

L Industrie Du Futur

Internet des objets, robotisation, impression 3D, intelligence artificielle, écologie industrielle... l'industrie du futur est en marche. Et pourtant, les idées reçues persistent. Nombreux sont ceux qui conservent une image dépassée de ce secteur d'activité. Cet ouvrage démonte sur un ton humoristique les clichés les plus répandus sur l'industrie. Au cours d'un dialogue avec ses adolescents, une mère qui est aussi une dirigeante dans l'industrie répond à leurs questions et objections. Elle décrit, de manière claire et pédagogique, la réalité économique de ce secteur et les opportunités qu'il offre aux jeunes. Un site compagnon, www.quiz-decouvrir-industrie.net, permet de tester ses connaissances sur les nouveaux enjeux et métiers de l'industrie.

The scientific theme of the book concerns "Manufacturing as a Service (MaaS)" which is developed in a layered cloud networked manufacturing perspective, from the shop floor resource sharing model to the virtual enterprise collaborative model, by distributing the cost of the manufacturing infrastructure - equipment, software, maintenance, networking - across all customers. MaaS is approached in terms of new models of service-oriented, knowledge-based manufacturing systems optimized and reality-aware, that deliver value to customer and manufacturer via Big data analytics, Internet of Things communications, Machine learning and Digital twins embedded in Cyber-Physical System frameworks. From product design to after-sales services, MaaS relies on the servitization of manufacturing operations such as: Design as a Service, Predict as a Service or Maintain as a service. The general scope of the book is to foster innovation in smart and sustainable manufacturing and logistics systems and in this context to promote concepts, methods and solutions for the digital transformation of manufacturing through service orientation in holonic and agent-based control with distributed intelligence. The book's readership is comprised by researchers and engineers working in the manufacturing value chain area who develop and use digital control solutions in the 'Industry of the Future' vision. The book also addresses to master and Ph.D. students enrolled in Engineering Sciences programs.

This book reflects the futuristic scientific view of the consequences of transition to Industry 4.0 for climate change. The authors present a systemic overview of the current negative consequences of digitization for the environment, new outlines of the energy sphere in Industry 4.0 and the change of the environment pollution level in Industry 4.0. The book also analyses the ecological consequences of growth and development of Industry 4.0, and considers Industry 4.0 as an alternative to fighting climate change. The book presents a view on fighting climate change in Industry 4.0 from the positions of shifting the global community's attention from environment protection to formation of the digital economy. A logical continuation of this book is a view from the opposite side, which would allow reflecting the contribution of Industry 4.0 into fighting climate change and the perspectives of harmonization of these top-priority directions of the global economy's development. This book will be of interest to academics and practitioners interested in climate change and development of Industry 4.0, as well contributing to a national economic policy for fighting climate change and corporate strategies of sustainable development in Industry 4.0.

Current Techniques, Improvements and Their Limitations

15th WCEAM Proceedings

From Additive Manufacturing to 3D/4D Printing 2

... qui s'en fichent

INFOFISH International

Paradoxes and Conflicts

Drivers, Barriers, and Opportunities

Digital technology opens up extraordinary fields for applications that will deeply change the nature of jobs and trade, the very concept of work and the expectations of user-producers. The "masters of algorithms" have disrupted production and services, and this trend will continue for as long as electric energy and the elements of Industry 4.0 are in continued development. Beyond data control, a power struggle is working its way through the links in the value chain: intermediation, control of resources and command over human and physical networks, as well as partnerships, creativity and the political system. Industry 4.0: Paradoxes and Conflicts examines the need for a serious and technological review, as well as for research and training regarding citizenship and politics. This is a new situation in terms of relationships of competence and authority, which must be the subject of scientific as well as political reflections for the whole social body, which needs to be educated about choices. Throughout the book, the author poses the following question: instead of submitting to choices, would it not be better to exercise foresight?

This open access book gathers contributions presented at the International Joint Conference on Mechanics, Design Engineering and Advanced Manufacturing (JCM 2020), held as a web conference on June 2-4, 2020. It reports on cutting-edge topics in product design and manufacturing, such as industrial methods for integrated product and process design; innovative design; and computer-aided design. Further topics covered include virtual simulation and reverse engineering; additive manufacturing; product manufacturing; engineering methods in medicine and education; representation techniques; and nautical, aeronautics and aerospace design and modeling. The book is organized into four main parts, reflecting the focus and primary themes of the conference. The contributions presented here not only provide researchers, engineers and experts in a range of industrial engineering subfields with extensive information to support their daily work; they are also intended to stimulate new research directions, advanced applications of the methods discussed and future interdisciplinary collaborations.

Microeconomic policies - in particular, industrial and innovation policies - are appraised and enforced within the framework of the rules relative to free movement and competition. This book introduces the current wave of innovative industrial policies in France. By giving a historical context to their development, the evolution of key economic concepts and theories are put into perspective. In addition, with the aim of articulating horizontal and vertical interventions, this book analyzes the difficulties for public authorities when it comes to linking these matrix policies.

Data Security and Digital Trust

Process Engineering Renewal 3
From Additive Manufacturing to 3D/4D Printing 1
Industrie 4.0, de l'IoT aux jumeaux numériques
Prospects
Proceedings of SOHOMA 2020
rapport

This book constitutes the refereed proceedings of the 18th International TRIZ Future Conference on Automated Inventive Industries, held in Strasbourg, France, in October 2018 and sponsored by IFIP WG 5.4. The 27 full papers presented were reviewed and selected from numerous submissions. They are organized in seven thematic sections: teaching of TRIZ; knowledge representations; biomimicry; strategic company management; association between TRIZ and other methods; functional approach; and the use of patent or text populations as a data source.

Cyber security is a key issue affecting the confidence of Internet users and the sustainability of businesses. It is also with regards to economic development and resilience. As a concern, cyber risks are not only in the hands of IT security but of everyone, and non-executive directors and managing directors may be held to account in relation to shareholders, suppliers, employees, banks and public authorities. The implementation of a cybersecurity system, including processes and training, is essential to protect a company against theft of strategic and personal data, sabotage and fraud. *Cybersecurity Decision Makers* presents a comprehensive overview of cybercrime and best practice to confidently adapt to the digital world, covering areas such as risk mapping, compliance with the General Data Protection Regulation, cyber culture, ethics and management. It is intended for anyone concerned about the protection of their data, as well as decision makers in any organization.

TECHNOLOGICAL CHANGES AND HUMAN RESOURCES SET Coordinated by Patrick Gilbert The accelerating pace of technological change (AI, cobots, immersive reality, connected objects, etc.) calls for a profound reexamination of how we do business. This requires new ways of thinking, acting, organizing and collaborating in our work. Faced with these challenges, Human and Social Sciences have a leading role to play, alongside others, in designing, supporting and implementing the digital transformation projects. Their ambition is to participate in the development of innovative and empowering devices, the systems that are truly at the service of human beings and their activity, that empower these professionals to take action and provide occupational health services. This book takes a multidisciplinary look at the challenges of these digital transformations, making use of occupational psychology, ergonomics, sociology of uses, and management sciences. This viewpoint also offers epistemological, methodological and empirical insights to better understand and support the changes at work.

Exploring the Consequences of Climate Change

Socio-Technical Futures Shaping the Present

Advances in Robotics and Automatic Control: Reviews, Vol. 1

L'industrie du futur, enjeux et perspectives pour la filière industries et technologies de santé

Digital Transformations in the Challenge of Activity and Work

L'industrie racontée à mes ados - 2e éd.

Advances on Mechanics, Design Engineering and Manufacturing III

As a result of knowledge exchange between the academic and industrial worlds, this book analyzes the process industries impacted by the digital revolution that accompanies the ongoing energy and environmental transitions. *Process Industries 2* first discusses bio-process industries and analyzes the development of products of microbial origin. It then studies all the stages of industrialization that facilitate the progress from research to the production of a finished product, as well as industrial management techniques. Using concrete examples, this book presents the instruments of the digital revolution (artificial intelligence, virtual reality, augmented reality, the Internet of Things, digital twins), while analyzing their impact on the supply chain and operators. Boxes within the book, written by recognized specialists, invite both students and professionals, who are faced with a changing world, to reflect on the industry and the world of tomorrow.

This proceedings volume provides a fresh perspective on current challenges in cooperation and competition in the age of Industry 4.0. Featuring selected papers from the 10th International Conference on Management of Organizations' Development (MOD) held in Zamek Gniew, Poland, this volume extends the knowledge of cooperation and competition, presents analytic tools used in the research, considers the potential impact of Industry 4.0 on collaboration, and provides recommendations for managerial practice. Interorganizational relations have been a relevant topic in the management sciences in recent years. Globalization, social, cultural, and technological progress are among the factors shaping the environment for collaboration, determining the conditions for development and defining a set of new challenges that managers have to face in today's knowledge-based economy. This book, therefore, explores emerging problems of organizational development in the light of the needs and challenges of Industry 4.0. Combining the latest theory and practice, the volume provides a realistic outlook on the network economy and interdependencies both within and between sectors.

Additive manufacturing, which was first invented in France and then applied in the United States, is now 33 years old and represents a market of around 5 billion euros per year,

with annual growth of between 20 and 30%. Today, additive manufacturing is experiencing a great amount of innovation in its processes, software, engineering and materials used. Its strength as a process has more recently allowed for the exploration of new niches, ranging from applications at nanometer and decameter scales, to others in mechanics and health. As a result, the limitations of the process have also begun to emerge, which include the quality of the tools, their cost of manufacture, the multi-material aspects, functionalities and surface conditions. Volume 2 of this series presents the current techniques, improvements and limits of additive manufacturing, providing an up-to-date review of this process.

Innovations in Industrial Engineering

Proceedings of the 8th International Conference on Sciences of Electronics, Technologies of Information and Telecommunications (SETIT'18), Vol.1

Transnational Corporations in Urban Water Governance

Service Oriented, Holonic and Multi-Agent Manufacturing Systems for Industry of the Future

Regards franco-allemands

Public-Private Partnerships in Mexico and the US

Understanding and Supporting Technological Changes

This Palgrave Pivot uses Marxian economic categories and analysis to explore the deeper causes of the 2008 global economic crisis, what the crisis represents for capitalism, and why fiscal and monetary policies pursued in its wake have failed to rejuvenate economies. With an innovative interpretation of the crisis and a focus on 'toxic capital' – a sub-division of Karl Marx's concept of fictitious capital – Tombazos examines the specificities of economic reproduction under neoliberalism and financialisation.

Le secteur industriel connaît actuellement des bouleversements profonds. L'introduction de nouvelles technologies de production et l'utilisation massive d'outils numériques de pointe au sein des usines changent la manière de produire et de travailler. La prolifération des objets connectés fait évoluer les modes de consommation et conduit les industriels à adapter leur offre de produits et de services. Les espoirs à l'égard de ce que certains appellent déjà la quatrième révolution industrielle sont immenses. Pour un pays comme la France, cette "industrie du futur" représente une opportunité pour enrayer le phénomène de désindustrialisation de ces dernières décennies. Les pouvoirs publics prennent conscience de ces enjeux. La France s'est lancée dans la course à partir de 2013 mais elle n'est pas la seule. L'Allemagne a construit dès 2011 une stratégie nationale autour de cet enjeu majeur et de nombreux autres pays ne sont pas en reste (Etats-Unis, Chine, Corée du Sud, Royaume-Uni...). Cet ouvrage propose une comparaison des programmes mis en place par ces différents pays. Il explore également quelques-uns des atouts sur lesquels l'industrie française peut s'appuyer pour réussir sa transformation. Il s'adresse aux chefs d'entreprise, responsables de groupements professionnels et décideurs publics engagés dans la modernisation de notre appareil productif, et plus généralement à tous ceux qui s'intéressent à la compétitivité des entreprises françaises.

Process engineering emerged at the beginning of the 20th Century and has become an essential scientific discipline for the matter and energy processing industries. Its success is incontrovertible, with the exponential increase in techniques and innovations. Rapid advances in new technologies such as artificial intelligence, as well as current societal needs – sustainable development, climate change, renewable energy, the environment – are developments that must be taken into account in industrial renewal. Process Engineering Renewal 3 presents a prospective analysis that demonstrates the significant disruptions linked to sustainable development, global warming, etc. These constraints may trigger changes in the social regulation system, which in turn applies pressure on actors of process engineering to evolve and adapt to these developments.

L'usine du futur : stratégies et déploiement

Process Engineering Renewal 2

Innovation and Industrial Policies

L'industrie du XXIe siècle

The disruptive strategies and models of Teslism

Modern Global Economic System: Evolutional Development vs. Revolutionary Leap Research

In 1984, additive manufacturing represented a new methodology for manipulating matter, consisting of harnessing materials and/or energy to create three-dimensional physical objects. Today, additive manufacturing technologies represent a market of around 5 billion euros per year, with an annual growth between 20 and 30%. Different processes, materials and dimensions (from nanometer to decameter) within additive manufacturing techniques have led to 70,000 publications on this topic and to several thousand patents with applications as wide-ranging as domestic uses. Volume 1 of this series of books presents these different technologies with illustrative industrial examples. In addition to the strengths of 3D methods, this book also covers their weaknesses and the developments envisaged in terms of incremental innovations to overcome them.

This proceedings book reflects the alternative way of development of the modern global economic system. It sets evolutionary development in opposition to revolutionary leap. The search for the best way to develop the world economy in the present and future is carried out. The social environment and the human-centered development of the modern global economic system have been explored. The features of training of personnel for the modern global economic system through the development of vocational education and training have been studied. Sustainable development, energy and food security have been identified as significant milestones of the progress of the modern global economic system. Innovations and digital technologies have

been suggested as the drivers of growth and development of the modern global economic system. Consideration has been given to the institutional framework and legal groundwork for the development of the modern global economic system. The fundamentals have been identified and recommendations have been put forward for improving governmental regulation, financial and capital investment support for integration in the modern global economic system. The book includes the best works based on the results of the 22nd International Research-to-Practice Conference "Current Issues of the Global Economy" which was held on June 19, 2020, at the Peoples' Friendship University of Russia (PFUR) (Moscow, Russia) and the 14th National Research-to-Practice Conference "A New Paradigm of Social and Economic Development in the Age of Intelligent Machines," which was held on May 14-16, 2020 (Nizhny Novgorod, Russia), VIII International Research-to-Practice Conference "Multipolar Globalization and Russia," which was held on May 21-23, 2020 (Rostov-on-Don, Russia), III All-Russian Research-to-Practice Conference "Power, Business, and Education: The Ascent to Man," which was held on May 21-22, 2020 (Krasnoyarsk, Russia), International Research-to-Practice Conference "Current Issues and Ways of Industrial Development: Engineering and Technologies," which was held from September 28, 2020, till October 1, 2020 (Komsomolsk-on-Amur), and the 15th National Research-to-Practice Conference "New Models of Behavior of Market Players in the Conditions of Digital Economy," which was held on October 29-30, 2020, at Ufa State Oil Technical University, Institute of Economics and Service (Ufa, Russia). The target audience of the book consists of scholars studying the features of development of the global economic system at the present stage and the prospects for its future progress.

This book examines the role played by business in urban water governance by analyzing the evolution of the global private water sector along with four public-private partnerships in Mexico and the U.S. The local nature of water services often hides the global developments behind the rise of transnational water corporations, which have gone from being local operators to becoming dynamic and powerful actors within an interconnected transnational space for water. This book focuses on the French groups Veolia and Suez, two of the most prominent private actors in global water governance, and the development and adaptation strategies of both companies in the cities of Aguascalientes, Mexico City, Atlanta, and Milwaukee over the past 30 years. Drawing on over 100 interviews conducted with corporate executives, public authorities, and local users of water services, this book moves beyond the simplistic dichotomy of the public-private debate and develops a theoretical framework that analyzes the economic and political power wielded by transnational business actors in global water governance. Not only does the book explain how Veolia and Suez strategically mobilize resources at difference scales in order to expand their global operations, but it also provides a nuanced picture of how state regulation remains of central importance to understanding the dynamics and evolution of the global water sector. Students and scholars interested in business and the environment, including public-private partnerships, business management and transnational corporations, and water governance, will find this book of great interest as will professionals and policymakers working in these fields.

European Yearbook / Annuaire Européen 1971

Annuaire Européen

L'usine du futur - Stratégies et déploiement - 2e éd.

L'industrie du futur : une compétition mondiale

Cyber Campus : Uniting and expanding the cybersecurity ecosystem

The Robomobility Revolution of Urban Public Transport

Empirical Examples and Analytical Challenges

Transition numérique, industrie 4.0, smart factory, usine connectée... Même si elles en comprennent la nécessité, nombreuses sont les entreprises qui hésitent encore à franchir le pas faute de discerner les concepts et les réalités qui se cachent derrière ces termes. Cet ouvrage à destination des PMI/TPI qui souhaitent effectuer leur transition numérique explique en détail les multiples notions qu'englobe l'usine du futur pour en exposer les enjeux majeurs et propose des applications et des cas d'étude concrets. En s'appuyant sur de nombreux exemples et témoignages, il permet aux décideurs d'élaborer et de mettre en œuvre une stratégie réaliste pour répondre aux nouveaux défis technologiques et économiques. Cette nouvelle édition est à jour des derniers développements technologiques et stratégiques et présente de nombreux nouveaux exemples et témoignages industriels.

Over the past two decades, society has been witnessing how technological, political, and societal changes have been transforming individual and collective urban mobility. Driven both by newcomers and traditional players, by disruptive as well as incremental innovations, the main objective now is to enhance mobility and accessibility while, reducing vehicle ownership, congestion, road accidents, and pollution in cities. This transformation has been mainly enabled by the widespread adoption of internet-connected devices (e.g.: smartphones and tablets) and by the innovative business models, technologies, and use-cases that arose from this rapid digitalization, such as peer-to-peer, and two-sided markets providing several mobility schemes: car-sharing, car-pooling, bike sharing, free-floating (cars, bikes, electric scooter), ridesharing and ride hailing either for long distances as well as for urban and micro-mobility. The book presents – in a holistic perspective – how this revolution is happening and what are the major cornerstones for the implementation of robomobility. It aims at answering several substantial issues, such as: What is robomobility and what does it imply for the different stakeholders of the public transport ecosystem? How do policy makers integrate this innovation and how ready the regulations are? How do citizens take part in this transformation? What is the level of user acceptance for this new type of mobility? What are its environmental impacts? What is the economic impact of deploying these shuttles in a local ecosystem?

?The exploration of ways to conceptualize the shaping of the present by socio?technical futures is the aim of this volume.

Therefore it brings together contributions from Science and Technology Studies and Technology Assessment, which focus all on the question how socio-technical images of the future shape present processes of innovation and transformation starting from empirical case studies and generalizing specific findings or by tackling conceptual questions from the outset. A white paper of 23 authors, which aims to sensitize researchers and practitioners completes the volume.

Process Industries 2

Global Crisis and Reproduction of Capital

Proceedings of the International Joint Conference on Mechanics, Design Engineering & Advanced Manufacturing, JCM 2020, June 2-4, 2020

Industry 4.0

Les champions industriels de demain : agilité, résilience et responsabilité

INGENIERIE DU VIVANT

18th International TRIZ Future Conference, TFC 2018, Strasbourg, France, October 29–31, 2018, Proceedings

On 16 July, at the instigation of the President of the Republic, the Prime Minister entrusted Michel Van Den Berghe with the task of studying the feasibility of a "cyber campus" with all the players in the digital ecosystem. His aim: to define a new center of gravity for digital security and trust in France and Europe. The prefiguration report for the Cyber Campus was presented at the 2020 International Cybersecurity Forum in Lille by Cédric O, Secretary of State for Digital Affairs, and Michel Van Den Berghe. This document defines the major missions as well as the vision for this unifying project. It also presents the keys to its success, directly from the opportunity study that is also proposed.

This book gathers selected peer-reviewed papers from the 15th World Congress on Engineering Asset Management (WCEAM), which was hosted by The Federal University of Mato Grosso do Sul Campo Grande, Brazil, from 15--18 August 2021 This book covers a wide range of topics in engineering asset management, including: strategy and standards; sustainability and resiliency; servitisation and Industry 4.0 business models; asset information systems; and asset management decision-making. The breadth and depth of these state-of-the-art, comprehensive proceedings make them an excellent resource for asset management practitioners, researchers, and academics, as well as undergraduate and postgraduate students.

Industrie 4.0 en Allemagne, industrie du futur en France... La numérisation affecte les entreprises dans tous les pays industrialisés. Avec des nuances cependant. L'ambition de l'Allemagne est de conserver son leadership industriel, en particulier dans les biens d'équipement, face à une concurrence mondiale intense ; l'industrie française, quant à elle, connaît encore des difficultés dans plusieurs secteurs et doit tirer parti des nouvelles technologies pour monter en gamme. Malgré leurs différences, les deux pays partagent des interrogations sur les conséquences sociales de ces évolutions. Quels en seront les effets sur l'emploi et sur l'organisation du travail ? Comment s'assurer que l'innovation technique nourrisse une innovation sociale, porteuse de progrès pour tous ? Ces questions justifiaient une réflexion commune entre Français et Allemands, quand précisément les disparités régionales constituent une fragilité pour l'Europe. Cette note constitue la synthèse d'une série de séminaires franco-allemands réunissant industriels, représentants des pouvoirs publics et des syndicats, universitaires et experts, organisés conjointement par la Fondation Jean Jaurès, la Fondation Friedrich-Ebert et La Fabrique de l'industrie.

Vol. XIX

Industry 4.0 in SMEs Across the Globe

From Concepts to Achievements

A Social Sciences Perspective

Annuaire Européen / European Yearbook

Contemporary Challenges in Cooperation and Coopetition in the Age of Industry 4.0

Cybersecurity and Decision Makers

Tesla disrupts the automotive industry by creating many innovative pieces that fit together. Its marketing, production, sales and technology strategies are all notably different from its competitors. The Tesla Way is an elongated case study looking at Tesla's business model and how this can be applied to existing manufacturing and production strategies in other companies. The author also includes case studies from Michelin, Mass and other consumer goods manufacturing companies. The Tesla Way will look at the origins of Tesla, its journey to success, new business models and what will come next. The author includes a mixture of the theory behind the Tesla business model and its applications, examining the combination between the manufacturing world and the digital world. He has also interviewed a cross-section of Tesla's current employees in both the USA and France. At the end of each chapter an interview with a CEO or top manager of an industrial firm is featured: among others, the stories of Luxor Lighting, ThyssenKrupp, Bosch or Kimberley Clarke. There are also insightful questions for managers. Online supporting resources include sample templates for analyzing efficiency of processes on the factory floor. The field of small and medium-sized enterprises (SMEs) digitalization is becoming more mature and stands to significantly contribute to the full development of the agenda of Industry 4.0. Although national digitalization programs have their own goals, the common focus is on the role of SMEs in global value chains. Since SMEs are known to have challenges around Industry 4.0 implementation, this book integrates experience from 14 countries worldwide. Industry 4.0 in SMEs across the Globe: Drivers, Barriers, and Opportunities provides an in-depth overview of Industry 4.0 in SMEs, covering various national, historical, and geographical settings in nine European countries: Finland, France, Hungary, Italy, Poland, Russia, Lithuania, Serbia, and the UK, complemented by five other countries from around the world: Brazil, China, India, Iran, and the U.S. Each chapter describes the national digitalization program, along with barriers, drivers, and opportunities to implement Industry 4.0 in local SMEs. It subsumes the findings across these countries to identify common themes and clusters of drivers, barriers, and opportunities. The book concludes that there are common approaches of SMEs across the world to adopt Industry 4.0, which are to be understood to increase industrial competitiveness globally. This book is a great resource for digitalization leaders and laggards, business consultants and researchers, as well as Ph.D. and master's students from industrial engineering and manufacturing backgrounds. Policy makers can also use the contents to better understand the commonalities and differences of national digitalization programs and further support SMEs in their digitalization process. This two-volume book presents an unusually diverse selection of research papers, covering all major topics in the fields of information and communication technologies and related sciences. It provides a wide-angle snapshot of current themes in information and power engineering, pursuing a cross-disciplinary approach to do so. The book gathers revised contributions that were presented at the 2018

International Conference: Sciences of Electronics, Technologies of Information and Telecommunication (SETIT'18), held on 20-22 December 2018 in Hammamet, Tunisia. This eighth installment of the event attracted a wealth of submissions, and the papers presented here were selected by a committee of experts and underwent additional, painstaking revision. Topics covered include: · Information Processing · Human-Machine Interaction · Computer Science · Telecommunications and Networks · Signal Processing · Electronics · Image and Video This broad-scoped approach is becoming increasingly popular in scientific publishing. Its aim is to encourage scholars and professionals to overcome disciplinary barriers, as demanded by current trends in the industry and in the consumer market, which are rapidly leading toward a convergence of data-driven applications, computation, telecommunication, and energy awareness. Given its coverage, the book will benefit graduate students, researchers and practitioners who need to keep up with the latest technological advances.

Breakthrough Innovations: Programmable Material, 4D Printing and Bio-printing

From Additive Manufacturing to 3D/4D Printing

10th Conference on Management of Organizations' Development (MOD)

Automated Invention for Smart Industries

Digitalization, a New Key Driver for Industrial Management

L'industrie du futur : progrès technique, progrès social ?

The Tesla Way

With a turnover of some 5-15 billion € / year, the additive manufacturing has industrial niches bearers thanks to processes and materials more and more optimized. While some niches still exist on the application of additive techniques in traditional fields (from jewelry to food for example), several trends emerge, using new concepts: collective production, realization of objects at once (without addition of material), micro-fluidic, 4D printing exploiting programmable materials and materials, bio-printing, etc. There are both opportunities for new markets, promises not envisaged less than 10 years ago, but difficulties in reaching them.

This book covers a variety of topics in the field of industrial engineering, with a special focus on research and industrial applications aimed at both improving quality of processes and products and contributing to a sustainable economy. 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, it focuses on innovative technologies associated with and strategies for the development of Industry 4.0. The chapters discuss new ways to improve industrial production and supply chain management by applying mathematical and computational methods. They also cover important issues relating to sustainability, education, and collaborations between industry and universities, and national developments. This book, 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 current and future developments of Industry 4.0.