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Innovations in Mechanical Engineering G. S. V. L. Narasimham 2022-03-03 This book comprises select proceedings of the International Conference on Innovations in Mechanical Engineering (ICIME 2021). It presents innovative ideas and new findings in the field of mechanical engineering. Various topics covered in this book are aerospace engineering, automobile engineering, thermal engineering, renewable energy sources, bio-mechanics, fluid mechanics, MEMS, mechatronics, robotics, CAD/CAM, CAE, CFD, design andoptimization, tribology, materials engineering and metallurgy, mimics, surface engineering, nanotechnology, polymer science, manufacturing, production management, industrial engineering and rapid prototyping. This book will be useful for the students, researchers and professionals working in the various areas of mechanical engineering.

Elementary Mechanics Using Matlab Anders Malthe-Sørenssen 2015-06-01 This book – specifically developed as a novel textbook on elementary classical mechanics – shows how analytical and numerical methods can be seamlessly integrated to solve physics problems. This approach allows students to solve more advanced and applied problems at an earlier stage and equips them to deal with real-world examples well beyond the typical special cases treated in standard textbooks. Another advantage of this approach is that students are brought closer to the way physics is actually discovered and applied, as they are introduced right from the start to a more exploratory way of understanding phenomena and of developing their physical concepts. While not a requirement, it is advantageous for the reader to have some prior knowledge of scientific programming with a scripting-type language. This edition of the book uses Matlab, and a chapter devoted to the basics of scientific programming with Matlab is included. A parallel edition using Python instead of Matlab is also available. Last but not least, each chapter is accompanied by an extensive set of course-tested exercises and solutions.

Explorations in the History and Heritage of Machines and Mechanisms Baichun Zhang 2018-12-11 This is the proceedings of the 6th International Symposium on History of Machines and Mechanisms that was held in Beijing, China, in September 2018. The Symposium provided an international forum for presenting and discussing historical developments in the field of Machine and Mechanism

Science (MMS). Special sections focused on the following topics: . modern reviews of past works · engineers in history, and their works · direct memories of the recent past · the development of theories · the history of the design of machines and mechanisms · development of automation and robots · the development of teaching of MMS · the schools and institutes of mechanical engineering · the heritage of machines and mechanisms

Robotics and Automation Handbook Thomas R. Kurfess 2018-10-03 As the capability and utility of robots has increased dramatically with new technology, robotic systems can perform tasks that are physically dangerous for humans, repetitive in nature, or require increased accuracy, precision, and sterile conditions to radically minimize human error. The Robotics and Automation Handbook addresses the major aspects of designing, fabricating, and enabling robotic systems and their various applications. It presents kinetic and dynamic methods for analyzing robotic systems, considering factors such as force and torque. From these analyses, the book develops several controls approaches, including servo actuation, hybrid control, and trajectory planning. Design aspects include determining specifications for a robot, determining its configuration, and utilizing sensors and actuators. The featured applications focus on how the specific difficulties are overcome in the development of the robotic system. With the ability to increase human safety and precision in applications ranging from handling hazardous materials and exploring extreme environments to manufacturing and medicine, the uses for robots are growing steadily. The Robotics and Automation Handbook provides a solid foundation for engineers and scientists interested in designing, fabricating, or utilizing robotic systems.

Sulzer Centrifugal Pump Handbook Sulzer Pumps 1997-12-19 The Sulzer Centrifugal Pump Handbook takes full account of the progress that has recently been made in pump construction. All the experience gained by CCM-Sulzer and others in pump construction and pump behaviour in systems has been assembled and related to various fields of application. Production areas such as cavitation, erosion, selection of materials, rotor vibration behaviour, forces acting on pumps, operating performance in various types of circuitry, drives and acceptance testing are dealt with in detail. The Handbook is an excellent reference work by one of the world's foremost pump manufacturers. It presents the current state-of-the-art in pump construction and is directed to planners and operating companies alike.

Automation, Production Systems, and Computer-integrated Manufacturing Mikell P. Groover 2013-07-29 For advanced undergraduate/ graduate-level courses in Automation, Production Systems, and Computer-Integrated Manufacturing. This exploration of the technical and engineering aspects of automated production systems provides the most advanced, comprehensive, and balanced coverage of the subject of any text on the market. It covers all the major cutting-edge technologies of production automation and material handling, and how these technologies are used to construct modern manufacturing systems.

CAD/CAM/CIM P. Radhakrishnan 2008 The Technology Of Cad/Cam/Cim Deals With The Creation Of Information At Different Stages From Design To Marketing And Integration Of Information And Its Effective Communication Among The Various Activities Like Design, Product Data Management, Process Planning, Production Planning And Control, Manufacturing, Inspection, Materials Handling Etc., Which Are Individually Carried Out Through Computer Software. Seamless Transfer Of Information From One Application To Another Is What Is Aimed At.This Book Gives A Detailed Account Of The Various Technologies Which Form Computer Based

Automation Of Manufacturing Activities. The Issues Pertaining To Geometric Model Creation, Standardisation Ofgraphics Data, Communication, Manufacturing Information Creation And Manufacturing Control Have Been Adequately Dealt With. Principles Of Concurrent Engineering Have Been Explained And Latest Software In The Various Application Areas Have Been Introduced.The Book Is Written With Two Objectives To Serve As A Textbook For Students Studying Cad/Cam/Cim And As A Reference Book For Professional Engineers.

Proceedings of ICDMC 2019 Lung-Jieh Yang 2021-06-16 This book comprises select proceedings of the International Conference on Design, Materials, Cryogenics and Constructions (ICDMC 2019). The chapters cover latest research in different areas of mechanical engineering such as additive manufacturing, automation in industry and agriculture, combustion and emission control, CFD, finite element analysis, and engineering design. The book also focuses on cryogenic systems and low-temperature materials for cost-effective and energy-efficient solutions to current challenges in the manufacturing sector. Given its contents, the book can be useful for students, academics, and practitioners.

Schaum's Outline of Finite Element Analysis George R. Buchanan 1995 Considers topics in finite element analysis, such as one-dimensional finite elements; two-dimensional finite elements; beam and frame finite elements; variational principles; Galerkin approximation and partial differential equations; and isoparametric finite elements.

Springer Handbook of Robotics Bruno Siciliano 2016-07-27 The second edition of this handbook provides a state-of-the-art overview on the various aspects in the rapidly developing field of robotics. Reaching for the human frontier, robotics is vigorously engaged in the growing challenges of new emerging domains. Interacting, exploring, and working with humans, the new generation of robots will increasingly touch people and their lives. The credible prospect of practical robots among humans is the result of the scientific endeavour of a half a century of robotic developments that established robotics as a modern scientific discipline. The ongoing vibrant expansion and strong growth of the field during the last decade has fueled this second edition of the Springer Handbook of Robotics. The first edition of the handbook soon became a landmark in robotics publishing and won the American Association of Publishers PROSE Award for Excellence in Physical Sciences & Mathematics as well as the organization's Award for Engineering & Technology. The second edition of the handbook, edited by two internationally renowned scientists with the support of an outstanding team of seven part editors and more than 200 authors, continues to be an authoritative reference for robotics researchers, newcomers to the field, and scholars from related disciplines. The contents have been restructured to achieve four main objectives: the enlargement of foundational topics for robotics, the enlightenment of design of various types of robotic systems, the extension of the treatment on robots moving in the environment, and the enrichment of advanced robotics applications. Further to an extensive update, fifteen new chapters have been introduced on emerging topics, and a new generation of authors have joined the handbook's team. A novel addition to the second edition is a comprehensive collection of multimedia references to more than 700 videos, which bring valuable insight into the contents. The videos can be viewed directly augmented into the text with a smartphone or tablet using a unique and specially designed app. Springer Handbook of Robotics Multimedia Extension Portal: http://handbookofrobotics.org/

Recent Trends in Mechanical Engineering C. S. Ramesh 2021-08-03 This book

presents the select peer-reviewed proceedings of the International Conference on Futuristic Trends in Mechanical Engineering (ICOFTIME 2020). The contents focus on latest research in different areas of mechanical engineering such as additive manufacturing, vibrations, robotics and automation, nano and smart materials, green energy, supply chain management, aviation, and biomechanics. The book also includes numerical and optimization methods relevant for several real-life mechanical engineering problems. Given its contents, this book will prove useful for researchers and professionals alike.

Advances in Industrial Automation and Smart Manufacturing A. Arockiarajan 2020-10-20 This book comprises selected peer-reviewed proceedings of the International Conference on Advances in Industrial Automation and Smart Manufacturing (ICAIASM) 2019. The contents focus on innovative manufacturing processes, standards and technologies used to implement Industry 4.0, and industrial IoT based environment for smart manufacturing. The book particularly emphasizes on emerging industrial concepts like industrial IoT and cyber physical systems, advanced simulation and digital twin, wireless instrumentation, rapid prototyping and tooling, augmented reality, analytics and manufacturing operations management. Given the range of topics covered, this book will be useful for students, researchers as well as industry professionals.

Arduino Robotics John-David Warren 2011-10-08 This book will show you how to use your Arduino to control a variety of different robots, while providing step-by-step instructions on the entire robot building process. You'll learn Arduino basics as well as the characteristics of different types of motors used in robotics. You also discover controller methods and failsafe methods, and learn how to apply them to your project. The book starts with basic robots and moves into more complex projects, including a GPS-enabled robot, a robotic lawn mower, a fighting bot, and even a DIY Segway-clone. Introduction to the Arduino and other components needed for robotics Learn how to build motor controllers Build bots from simple line-following and bump-sensor bots to more complex robots that can mow your lawn, do battle, or even take you for a ride Please note: the print version of this title is black & white; the eBook is full color.

Fundamentals of Materials Science and Engineering: An Integrated Approach, 5th Edition William D. Callister 2016-01-11 Fundamentals of Materials Science and Engineering takes an integrated approach to the sequence of topics – one specific structure, characteristic, or property type is covered in turn for all three basic material types: metals, ceramics, and polymeric materials. This presentation permits the early introduction of non-metals and supports the engineer's role in choosing materials based upon their characteristics. Using clear, concise terminology that is familiar to students, Fundamentals presents material at an appropriate level for both student comprehension and instructors who may not have a materials background.

Proceedings of 5th International Conference on the Industry 4.0 Model for Advanced Manufacturing Lihui Wang 2020-05-15 This book gathers the proceedings of the 5th International Conference on the Industry 4.0 Model for Advanced Manufacturing (AMP 2020), held in Belgrade, Serbia, on 1–4 June 2020. The event marks the latest in a series of high-level conferences that bring together experts from academia and industry to exchange knowledge, ideas, experiences, research findings, and information in the field of manufacturing. The book addresses a wide range of topics, including: design of smart and intelligent

products, developments in CAD/CAM technologies, rapid prototyping and reverse engineering, multistage manufacturing processes, manufacturing automation in the Industry 4.0 model, cloud-based products, and cyber-physical and reconfigurable manufacturing systems. By providing updates on key issues and highlighting recent advances in manufacturing engineering and technologies, the book supports the transfer of vital knowledge to the next generation of academics and practitioners. Further, it will appeal to anyone working or conducting research in this rapidly evolving field.

RITA 2018 Anwar P. P. Abdul Majeed 2019-06-15 This book gathers the Proceedings of the 6th International Conference on Robot Intelligence Technology and Applications (RITA 2018). Reflecting the conference's main theme, "Robotics and Machine Intelligence: Building Blocks for Industry 4.0," it features relevant and current research investigations into various aspects of these building blocks. The areas covered include: Instrumentation and Control, Automation, Autonomous Systems, Biomechatronics and Rehabilitation Engineering, Intelligent Systems, Machine Learning, Robotics, Sensors and Actuators, and Machine Vision, as well as Signal and Image Processing. A valuable asset, the book offers researchers and practitioners a timely overview of the latest advances in robot intelligence technology and its applications.

CAD/CAM Robotics and Factories of the Future '90 Suren N. Dwivedi 2014-08-23 According to the Concurrent Engineering Research Center (CERC) at West Virginia University, "the concurrent engineering (CE) is a rapid simultaneous approach where research and development, design, manufacturing and support are carried out in parallel". The mission of concurrent engineering is to reduce time to market, improve total quality and lower cost for products or systems developed and supported by large organizations. The purpose of the concurrent design methodology is to let the designer know the consequences of his design decisions in the manufacturing and assembly stages as well as in subsequent operations. Design for manufacture and assembly, design for reliability and testability, CAD/CAM/CAE, knowledge based systems, cost analysis and advanced material technology are the maj or constituents of concurrent engineering. The need for concurrent engineering can be justified from the fact that in every production cycle, the design phase approximately takes 5 to 10% of the total cycle, but overall it influences 80% of the production cycle. This volume contains articles from a wide spectrum dealing with concepts of concurrent engineering. The importance of the knowledge-based systems in the CE environment is significant as they provide the common platform to achieve the same level of expertise to the designers and manufacturers throughout the organization for the specific task. Their role in "do it right the first time" is very important in providing aid to the designers and manufacturers to optimize the design and manufacturing setups for a cost effectiveness and reduced production time.

The Oxford Handbook of Public Health Ethics Anna C. Mastroianni 2019-07-23 Natural disasters and cholera outbreaks. Ebola, SARS, and concerns over pandemic flu. HIV and AIDS. E. coli outbreaks from contaminated produce and fast foods. Threats of bioterrorism. Contamination of compounded drugs. Vaccination refusals and outbreaks of preventable diseases. These are just some of the headlines from the last 30-plus years highlighting the essential roles and responsibilities of public health, all of which come with ethical issues and the responsibilities they create. Public health has achieved extraordinary successes. And yet these successes also bring with them ethical tension. Not all public health successes are equally distributed in the population;

extraordinary health disparities between rich and poor still exist. The most successful public health programs sometimes rely on policies that, while improving public health conditions, also limit individual rights. Public health practitioners and policymakers face these and other questions of ethics routinely in their work, and they must navigate their sometimes competing responsibilities to the health of the public with other important societal values such as privacy, autonomy, and prevailing cultural norms. This Oxford Handbook provides a sweeping and comprehensive review of the current state of public health ethics, addressing these and numerous other questions. Taking account of the wide range of topics under the umbrella of public health and the ethical issues raised by them, this volume is organized into fifteen sections. It begins with two sections that discuss the conceptual foundations, ethical tensions, and ethical frameworks of and for public health and how public health does its work. The thirteen sections that follow examine the application of public health ethics considerations and approaches across a broad range of public health topics. While chapters are organized into topical sections, each chapter is designed to serve as a standalone contribution. The book includes 73 chapters covering many topics from varying perspectives, a recognition of the diversity of the issues that define public health ethics in the U.S. and globally. This Handbook is an authoritative and indispensable guide to the state of public health ethics today.

Recent Advances in Materials and Modern Manufacturing I. A. Palani 2022 This book presents the select proceedings of the fourth International Conference on Advanced Materials and Modern Manufacturing (ICAMMM 2021). It covers broad areas such as advanced mechanical engineering, material science and manufacturing process. Various topics discussed in this book include green manufacturing, green materials, Industry 4.0, additive manufacturing, precision engineering, sustainability, manufacturing operations management and so on. Given its contents, the book will be useful for students, researchers, engineers and professionals working in the area of mechanical engineering and its allied fields.

Embedded System Design Frank Vahid 2001-10-17 This book introduces a modern approach to embedded system design, presenting software design and hardware design in a unified manner. It covers trends and challenges, introduces the design and use of single-purpose processors ("hardware") and general-purpose processors ("software"), describes memories and buses, illustrates hardware/software tradeoffs using a digital camera example, and discusses advanced computation models, controls systems, chip technologies, and modern design tools. For courses found in EE, CS and other engineering departments.

Industrial Safety Management J Maiti 2017-10-30 This edited volume focuses on research conducted in the areas of industrial safety. Chapters are extensions of works presented at the International Conference on Management of Ergonomic Design, Industrial Safety and Healthcare Systems. The book addresses issues such as occupational safety, safety by design, safety analytics and safety management. It is a useful resource for students, researchers, industrial professionals and engineers.

Introduction to Robotics John J. Craig 2005 Written for senior level or first year graduate level robotics courses, this text includes material from traditional mechanical engineering, control theoretical material and computer science. It includes coverage of rigid-body transformations and forward and inverse positional kinematics.

Industrial Robotics Mikell P. Groover 1986

Handbook of Robotic and Image-Guided Surgery Mohammad Abedin-Nasab 2019-09-25 Handbook of Robotic and Image-Guided Surgery provides state-of-the-art systems and methods for robotic and computer-assisted surgeries. In this masterpiece, contributions of 169 researchers from 19 countries have been gathered to provide 38 chapters. This handbook is 744 pages, includes 659 figures and 61 videos. It also provides basic medical knowledge for engineers and basic engineering principles for surgeons. A key strength of this text is the fusion of engineering, radiology, and surgical principles into one book. A thorough and in-depth handbook on surgical robotics and image-guided surgery which includes both fundamentals and advances in the field A comprehensive reference on robot-assisted laparoscopic, orthopedic, and head-and-neck surgeries Chapters are contributed by worldwide experts from both engineering and surgical backgrounds

Advanced Materials and Techniques for Reinforced Concrete Structures Mohamed Abdallah El-Reedy Ph.D 2009-06-26 From China to Kuala Lumpur to Dubai to downtown New York, amazing buildings and unusual structures create attention with the uniqueness of their design. While attractive to developers and investors, the safe and economic design and construction of reinforced concrete buildings can sometimes be problematic. Advanced Materials and Techniques for Rein

Robot Analysis and Control H. Asada 1991-01-16 Introduces the basic concepts of robot manipulation--the fundamental kinematic and dynamic analysis of manipulator arms, and the key techniques for trajectory control and compliant motion control. Material is supported with abundant examples adapted from successful industrial practice or advanced research topics. Includes carefully devised conceptual diagrams, discussion of current research topics with references to the latest publications, and end-of-book problem sets. Appendixes. Bibliography.

Implementation of Robot Systems Mike Wilson 2014-11-17 Based on the author's wide-ranging experience as a robot user, supplier and consultant, Implementation of Robot Systems will enable you to approach the use of robots in your plant or facility armed with the right knowledge base and awareness of critical factors to take into account. This book starts with the basics of typical applications and robot capabilities before covering all stages of successful robot integration. Potential problems and pitfalls are flagged and worked through so that you can learn from others' mistakes and plan proactively with possible issues in mind. Taking in content from the author's graduate level teaching of automation and robotics for engineering in business and his consultancy as part of a UK Government program to help companies advance their technologies and practices in the area, Implementation of Robot Systems blends technical information with critical financial and business considerations to help you stay ahead of the competition. Includes case studies of typical robot capabilities and use across a range of industries, with real-world installation examples and problems encountered Provides step-by-step coverage of the various stages required to achieve successful implementation, including system design, financial justification, working with suppliers and project management Offers no-nonsense advice on the pitfalls and issues to anticipate, along with guidance on how to avoid or resolve them for cost and time-effective solutions

Robotic Engineering Richard David Klafter 1989 Computing Methodologies --

Artificial Intelligence.

Advances in Design, Simulation and Manufacturing Vitalii Ivanov 2018-06-15 This book reports on topics at the interface between manufacturing, mechanical and chemical engineering. It gives a special emphasis to CAD/CAE systems, information management systems, advanced numerical simulation methods and computational modeling techniques, and their use in product design, industrial process optimization and in the study of the properties of solids, structures and fluids. Control theory, ICT for engineering education as well as ecological design and food technologies are also among the topics discussed in the book. Based on the International Conference on Design, Simulation, Manufacturing: The Innovation Exchange (DSMIE-2018), held on June 12-15, 2018, in Sumy, Ukraine, the book provides academics and professionals with a timely overview and extensive information on trends and technologies behind current and future developments of Industry 4.0, innovative design and renewable energy generation.

International Journal of Computer Applications in Technology 1988

Power Electronic Modules William W. Sheng 2004-09-29 Designing and building power semiconductor modules requires a broad, interdisciplinary base of knowledge and experience, ranging from semiconductor materials and technologies, thermal management, and soldering to environmental constraints, inspection techniques, and statistical process control. This diversity poses a significant challenge to engine

Informatics in Control, Automation and Robotics Oleg Gusikhin 2022-01-01 The book focuses the latest endeavours relating researches and developments conducted in fields of Control, Robotics and Automation. Through more than ten revised and extended articles, the present book aims to provide the most up-to-date state-of-art of the aforementioned fields allowing researcher, PhD students and engineers not only updating their knowledge but also benefiting from the source of inspiration that represents the set of selected articles of the book. The deliberate intention of editors to cover as well theoretical facets of those fields as their practical accomplishments and implementations offers the benefit of gathering in a same volume a factual and well-balanced prospect of nowadays research in those topics. A special attention toward "Intelligent Robots and Control" may characterize another benefit of this book.

Innovations in Mechatronics Engineering José Machado 2021-06-15 This book covers a variety of topics in the field of mechatronics engineering, with a special focus on innovative control and automation concepts for applications in a wide range of field, including industrial production, medicine and rehabilitation, education and transport. Based on a set of papers presented at the 1st International Conference "Innovation in Engineering", ICIE, held in Guimarães, Portugal, on June 28-30, 2021, the chapters report on cutting-edge control algorithms for mobile robots and robot manipulators, innovative industrial monitoring strategies for industrial process, improved production systems for smart manufacturing, and discusses important issues related to user experience, training and education, as well as national developments in the field of mechatronics . This volume, which belongs to a three-volume set, provides engineering researchers and professionals with a timely overview and extensive information on trends and technologies behind the future developments of mechatronics systems in the era of Industry 4.0.

Robotics Bruno Siciliano 2010-08-20 Based on the successful Modelling and Control of Robot Manipulators by Sciavicco and Siciliano (Springer, 2000), Robotics provides the basic know-how on the foundations of robotics: modelling, planning and control. It has been expanded to include coverage of mobile robots, visual control and motion planning. A variety of problems is raised throughout, and the proper tools to find engineering-oriented solutions are introduced and explained. The text includes coverage of fundamental topics like kinematics, and trajectory planning and related technological aspects including actuators and sensors. To impart practical skill, examples and case studies are carefully worked out and interwoven through the text, with frequent resort to simulation. In addition, end-of-chapter exercises are proposed, and the book is accompanied by an electronic solutions manual containing the MATLAB® code for computer problems; this is available free of charge to those adopting this volume as a textbook for courses.

A Textbook of Fluid Mechanics and Hydraulic Machines R. K. Bansal 2010-06

A Textbook of Strength of Materials R. K. Bansal 2010

Advances in Micro and Nano Manufacturing and Surface Engineering M. S. Shunmugam 2019-11-30 This volume presents research papers on micro and nano manufacturing and surface engineering which were presented during the 7th International and 28th All India Manufacturing Technology, Design and Research conference 2018 (AIMTDR 2018). The papers discuss the latest advances in miniature manufacturing, the machining of miniature components and features as well as improvement of surface properties. This volume will be of interest to academicians, researchers, and practicing engineers alike.

Recent Advances in Mechanical Infrastructure Ajit Kumar Parwani 2021-03-01 This book contains high-quality papers presented in the conference Recent Advances in Mechanical Infrastructure (ICRAM 2020) held at IITRAM, Ahmedabad, India, from 21-23 August 2020. The topics covered in this book are recent advances in thermal infrastructure, manufacturing infrastructure and infrastructure planning and design.

Programmable Automation Technologies Daniel Kandray 2010 This comprehensive textbook covers in detail the principal programmable automation technologies used in industry – the building blocks from which all automated manufacturing is developed. It is a one-stop source for developing CNC, robotics, and PLC programming skills, is replete with numerous examples, and it identifies and discusses readily available simulation software to experiment with. The text is primarily intended for undergraduate engineering technology students. Besides, anyone with a technical background and a general understanding of manufacturing and manufacturing processes will find this text useful, as well as to those who wish, simply, to study and understand the use of these technologies The text is organized into four sections. Section One is introductory: Chapter 1 provides some background on manu-facturing and defines programmable automation. Chapter 2 explains calculation methods used to justify automation expenditures, as motivated by productivity concepts. Section Two covers computer numerical control: Chapter Chapter 3 introduces CNC technology, Chapter 4 discusses CNC programming, and Chapter 5 addresses CNC simulation. Robotics is covered in Section Three: Chapter 6 introduces robotics technology and Chapter 7 goes over both robotics programming and simulation. Section Four addresses PLCs: Chapter 8 introduces PLCs and Chapter 9 covers programming and simulation of PLCs. Finally, Chapter 10 concludes the text with a discussion of how all three

technologies are brought together to create programmable automated workstations and work cells.

Industry Competitiveness: Digitalization, Management, and Integration Aleksei V. Bogoviz 2020-02-24 This book, with contributions by both leading scholars and industry experts, provides a coherent framework for understanding complex determinants and patterns of industry competitiveness. Divided into eight parts, it covers both quantitative and qualitative research on the following topics: technologies, economic development, and human resources in Industry 4.0; management in the digital economy; artificial intelligence and knowledge management approaches; drivers of sustainable and innovative development in corporations; resilient and competitive systems in the energy sector; compliance and anti-corruption mechanisms; and competence networks and technological integration. Thanks to its highly stimulating discussions on the determinants and patterns of industry competitiveness, this book appeals to a wide readership.