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Nota di contenuto	-- Circular economy: Characterization, criteria and implementation. -- A technical and systematic characterization of circular strategy processes. -- When Industry X.0 meets End-of-Life Aircraft treatment:

A brief review and criteria for identifying the core technologies. -- How to foster the Circular Economy within the Pharmaceutical Industry? A research framework proposition. -- Optimizing closed-loop supply chain in the electric vehicle battery industry: a fully fuzzy approach. -- Drives and barriers for circular ion-lithium battery economy: a case study in an automobile manufacturer. -- Application of Life Cycle Assessment for more Sustainable Plastic Packaging - Challenges and Opportunities. -- Interoperability technology: Blockchain, IoT and Ontologies for data exchange. -- Integrating Processes, People and Data Management to Create a Comprehensive Roadmap Toward SMEs Digitalization: an Italian Case Study. -- Development of IoT solutions according to the PLM approach. -- Development of a multi-plant cross-function roadmapping tool: an industrial case in Food&Beverage sector. -- A preliminary framework of sustainability, smart cities, and digital transformation with effects on urban planning: A review and bibliometric analysis. -- Development of a human-centric knowledge management framework through the integration between PLM and MES. -- Blockchain applications in the food industry: a pilot project implementation in the ancient grains industry. -- Protecting Manufacturing Supply Chains through PLM -Blockchain Integration and data model encapsulation. -- Smart Product-Service Systems: A Review and Preliminary Approach to Enable More Flexible Development Based On Ontology-Driven Semantic Interoperability. -- A preliminary discussion of semantic web technologies and machine learning to support the complex parts manufacturing quotation: an aerospace industry case. -- An approach to Model Lifecycle Management (MLM) for supporting collaborative Ontology-Based Engineering. -- Learning and training : From AI to a human-centric approach. -- Investigation of an integrated synthetic dataset generation workflow for computer vision applications. -- Digital technologies and emotions: spectrum of worker decision behavior analysis.. -- Prediction of Next Events in Business Processes: A Deep Learning Approach. -- Machining learning algorithms for process optimization and quality prediction of spinning in textile industries. -- E-Learning Content Creation for Interdisciplinary Master of Science Program in Product Lifecycle Management (PLM). -- Enhancing Collaborative Design through Process Feedback with Motivational Interviewing: Can AI Play a Role?. -- Designing a human-centric manufacturing system from a skills-based perspective. -- Smart processes: Prediction, optimization and digital thread. -- Product model for lifecycle support of mechanical parts. -- Comparative Analysis of the Sustainability of Injection Molding and Selective Laser Sintering Technologies for Spare Part Manufacturing. -- Hybrid Production Structures as a Solution for Flexibility and Transformability for Longer Life Cycles of Production Systems. -- A methodology to promote Circular Economy in Design by Additive Manufacturing. -- Design And Release Process for Additive Manufacturing Parts. -- Investigation on additive manufacturing processes performed by collaborative robot. -- Optimization Framework for Assembly Line Design Problem with Ergonomics Consideration in Fuzzy Environment. -- Optimization of the operation management process of a company in the electronic manufacturing sector. -- Towards zero-defect manufacturing in the silicon wafer production through calibration: an Italian case.

Sommario/riassunto

This two-volume set IFIP AICT 701-702 constitutes the refereed post-conference proceedings of the 20th IFIP WG 5.1 International Conference on Product Lifecycle Management: Leveraging Digital Twins, Circular Economy, and Knowledge Management for Sustainable Innovation, PLM 2023, held in Montreal, QC, Canada, during July 9–12,

2023. The 61 regular papers included in this book were carefully reviewed and selected from 116 submissions. They are organized in the following thematic sections: Part I: Technology implementation: augmented reality, CPS and digital twin; organisation: knowledge management, change management, frameworks for project and service development; modelisation : CAD and collaboration, model-based system engineering and building information modeling. Part II: Circular economy: characterization, criteria and implementation; interoperability technology: blockchain, IoT and ontologies for data exchange; learning and training: from AI to a human-centric approach; smart processes: prediction, optimization and digital thread.