

Conference Agenda

APMS 2026 Conference

Date: Sunday, 13/Sept/2026

9:00am	Doctoral workshop
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3:00pm	
4:00pm	WG5.7 Meeting
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6:30pm	
6:30pm	Welcome reception

Date: Monday, 14/Sept/2026

8:00am	Registration							
-								
8:30am	Opening ceremony							
8:30am	Location: Aula Magna							
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9:10am								
9:10am	Gregor von Cieminski - Implementing Sales & Operations Planning in the Automotive Industry – Data-driven Planning Processes for Increased Operational Resilience							
-	Location: Aula Magna							
9:50am	Coffee break 1.1							
-								
10:20am								
10:20am	Smart and Sustainable Supply Chain: Technology, Operations, Logistics, and Governance Implications Location: Room Fornasa Chair: JOAO GILBERTO MENDES DOS REIS Chair: Alexandra Lagorio	Digital Transformation Approaches in Production and Management Location: Room 2 Chair: Vlad Bocanet Chair: Ioan Turcin	Artificial Intelligence Adoption in Higher Education: Challenges, Opportunities, and Responsible Integration Location: Room 4 Chair: Antonio Maffei Chair: Jannicke Baalsrud-Hauge	Human-Centric and Data-Driven AI: Redefining Operations and Supply Chains Location: Room 6 Chair: Filippo De Carlo Chair: Annalisa Santolamazza	Industrialisation of Digital Twins: Adoption, Governance, and Value Realisation Location: Room 7 Chair: Néstor Fabián Ayala Chair: Christian Kober	Interactive and Explainable AI for Production Planning and Scheduling Location: Room 8 Chair: Jong Hun Woo Chair: Andrea Ferrari	Advancing Practices for Eco-efficient and Circular Industrial Systems Location: Room Castoldi Chair: Mélanie Despeisse Chair: Yannick Taschbach	
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11:40am	Effects of Soybean Supply Chain Prices on Transport Demand in Brazil João Gilberto Mendes dos Reis, Sivanilza Teixeira Machado, William Machado Emiliano, Vivian Silveira dos Santos Bardini	Organizational Sentiment Intelligence (OSI) as an Early Warning System: A Case Study of LG Electronics Employee Feedback Selver Softic, Xiaoshan Liu, Safet Softic, Vlad Bocanet, Harris Gerzic, Slavko Rakic, Ugljesa Marjanovic, David Romero	When Avatars Debate: Design and Evaluation of an LLM-Based Debate Platform for Educational Applications Antonio Cvitković, Luka Batistić, Antonio Maffei, Sandi Ljubic	Risk-Aware Order Acceptance and Scheduling with Supply Reliability Considerations Mattia Gianassi, Leonardo Leoni, Alessandra Cantini, Mario Tucci, Filippo De Carlo	Industrialising Digital Twins: Governance of Data, Metadata, and AI in Production System Ecosystems Shaun West, Oliver Stoll, Kyle Aives, Matthew Anderson, Eugen Rodel, Simon Züst	Multi-Objective Deep Reinforcement Learning for Automated Storage and Retrieval Systems Control Andrea Ferrari, Giulio Mangano	Information Requirements for Eco-Efficient Manufacturing Mélanie Despeisse, Qi Fang, Carlos Alberto Barrera Diaz, Kanika Gandhi, Lena Moestam	
	Exploring Freight Production and Freight Attraction for Different Brazilian Supply Chains João Gilberto Mendes dos Reis, João Guilherme da Costa Braga França, Leise Kelli de Oliveira	A Conceptual Framework for Integrating Digital Voice of the Customer into FMEA and 8D through Industrial Data Spaces Elena Andrushchenko, Dogan Efe, Roland Jochem	Designing a Universal Student Passport for Responsible AI-Driven Personalised Learning in Engineering Higher Education Joseph Zammit, Andrea Bondin, Emmanuel Francalanza, Antonio Maffei, Roberto Sala, Fabiana Pirola, Giuditta Pezzotta, Sandi Ljubić, Luka Batistic, Primož Podržaj, Igor Reznichenko, Paolo. C	A trade-off analysis between uncertainty representation and usability in fuzzy MCDM: evaluating performance variations across IVIF-AHP, IVPF-AHP and PR-FAHP Flavia De Cassan, Alessandra Cantini, Leonardo Leoni, Filippo De Carlo, Mario Tucci	Data Governance and Management Principles for Data Space-Enabled Digital Twin Ecosystems Ana Carolina Chaves, Ana Nunes Alonso, António Lucas Soares	Heterogeneous Graph Transformer-based Deep Reinforcement Learning for Integrated Steel Stockyard Scheduling in a Shipyard Won Seok Choi, Young In Cho, Hee Chang Yoon, Seong You Bae, Jong Hun Woo	From End-of-Life to Decision Pathways: Deep Reinforcement Learning for Circular PV Management Bahador Bahramimianrood, Shiva Abdoli	
	Game Theoretic Analysis of the Food Loss Generation Mechanism in the U.S. Lettuce Supply Chain Harufumi Yamauchi, Shota	AI-Driven Forecasting of Volatile Ice-Food Demand for Optimized Cold Chain Management Syrine Guinoubi, Ayoub		A Taxonomy of Human-AI Interaction Patterns in	Toward Quantifying Data Usage Of Machine Data Alexander Albers, Christian Kober, Torbjørn Netland	A Systematic Study of Search Algorithms for Planar Storage Retrieval under Operational Constraints Yeongchan Han, Seung Woo Han, Jong Hun Woo	Hybrid Simulation for Evaluating the Environmental Loads of an Upcycle Mobility Service Masahiro Yamamoto, Soshi Takayanagi, Shinichi Fukushima	
							Efficient Prototyping in Sheet Metal	

	Suginouchi, Hajime Mizuyama	Chakroun, Yasmina Hani, Abderrahmane El Mhamedi	Priarone, Dario Antonelli	Agent-Based Operations Management Vito Introna, <u>Annalisa Santolamazza</u>	Operational objectives and value creation mechanisms of Digital Twins in manufacturing Douglas Mendonça dos Santos, <u>Néstor Fabián Ayala</u>	Multi-Agent Reinforcement Learning Algorithm for Routing Optimization in Modular Conveyor Systems Daniele Andolfi, Giovanni Antonio Haakon Callegaro, Andrea Matta, <u>Elena Tappia</u>	Forming Through Simulation and Polymer Additive Tooling <u>Yannick Taschbach</u> , Alexander Keuper, Günther Schuh
	Participatory Backcasting for Envisioning Sustainable Food Supply Chains: A Case Study of a Japanese Food Company <u>Mizuho Sato</u> , Yusuke Kishita, Hajime Mizuyama, Toshiharu Tanaka	Modernizing MES: A Pilot Study on e-Quality Integration for Enhanced Operational Performance Firdevs Senem Degirmenci, <u>Paolo Gaiardelli</u> , Daryl Powell	Game-Based Learning for Sustainability Education in Engineering: A Systematic Literature Review Jannicke Baalsrud-Hauge, <u>Paola Cocca</u>	AMR-based warehousing systems: Analysis of energy, environmental and economic performance of Robotic Compact Storage Systems Sara Perotti, <u>Luca Cannava</u> , Emma Conti			
			Mapping the Policy Landscape of AI in Higher Education: A Multi-Level Analysis Across European Institutions Joseph Zammit, Victoria Grech, Emmanuel Francalanza, Antonio Maffei, <u>Roberto Sala</u> , Fabiana Pirola, Giuditta Pezzotta, Sandi Ljubić, Luka Batistic, Primož Podržaj, Igor Reznichenko, Paolo, C Priarone, Dario Antonelli, Łukasz Paško, Marcin Olech				
11:40am - 11:50am	Short break						
11:50am - 1:10pm	Smart and Sustainable Supply Chain: Technology, Operations, Logistics, and Governance Implications Location: Room Fornasa Chair: Alexandra Lagorio Chair: Eduardo e Oliveira	Digital Transformation Approaches in Production and Management Location: Room 2 Chair: Ugljesa Marjanovic Chair: Johannes Jordan	Artificial Intelligence Adoption in Higher Education: Challenges, Opportunities, and Responsible Integration Location: Room 4 Chair: <u>Roberto Sala</u> ; roberto.sala@unibg.it Chair: Antonio Maffei; maffei@kth.se	Human-Centric and Data-Driven AI: Redefining Operations and Supply Chains Location: Room 6 Chair: Francesco Mancusi Chair: Leonardo Leoni	Industrialisation of Digital Twins: Adoption, Governance, and Value Realisation Location: Room 7 Chair: Christian Kober Chair: Hermann Lödding	Interactive and Explainable AI for Production Planning and Scheduling Location: Room 8 Chair: Yongkuk Jeong Chair: ANDREAS KTENIDIS	Advancing Practices for Eco-efficient and Circular Industrial Systems Location: Room Castoldi Chair: Beatrice Colombo Chair: Carin Rösio
	Urban logistics in the 15-Minute City: A Systematic Review and	A data readiness assessment for Smart Manufacturing: A Single-Case Study in the Cosmetics Industry	A Serious Game for AI Integration in Production Systems	Agentic AI as a cognitive support tool for Operator 5.0 <u>Åsa Fast Berglund</u>	Evaluating the Robustness of Production Planning and Control Procedures <u>Christopher Mundt</u> , Hermann Lödding	An Integrated AI-driven Production Planning Framework for Resource-Constrained Spatio-Temporal	Decision-Support Approaches for Industrial Symbiosis: A Systematic Literature Review

	Research Agenda <u>Alexandra Lagorio</u> , <u>Claudia Piffari</u> , Mario Paris, Chiara Cimini	Paolla Polla Pontes do Espírito Santo, Néstor Fabián <u>Avala</u>	<u>Davide Matteri</u> , Donatella Corti, Andrea Bettoni			Scheduling in Shipyard Block Assembly <u>Jiwon Baek</u> , Youngin Cho, Heechang Yoon, Wonseok Choi, Yejin Yoo, Saenal Sung, Dongha Lee, Jong Hun Woo	<u>Alessia Boscarato</u> , Federica Acerbi, Sergio Terzi
	Automatic Simulation Model Generation in the Context of Finished Vehicle Logistics on Automotive Terminals	From Data Quality Deficiencies to Production Inefficiency: Data Quality as a Bottleneck for AI-Based PPC <u>Johannes Jordan</u> , Oliver Antons, Julia Arlinghaus	AI-Enhanced Serious Games in Production Management: A Systematic Literature Review Dario Lombardi, Luigi Traetta, Pedro Ferreira, <u>Antonio Maffei</u>	A Readiness Assessment Model for Human-Robot Collaboration in the context of Industry 5.0 <u>Mattia Braggio</u> , Simone Arena, Federico Briatore, Pier Francesco Orrù, Marta Pinzone	A Cost-Benefit Framework for Assessing Digital Twin Value in Manufacturing: Development and Industrial Evaluation <u>Christian Kober</u>	Understanding Industrial Symbiosis through Simulation: A Review of Modeling Approaches and Future Directions <u>Claudia Piffari</u> , Beatrice Colombo, Alexandra Lagorio, Paolo Gaiardelli	
	Marit Hoff-Hoffmeyer-Zlotnik, Susanne Schukraft, Michael Görges, <u>Ricardo Caballero</u> , Michael Freitag	Minding the Gap: Limitations of Existing Automation Potential Analysis Frameworks <u>Chibuikem C Nwagwu</u> , Christina M Micheltree, El Houssein C Harik	Where Can Generative AI Help Educators? A Structured Analysis of AI Support in Course Design <u>Antonio Maffei</u> , David Romero, Fan Mo, Bo Yang, Andrea de Giorgio	Human-Centered evolution of recommender systems: from collaborative filtering to responsible AI <u>Dionathan Quadras</u> , Nicollas Luiz Schweitzer de Souza, Romeo Bandinelli, Enzo Morosini Frazzon	AI-Augmented Digital Twins in Large Industrial Companies: From Use Cases to Industrialisation <u>Adrian Sanchez de Ocaña</u> , Jessica Bruch	Job Shop Scheduling Revisited under RL-Guided Constraint Programming <u>Andreas Ktenidis</u> , Angelos Ioannis Lagos, Ioannis Mourtos, Alkistis Sytilidou, Georgios Zois	
	Examining the role of Industry 5.0 in enhancing competitiveness: A comparative analysis of transport systems. <u>Atle M. Christiansen</u> , Kenn Steger-Jensen, Kenneth Vidskjold	Jurisdictional Contestation in Emergent Digital Manufacturing Domains: Top-Down DevOps Vertical Ownership as a Double Loop Learning Mechanism <u>Matthew Anderson</u> , Shaun West, Tobias Larsson	Integrating Sustainability into Assembly Technology Education: A Course Redesign Approach Based on Constructive Alignment Andrea de Giorgio, Fan Mo, Bo Yang, <u>Antonio Maffei</u>	Inclusion of workers with functional diversity in Human-Robot Collaboration: a systematic mapping review <u>Francesco Mancusi</u> , Claudia Piffari, Alexandra Lagorio, Chiara Cimini, Fabio Fruggiero	What is Industrial Metaverse? A Systematic Literature Review-Based Synthesis of Existing Definitions <u>Mohsin Raza</u> , Ole Madsen, Casper Schou, David Acev, Ulrich Berger	Orbital Vehicle Routing Problem for LEO Constellation Refueling <u>Joonhwa Jeong</u> , Seokcheon Lee, Ilkyeong Moon	Smart Circular Economy Implementation in Manufacturing: Identifying Barriers and Enablers <u>Nithin Nagendra</u> , Koteswar Chirumalla, Auday Al-Dulaimy, Anna Öhrwall Rönnbäck
	Adoption of Battery Electric Trucks: a Review on transport companies' perspectives Matteo Capolli, <u>Alessandro Creazza</u> , Pietro Evangelista, Claudia Colicchia					Multi-Agent Optimal Communication Decision Making Leveraging Finite Markov Decision Process <u>ATIF ur Rehman</u> , Andrea Matta, Gaetano Cascini, Monica Rossi	Advancing Circular Strategies for Rare Earth Elements: a Bibliometric Analysis <u>Federica Costa</u> , Alessia Napoleone, Mélanie Despeisse
1:10pm - 2:30pm	Lunch						
2:30pm - 3:10pm	Daniela Pigosso - Toward Absolute Sustainability in Production Systems Location: Aula Magna						
3:10pm - 4:30pm	Enhancing sustainable resilience in food manufacturing value chains through data-	Digital Transformation Approaches in Production and Management	Workshop ESG Paradox Serious Game Location: Room 4	Human-Centric and Data-Driven AI: Redefining Operations and Supply Chains	Industrialisation of Digital Twins: Adoption, Governance, and Value Realisation	Designing, Engineering, and Managing Truly Human-Centred Industrial Systems for the	Advancing Practices for Eco-efficient and Circular Industrial Systems

driven strategies, systems thinking, and transition approaches Location: Room Fornasa Chair: Melissa Marques-McEwan Chair: Shujaat Mubarik	Location: Room 2 Chair: Selver Softic Chair: Mircea Muntean		Location: Room 6 Chair: Simone Arena Chair: Alessandra Cantini	Location: Room 7 Chair: Edoardo Palmitessa Chair: Adalberto Polenghi	Operator 4.0/5.0 Location: Room 8 Chair: Tamas Ruppert Chair: Francesco Pilati	Location: Room Castoldi Chair: Malin Löfving Chair: Alessia Napoleone
Navigating Complexity in the Circular Economy: A Systems Perspective on Scotch Whisky Isabel Dipirro, Agnessa Spanellis, Melissa Marques-McEwan	Metaverse-enabled digital twin framework for predictive maintenance Vlad Bocanet, Katarina Kostelic, Nicolae A. Panc, Harris Gerzic, Mircea H. Muntean, Cristina Fleseriu		From Shewhart's Control Charts to AI-Enhanced Statistical Process Control in Manufacturing Jorge Santiago Rodriguez Peñalosa, Elisabeth Viles	Immersive Digital Twin for Facility Layout Planning in the Context of Production and Intralogistics Systems Edoardo Palmitessa, Ayoub Chihi, Amel Jaoua, Adalberto Polenghi, Elisa Negri	Assessing Mental Workload in Manufacturing: A Comparative Study Between RSME and NASA-TLX in a VR Assembly Task Emmie Fogelberg, Patrick Oden, Peter Thorvald	Assumptions underlying remanufacturing readiness models: Implications for Manufacturing SMEs in High-Mix and Low-Volume Environments Malin Löfving
Reconfiguring power in food supply chains: governance mechanisms and food waste across stages of the relationship Claudia Colicchia, Attilia Imbriani, Gerardo Rosciano, Alessandro Creazza	In-Situ 3D Monitoring of FDM Processes using Layer-Wise Metrology Mircea H Muntean, Vlad I Bocanet, Ioan Turcin, Domnita Fratila		Voice-to-Text for Quality Management: Improving Nonconformity Reporting and Traceability Through Speech-Enabled Data Capture Nicolò Saporiti, Stefano Marazzini, Simone Arena, Violetta Giada Cannas, Rossella Pozzi, Tommaso Rossi	A Study on Digital Twin Fidelity for Shop Floor Operational Optimization Hayong Lee, Changha Lee, Hyungchan Lim, Donggeon Lee, Sangdo Noh, Seki Park, Sanghwa Lee, Yunyoung Kim, Eunmi Kim, Hyejin Jang, Kyungkuk Choi, Keunho Jang	Assessing use of work instructions through eye-tracking Erik Billing, Rebecka Herin, Patrick Oden, Emmie Fogelberg, Atieh Hanna, Beatrice Alenljung, Maurice Lamb	Implementing a Value-Retention Framework for End-of-Life Product Management: From Theory to Practice Pritt Mathew, Kwaku Adu-Amankwa, Cameron Swanson, Graeme Bisland, Andreas Reimer, Andrew Wodehouse
Nutrient Value Loss Framework for Supply Chain Management Silvia Cardini, Anna Savio, Beatrice Marchi, Simone Zanoni, Lucio Enrico Zavarella	Integrated Machine-Robot Scheduling in a Job Shop: An-ILS Algorithm Bilgenur Erdogan, Q. Vinh Dang, Mehrdad Mohammadi, Ivo Adan		Mapping the Intellectual Structure of Knowledge Management in Servitization: A Bibliometric Analysis Giacomo Russo, Leonardo Leoni, Mario Rapaccini	Modelling and simulation of a digital twin for a hybrid passenger vessel with energy recovery Alessandra Valeria Castruccio, Castracani, Ludovica Maria Oliveri, Giovanni Maria Grasso	Human-Centric Fatigue Prediction System for Industry 5.0 With Wearable IoT Sensors Qingwei Cai, Francesco Picariello, Enrico Picariello, Francesco Pilati	Enabling Reuse and Lifetime Extension of Production Equipment: An Exploratory Study of Strategies, Routines and Organizational Conditions Carin Rösiö, Filip Skärin, Martin Birtic
From Desert to Field: Environmental Corporate Social Responsibility as a Driver of Sustainable Technological Innovation in the UAE Agriculture Sector Nilakshi Galahitiyawe, Mohamad Al Atta, Muhammad Shujaat Mubarik	Low-Sensor and Transferable Predictive Maintenance in Heterogeneous Manufacturing Systems: A Systematic Literature Review Steve Morel Kountchou Ghomsi, Claus-Philipp Langhorst, Shun Yang, Sebastian Thiede		Challenges in Implementing Human-Centered AI for Time Data Management in Industry Sandra Mattsson, Peter Almström, Yongkuk Jeong.	Decomposed Q-Learning for Fixture Selection in Multi-Resource-Constrained Flexible Job	Fatigue Constrained Task Allocation and Scheduling in Human Robot Collaboration Yi-Chieh Chiu, Kai-Wen Tien	Toward Integrated Remanufacturing Systems: Multi-Area Review and Research Directions Alessia Napoleone, Carin Rösiö, Daryl Powell



Bernt
Spielberger



Shop
Scheduling
Yulu Zhou,
Andrea Matta,
Shichang Du



Date: Tuesday, 15/Sept/2026

Dam	Registration						
Dam							
Dam	Daria Battini - When Industry Adapts to Humans: The Future of Inclusive Manufacturing Location: Aula Magna						
Dam							
Dam	Enhancing Value Chain Resilience through Digital Technologies Location: Room Fornasa Chair: Margherita Pero Chair: Tobias Franz	Human-Centric Production and Logistics Systems in the Industry 5.0 Era: Socio-Technical Design and Intelligent Operations Location: Room 2 Chair: Eleonora Bottani Chair: Sara Perotti	Workshop Applications of Artificial Intelligence in Supply Chain Management – From Opportunities to Realization - Part 1 Location: Room 4	AI-Driven Production Planning and Manufacturing System Design Location: Room 6 Chair: Julian Petersen Chair: Casper Schou	Industrial Multi-Modal AI for Data-Driven operational Intelligence Location: Room 7 Chair: Ana Nikolov Chair: Enzo Morosini Frazzon	The Digital Product Passport: Filling the gap for enhancing Transparency and Sustainability Across the Product Lifecycle Location: Room 8 Chair: Fabiana Pirola Chair: Dogan Efe	Advancing Practices for Eco-efficient and Circular Industrial Systems Location: Room Castoldi Chair: Anita Romsdal Chair: Yinef Pardillo Baez
0am	Operational Resilience Assessment for Successful Production Ramp-Ups Julian Stang, Simon Dessel, Jessica Niebler, Eleonora Terramagra, Robert Tomkowski, Christina Reuter	Localizing Hallucinations in LLM-Based Robot Action Traces Anna Geliev, Jonas S.I. Rieder, Doris Aschenbrenner, Thomas Gries		From Disruption to Decision: Toward Resilient Integrated Process Planning and Scheduling Filip Dzigurski, Casper Schou, Ole Madsen	On Capturing Prior Knowledge in Biomanufacturing using Ontologies and Knowledge Graphs Ana Nikolov, Milos Drobnjakovic, Boonserm Boonserm Kulvatunyou, Vijay Srinivasan	A Multi-Layered and Conceptual Framework for the Digital Product Service System Passport Luca Carminati, Veronica Arioli, Roberto Sala, Fabiana Pirola, Giuditta Pezzotta	Circular Economy Maturity Model for Manufacturing Companies Emily Greve Somerset, Emma Bødker Worup, Astrid Heidemann Lassen, Ann-Louise Andersen, Thomas Ditlev Brunoe
	Advancing the resilience assessment of supply chains with a capability-centric perspective Tobias Franz, Ralph Riedel, Matthias G. Wichmann	From green warehouses to sustainable logistics ecosystems: exploring energy sharing approaches and renewable energy community opportunities Sara Perotti, Luca Cannava, Marianna Bodria, Elena Indio		AI-Assisted Equipment Selection and Layout Placement Planning with Self-Correction LP Formulation Framework Kazui Uehara, Tatsushi Nishi, Tomofumi Fujiwara	Neuro-Symbolic Sequence Generation for Automated Process Planning in SMEs Pascal Krenz, Julia Christina Markert, Lisa Stoltenberg	DT-Based Simulation Framework based on Digital Product Service System Passport Luigi Manca, Tommaso G. Cesati, Giorgio Battiato, Marta Calderaro, Mattia G. Marzano, Angelo Marguglio, Luca Carminati, Veronica Arioli, Fabiana Pirola	Building Capacities for Circular and Digital Transformation: a platform for the Skill-Driven Circular Economy-Digital Innovation Hub Adriana Hofmann Trevisan, Federica Acerbi, Alessia Boscarato, Giorgos Demetriou, Giorgio Mossa, Marco Taisch, Sergio Terzi, Claudio Sassanelli
	A Model for Measuring Resilience of Manufacturing Companies Niloofar Katiraei, Federico Adrodegari, Luca Lussignoli, Tanel Aruväli, Mario Rapaccini, Maria Spadafora, Patrick Dallasega	Mapping the Evolution of Green Warehousing Research: A Bibliometric Perspective Eleonora Bottani, Eric Grosse		Tree of Thoughts-Based AI Agent for Diverse Design Plan Generation of Manufacturing Systems Zelong Song, Jin Chen, Junxiang Jiang, Qiu hao Xu, Weiwei Chen, Xiaochen Zheng	Towards Automated Time Studies in Manufacturing: Benchmarking Pose Estimation Frameworks with LLM-Augmented Semantic Analysis Yongkuk Jeong, Magnus Wiktorsson		
	A DEMATEL-Based				From Data Scarcity to Reliable Predictions: The Role of AI-Driven Methods in New Product Demand Forecasting Elena Andrushchenko,	A Model-Based Testing Framework for Digital Battery Passport Lifecycle Systems Elena Andrushchenko,	Decoupling in Circular Supply Chains: Reframing CODP for Supply-Driven Reverse Flows Anita Romsdal, Heidi Carin Dreyer

	Analysis of Inter-firm Resilience Capabilities along the Supply Chain <u>Franco Chiriaco</u> , Margherita Pero, Francesca Bianchi			Analysing Sequencing in make-to-order Companies <u>Julian Petersen</u> , Phillip Vogel, Christopher Mundt, Lödning Hermann	<u>Joelmir Luz de Moura Junior</u> , Enzo Morosini Frazzon	Dogan Efe, Roland Jochem Access Rights Management and Digital Identity for Digital Product Passports <u>Dogan Efe</u> , Elena Andrushchenko, Roland Jochem	Exploring the Influence of Circularity Mechanisms on Supply Chain Resilience in Bio-Based Supply Chains <u>Yinef Pardillo Baez</u> , Movin Sequeira, Malin Löfving, Jenny Bäckstrand	
0am	Coffee break 2.1							
0am								
0am								
0pm	APMS Talks Location: Aula Magna Chair: Hermann Lödning Chair: Erlend Alfnes AI systems in manufacturing: Adopted by the firm, constrained at the machine? <u>Ana Simões</u> , <u>Magnus Wahlgard</u>	Enhancing Value Chain Resilience through Digital Technologies Location: Room Fornasa Chair: Catherine da Cunha Chair: Franco Chiriaco Resilient AI-Enabled Document Flow for Cross-Border Logistics and Customs Compliance <u>Jan Frick</u> , Kenn Steger-Jensen, Hans-Henrik Hvolby AI-Enabled Supply Chain Resilience Under Geopolitical Chokepoint Disruption: Sensitivity Analysis of a Strait of Hormuz Shock Kenn Steger-Jensen, Jan Frick, <u>Synnøve Sunne Hasslan</u> Towards Manufacturing-as-a-Service Supply Chain Orchestration: A Decision-Making Scope-	Human-Centric Production and Logistics Systems in the Industry 5.0 Era: Socio-Technical Design and Intelligent Operations Location: Room 2 Chair: Antonella Meneghetti Chair: Enzo Morosini Frazzon Human Factors in Dynamic Manufacturing Systems Nicolias Luiz Schweitzer de Souza, Julia Cristina Bremen, <u>Iracyanne Retto Uhlmann</u> , Ricardo Caballero Gonzalez, Enzo Morosini Frazzon, Carlos Eduardo Pereira, Michael Freitag Current Practice and Future Vision of Work System Analysis in Manufacturing: An Expert Study <u>Roland Hall</u> , Matthias Stöhr, Simon Schumacher, Thomas Bauernhansl	Workshop Applications of Artificial Intelligence in Supply Chain Management – From Opportunities to Realization - Part 2 Location: Room 4	Digital Transformation, Innovation and Supply Chain Management Location: Room 6 Chair: Djerdj Horvat Chair: Giovanni Zenezini Managing openness in collaborative innovation projects of manufacturing companies <u>Dierdj Horvat</u> , Torben Schubert A Current Analysis of Digital Transformation Frameworks for Value Creation in Manufacturing SMEs <u>Diego Mallada Conte</u> , Elisabeth Viles, Josune Hernantes Uncertainty–Dependency Interactions in Supply Chains: A Flow-Based Perspective on Planning, Control, and Resilience <u>Joakim Wikner</u> , Mohamed M. Naim	Industrial Multi-Modal AI for Data-Driven operational Intelligence Location: Room 7 Chair: Thor Wuest Chair: Boonserm Kulvatunyou Anomaly Detection in Industrial Assets through Unsupervised Multi-Ensemble Model Natalia Trapani, <u>Leonardo Longo</u> , Gabriele Manno, Giuseppe Mancini, Antonella Luciano Discrete Reinforcement Learning over Multi-Solution Inverse Kinematics for Joint Trajectory Optimization of 6-DOF Industrial Robots <u>Jong U Baek</u> , Cho A Kim, Su Han Lee, Ju Yeon Lee Digital Twin Simulation and Deep	Interactive and Explainable AI for Production Planning and Scheduling Location: Room 8 Chair: Yongkuk Jeong Chair: Marvin Carl May LLM-assisted Rich Preference Elicitation for Multi-Objective Parallel Machine Scheduling <u>Jimin Park</u> , Hyun-Jung Kim Large Language Model-Driven Rescheduling for Semiconductor Manufacturing Equipment Contingency Events Shady Salama, Karl Hein, <u>Marvin Carl May</u> Toward Generalizable LLM-based Natural Language Optimization for Manufacturing Scheduling and Logistics <u>Heechang Yoon</u> , Hyunjin Oh, Joohyun Lee, Sooyeon Hwang, Jonghun Woo	Advancing Practices for Efficient and Circular Industrial Systems Location: Room 9 Castoldi Chair: Nicola Sacca Chair: Fabiana Tornese Optimizing First-Mile Textile Collection in Urban Circular Fashion Supply Chains: A Net-Benefit Bin Location Model Francesca Fumero, <u>Margherita Perin</u> , Nathaly Pino Velasquez A research agenda about circular textile innovation Federica Acerbi, <u>Beatrice Colorni</u> , Virginia Fani Unraveling the systemic effects of Circular Economy strategies in Fast Fashion: insights through a Causal-Location Diagram approach Valerio Elia, Maria Grazia Gnani, Maria Elena

		Aware Framework. Mohamed Osman, Fernanda Medeiros Assef, Farah Abdoune, Rasmus Andersen, Ann-Louise Andersen, Thorsten Blecker	Designing inclusive workplaces: the HRC-ALWIRBP model Matteo Cais, Antonella Meneghetti			Large Language Models in Supply Chain Management: A SCOR-Based Assessment of Process Positioning and Implementation Stages Giovanni Zenezini, Martina Gagliardi, Anna Corinna Cagliano	Reinforcement Learning-Based Product Input Sequencing Optimization in a Display FAB Line Changha Lee, Hyungchan Lim, Hayong Lee, Donggeon Lee, Sang Do Noh, Seki Park, Sanghwa Lee, Yunyoung Kim, Eunmi Kim, HyeJin Jang, Kyunguk Choi, Keunho Jang	Architecting Reliable LLM-Integrated Simulation: From Code Generation to Tool-Augmented Interaction in Production Planning Yongkuk Jeong, Kiyoung Cho, Jong Hun Woo	Latino, Fabiano Tornese
		Reconfigurable Manufacturing Systems from a Resilience Perspective: A Literature Study Jannik Fibiger, Ann-Louise Andersen, Casper Schou, Kjeld Nielsen, Rasmus Andersen, Thomas Ditlev Brunø	Mapping the relationship among picking systems, human factors, and performance in a literature-based framework Vittoria Tudisco, Enory Pascolini, Elena Tappia, Sara Perotti				Multimodal Detection of Steelmaking-origin Defects in Continuous Casting Chiseong Kim, Deageun Hong, Jaebong Cho, Jihoon Nam, Inbeom Park, Sungmo Seo, Hyunbo Cho		Circular economy adoption in the textile industry: an empirical appraisal of strategic and operational practices Beatrice Colorni, Gianmarco Bressanelli, Albachiaro Boffelli, Sara Vannelli, Filippo Visintin, Nicola Saccani
0pm	Lunch								
1pm									
2pm	Alessandra Benedetti - Leveraging AI to Accelerate Servitization								
	Location: Aula Magna								
3pm	Short break								
4pm									
5pm	APMS Talks								
	Location: Aula Magna								
	Chair: Hermann Lödding								
	Lifecycle Decision Intelligence for Production Systems Management Irene Roda	Sustainable Battery Value Chains: Production, Digitalization and Circular Integration Location: Room 8 Fornasa Chair: Koteswar Chirumalla Chair: Martin Kurdve	Human-Centric Production and Logistics Systems in the Industry 5.0 Era: Socio-Technical Design and Intelligent Operations Location: Room 2 Chair: Anna Corinna Cagliano Chair: Thor Wuest	Workshop ASAP "Total Value of Ownership: Understanding Value and Risk in Product-Service Solutions" - Part 1 Location: Room 4	Smart and Sustainable Supply Chain: Technology, Operations, Logistics, and Governance Implications Location: Room 6 Chair: Eduardo e Oliveira Chair: Hajime Mizuyama	Advancing Human-Centric Digital Lean Manufacturing Systems: Lean 5.0 Pathways Location: Room 7 Chair: Anne Zouggar Chair: Romeo Bandinelli	Transforming engineer-to-order projects, supply chains, and systems Location: Room 8 Chair: Jan Ola Strandhagen Chair: Joakim Wikner	Designing, Engineering, and Managing Trust in Human-Centric Industrial Systems for the Operator 4.0/5.0 Location: Room 9 Castoldi Chair: David Romani Chair: Sri Kolla	
		Obstacles and opportunities for the repair cycle for cells and electronics in EV batteries Martin Kurdve, Emanuel Glans	Socio-Technical Interpretation of Learning Factories for Production and Logistics: A Systematic Literature Review		Alarm-Only Predictive Chattering: Machine Learning with Dynamic Chattering Index Labels in Industrial SCADA Maria Pereira, Eduardo Oliveira, João Fraga, Marisa João Guerra Pereira	Studying Digital Kanban environment to support Just-In-Time Supply: Simulation approach Mehmet Demir, Anne Zouggar Amrani	Avoiding Digital Disappointment: A Retrospective Study Applying DSM-NPV to a European Shipyard Innovation Miguel Calvache, Jeroen Pruyn, Alessia Napoleone	Trust Miscalibration in LLM-Based Operator 5.0 Support: A Controlled Evaluation of Knowledge Graphs, Large Language Models, and Documentati	

		A Dynamic Premium Pricing of Critical Minerals in EV Battery Supply Chains Ricky Gao, <u>Shiva Abdoli</u> Battery Swapping Business Models for Heavy-Duty Machines in Road Construction and Quarry Operations <u>Koteshwar Chirumalla</u>, Stavros Vouros, Bobbie Frank Identifying Key Decisions in Battery Lifecycles and the Role of Blockchain Technology <u>Moshkan Ebrahimi</u>, Koteshwar Chirumalla, Anas Fattouh, <u>Moshkan Ebrahimi</u>, <u>Moshkan Ebrahimi</u>, <u>Moshkan Ebrahimi</u>, <u>Moshkan Ebrahimi</u>	<u>Anna Corinna Cagliano</u>, Simone Preziosa A Review of Digital Twin Enabled Human-Robot Collaboration in Cyber-Physical Production Systems Md Rokibul Islam, Austin Harper, Mojtaba A. Farahani, <u>Thor Wuest</u> Scenario-Based Discrete-Event Simulation Approach to User-Centric Production System Design Akshay Goyal, <u>Anupama Govindaraj</u> Motion Prediction in Human-Centric Workspaces: When Anticipation Helps <u>Samuele Dell'Oca</u>, Michel Rosselli, Andrea Bettoni, Umesh Sevrá, Ferya Horozal, Georgios Karantinakis		Ethnographic Analysis for Sustainable Port Management: A Multi-Stakeholder Perspective from European Ports <u>Adriana Saraceni</u> Unified Static and Dynamic Harvester Scheduling with a Trade-off between Coordination Frequency and Weather Adaptability <u>Yumeto Mino</u>, Shota Suginouchi, Hajime Mizuyama A Deterministic Approach to Environmentally Sustainable Gate Assignment Using Real Operational Data <u>Chaima Boubaker</u>, Youssef Meliani, Sonia Radjef, Yasmina Hani	Towards Lean 5.0 in luxury manufacturing: linking Human Factors and operational KPIs Ilaria Bucci, <u>Elena Ermini</u>, Monica Rossi, Virginia Fani, Romeo Bandinelli A Case Study of Digital Kaizen in a Small and Medium Sized Manufacturing Enterprise <u>Eivind Reke</u>, Torbjørn Leirimo, Yashoda Karki, Daryl Powell, Maria Flavia Mogos Utseth How organizational and national cultures influence the adoption of Lean and I4.0 practices: an Italian and Norwegian comparative analysis Matteo Zanchi, Paolo Gaiardelli, Elena Agostinelli, <u>Espen Johannessen</u>, Erik Mäkitaavola	Digitalization of Yard Planning: How Context, Practices, and Readiness Shape Future Priorities Linda Helen <u>Sperre</u>, Giuseppe Fragapane, Jo Wessel Strandhagen, Jan Ola Strandhagen, Erlend Alfnes, Ayah Mustafa A Planning Framework for ETO Offshore Fabrication Yards <u>Ayah Mustafa</u>, Erlend Alfnes, Fabio Sgarbossa, Jo Wessel Strandhagen Digital Assistance Systems for Just-In-Sequence Packing: Key Enablers for Productive Shipyard Assembly <u>Lennard Thielager</u>, Volodymyr Aliexsieiev, Tim Jansen, Christopher Mundt, Hermann Lödding	for Industrial Troubleshooting Fabio Daniele, Elias Montini, Lorenzo Conti, Luca Maria Gambardella, Paolo Pedrazzini Getting your Hands dirty: task-centered Approach to deriving Machine Learning Use Cases in Warehouse Sorting <u>Natalie Basedo</u>, Nicole Rau, Nadine Yilmaz Doris Aschenbrenner Impact of Customised Assembly Workstations Productivity, Ergonomics, and Perceived Workload: Accounting for Learning Effects <u>Victor Bittencourt</u>, Sri Kolla, Sebastian Thiede Towards Softbots 5.0: The Emergence of Symbiotic Industrial Digital Assistants Saulo P. Zamboni, Ricardo J. Ramos, Bruna L.P. Nolasco, Lara P. Zamboni, Patricia L.B. Pinheiro, <u>David Romero</u>, Julio Normey-Rico
09pm - 10pm	Coffee break 2.2							
10pm - 11pm	Meet the editors Location: Aula Magna	Sustainable Battery Value Chains: Production, Digitalization and Circular Integration Location: Room 7	New Forms of Human-Technology Interaction in Production and Logistics Systems for the Operator 4.0/5.0	Workshop ASAP "Total Value of Ownership: Understanding Value and Risk in Product-Service Solutions" - Part 1	Smart and Sustainable Supply Chain: Technology, Operations, Logistics, and Governance Implications Location: Room 6	Novel Solutions for Lean-Green Production Systems Location: Room 7 Chair: Federica Costa	Transforming engineer-to-order projects, supply chains, and systems Location: Room 8 Chair: Martin Rudberg Chair: Erlend Alfnes	Designing, Engineering, and Managing Truly Human-Centred Industrial Systems for the Operator 4.0/5.0 Location: Room 9

	Fornasa Chair: Mélanie Despeisse Chair: Anas Fattouh	Location: Room 2 Chair: David Romero Chair: Doris Aschenbrenner	2 Location: Room 4	Chair: Maria Pereira Chair: Hajime Mizuyama	Chair: Anne Zouggar		Castoldi Chair: Chiara Cini Chair: Andrea Cristofari Elias Ribeiro
	Forecasting Exogenous Waste Inflow: A Two-Regime Hierarchical Approach for Circular Battery Manufacturing <u>Ibrahim Tevmurlu</u> , Quang-Vinh Dang, Mehrdad Mohammadi, Ivo Adan	How to co-design usable cognitive assistance systems by human-centred design and sociotechnical system design <u>Koen Nijland</u> , Milan R. Wolffgramm, Aijse W. de Vries, Paul T. Y. Preenen, Sri S. V. K. Kolla, Sebastian Thiede		Demand Forecasting for Intermittent Footwear Sales Using a Calibrated TFT-Hurdle Architecture <u>Eduardo e Oliveira</u> , Teresa Pereira, Marisa Pereira, Mar Vazquez-Noguerol, Jose Comesaña-Benavides	Understanding Lean Operations in Highly Uncertain Environments: A Case Study of Fishing Vessel Operations and AI Concept Opportunities <u>Irina-Emily Hansen</u> , Ola Jon Mork, Paul Steffen Kleppe, Lars Andre Giske	Deconstructing Digital Transformation in Global Construction Firms <u>Kefa Kafulumu</u> , Martin Rudberg, Dan Engström	Towards a Sustainable Human-Centred Manufacturing Delphi Validation of Competitive Priorities in Industry 4.0 <u>Andrea Cristina Elias Ribeiro</u> , Lúcia Figueiredo Facin
	Lithium-ion Batteries' Lifecycle Mapping and their Environmental Assessment: Academic versus Grey Literature <u>Nour El Houde Mezni</u> , Valérie Botta-Genoulaz, Taha Arbaoui, Giulio Mangano	AI Agents evaluation by users' experience incidents, a concept of measurement strategy Wieslaw Urban, <u>Marcin Czubaszek</u>		Application of Artificial Intelligence in Supply Chain Management: Research Gaps and an Emerging Research Agenda Boonserm Kulvatunyou, <u>Perawit Charoenwut</u> , Yen Mai		Interfaces and Coordination in Construction Logistics: A Case Study from an Urban Development Project <u>Joel Årlebrandt</u> , Mats Janné, Martin Rudberg	Contemporary Challenges in Industrial Work: An Empirical Study of Blue Collar Workers in the Era of Industry 4.0 and Industry 5.0 Susanna Aronsson, <u>Juho Silmukkarva</u> , Anna Viljakainen
	Sustainability in Critical Raw Materials for Energy Transition: Identification of Sustainability Indicators and Categories Through a Systematic Literature Review <u>Francisco Encina-Mansilla</u> , Christian Thies	Solving the Collaborative Picker-Robot Routing Problem with Learning Effects <u>Sidi Lamine Sakho</u> , Mohammed-Amine Abdous, Serena Finco, Arnaud Doniec		Integrating Sustainability into Sales and Operations Planning: A Decision-Oriented Framework for Process Industries Ishan Kahandawa, Charuni Wijayasingha, <u>H. Niles Perera</u>	Operational Excellence and Sustainability: A Review in High-End Manufacturing <u>Gaia Bonomi</u> , Federica Costa, Alberto Portioli Staudacher	Customer Interaction and the CODP – Enabling Integrated Modelling of Sequential and Interdependent Customer Requests <u>Joakim Wikner</u> , Eva Johansson, Fredrik Tiedemann	Technostress in Industry 4.0 and Industry 5.0 Human Centricity: Building a Conceptual Bridge Through a Structured Literature Review <u>Solveig Beysa Narli Evenstad</u>
	From Aging-Aware Operation to Circular Value Retention: A Circular Battery Digital	MIRAI: Introducing a Human-in-Command Architecture for Multimodal AI-driven Human-Robot-Interaction <u>Jonas S.I. Rieder</u> , Anna		Public-Private Partnerships in Healthcare Logistics: A Private Perspective on Advantages, Disadvantages, and Critical Success Factors in Italy <u>Simone Preziosa</u> , Anna Corinna Cagliano, Carlo	Lean-Based Energy Efficiency Improvement Using A3 (PDCA): Insights from an Industrial Case Study Ibrokhimjon Khamidov, <u>Federica Costa</u> , Alberto Portioli Staudacher	A Digital Twin-Oriented Decision Support Framework for Lifecycle-Aware Peak-Shaving in Hybrid ETO Off-shore Vessels Antonio Giallanza, <u>Parand Khani</u> , Rosa Micale	Reviewing Human-Centred Aspects of AI Collaboration in Manufacturing <u>Sandra Jakšić</u> , Anita Clara Notarianni, Onur Salunkhe, Ana Correia Simões, Anna Syberfeldt, Johan Stahre

0pm Gala dinner

Twin for
Electric Bus
Fleets
Anas Fattouh,
Erik Dahlquist,
Koteshwar
Chirumalla

Geliev, Doris
Aschenbrenner

Rafele, Gabriel
Castelblanco

Date: Wednesday, 16/Sept/2026

8:00am Registration

-

8:30am

-

8:30am

-

9:50am

Servitization for Sustainable Manufacturing: Enablers, Constraints, Assessment Tools, and Business Model Configurations for Digitalized Systems
Location: **Room Fornasa**
Chair: **Claudio Sassanelli**
Chair: **Shaun West**

Mapping rebound mechanisms in circular manufacturing: A causal loop diagram approach
Mariantonietta Ferrante,
Veronica Arioli,
Roberto Sala,
Claudio Sassanelli

How Servitization Enables—and Constrains—Sustainable Value Creation: An Empirical Analysis among Manufacturing Firms
Veronica Arioli,
Fabiana Pirola,
Luca Lussignoli,
Federico Adrodegari,
Nicola Saccani

The IFIP WG5.7 Service Systems Special Interest Group Research Agenda Evolution on Service and Product-Service

AI, Institutions, and Organizational Transformation in Production Systems: Toward Human-Centric Industry 5.0
Location: **Room 2**
Chair: **Prince Chacko Johnson**
Chair: **Jannicke Baalsrud-Hauge**

Industry Voices on AI Operationalization: Uncovering Socio-Technical Barriers and Implications in Manufacturing
Lukas Rauh, **Daniel Schel,** **Thomas Bauernhansl**

Cognitive value creation: Explorative findings on conceptual requirements for a new manufacturing paradigm
Jan Philipp Pvdde, **Simon Schumacher,** **Lennart Kuhr,** **Mark Mennega,** **Christoph Herrmann,** **Thomas Bauernhansl**

When Operators Lead the AI Shift: A Qualitative Study of Informal AI Adoption in Norwegian Manufacturing
Godfrey Mugurusi, **Martina Ortova,** **Anne Grethe Syversen,** **Fatjon Thomai**

Adaptive Integrated AI Framework for Sustainable and Resilient Manufacturing Operations

Workshop SIG Human-Centred Systems
Location: **Room 4**

Smart and Sustainable Supply Chain: Technology, Operations, Logistics, and Governance Implications
Location: **Room 6**
Chair: **Hajime Mizuyama**
Chair: **Maria Pereira**

OD-pair- Decomposition-Based Multi-Colony ACO for Guide-Path Layout and Routing in AGV Systems
Shota Suginouchi, **Yuito Bandai,** **Hajime Mizuyama**

Demand-Driven Stock Keeping Unit to Pod Assignment and Replenishment Policy in Robotic Mobile Fulfillment Systems: An Agent-Based Simulation Approach
Shuo-Yan Chou, **Salsabila Herwening Mileniadewi,** **Catherine Laura Lee Timony,** **Ferani Eva Zulvia,** **Anindhita Dewabharata**

Rethinking Routing: Integrating Road Quality into Classical Optimization Models

Carlota Pinho, **Farzam Salimi,** **António Galvão Ramos,** **Marisa João Guerra**

Energy-Efficient and Intelligent Manufacturing Systems
Location: **Room 7**
Chair: **Guillaume Cauchon**
Chair: **Alessia Napoleone**

Reducing CNC Machine Tool Energy Consumption: Standby Phase Optimization Based on Energy Measurements
Guillaume Cauchon, **Louis Gosselin**

Resource Allocation Optimization Using Reinforcement Learning in Manufacturing Systems
Mohammed Malaibari, **Asmaa Binkhamis,** **Shiva Abdoli**

The System Reference Architecture of a Holistic Digital Platform for Energy and Production Management in Manufacturing

Maria Flavia Mogos Utseth, **Matteo Ranaboldo,** **Zachari Thiry,** **Linda Helen Sperre**

Connecting Energy Management

Human-centric lifecycle management of products and assets
Location: **Room 8**
Chair: **Christos Emmanouilidis**
Chair: **Vittaldas Prabhu**

FlowExtract: Procedural Knowledge Extraction from Maintenance Flowcharts
Guillermo Gil de Avalor, **Laura Maruster,** **Eric Slood,** **Christos Emmanouilidis**

A Material- and Tool State-Aware Dynamic Power Estimation Model for Milling Processes
Ga Hyun Lee, **Byunghun Song,** **Hyun Woo Jeon**

Profiling Difficulty and Interpretability in Industrial AI Fault Diagnostics
Mowffq Alsanousi, **Po-Chien Huang,** **Vittaldas Prabhu**

How service can improve environmental impact of heat pump: life cycle assessment as a design decision tool

Smart Manufacturing for Circularity and Resilience: Models, Methods, and Industrial Evidence
Location: **Room Castoldi**
Chair: **Matthias Kalverkamp**
Chair: **Violetta Giada Cannas**

Applying Zero Defect Manufacturing: A Case Study in Deep Drawing Aluminium Production
Violetta Giada Cannas, **Rossella Pozzi,** **Riccardo Stuppi,** **Sara Zenucchi**

EDCC: Data space for circular construction
Frederique Biennier, **Didier Balaguer,** **Pierre Valiorgue,** **Michel Protsenko,** **Alain Berry,** **Claude Sadoun**

AI-Supported Transformation of Workshop Outputs for Industrial Data Space Design: A Business and Organizational Perspective
Rosalina Ribeiro Silva, **Henrique Diogo Silva,** **António Lucas Soares**

The Illusion of Stabilization: Why Manufacturing Innovation Stalls

	Systems Design, Engineering and Management <u>Shaun West</u> , David Romero, Paolo Gaiardelli, Veronica Arioli, Claudio Sassanelli, Giuditta Pezzotta	<u>Ebru Turanoglu</u> <u>bekar</u> , Alexander Karlsson, Sunith Bandaru		<u>Pereira, Maria Teresa Pereira</u>	to System Change in Manufacturing: A Literature-Based Escalation Model <u>Alessia Napoleone</u>	<u>Claire Fabrer</u> , Thècle Alix, Laurent Mora, Nicolas Perry	Astrid Heidemann Lassen, Brian Vejrum Waehrens, <u>Kenn Steger-Jensen</u>
	The IFIP WG5.7 Service Systems Special Interest Group Renewed Research Framework and Agenda on Product-Service Systems and Digital Servitization <u>Claudio Sassanelli</u> , Veronica Arioli, Shaun West, David Romero, Paolo Gaiardelli, Giuditta Pezzotta			Optimization model of an innovative automated warehouse featuring climbing collaborative robots <u>Bartolomeo Silvestri</u> , Maria Asuncion del Cacho Estil-les, Agostino Marcello Mangini, Luigi Ranieri, Giuseppe Starace			
9:50am - 10:20am	Coffee break 3.1						
10:20am - 11:40am	Servitization for Sustainable Manufacturing: Enablers, Constraints, Assessment Tools, and Business Model Configurations for Digitalized Systems Location: Room Fornasa Chair: Veronica Arioli Chair: Claudio Sassanelli Decision-making within a Leasing Business Model: Enabling Refurbishment of Products at the End-of-Lease Under Stochastics Condition	AI, Institutions, and Organizational Transformation in Production Systems: Toward Human-Centric Industry 5.0 Location: Room 2 Chair: Prince Chacko Johnson Chair: Juliane Balder Shifting skill sets for engineers through increased use of Artificial Intelligence in product development <u>Juliane Balder</u> , Helena Ebel, Marco Buric, Rainer Stark	Workshop APMS Industrial Engagement Location: Room 4	Agentic AI in Operations and Supply Chain Networks: From Tools to Orchestrators Location: Room 6 Chair: Erlend Alfnes Chair: Giovanni Zenezini Toward Self-Organizing Production Logistics: A Multi-Agent Approach <u>Jan-Felix Klein</u> , Yongkuk Jeong, Erik Flores-García, Magnus Wiktorsson	Jobs, Skills and Workforce Development for Sustainable, Resilient, and Human-Centric Industrial Systems Location: Room 7 Chair: Krzysztof Ejsmont Chair: Bartłomiej Gladysz Unlocking Hidden Expertise: How AI Transforms Tacit Knowledge into Competitive Advantage <u>Greta Tjaden, Tabea</u> Gutöhrlein, Daniel Höschele	Human-centric lifecycle management of products and assets Location: Room 8 Chair: Jon Bokrantz Chair: Giacomo Barbieri The Role of Serious Games for Boundary-Object Negotiation in Innovation Projects <u>Giacomo Barbieri</u> , Maricruz Solera Jimenez, Jan Braaksma	Smart Manufacturing for Circularity and Resilience: Models, Methods, and Industrial Evidence Location: Room Castoldi Chair: Stefan Alexander Wiesner Chair: Thor Wuest Identification and Characterisation of Archetypes for Decentralized Manufacturing Systems <u>Oheneba Aggrey</u> , Poorya Ghafoorpoor Yazdi, Peter Chemweno, Sebastian Thiede
		Empowering the Manufacturing Workforce to Integrate AI Coding Assistants		Agentic Artificial Intelligence in Supply Chain Management: A Systematic		Towards an Integrated Production Scheduling	Framework for Industrial Resilience - Case

	Sepideh Kordestani, <u>Jenny Backstrand</u>, Vanajah Siva	Nicolas Leberruyer, Mats Ahlskog, Jessica Bruch, Erik Backhans		Literature Review <u>Dionathan Quadras</u>, Romeo Bandinelli, Virginia Fani	Shaping Social Sustainability in Adaptive Manufacturing Systems: a participatory co-design approach for indicators generation <u>Daniela Zarrilli</u>, Monica Rossi	and Maintenance Planning using Reinforcement Learning <u>Ricardo Caballero</u>, Eike Broda, Nicolas Luiz Schweitzer de Souza, Enzo Morosini Frazzon, Michael Freitag	from the AgriTech industry <u>Bjørnar Henriksen</u>, Maria Kolberg Thomassen, Carl Christian Røstad, Sven Vegard Buer
	Waste Management in the Cosmetics Industry: A Life Cycle-based Analysis <u>Laila El Warragi</u>, Roberto Rocca, Luca Fumagalli	Development of the Mine 5.0 model for human-centric, sustainable and resilient surface coal mining operations Vladimir Simeunović, <u>Sonja Dimitrijević</u>, Dragan Stošić, Vidosav Majstorović		From model assessment to process fit: designing benchmark dimensions for LLMs in business contexts <u>Roberto Pinto</u>, Erlend Alfnes, Romeo Bandinelli, Giovanni Zenezini	Leveraging Human Capital through Operational Excellence in High-End Operations Matteo Ferrazzi, Federica Costa, Alberto Portioli-Staudacher, <u>Gaia Bonomi</u>	Decision support systems for sustainable maintenance enabled by I4.0 technologies: a bibliometric analysis Simone Arena, <u>Mattia Braggio</u>, Alexandre Voisin, Chiara Franciosi	Creating a Future Vision for sustainable Value Creation by manufacturing SMEs in regional Value Networks <u>Stefan Wiesner</u>, Anton Zitnikov, Justin Ender, Matthias Kalverkamp, Tim Ahlheim, Tobias Hoiten, Klaus-Dieter Thoben
	Designing Sustainable Business Models for Testbeds in Industry 4.0: An Empirical 5G Testbed Study Pedro Gonçalves, <u>Ana Correia SImões</u>, Pedro Senna, Bruno Parreira	Beyond Textual Accuracy: Evaluating RAG-based Assistant for Novice Operators in Industrial Robotics <u>Enrico Botticella</u>, Zhengyi Wu, Khurshid Aliev, Giulia Bruno		From AI Agents to Agentic Applications: An Architectural Case Study in Inventory Management <u>Janne Kilpua</u>, Siavash Khajavi, Sampsa Laakso, Kari Tanskanen	Empowering the Operator 5.0: LLM-Augmented Task-to-Skills Mapping for Human-Centric Workforce Assignment in SMEs <u>Vincenzo Cutrona</u>, Elias Montini, Christos Emmanouilidis, Andrea Bettoni	Mapping Criteria for Designing Machine Learning-Driven Integrated Quality-Maintenance Engineering Frameworks <u>Elisa Gonzalez Santacruz</u>, Mohan Rajashekarappa, David Romero, Zeynab Allahkarami, Jon Bokrantz, Anders Skoogh	Risk Analysis for Proactive Resilience Management in Manufacturing Companies <u>Jonas Reinhold</u>, Björn Burzynska, Matthias Schmidt
11:40am - 11:50am	Short break						
11:50am - 1:10pm	Servitization for Sustainable Manufacturing: Enablers, Constraints, Assessment Tools, and Business Model Configurations for Digitalized Systems Location: Room	AI, Institutions, and Organizational Transformation in Production Systems: Toward Human-Centric Industry 5.0 Location: Room 2 Chair: Doris Aschenbrenner Chair: Krzysztof Ejsmont	Emotional monitoring in operations and logistics to enhance workers' well-being Location: Room 4 Chair: Elena Carlotta Olivetti Chair: Andrea Ferrari	Agentic AI in Operations and Supply Chain Networks: From Tools to Orchestrators Location: Room 6 Chair: Romeo Bandinelli Chair: Roberto Pinto	Jobs, Skills and Workforce Development for Sustainable, Resilient, and Human-Centric Industrial Systems Location: Room 7 Chair: Marta Pinzone Chair: Chiara Cimini	AI and Computer Vision for Smart Manufacturing and Quality Engineering Location: Room 8 Chair: Jürgen Lenz Chair: Gerald Kremer	Sustainable Manufacturing and Circular Production Systems Location: Room Castoldi Chair: Tomiya Kimura Chair: Jonah Schulz
						Stereo-Vision-Based Part	Competence-based procedure

Fornasa Chair: Ugljesa Marjanovic Chair: Federico Adrodegari Development and Validation of a Roadmapping methodology for servitization <u>Alessandra Chisari</u>, Elena Beducci, Anna De Carolis, Marco Taisch	From Regulation to Innovation: The EU Data Act and its Impact on OEM Product Development <u>Greta Tjaden</u>, Sabine Muschik	Exploring the propensity of adoption of physiological emotional monitoring technologies in logistics via TAM <u>Giulio Mangano</u>, Ivonne Angelica Castiblanco Jimenez, Elena Carlotta Olivetti, Sandro Moos, Enrico Vezzetti, Carlo Rafele, Andrea Ferrari, Federica Marcolin	Implementing a semantic data layer in recycling industry towards agentic AI <u>Asa Fast Berglund</u>, Andreas Christiansen	Designing a Learning Activity for FMECA Methodology in a Learning Factory: Comparison between Traditional and Innovative Teaching Nicole Rigamonti, <u>Mattia Galimberti</u>, Roberto Sala	Classification for Brownfield Assembly Using a Low-Cost Camera <u>Max-Heiner Birk</u>, Andreas Gaus, Christoph Reich, Michael Engler	selection for lead time scheduling addressing remanufacturing-specific challenges: a multi-criteria decision framework <u>Jonah Schulz</u>, Alexander Rokoss, Florian Stamer
Mapping the Maturity of Servitization and PSS Research: Evidence from an International Scientific Panel Luca Lussignoli, <u>Nicola Saccani</u>, Federico Adrodegari, Tim Baines, Donatella Corti, Heiko Gebauer, Christian Kowalkowski, Ugljesa Marjanovic, Jürg Meierhofer, Vinit Parida, Daniela Pigosso, Kentaro Watanabe, Shaun West, Marco guillermo Opazo basaez, Giuditta Pezzotta, Mario Rapacini	Manufacturing SMEs' ethical maturity for AI adoption <u>Bartłomiej Gladysz</u>, Hassan Juma, Aleksander Buczacki, Aldona Kluczek, Krzysztof Ejsmont, Krzysztof Krystosiak, Aneta Kossobudzka-Górska, Izabela Małeńczyk, Jacek Kozłowski	Design of a Sensorized Safety Helmet for Stress and Cognitive Workload for Automated Warehouses Operators <u>Elena Carlotta Olivetti</u>, Andrea Ferrari, Giulio Mangano, Giovanni Zenezini, Enrico Vezzetti, Carlo Rafele, Alessia Celeghin, Sandro Moos, Federica Marcolin	From Thinking to Doing: Moving from AI Use Cases to a Process Wide Adoption Approach in Sourcing <u>Jenny Bäckstrand</u>, Andreas Malmstedt	Mapping Learning Factories' offerings through the lens of Human-Centric Manufacturing <u>Chiara Cimini</u>, Claudia Piffari, Alexandra Lagorio, Roberto Pinto	KBES for DfM and DfS of CNC Milled Parts: Requirements Analysis and Technology Blueprint <u>Gerald Kremer</u>, Michael Königs, Rainer Stark	PDCA-Based Raw Material Management for Sustainable Production Systems <u>Markus Dusdal</u>, Dafina Bulliqi, Christoph Haag
Artificial Intelligence for after-sales services: a case of luxury fashion industry <u>Natalia Roskladka</u>, Giovanni Miragliotta	What Remains of XAI in Practice? Comparing Literature Based Methods and Operational Explainability <u>Anna Geliev</u>, Jonas S.I. Rieder, Doris Aschenbrenner, Thomas Gries	Mental Workload Evaluation in Real-World Manufacturing Systems in the Industry 5.0 Era <u>Cinzia La Mattina</u>, Francesco Picariello, Francesco Pilati	Governed Decision-Support Artifact for Cross-Functional Manufacturing Decisions <u>Zhichao Yang</u>, Sri Kolla, Sebastian Thiede	DR-BEST for Circularity: A Service-Oriented Reference Framework to Foster the Twin Transition in European Learning Factories Marta Pinzone, <u>Danusuya Pachimuthu</u>, Federica Acerbi	YOLO-based Object Detection with Oriented Bounding Boxes for Assembly Line Automation of Tabletop Games Ann-Christine Gerchel, Florian Kerber, <u>Jürgen Lenz</u>, Marcel Halbauer	A Comprehensive Review of Occupational Health and Safety Risk Assessment in Mining: From Classical Methods to AI-Driven Models <u>Wafaa Biadi</u>, Adiba El bouzekri El idrissi, Safaa Assif, Yasmina Hani
				Human-centered digital transformation – an exploratory study <u>Salma Zouaoui</u>, Ioana Filipas, François Marmier,	Border Detection and Subspace Optimization for Oversampling Imbalanced Quality Data <u>Mahesh Kumbhar</u>, Sunith Bandaru, Alexander Karlsson	

1:10pm - 2:10pm 2:10pm - 3:30pm	Lunch				Dominique Renaud	
	Smart Manufacturing Ontologies & Data Interoperability Location: Room Fornasa Chair: Selver Softic Chair: Boonserm Kulvatunyou	Cyber-Physical System-Based Approaches to Achieve Sustainability Location: Room 2 Chair: Catherine da Cunha Chair: Shiva Abdoli	Decision Support and Resilient Supply Networks Location: Room 4 Chair: Matthias Kalverkamp Chair: Yongkuk Jeong	Bridging the Implementation Gap of Management Frameworks: From Theory to Industrial Practice Location: Room 7 Chair: Giovanni Romagnoli Chair: Melissa Marques-McEwan	Human-centric lifecycle management of products and assets Location: Room 8 Chair: Adalberto Polenghi Chair: Adolfo Crespo Marquez	Optimization Methods for Logistics and Transportation Systems Location: Room Castoldi Chair: Hermann Lödding Chair: Roberto Pinto
	Automatic Generation of AAS via Contrastive Learning Based on an Extended Hierarchical Structure of Semantic Similarity <u>YeRang Jo</u> , JuYeon Lee	Wear- and Time-Aware Pricing with Equity Guardrails for IoT-Tracked Shared Tools <u>Wagas Ahmed</u> , Hans-Ake Sundberg, Robert Shorten	Reinforcement Learning-Based Automated Negotiation Model for Sellers Under Varying Inventory Levels <u>Jin Goo Jeong</u> , Ga Hyun Lee, Byunghun Song, Hyun Woo Jeon	Designing a Process-Oriented Performance Measurement System for R&D Activities in Manufacturing SME <u>Guvén Gurkan Inan</u> , Derya Akbulut, Melissa Marques-McEwan, Bahtiyar Ocak	Human-Centric Phased Deployment of Auditable Warranty and After-Sales Workflows: An AHP-Based Portfolio Method for Product and Asset Lifecycle Management Vicente González-Prida, Bernal Picado, Antonio Guillén, Adolfo Crespo Márquez	Logistic Operating Curves for Closed Queueing Systems: Enhancing Container Terminal Productivity through Shared Queues <u>Florian Möhle</u> , Carlos Jahn, Hermann Lödding
	An Overview of Supply Chain Ontologies Yen Mai, <u>Ralph Riedel</u> , Michael Martin, Sanju Tiwari	Adapting the Five-Dimensional Digital Twin Model for On-Demand and Reconfigurable Continuous Flow Chemistry: An Ontological Approach Inès Dib, <u>Catherine da Cunha</u> , François-Xavier Felpin	Supply Chain Resilience Under Competing Geopolitical Frameworks: The Capricorn Bioceanic Corridor and Critical Raw Materials Access for the EU Green Transition <u>Matthias Kalverkamp</u> , Jannicke Baalsrud-Hauge			
	An Executable UAV Simulation Model Generation Framework based on Ontology and LLMs <u>Shizhen Huang</u> , Qihao Xu, Junxiang Jiang, Zelong Song, Xiaochen Zheng	Deep Learning for Building Maintenance Optimization Hongtao Fang, <u>Shiva Abdoli</u>		How Much Context is Enough? Mapping Production Planning Environments for Comparable Case Studies in Tactical Production Planning <u>Anita Romsdal</u> , Mina Rahmani, Jan Ola Strandhagen	Industrial Metaverse: a Platform for Human Engagement in Production System Design <u>Adalberto Polenghi</u> , Marco Pasquandrea, Mahmoud Samy Rezk Elashry, Edoardo Palmitessa, Tesfalem Mekonen Mengestu, Tidarú Dessie Alamnie, Umair Ahmed, Marco Taisch	Empty Packaging Pooling in Logistics: A MILP Formulation and Matheuristic for Tariff-Based Transport Planning <u>Kaouter Boulouinat</u> , Faïcel Hnaïen, Evren Sahin, Joan André, Riccardo Petitti
	An Ontology-Enhanced Multi-Agent Hierarchical Method for Design Requirement Extraction of	Simulation of Circular Product Management Based on a Blockchain Platform <u>Sogo Hirata</u> , Yuto Izumida, Shinichi Fukushima	A Nearshoring Decision-Support Framework for supplier-location selection Luisa Montella, Teresa Murino, <u>Andrea Somma</u>	A Requirements-Based Extension of Earned Value Management for Engineering Project Control Filippo Maria Ottaviani, <u>Giovanni Zenezini</u> , Massimo Rebuglio,	Developing a data-driven maintenance service: a digital platform enabled Asset Management	Routing-Aware Truck Consolidation through Hybrid Machine Learning and Multi-Criteria Decision-Making

	Complex Products Yifan Tan, Qiu hao Xu, Zelong Song, Junxiang Jiang, Xiaochen Zheng		Francesco Moroni, Giovanni Romagnoli, Francesco Zammori	approach based on TBO optimization <u>Lorenzo Ghedini</u> , Irene Roda, Marco Macchi, Alejandro Martinez, Alessandro Pozzetti	<u>Abderrahmane Benadder</u> , Nicola Mezzetti, Daria Battini
			An exploratory analysis on the use of Earned Value Management in project-based Italian organisations Davide Primo Nicolosi, Filippo Maria Ottaviani, <u>Giovanni Romagnoli</u> , Francesco Zammori, Giovanni Zenezini	Human-in-the-Loop Condition-Based Maintenance Framework for Collaborative Robots: Integrating Diagnostic Uncertainty, Human Feedback, and Economic Evaluation Cristina Tonelli, Scarpa Silvia, <u>Adalberto Polenghi</u> , Andrea Mor	Stochastic Half-Open Multi-Depot Electric Vehicle Routing Problem with Charging Options: A Two-Stage Optimization–Simulation Approach <u>Hakan Erdes</u> , Saadettin Erhan Kesen
3:30pm - 4:30pm	Closing ceremony Location: Aula Magna				