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Autore	Mizuyama Hajime
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Nota di contenuto	-- Digital Transformation Approaches in Production and Management. -- Mapping the Intersection of Product-Service Systems, Industry 5.0, and the Sustainable Development Goals: A Bibliometric Study. -- Designing a maturity model for data-oriented shopfloor management. -- Technological convergence of Operational Technology (OT) and Information Technology (IT) in the Digital Industry: Conceptual analysis of OT, highlighting its. -- Integrating skills for Twin Transformation in manufacturing: A conceptual Talent Triangle Framework. -- Attaining Environmental Sustainability through Product-Service Systems Practices: A Global Study. -- Analyzing Adoption of AI and Human-Centricity in Serbian Manufacturing Firms. -- Explainable Anomaly

Detection for Predictive Maintenance Using Synthetic Benchmarks and Human-in-the-Loop Labeling. -- Concurrent Design Facility Definition for Advancing the Integration of Smart Automation in Human Space Applications. -- Leveraging AI in Production for Product Innovation: Insights from German Manufacturing. -- Methods & Technologies for Modularising Wire Harness Designs in the Automotive Industry. -- Digitalisation and Visualisation via Target-Actual Comparison by a Large-Scale Component Example. -- Supporting Strategic Decision Making for Data Monetization in the Era of Digital Transformation. -- Navigating Digitalization in Traditional Manufacturing: Aligning Digital Ambition with Industrial Context. -- AI enhanced quality assurance reporting of surface deviation data in optical 3D inspection. -- Multi-agent framework for AI-supported collaborative Root Cause Analysis in quality assurance. -- Digitalization and De-Digitalization: Investigating the Phenomenon of Declining Industry 4.0 Adoption Rates in German Manufacturing. -- From Analog to Digital: A Frugal Framework for Digital Transformation in Manufacturing Microenterprises under Resource Constraints. -- Acceleration of Digitalisation in Manufacturing SMEs through Capability Maturity Assessment. -- Machine Learning-Based Methodology For Root Cause Analysis Of Extended Throughput Time In Production. -- Applying Technical Indicators to Year-Ahead Electricity Futures in Volatile Markets. -- Digital Technologies in Manufacturing and Logistics: Exploring Digital Twin, IoT, and Additive Manufacturing. -- Virtual Factories, Real-World Impact: Applying the Industrial Metaverse into the Manufacturing Process. -- Digital Twin, Digital Shadow or Digital Model? A Systematic Literature Review. -- A new method for high-resolution frequency analysis in periodic burst noise environments. -- Role of Additive Manufacturing and Data Space in Sustainable and Resilient Manufacturing Supply Chain. -- AI-Driven Multisensor Quality Inspection: A Focus on Robotic Wire Harness Assembly. -- Modeling and Simulation of SBSRS-Based Goods-to-Person System. -- Optimization of Truck Loading and Delivery Routes Using an Environment-Adaptive Genetic Algorithm. -- Large Language Models for heuristics to solve Aggregate Production Planning. -- Prediction of the Roundness error of cylindrical workpiece from chucking force using machine learning. -- Process Parameter Adjustment in Extrusion-Based Additive Manufacturing with Vertical Articulated Robots. -- Enhancing the Value Creation Mechanisms of Manufacturing Value Chains through Digital Platforms, Circular strategies, and Servitization Principles. -- Manufacturing-As-A-Service: Challenges and Opportunities for Manufacturing Companies. -- Mapping Simulation Trends in Supply Chain Management: A Structured Literature Review. -- An Iterative Framework for Circular Battery Business Models: Insights from Mapping and Modelling. -- Where to use XR technologies in a company? A decision-making approach using the value stream approach. -- Manufacturing-as-a-Service: State-of-the-art and the development of a Maturity Model. -- Enabling servitisation by balancing activities and capabilities in manufacturing companies. -- Enterprise Architecture Model for digitally enabled Reverse Logistics. -- Towards Effective Implementation of Digital Product Passports: Stakeholders Involved and Data Requirements.

Sommario/riassunto

The six-volume set IFIP AICT 764-769 constitutes the refereed proceedings of the 44th IFIP WG 5.7 International Conference on Advances in Production Management Systems, APMS 2025, held in Kamakura, Japan, from August 31st to September 4th, 2025. The 227 full papers presented in these proceedings were carefully reviewed and selected from 247 submissions, which cover a broad array of research

and technological developments on the present and future of “Cyber-Physical-HUMAN Production Systems”. They were categorized under the following topical sections: Part I: Human-centred Work Systems for the Operator 4.0/5.0 in Manufacturing, Logistics, and Service Domains; AI-Driven Decision Support and Human-AI Collaboration for Smart and Sustainable Supply Chains; Digital Twins and AI for Dynamic Scheduling and Human-Centric Applications. Part II: Smart Manufacturing Evolution: Integrating AI and the Digital Twin for Human-centric, Circular and Collaborative Production Systems; Human-centered Service Engineering and Digital Transformation for Sustainable Service Industries; Shaping Human Capital for Industry 5.0: Skills, Knowledge and Technologies for Human-centric, Resilient, and Sustainable Manufacturing; Experiential Learning in Engineering Education; Theoretical and Practical Advances in Human-centric, Resilient, and Sustainable Supply Chain Management; Maintenance and Asset Lifecycle Management for Sustainable and Human-centered Production; Methods and Tools for Assessing the Value of Digital, Sustainable and Servitized Offerings of Manufacturing Companies. Part III: Digital Transformation Approaches in Production and Management; Digital Technologies in Manufacturing and Logistics: Exploring Digital Twin, IoT, and Additive Manufacturing; Enhancing the Value Creation Mechanisms of Manufacturing Value Chains through Digital Platforms, Circular strategies, and Servitization Principles. Part IV: Enhancing Value Chain Resilience through Digital Technologies; How Supply Chain Can React to Internal and External Disruptions?; Mechanism Design for Production, Service and Supply Chain Management; Transforming Engineer-to-Order Projects, Supply Chains, and Systems; Designing Next Generation Lean Models Supporting Social, Sustainable, and Smart Production Systems. Part V: Advancing Eco-efficient and Circular Industrial Practices; Upgrade Circular Economy for the Manufacturing Industry; Cyber-Physical System-Based Approaches to Achieve Sustainability; Industrial Data Spaces and Sustainability; Enabling Circularity in Batteries & E-Waste with Digital Technologies: From Production to Recycling; Circular and Green Manufacturing; Sustainable Product Design and Engineering. Part VI: Digital Services and Smart Product-Service Systems; Innovative Approaches and Methods for Developing Industry 4.0 and Industry 5.0 Skills; Scheduling and Production Planning in Smart Manufacturing; Supply Network Planning and Optimization; Artificial Intelligence / Machine Learning in Manufacturing; Cloud and Collaborative Technologies; Simulation of Production and Supply Chains.