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Nota di contenuto	Inventiveness and TRIZ for Sustainable Development -- An ideality-based map to describe sustainable design initiatives -- Sustainable digitalization: a systematic literature review to identify how to make digitalization more sustainable -- Nature-Inspired Principles for Sustainable Process Design in Chemical Engineering -- Comparative Analysis of Methods for Identifying Opportunities for Reusing Solid Waste -- TRIZ Evolution Trend-based Public Service Innovation for Enhancing Social Participation of Life Garbage Classification -- Concept Design of Appropriate Technology Based on Circular Economy for Sustainable Development Inferred from Korea Traditional Heating System -- Sustainability in yacht and vessel design through smart spaces: opportunities offered by digital technologies and new materiality -- Hybrid heat pump systems as a possible solution for the energy transition towards sustainable heating systems for buildings -- TRIZ, Intellectual Property and Smart Technologies -- Identifying new

application fields of a given technology -- Extraction and Modeling of Chinese Patent Information for Technical Advancement Evaluation -- Concept extraction based on semantic models using big amount of patents and scientific publications data -- Automatic extraction of potentially contradictory parameters from specific field patent texts -- Patent specialization for deep learning information retrieval algorithms -- Patent Data Driven Innovation Logic: Textual pattern exploration to identify innovation logic data -- Patent intelligence analysis to support technology roadmap on the sector of renewable energy -- TRIZ: Expansion in Breadth and Depth -- Matrix 2022: Re-Imagining The Contradiction Matrix -- Improving the construction of RCA+ contradiction trees -- Indicating and assessing quality criteria for cause-effect models -- Application of an FMEA based method to prioritize the initial problem choices in Inventive Design -- TRIZ Application for Digital Product Design & Management -- A reasoned evolutionary study on the actual design of farm tractors -- TRIZ contradiction modelling in family business succession process management: quantitative approach with an application of Grey Incidence Analysis -- A pioneering project on laser pyrolysis based entirely on TRIZ -- TRIZ, Data Processing and Artificial Intelligence -- Element Variation Innovation Thinking: A method of simplifying and reorganizing TRIZ -- Method for formulation, selection and application of elementary TRIZ inventive principles for automated idea generation -- Replicating TRIZ Reasoning through Deep Learning -- Bringing together engineering problems and basic science knowledge, one step closer to systematic invention -- TRIZ Use and Divulgation for Engineering Design and Beyond -- Triz-based Remodelling of Multiple True-False Questions -- Pedagogical approaches and course modality affecting students' self-efficacy and problem-solving attitudes in a TRIZ-oriented course -- Facilitation of acreative culture through the implementation and initial evaluation of a TRIZ course within an organization -- Main Parameters of Value (MPV) Analysis: Where MPV Candidates Come From -- A global approach to point out priority problems out of experts' qualitative data -- Integrated Use of TRIZ Tools in Systematic Conceptual Design -- Domain analysis with TRIZ to define an effective "design for excellence" framework -- The Efficient Work with Resources in TRIZ - Resource-Oriented Search (ROS) -- Solution Concept Modeling and Evaluation Based on Function- Structure and Behavior Approach in the Context of Inventive Design.

Sommario/riassunto

This book constitutes the refereed proceedings of the 21st International TRIZ Future Conference on Automated Invention for Smart Industries, TFC 2021, held virtually in September 2021 and sponsored by IFIP WG 5.4. The 28 full papers and 8 short papers presented were carefully reviewed and selected from 48 submissions. They are organized in the following thematic sections: inventiveness and TRIZ for sustainable development; TRIZ, intellectual property and smart technologies; TRIZ: expansion in breadth and depth; TRIZ, data processing and artificial intelligence; and TRIZ use and divulgation for engineering design and beyond. Chapter 'Domain Analysis with TRIZ to Define an Effective "Design for Excellence' is available open access under a Creative Commons Attribution 4.0 International License via link.springer.com.