

APMS 2020

August 30 - September 3, 2020 Novi Sad, Serbia



"The path to digital transformation and innovation of production management systems"

Parallel Sessions I Session (20) (A) Digital Transformation - Part I (B) Data Orien Review (15°) - Participants take their coffee and move to the physical (parallel) rooms (B) The Session (20) (A) Digital Transformation - Part I (B) Data Orien Review (15°) - Participants (15°)		Monday 31 August 2020				
390-10:00 300-10:15 Coffee Break (157) - Participants take their coffee and move to the physical (parallel) room. ENTER-SESSION	9:00 - 9:30					
Coffee Break (15) - Participants take their coffee and move to the physical (parallel) rooms						
ENTERSESSION ENTE	9:30 - 10:00		Opening Cer	remony (30')		
Session [20] (A) Digital Transformation - Part I (B) Data-Driven Services - Part I (C) Digital Twins & Shadows - Part I (C) Digital Twins & Shadows - Part I (C) Digital Twins & Shadows - Part I (D) Production Rampup Production Rampup 2015 - 1035 201 - A Conceptual Medic for Deploying Digitalization in SMS through Capability Digitalization in SMS through	10:00 - 10:15	C	offee Break (15') - Participants take their co	fee and move to the physical (parallel) roon	ns	
Session (20) (A) Digital Transformation - Part I (B) Data-Driven Services - Part I (C) Digital Twins & Shadows - Part I (C) Digital Twins & Shadows - Part II (D) Production Rampup 204 - A Conceptual Model for Deploying Digitalization in MSM-trough Capability Digital Twins & Shadows - Part II Digital Twins & Shado	10:15 - 12:15		Parallel 9	Sessions I		
Chairs Sahrudin Hrnjica & Egon Lüffenegger Paolo Galardelli & Shaun West Erik Flores-Garcia & Sabine Waschull 2014 - A Conceptual Model for Deploying Digitalization in SMEst through Capability 10:15-10:35 Building Services State of Digital 210:16-10:16		ENTER SESSION	ENTER SESSION	ENTER SESSION	ENTER SESSION	
293 - A Conceptual Model for Deploying Digitalization in SMS through Capability 295 - Industry 4.0 Data-related 295 - Building 295 - Industry 4.0 Data Settlemann and Servitzation in Smart Living Factories. Integration Production System Design Production Production Production Production Production Production Production Management for SMS features over Digital 292 - Industry 4.0 On demand: A Value 293 - Industry 4.0 On demand: A Value 294 - Technology to Implement Industry 295 - Inspact of Platform Openness on 297 - Every Extension Production	Session (20')	(A) Digital Transformation - Part I	(B) Data-Driven Services - Part I	(C) Digital Twins & Shadows - Part I	(D) Production Ramp-up Strategies	
Digitalization in SMEst through Capability 245 - Towards the Definition of an impact (Expel factor of SME features over Digital 256 - Impact of Pattern Smart Living: Application and Challenges 257 - Industry 4.0 On demand: A Value (Challenges) 258 - Industry 4.0 On demand: A Value (Challenges) 259 - Impact of Platform Openness on (Challenges) 259 - Impact of Platform Openness on (Challenges) 250 - Industry 4.0 On demand: A Value (Challenges) 250 - Industry 4.0 On demand: A Value (Challenges) 250 - Impact of Platform Openness on (Challenges) 250 - Industry 4.0 On demand: A Value (Challenges) 250 - Industry 4.0 On demand: A Value (Challenges) 250 - Industry 4.0 On demand: A Value (Challenges) 251 - Industry 4.0 On demand: A Value (Challenges) 252 - Industry 4.0 On demand: A Value (Challenges) 253 - Industry 4.0 On demand: A Value (Challenges) 254 - Industry 4.0 On demand: A Value (Challenges) 255 - Industry 4.0 On demand: A Value (Challenges) 255 - Industry 4.0 On demand: A Value (Challenges) 256 - Industry 4.0 On demand: A Value (Challenges) 257 - General Readiness Assessment of Industry 4.0 Context 277 - Agile Guideline for Development of Industry 4.0 Context 278 - General Readiness Assessment of Industry 4.0 Context 279 - General Readiness Assessment of Industry 4.0 Context 270 - Agile Guideline for Development of Industry 4.0 Context 271 - Agile Guideline for Development of Industry 4.0 Context 272 - General Readiness Assessment of Industry 4.0 Context 273 - Squite Guideline for Development of Industry 4.0 Context 274 - Agile Guideline for Development of Industry 4.0 Context 275 - General Readiness Assessment of Industry 4.0 Context 276 - General Readiness Assessment of Industry 4.0 Context 277 - General Readiness Assessment of Industry 4.0 Context 278 - General Readiness Assessment of Industry 4.0 Context 279 - General Readiness Assessment of Industry 4.0 Context 270 - General Readiness Assessment of Industry 4.0 Context 271 - General Readiness Assessment of Industry 4.0 Co	Chairs				Stefan Wiesner & Jannicke Baalsrud	
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245 - Towards the Definition of an Impact 181 - Engineering of Data-driven Service 173 - Systems Engineering Approach to 115 - Part Selection for Free Feedback 123 - Application and 124 - Part Selection for Free Feedback 125 - Industry 4.0 On demand: A Value 125 - Indus					Production System Design Phase for	
Level Factor of SME features over Digital 232 - Industry 4.0 On demand: A Value Drivern Methodology to Implement Industry AU - Technology Adoption in the Industry AU - Technology Adoption in Technology Adoption in Technology Adoption in Technology Adoption in Technology Adoption Industry AU - Technology Adoption in Technology Adoption in Technology Adoption Industry AU - Technology Adoption Industry AU - Technology Adoption in Technology Adoption Industry AU - Tec	10:15 - 10:35				Increasing Operational Performance	
232 - Industry 4.0 On demand: A Value Driven Methodology to Implement Industry 254 - Impact of Platform Openness on Driven Methodology to Implement Industry 254 - Impact of Platform Openness on Driven Methodology to Implement Industry 254 - Technology Adoption in the Industry 261 - Technology Adoption in the Industry 40 Ers: Empirical Evidence from 202 - Towards a Comparative Data Value 230 - A Digital Twim Modular Framework for Smart Product 230 - A Digital Twim Modular Framework for Smart Product 230 - A Digital Twim Modular Framework for 179 - A Model for Cost-Beened 185 - The Data-Driven Product-Service Systems 269 - Business Process Management for 179 - A Model for Cost-Beened 185 - The Data-Driven Product-Service Systems 269 - Business Process Management for 179 - A Model for Cost-Beened 185 - The Data-Driven Product-Service Systems 269 - Business Process Management for 179 - A Model for Cost-Beened 185 - The Data-Driven Product-Service 274 - Agile Guideline for Development of 185 - The Data-Driven Product-Service 274 - Agile Guideline for Development of 185 - The Data-Driven Product-Service 274 - Agile Guideline for Development of 185 - The Data-Driven Product-Service 274 - Agile Guideline for Development of 185 - The Data-Driven Product Unit 185 - 185		T			115 - Part Selection for Freeform Injection	
222 - Industry 4.0 On demand: A Value Driven Methodology to Implement Industry (254 - Impact of Platform Openness on 10.55 - 11:15 4.0 231 - Technology Adoption the Industry (241 - Technology Adoption the Industry (242 - Towards a Comparative Data Value Assessment Framework for Smart Product (241 - Technology Adoption the Industry (242 - A Digital Twin Modular Framework for Smart Product (242 - A Digital Twin Modular Framework for Service Systems (242 - A Digital Twin Modular Framework for Service Systems (242 - ERP in Industry 4.0 Context (242 - ER	40.05 40.55				Molding: Framework for Development of a	
Driven Methodology to Implement Industry 1055 - 11:15 4.0 241 - Technology Adoption in the Industry 4.0 Era: Empirical Evidence from 11:15 - 11:35 Manufacturing Companies 221 - Technology Adoption in the Industry 4.0 Era: Empirical Evidence from 11:15 - 11:35 Manufacturing Companies 222 - Towards a Comparative Data Value Assessment Framework for Smart Product Assessment Framework for Smart Product Assessment Framework for Smart Product Service Systems 230 - A Digital Twin Modular Framework for Production Namp-up Strategit 230 - A Digital Twin Modular Framework for Reconfigurable Manufacturing Systems 269 - Business Process Management for Manufacturing Systems 269 - Business Process Management for Production Nampus Systems 278 - General Readiness Assessment of Industry 4.0 Evidence from Serbian Integration of Serbian Integration of Industry 4.0 Evidence from Serbian Integration of Industry 4.0 Evidence from Serbian Integration of Service Subadial Intelligence ENTER SESSION E	10:35 - 10:55	ransformation	cnallenges	Development	Unique Methodology	
11:15 - 11:35 Manufacturing Companies Service Systems Reconfigurable Manufacturing Systems 196 - The Data-Driven Product-Service Systems Design and Delivery (4DPS) Manufacturing Execution System Deployment: Some Lessons from a Bearings 138 - Machine Learning-Support Manufacturing Execution System Deployment: Some Lessons from a Bearings 138 - Machine Learning-Support Manufacturing Execution System Deployment: Some Lessons from a Bearings 138 - Machine Learning-Support Manufacturing Execution System Deployment: Some Lessons from a Bearings 138 - Machine Learning-Support Manufacturing Execution System Deployment: Some Lessons from a Bearings 138 - Machine Learning-Support Manufacturing Execution System Deployment: Some Lessons from a Bearings 138 - Machine Learning-Support Manufacturing Execution System Deployment: Some Lessons from a Bearings 138 - Machine Learning-Support Manufacturing Execution System Or Lead Times in Job Shop Manufacturing Exercises in Manufacturing and Learning-Support of Artificial Intelligence Under Section 115:5-13.35		Driven Methodology to Implement Industry 4.0	Ecosystems and Value Streams in Platform- based PSS Exemplified using RAMI 4.0	Twin and Discrete Event Simulation in	283 - Business Model Development for a Dynamic Production Network Platform	
11:35 - 11:55 224 - ERP in Industry 4.0 Context Methodology Meth			Assessment Framework for Smart Product	230 - A Digital Twin Modular Framework for	179 - A Model for Cost-Benefit Analysis of	
196 - The Data-Driven Products Services Systems Design and Delivery (4DPSS) Methodology 278 - General Readiness Assessment of Industry 4.0. Evidence from Serbian 11:55 - 12:15 Manufacturing Industry 4.0. Evidence from Serbian 11:55 - 12:15 Manufacturing Industry 4.0. Evidence from Serbian 11:55 - 12:15 Manufacturing Industry 273 - Agile Guideline for Development of Start Services in Manufacturing Exercises Processes that Can Benefit from Industry 4.0. Evidence from Serbian Sector, The Public Gas Distribution Networks Case in Greece Production Managers 13:15 - 13:15 Manufacturing Industry 13:15 - 13:15 Manufac	11:15 - 11:35	Manufacturing Companies	Service Systems	Reconfigurable Manufacturing Systems	Production Ramp-up Strategies	
278 - General Readiness Assessment of Industry 4.0: Evidence from Serbian Intelligence Interprises with Support of Artificial Networks Case in Greece Intelligence Intelligenc	11:35 - 11:55	224 - ERP in Industry 4.0 Context	Systems Design and Delivery (4DPSS) Methodology	Manufacturing Execution System Deployment: Some Lessons from a Bearings Manufacturer Experience	138 - Machine Learning-Supported Planning of Lead Times in Job Shop Manufacturing	
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Chairs Loan Turcin & Selver Softic Xavier Boucher & Giuditta Pezzotta Dimitris Kiritsis & Frederick Birtel Alexandre Dolgui & Xavier Boucher & Giuditta Pezzotta 111 - Challenges in Data Life Cycle 206 - A Novel Value Driven Co-creation 189 - Digital Shadows as an Enabler for the Internet of Production 189 - Digital Shadows as an Enabler for the Internet of Production 124 - A Bi-objective Schedulin Additive Manufacturing with Additive Manufacturing with Additive Manufacturing with Materials and Sequence-dependence of Production 13:55 - 13:55 Digital Shadow of Additive Manufacturing with Materials and Sequence-dependence of Production 139 - First Steps to the Digital Shadow of Manufacturing Integration with VR and AR Techniques 172 - Value Chain Integration - A 139 - First Steps to the Digital Shadow of Manufacturing Integration with VR and AR Techniques 177 - Using Service Dominant Logic to Assess the Value Co-creation of Smart 236 - Process Mining in Manufacturing: Scheduling Problem Consisting 14:15 - 14:35 Digitalization in Manufacturing: All in the Manufacturing of Transition Services 190 - The Role of Service Business Models 174 - Integrated Platform and Digital Twin 148 - Towards a Non-Disruption			ENTER SESSION			
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Manufacturing: Evidence from Emerging 14:55 - 15:15 Economies Evidence from Emerging 15:15 - 15:30 Economies Evidence from a Delphi Study System			Economies		Dynamic Orchestration of the Shop Floor	
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15:15 - 15:30 Coffee Break (15') - Participants take their coffee and move to the physical (plenary) room				I =	255 - Balancing and Configuration Planning	
					of RMS to Minimize Energy Cost	
ENTER EVENT	15:15 - 15:30	Coffee Break (15') - Participants take their coffee and move to the physical (plenary) room				
		ENTER EVENT				
15:30 - 16:15 Keynote I: Prof. Ivanka Visnjic, Associate Professor of Innovation, ESADE Business School, Spain (45')	15:30 - 16:15					
16:15 - 16:30 Coffee Break (15') - Participants take their coffee and move to the physical (parallel) rooms	16:15 - 16:30	C	offee Break (15') - Participants take their co	fee and move to the physical (parallel) roon	ns	

16:30 - 18:30	Parallel Sessions III			
	ENTER SESSION	ENTER SESSION	ENTER SESSION	ENTER SESSION
Session (20')	(A) Digital Transformation - Part III	(B) Data-Driven Applications	(C) Collaborative Robotics Applications	(D) Reconfig., Flex. & Agile Mfg Part II
Chairs	Vlad Bocanet & Bahrudin Hrnjica	Magnus Wiktorsson & Sang Do Noh	Åsa Fasth-Berglund & Jan Ola	Xavier Delorme & Alexandre Dolgui
	263 - Achieving Business Model Innovation with the Personalized Product Business	110 - Smart Factory Competitiveness based on Real Time Monitoring and Quality Predictive Model Applied to Multi-Stages	223 - A Literature review on the Level of	183 - Towards a Reference Model for Configuration of Reconfigurable
16:30 - 16:50	Model Radar Template	Production Lines	Automation and New Approach Proposal	Manufacturing System (RMS)
16:50 - 17:10	270 - Integrating Electronic Components into 3D Printed Parts to Develop a Digital Manufacturing Approach	160 - A Framework of Data-driven Dynamic Optimisation for Smart Production Logistics		301 - Towards an Industry-Applicable Design Methodology for Developing Reconfigurable Manufacturing
17:10 - 17:30	247 - The Application of ICT Software Solutions in Manufacturing Sector in Serbia	140 - Workforce Assignment with a Different Skill Level for Automotive Parts Assembly Lines	196 - Gripper Types and Components in Robotic Bin Picking	246 - Reconfigurable Digitalized and Servitized Production Systems: Requirements and Challenges
17:30 - 17:50	143 - Retrofit Concept for Textile Production	Contracts for Supplier Selection in a Cloud	227 - A Simulation Analysis of Part Feeding to Assembly Stations with Vertical Robotic Storage and Retrieval Systems	302 - Reconfigurable Manufacturing: Lesson Learnt from the COVID-19 Outbreak
17:50 - 18:10	182 - Smart Contract-based Blockchain Solution to Reduce Supply Chain Risks	169 - Decentralized Industrial IoT Data Management Based on Blockchain and IPFS	220 - Autonomous Mobile Robots in	149 - Assembly Process Design: Performance Evaluation under Ergonomics consideration using several Robot Collaboration Modes
18:10 - 18:30	238 - The Potential of Game Development Platforms for Digital Twins and Virtual Labs: Case Study of an Energy Analytics and Solution Lab	296 - SKOS Tool: A Tool for Creating Knowledge Graphs to Support Semantic Text Classification	225 - Planning Environments of Hospital Laboratories: An Exploratory Study	251 - The Impact of Dynamic Tasks Assignment in Paced Mixed-Model Assembly Line with Moving Workers

	Tuesday 1 September 2020				
10:15 - 12:15	Parallel Sessions IV				
	ENTER SESSION	ENTER SESSION	ENTER SESSION	ENTER SESSION	
Session (20')	(A) Digital Lean Manufacturing	(B) Gastronomic Service System Design	(C) Product & Assets Lifecycle Mgmt.	(D) Blockchain & Logistics 4.0	
Chairs	Daryl Powell & David Romero	Tomomi Nonaka & Nobutada Fujii	Irene Roda & Adalberto Polenghi	Ugljesa Marjanovic & Chiara Cimini	
10:15 - 10:35	131 - A Learning Roadmap for Digital Lean Manufacturing	132 - Human-Robot Hybrid Service System Introduction for Enhancing Labor and Robot Productivity	186 - Exploring Synergies between Circular Economy and Asset Management	249 - Identifying the Opportunities for Enhancing the Digital Readiness Level of the Supply Chain	
	205 - New Forms of Gemba Walks and their Digital Tools in the Digital Lean Manufacturing World	170 - Effectiveness of Vendor Managed Inventory [VMI] in Explosive Inventory Management	218 - A Conceptual Model of the IT Ecosystem for Asset Management in the Global Manufacturing Context	123 - Evaluating a Blockchain-based Supply Chain Purchasing Process through Simulation	
10:55 - 11:15	152 - Investigating the Challenges and Opportunities for Production Planning and Control in Digital Lean Manufacturing	141 - Forecasting Customers Visiting using Machine Learning and Characteristics Analysis with Low Forecasting Accuracy Days	191 - Agent-Based Modeling and Analysis of Dynamic Slab Yard Management in a Steel Factory	193 - Blockchain-based Secured Collaborative Model for Supply Chain Resource Sharing and Visibility	
	266 - Lean Thinking: From the Shop Floor to an Organizational Culture	197 -A Study on Menu Planning Method for Managed Meal - Consideration of the Cost of Ordering Ingredients	199 - Data-driven Maintenance Delivery Framework: Test in an Italian company	112 - A Robust Multi-Commodity Rebalancing Process in Humanitarian Logistics	
11:35 - 11:55	133 - Utilizing Lean Thinking as a Means to Digital Transformation in Service Organizations	293 - Service System Design considering Employee Satisfaction through Introducing Service Robots	187 - Information Flows Supporting Circular Economy Adoption in the Manufacturing Sector	167 - Travel-Times Analysis and Passenger Transport Disutilities in Congested American Cities: Los Angeles, New York, Atlanta, Austin, and Chicago	
	162 - Assessing the Value of Process		273 - Bayesian Modelling for Product	171 - The Role of Last-Mile Delivery in the	
11:55 - 12:15	Improvement Suggestions		Testing and Release	Future of E-commerce	
12:15 - 13:15	Lunch (60')				
	ENTER EVENT				
13:15 - 14:00	Keynote II: Dr. Marco Ulrich, Head of Software Technologies and Applications, ABB Corporate Research, Germany (45')				
14:00 - 14:45	Special Panel I: Women in Production Management (Chairs: Irene Roda, Panellists: MK, MD, GP, RS) (45')				

14:45 - 15:00	Coffee Break (15') - Participants take their coffee and move to the physical (parallel) rooms				
15:00 - 17:00	Parallel Sessions V				
	ENTER SESSION	ENTER SESSION	ENTER SESSION	ENTER SESSION	
Session (20')	(A) Smart Manufacturing & Industry 4.0	(B) Scheduling Methods	(C) The Operator 4.0	(D) Production Logistics 4.0	
	Thorsten Wuest & Boonserm (Serm)				
Chairs	Kulvatunyou	Toshiya Kaihara	David Romero & Johan Stahre	Jannicke Baalsrud & Gregor von Cieminski	
	252 - Smart Products in Smart	203 - Automatic Design of Dispatching	289 - Challenges for the Operator 3.0		
	Manufacturing Systems: An Opportunity to	Rules with Genetic Programming for	Addressed Through the Enabling	248 - Tools for Evaluating Human Factor	
15:00 - 15:20	Utilize AR?	Dynamic Job Shop Scheduling	Technologies of the Operator 4.0	Aspects in Production and Logistics System	
	200 - Manufacturing Operations	209 - A Basic Study on Scheduling Method		147 - Supporting the Decision of the Order	
	Management for Smart Manufacturing - A	for Electric Power Saving of Production	286 - Knowledge Strategies for	Processing Strategy by using Logistic	
15:20 - 15:40	Case Study	Machine	Organisation 4.0	Models: A Case Study	
	276 - Industry 4.0: Maturity of Automotive	180 - A Dynamic Hybrid Berth Allocation		125 - Towards a Unified Reliability-centered	
	Companies in Brazil for the Digitization of	Problem with Routing Constraints in Bulk	240 - Production Management as-a-Service:	Information Logistics Model for Production	
15:40 - 16:00	Processes	Ports	A Softbot Approach	Assets	
	279 - The Impact of Industry 4.0	256 - Towards Interoperable Enterprise Systems - Graph-based Validation of a			
	Connectivity on the Collaboration along	Context-driven Approach for Message	237 - Improving the Safety of Using Didactic	214 - Streaming Analytics in Edge-Cloud	
	Brazilian Automotive Supply Chain	Profiling	Setups by Augmented Reality	Environment for Logistics Processes	
	,	194 - System Architecture Analysis with	, , ,	3	
		Network Index in MBSE Approach -	201 - Facilitating Operator Participation in		
	285 - An Application of a DSML in Industry	Application to Smart Interactive Service	Continuous Improvement: An Investigation	219 - Order Acceptance and Scheduling	
16:20 - 16:40	4.0 Production Processes	with Digital Health Modeling	of Organizational Factors	with a Throughput Diagram	
	292 - Digital Transformation and its		291 - Agent- and Skill-based Process	213 - Production-Storage and Transport	
	Potential Effects on Future Management:		Interoperability for Socio-Technical	Integrated Planning for a Multi-site Mining	
16:40 - 17:00	Insights from an ETO Context		Production Systems-of-Systems	Industry	
17:00 - 18:30	Break to prepare for the Gala Dinner (1.30')				
18:30 - 20:30	Gala Dinner				

	Wednesday 2 September 2020			
10:15 - 12:15	Parallel Sessions VI			
	ENTER SESSION	ENTER SESSION	ENTER SESSION	ENTER SESSION
Session (20')	(A) Sustainable Manufacturing	(B) Quality & Risk Management	(C) Human Resources Management	(D) Food Supply Chains - Part I
Chairs	Ralph Riedel & Bojan Lalić	Milan Delic & Ugljesa Marjanovic	David Romero & Johan Stahre	Irenilza de Alencar Nääs & João Mendes
10:15 - 10:35	280 - Towards Sustainability: The Manufacturers' Perspective	231 - Questionnaire Model for Paraconsistent Quality Assessment of Software Developed in Sales Force	234 - Gamification of Operational Tasks in Manufacturing - A Literature Review	116 - Food Bank: A Proposal for Short Agri- Food Chains
10:35 - 10:55	275 - A Methodology to Integrate Sustainability Evaluations into Vendor	290 - An Improvement in Master Surgical Scheduling using Artificial Neural Network and Fuzzy Programming Approach	264 - Evaluation of Augmented Reality in Industry	155 - The New Frontiers in World Soybean Production: An Analysis of Savanna in Piaui, Brazil
10:55 - 11:15	128 - Application of Virtual Reality Technologies for Achieving Energy Efficient Manufacturing: Literature Analysis and Findings	226 - Insights from a Top-Down Lean Subprogram Deployment in a Corporate Group: The Use of Deployment Tactics	109 - Virtual and Augmented Reality as a Digital Support to HR systems in Production Management	212 - Prediction of Cold Chain Transport Conditions using Data Mining
11:15 - 11:25	129 - Characterization of Energy Consumers in Production Systems with Renewable On- site Power Generation	5	221 - The Interdependencies of Quality Management, Knowledge Management and Innovation Performance: A Literature Review	230 - Economic and Environmental Performance in Coffee Supply Chains: A Brazilian Case Study
11:35 - 11:55	137 - Sustainable Business Model Innovation in Furniture Supply Chain: A	229 - De-Risking Investments in Industrial Systems using Real Options Analysis: Case of Chemical Industry	117 - The Use of Organizational Innovation Concepts in Manufacturing Companies	259 - Managing Perishable Multi-Product Inventory with Supplier Fill-Rate, Price Reduction and Substitution
11:55 - 12:15	,	134 - On the Need of Functional Priority and Failure Risk Assessment to Optimize Human Resource Allocation in Public Service Organizations	284 - Interorganizational Learning in Manufacturing Industry	165 - Potential Benefits of Reverse Blending in the Fertilizer Industry
12:15 - 13:15	Lunch (60')			
	ENTER EVENT			
13:15 - 14:00	Keynote Ill: Prof. Jin Chen, Professor of Innovation Management, Tsinghua University, China (45')			
14:00 - 14:45	Special Panel II: Digital Transformation and the Social Factory of Things, Services and People (Chair: Gregor Von Cieminski, Panellist: IR, PG, DR, TW) (45')			

14:45 - 15:00	Coffee Break (15') - Participants take their coffee and move to the physical (parallel) rooms				
15:00 - 17:00	Parallel Sessions VII				
	ENTER SESSION	ENTER SESSION	ENTER SESSION	ENTER SESSION	
Session (20')	(A) Circular Manufacturing	(B) Assembly Systems 4.0	(C) ETO Manufacturing	(D) Food Supply Chains - Part II	
Chairs	Mélanie Despeisse & Federica Acerbi	Vidosav Majstorovic & Åsa Fasth-Berglund	Erlend Alfnes & Martin Rudberg	João Mendes & Irenilza de Alencar Nääs	
15:00 - 15:20	287 - Economy and its Symbiosis with Circularity	136 - Assembly Issue Resolution System using Machine Learning in Aero Engine Manufacturing	118 - Factors Affecting Shipyard Operations and Logistics: A Framework and Comparison of Shipbuilding Approaches	295 - Principles and Research Agenda for Sustainable, Data-Driven Food Production Planning and Control	
15:20 - 15:40	243 - Knowledge and Practices towards Sustainability and Circular Economy Transitions: A Norwegian Manufacturing Perspective	175 - A Simulation Model Supporting the Production Optimization for High-Precision Machines Assembly	122 -Exploring the Path Towards Construction 4.0: Collaborative Networks & Enterprise Architecture Views	299 - Digital Technology Enablers for Resilient and Customer Driven Food Value Chains	
15:40 - 16:00	298 - Finding and Capturing Value in e- Waste for Refrigerators Manufacturers & Recyclers	244 - Cycle Time Estimation Model for Hybrid Assembly Stations based on Digital Twin Concept	119 - Using the Smartphone as an Augmented Reality Device in ETO Industry	154 - Software-based Assistance System for Decision Support on Supply Chain Level	
16:00 - 16:20	303 - Changeable Closed-Loop Manufacturing Systems: A Case Study of Challenges in Product Take-Back	260 - A Stochastic Model for a Two-level Disassembly Lot-sizing Problem under Random Lead Time	188 - Planning Procurement Activities in ETO Projects	226 - Environmental Impact Classification of Perishable On-road Transport using Data Mining	
16:20 - 16:40	157 - The Potential for Purchasing function to Enhance Circular Economy Business Models for ETO Production	265 - Introduction to Material Feeding 4.0: Strategic, Tactical, and Operational Impact	208 - Maturity Model for Successful Cost Transformation in ETO Companies		
	211 - Sustainability in Fabric Chains and Garments for a Circular Economy	250 - Data-driven Replenishment Method Choice in a Picking System	242 - Cross-Functional Coordination before and after the CODP: An Empirical Study in the Machinery Industry		
17:00 - 17:15	Coffee Break (15') - Participants take their coffee and move to the physical (plenary) room				
	CLOSING CEREMONY				
17:15 - 17:45	Closing Ceremony (30')				