation of a Laboratory Case Study for Intuitive Collaboration between Man and Machine in SME Assembly; Luca Gualtieri, Rafael A. Rojas, Manuel A. Ruiz Garcia, Erwin Rauch and Renato Vidoni -- 13. Axiomatic Design for Products, Processes and Systems; Christopher A. Brown.

Sommario/riassunto

This open access book explores the concept of Industry 4.0, which presents a considerable challenge for the production and service sectors. While digitization initiatives are usually integrated into the central corporate strategy of larger companies, smaller firms often have problems putting Industry 4.0 paradigms into practice. Small and medium-sized enterprises (SMEs) possess neither the human nor financial resources to systematically investigate the potential and risks of introducing Industry 4.0. Addressing this obstacle, the international team of authors focuses on the development of smart manufacturing concepts, logistics solutions and managerial models specifically for SMEs. Aiming to provide methodological frameworks and pilot solutions for SMEs during their digital transformation, this innovative and timely book will be of great use to scholars researching technology management, digitization and small business, as well as practitioners within manufacturing companies.