



Provisional programme

June 18th, 2024 / Welcome reception

From 17:30	Welcome reception and early registration at the 'Castello del Valentino', Viale Pier Andrea Mattioli 39, Torino
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June 19th, 2024 / Morning session (plenary)

Timetable	Room: Aula Magna Politecnico di Torino, Corso Duca degli Abruzzi 24, Torino
08:00 - 09:30	Registration
09:30 - 10:30	Opening ceremony
10:30 - 11:00	Coffee break
11:00 - 11:30	Keynote speech #1: <i>Life cycle engineering as a pathway to achieving net-zero targets</i> Sami Kara, Michael Hauschild
11:30 - 12:00	Keynote speech #2: <i>The new Ecodesign for Sustainable Products Regulation (ESPR): key scientific considerations for a methodology for the definition of product requirements</i> Chiara Magrini
12:00 - 12:30	Keynote speech #3: <i>Targeting environmental sustainability goals in the aviation industry: a multi-dimensional problem</i> Luca Bedon
12:30 - 12:45	Logistics and information
12:45 - 13:00	Transfer to conference rooms
13:00 - 14:20	Lunch break

June 19th, 2024 / Afternoon sessions (continued on next page)

Timetable		Room: 1 I Session #1 Life Cycle Assessment	Room: 3 I Session #2 Circular Economy	Room: 5 I Session #3 Design for sustainability	Room: 7 I Session #4 Disassembly and remanufacturing
14:20 - 16:00	14:20	PROCIR-D-23-00704 <i>Comparative life cycle assessment of aluminium scrap treatment strategies</i> <u>S. Van den Eynde</u> , D. Van Herck, E. Bracquené, J. Duflou, J. Peeters	PROCIR-D-23-00432 <i>Collaboration platform for enabling industrial symbiosis: Integrated knowledge graph database</i> <u>P. Grimmel</u> , C. Fu Tan, J.F. Niemeyer, Z. Yeo, M. Mennenga, M. Hermsen, S. Yajuan, Z. Yang, C. Herrmann	PROCIR-D-23-00681 <i>"Augmented" eco-design thanks to the methodological drivers of the "Usefulness Thinking" approach</i> <u>O. Pialot</u> , D. Millet	PROCIR-D-23-00353 <i>6D pose estimation on point cloud data through prior knowledge integration: a case study in autonomous disassembly</i> <u>C. Wu</u> , H. Fu, J.-P. Kaiser, E. Tabuchi Barczak, J. Pfrommer, G. Lanza, M. Heizmann, J. Beyerer
	14:40	PROCIR-D-23-00281 <i>Comparative life cycle assessment of photovoltaic systems: An evaluation of environmental impacts over time</i> H. Hottenroth, <u>T. Viere</u>	PROCIR-D-23-00386 <i>Circular economy strategies for permanent magnet motors in electric vehicles: Application of SWOT</i> <u>E. Taheri</u> , G. Sauve, K. Van Acker	PROCIR-D-23-00306 <i>A sustainability-driven comparison of methods for the identification of lightweight design potentials in product generation engineering</i> <u>K. König</u> , J. Mathieu, M. Vielhaber	PROCIR-D-23-00624 <i>Analysis of reparability index to improve disassemblability and serviceability in cooker hoods</i> <u>N. Boix Rodríguez</u> , L. Chiastra, J.R. Peeters, C. Favi
	15:00	PROCIR-D-23-00440 <i>Data from start to finish: A System Life Cycle Data Map</i> <u>D. Tissen</u> , I. Wiederkehr, C. Koldewey, R. Dumitrescu	PROCIR-D-23-00421 <i>Circular economy for medical devices: A case study of syringes</i> <u>B. Quronfuleh</u> , D. Sleath, S. Rahimifard	PROCIR-D-23-00412 <i>Analysis of the Interrelationships between lightweight design and design for sustainability</i> <u>K. König</u> , M. Vielhaber	PROCIR-D-23-00111 <i>Automated disassembly of battery systems to battery modules</i> <u>A. AlAssadi</u> , T. Götz, A. Gebhardt, O. Mannus, B. Meese, J. Wanner, S. Singh, L. Halt, P. Birke, A. Sauer
	15:20	PROCIR-D-23-00701 <i>Dynamic life cycle assessment framework of cold food storage facilities</i> K. Shen, N. Bolis, C. Yuan, R. Donovan, G.-P. Li, <u>B. Li</u>	PROCIR-D-23-00373 <i>Conceptualization of a methodology for circular value creation in SMEs in one-off production</i> W. Boos, G. Lukas, J. Trisjono, T. Eberius, <u>L. Klisch</u>	PROCIR-D-23-00451 <i>Deep CAD shape recognition for carbon footprint estimation at the design stage</i> <u>T. Hasebe</u> , E. Katayama, K. Yoshiteru	PROCIR-D-23-00488 <i>Comparative performance evaluation of one-stage and two-stage object detectors for screw head detection and classification in disassembly processes</i> <u>B. Karbouj</u> , G.A. Topalian-Rivas, J. Krüger
	15:40	PROCIR-D-23-00590 <i>Estimating the environmental impact of Generative-AI services using an LCA-based methodology</i> <u>A. Berthelot</u> , E. Caron, M. Jay, L. Lefèvre	PROCIR-D-23-00436 <i>Development of an industrial symbiosis framework through digitalization in the context of Industry 4.0</i> S. V Iyer, <u>K. Singh Sangwan</u> , <u>D. Sangwan</u>	PROCIR-D-23-00452 <i>Design for circularity: A framework for sustainable product redesign</i> <u>E. SH Tan</u> , A. Wei Lun Lee, Y. Chandra Shekar, Y. Shee Tan	PROCIR-D-23-00390 <i>Concept for a data-based approach to support decision-making in tactical tasks for planning disassembly systems</i> <u>P. Jordan</u> , S. Kroeger, L. Streibel, S. Vernim, M.F. Zaeh
16:00 - 16:20	Coffee break				

June 19th, 2024 / Afternoon sessions (continued from previous page)

Timetable	Room: 1 I Session #5 Life Cycle Assessment	Room: 3 I Session #6 Circular Economy	Room: 5 I Session #7 Design for sustainability	Room: 7 I Session #8 Disassembly and remanufacturing
16:20 - 18:00	16:20 PROCIR-D-23-00678 <i>Evaluating LCA product families in an approach to determine baseline emissions within aerospace manufacturing</i> R. Cox, R. Sai Reddy Venkatapuram, M. Afy-Shararah, J.L. Carter, J. Artingstall, K. Salonitis (Presented by: <u>Y. Y. Atescan</u>)	PROCIR-D-23-00626 <i>Implementation of LCA in the circular economy context: Methodological issues for application in PET packaging</i> C. Caelli, F. Arfelli, <u>F. Caraceni</u> , D. Cespi, M. Cordara, C. Brondi, A. Ballarino	PROCIR-D-23-00446 <i>Development of a voxel-based CAD system for upstream life cycle design and its application to LCA</i> <u>K. Hoshiba</u> , H. Arai, S. Fukushige	PROCIR-D-23-00483 <i>Development and validation of a model for operationally seized bolted joints for the research on gentle bolt disassembly</i> <u>R. Blümel</u> , A. Raatz
	16:40 PROCIR-D-23-00707 <i>Integrated consideration of data flows and life cycle assessment in vehicle dismantling processes</i> <u>J. Mügge</u> , A. Seegrün, L. Faßbender, T. Riedelheimer, P. Staufenbiel, K. Lindow	PROCIR-D-23-00649 <i>Framework for a circular economy business enabled by digital platforms: A review</i> <u>M. Tsunegawa</u> , K. Sugiyama, T. Watanabe, Y. Kishita, Y. Umeda	PROCIR-D-23-00702 <i>Ecodesign approach for complex systems – Electric vehicle case study</i> <u>N. Tchertchian</u> , T.R. de la Tour, D. Millet, R. Chenouard	PROCIR-D-23-00585 <i>Disassembly analysis of hot-melt adhesive in mechanical joints</i> <u>C. Favi</u> , F. Moroni, A.H.A. Lutey, N. Boix Rodriguez
	17:00 PROCIR-D-23-00651 <i>Integrating LCA data and expertise into sustainable product development</i> S. Meijer, <u>M. Toxopeus</u> , F. Bruns	PROCIR-D-23-00627 <i>Functional unit definition in a circular economy perspective: implication for LCA normalisation for a footwear outsole</i> <u>F. Caraceni</u> , M. Cordara, C. Caelli, C. Brondi, F. Airoidi, A. Ballarino	PROCIR-D-23-00325 <i>Ecodesign strategies for packaging: a simplified approach to evaluate environmental benefits</i> <u>M. Rossi</u> , F. Cappelletti, L. Manuguerra, M. Mundo, M. Germani	PROCIR-D-23-00600 <i>Dismantling and remanufacturing strategies in the automotive sector</i> <u>R. Haase</u> , D. Farioli, R. Selbmann, M. Werner, V. Kräusel
	17:20 PROCIR-D-23-00623 <i>LCA analysis of a freestanding cooker: environmental assessment and comparison with other cooking appliances</i> <u>S. Brahem</u> , N. Boix Rodríguez, C. Favi	PROCIR-D-23-00270 <i>Efficient data acquisition for traceability and analytics</i> <u>H. Reinhardt</u> , M. Mahdaviasl, B. Prell, A. Mauersberger, P. Klimant, J. Reiff-Stephan, S. Ihlenfeldt	PROCIR-D-23-00319 <i>Enhancing life cycle assessment framework to support product ecodesign through index decomposition analysis</i> <u>A. Wei Lun Lee</u> , Y. Shee Tan, J. Sze Choong Low	PROCIR-D-23-00309 <i>New approach for detecting smartphones securely for disassembly tasks</i> <u>M. Bryg</u> , S. Volz, M. Lochner, L. Vidal, T. Bertram, M. Kipfmüller
	17:40 PROCIR-D-23-00458 <i>Life cycle assessment of a telematics box with ICT impact allocation and quantification – Application to precision agriculture technology and robotics</i> <u>M. Saidani</u> , A. Bolowich, S. Bednářová, T. Navarrete Gutiérrez, E. Benetto	PROCIR-D-23-00118 <i>Multi-dimensional and multi-level assessment of circular economy strategies in manufacturing systems</i> <u>C. Castiglione</u> , E. Pastore, A. Alfieri	PROCIR-D-23-00625 <i>Leading LCA result interpretation towards efficient ecodesign strategies for power electronics: The case of DC-DC buck converters</i> <u>L. Fang</u> , E. Quisbert-Trujillo, P. Lefranc, M. Rio	PROCIR-D-23-00632 <i>Sorting of packaging waste: A framework to link gripper technologies and waste classes</i> <u>B. Engelen</u> , J.R. Peeters, K. Kellens

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Timetable		Room: 1 I Session #9: Life Cycle Assessment	Room: 3 I Session #10 Circular Economy	Room: 5 I Session #11 Design for sustainability	Room: 7 I Session #12: Product-as-a-Service for CRMs
09:00 - 10:40	09:00	PROCIR-D-23-00429 <i>Life cycle assessment of various initiatives towards sustainable plastic packaging</i> <u>N. Vassallo</u> , P. Refalo	PROCIR-D-23-00641 <i>Non destructive control of permanent magnet rotors in a perspective of electric motor circularity</i> <u>A. Sagna</u> , G. Mansour, S. Clenet, N. Perry	PROCIR-D-23-00619 <i>Methods for the environmental and economic assessment in early product design – A case study-based overview for wind turbines in urban areas</i> M. Zumpe, <u>M. Stange</u> , A. Burak Ertem, M. Süße, S. Ihlenfeldt	PROCIR-D-23-00438 <i>Exploring the incentives for initiating remanufacturing: experiences from eight European original equipment manufacturers</i> <u>J. Vogt Duberg</u> , E. Sundin, J. Kurilova-Palisaitiene
	09:20	PROCIR-D-23-00264 <i>Life cycle carbon emissions of China's passenger vehicle sector: a fleet-based study</i> Z. Guo, S. Peng, <u>H. Zhang</u> , T. Li, W. Liu	PROCIR-D-23-00112 <i>Reverse-engineering for improved end-of-life and circularity of PLA beverage cups</i> <u>S. Zürn</u> , M. Dieterle	PROCIR-D-23-00638 <i>Model-based systems engineering for sustainable factory design</i> <u>A. Asghar Bataleblu</u> , E. Rauch, J. Fitch, D.S. Cochran	PROCIR-D-23-00457 <i>An exploratory study for product-as-a-service (PaaS) business model development for electrical and electronic equipment</i> <u>J. Hidalgo-Crespo</u> , A. Riel, J. Vogt Duberg, A. Bunodiére, P. Golinska-Dawson
	09:40	PROCIR-D-23-00263 <i>Preliminary results from life cycle assessment of a product-service system for tailpipe particle measuring</i> <u>K. Rüdtele</u> , M. Wolf, B. Ivantsits, C. Ramsauer	PROCIR-D-23-00933 <i>Reviewing circularity indicators for a sustainable transition to a circular economy</i> <u>B. Bahramimianrood</u> , S. Xie, M. Malaibari, S. Abdoli	PROCIR-D-23-00334 <i>Supporting sustainable product design with engineering data management capabilities</i> S. Weber, <u>S. Forte</u> , T. Dickopf, L. Kirsch, C. Apostolov	PROCIR-D-23-00607 <i>Robotic ease of Disassembly Metric (Re-DiM) for human robot cooperative disassembly: A case study for a vacuum cleaner</i> <u>T. Pulikottil</u> , N. Boix Rodríguez, J.R. Peeters
	10:00	PROCIR-D-23-00710 <i>Life-cycle assessment of a composite railway bogie frame</i> <u>K. Iyer</u> , P. Wennhage, M. Åkermo	PROCIR-D-23-00693 <i>Summer school on circular economy for sustainable manufacturing: A case study and lessons learned</i> <u>H. Ben Rejeb</u> , E. Muxika, P. Ghadimi	PROCIR-D-23-00408 <i>Towards ecodesign for upscaling: An illustrative case study on photovoltaic technology in France</i> <u>L. Riondet</u> , M. Rio, V. Perrot-Bernardet, P. Zwolinski	PROCIR-D-23-00901 <i>Assessment of the maturity of product-as-a-service business models for household appliances from the perspective of R strategies in Circular Economy</i> <u>P. Golinska-Dawson</u> , Z. Zysnarska, A. Pender
	10:20	PROCIR-D-23-00615 <i>Linking dynamics in consumer behavior and product life cycles in environmental assessments of shared mobility systems: A literature review</i> <u>C. Clemm</u> , T. Watanabe, Y. Kishita	PROCIR-D-23-00611 <i>Towards a service-oriented architecture for information systems in the circular economy</i> <u>R.H. Reich</u> , L. Alaerts, K. Van Acker	PROCIR-D-23-00616 <i>Towards practicality: Navigating challenges in designing predictive-reactive scheduling</i> <u>F. Erlenbusch</u> , N. Stricker	PROCIR-D-23-00683 <i>A new method for simulation modelling of leaner remanufacturing in PaaS settings</i> <u>P. Pawlewski</u> , P. Golinska-Dawson
10:40 - 11:00	Coffee break				

June 20th, 2024 / Morning sessions (continued from previous page)

Timetable		Room: 1 I Session #13 Life Cycle Assessment	Room: 3 I Session #14 Sustainability of additive manufacturing	Room: 5 I Session #15 Environmental sustainability	Room: 7 I Session #16 Human/Social Manufacturing
11:00 - 12:40	11:00	PROCIR-D-23-00357 <i>Methodology for qualifying the use of green steel in body components: A contribution to the life cycle engineering of steel</i> E. Gebhard Vogt, L. Gebel, C. Meyer, M. Mennenga, C. Herrmann	PROCIR-D-23-00637 <i>An ontology-based knowledge modeling towards eco-design for additive manufacturing</i> Y. Wang, T. Peng, S. Kim, Y. Xiong, Y. Tang, R. Tang	PROCIR-D-23-00403 <i>Advanced sustainability action plan: Supporting manufacturing SMEs on a sustainability pathway</i> N. Kononova, M. Juraschek, M. Kohlgrüber, C. Herrmann	PROCIR-D-23-00531 <i>Development of a human centric cyber physical production system framework for enhanced social sustainability</i> R. Kumar, K. Singh Sangwan, C. Herrmann, D. Sangwan, T. Chandra Bera
	11:20	PROCIR-D-23-00361 <i>On the intersection between prospective LCA and patent analysis. A theoretical discussion</i> C. Spreafico, D. Landi, D. Russo	PROCIR-D-23-00578 <i>Assessing the potential for additive manufacturable spare parts in the railway industry by a data-driven framework</i> S. Keckeis, C. Karner, M. Riester	PROCIR-D-23-00445 <i>Challenges and missing links to assess absolute environmental sustainability</i> N.J. Katzer, J.-P. Schöggel, R.J. Baumgartner	PROCIR-D-23-00708 <i>Enhancing operator health and safety in manufacturing: An intelligent digital humanization approach</i> A. Simeone, G. Bica, P.C. Priarone, L. Settineri
	11:40	PROCIR-D-23-00633 <i>Performing a life cycle assessment for self-service devices: A case study of self-checkout</i> L. Bosch, S. Yang, D. Hofste, I. Gibson, S. Thiede	PROCIR-D-23-00676 <i>Comparative life cycle assessment of molding process and 3D printing of high-performance long-fiber reinforced composites</i> M. Andreozzi, A. Forcelllese, S. Gentili, T. Mancina, T. Verdini (Presented by: A. Vita)	PROCIR-D-23-00589 <i>Challenges and opportunities of automated data pipelines for environmental sustainability applications in industrial manufacturing</i> T. Schmitt, R. Bejarano, C. Assuad	PROCIR-D-23-00444 <i>Managing material, information and human flows in circular manufacturing systems with the help of emerging digital technologies</i> M. Denu, P. David, A. Landry, F. Mangione
	12:00	PROCIR-D-23-00950 <i>Strategic planning of reconfigurable industrial systems and value chains: A life cycle conceptual model</i> A. Napoleone	PROCIR-D-23-00154 <i>Development of an extraction hood for efficient chip collection during the finishing process of FFF 3D printed parts</i> J. Wolf, J. Gerold, H.-C. Möhring	PROCIR-D-23-00394 <i>Context-based derivation of holistic sustainability requirements in the early phase of product development</i> F. Rusch, N. Demke, W. Willems, F. Mantwill	PROCIR-D-23-00620 <i>Surveying the landscape of human-centric manufacturing in Lombardy: insights from the practices and perspectives of Italian enterprises</i> G. Locatelli, D. Pasanisi, V. Pesenti, M. Quarto, G. D'Urso, F. Floreani
	12:20	PROCIR-D-23-00699 <i>What's in this LCA report? A case study on harnessing large language models to support designers in understanding life cycle reports</i> N. Goridkov, Y. Wang, K. Goucher-Lambert	PROCIR-D-23-00292 <i>Evaluating the environmental impact of additive manufacturing: A methodology to determine the environmental impact of parts manufactured by high-speed laser directed energy deposition</i> S. Ehmsen, M. Klar, J.C. Aurich	PROCIR-D-23-00694 <i>Environmental sustainability of vitrimer-based composite materials</i> I. Bianchi, L. Greco, C. Mignanelli, M. Simoncini, A. Vita	PROCIR-D-23-00371 <i>The impacts of industrial safety on environmental sustainability in human-robot-collaboration within Industry 5.0</i> A. Bonello, P. Refalo, E. Francalanza
12:40 - 14:00	Lunch break				

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Timetable	Room: 1 I Session #17 Machine learning	Room: 3 I Session #18 Sustainability of additive manufacturing	Room: 5 I Session #19 Environmental sustainability	Room: 7 I Session #20 Batteries lifecycle
14:00 - 15:40	14:00 PROCIR-D-23-00338 <i>Development of a machine learning model that represents the characteristics of a manufacturing systems</i> <u>M. Klar</u> , P. Rüdiger, M. Scheidt, M. Hussong, M. Glatt, B. Ravani, J.C. Aurich	PROCIR-D-23-00428 <i>Gear up for change: Unveiling 3D printing's potential for appliance repair through dynamic testing of gears</i> <u>A. Bunodiére</u> , B. Hendrickx, M. Mertens, J. Duflou	PROCIR-D-23-00579 <i>Inclusive manufacturing through the application of lean tools to sustainability issues</i> <u>D. Antonelli</u> , D. Stadnicka, P. Litwin	PROCIR-D-23-00900 <i>A study on the cradle-to-gate environmental impacts of automotive Lithium-ion batteries</i> <u>A. Accardo</u> , G. Dotelli, E. Spessa
	14:20 PROCIR-D-23-00564 <i>Gamification of resource consumption monitoring of products and machines: a cross-platform and user-friendly approach</i> <u>L. Arnemann</u> , S. Lemes Galera, S. Winter, B. Schleich	PROCIR-D-23-00474 <i>LCA and LCC of wire arc additively manufactured and repaired parts compared to conventional fabrication techniques</i> <u>V. Pusateri</u> , S.I. Olsen	PROCIR-D-23-00565 <i>Integrating sustainability requirements into product development based on sustainability reporting frameworks</i> <u>N. Quernheim</u> , B. Schleich	PROCIR-D-23-00401 <i>Derivation of requirements for life cycle assessment-related information to be integrated in digital battery passports</i> <u>J. Haupt</u> , F. Cerdas, C. Herrmann
	14:40 PROCIR-D-23-00510 <i>Improved quality control and sustainability in food production by machine learning</i> <u>S. Puttero</u> , E. Verna, G. Genta, M. Galetto	PROCIR-D-23-00685 <i>LCA comparing 3D printed splints to conventional splints for traumatic injuries</i> H. Verschoor, <u>M. Toxopeus</u> , G. Tuijthof, S. Altnji, V. Stirter	PROCIR-D-23-00278 <i>Investigation of alternative attention modules in transformer models for remaining useful life predictions: addressing challenges in high-frequency time-series data</i> <u>E. Boos</u> , J. Zimmermann, H. Wiemer, S. Ihlenfeldt	PROCIR-D-23-00283 <i>Design of battery supply chains under consideration of environmental and socio-economic criteria</i> <u>J.-L. Popien</u> , J. Husmann, T. Echternach, A. Barke, F. Cerdas, C. Herrmann, T.S. Spengler
	15:00 PROCIR-D-23-00671 <i>Innovative refrigeration technology for machine tools with sustainable refrigerants and digital twins</i> <u>M. Bani-Hani</u> , T. Stemmler, F. Opferkuch, N. Hanenkamp	PROCIR-D-23-00597 <i>Life cycle assessment of additively manufactured indexable milling tools with adapted cutting fluid supply</i> <u>T. Kelliger</u> , M. Meurer, T. Bergs	PROCIR-D-23-00367 <i>Pneumatic fault monitoring and control for sustainable compressed air systems</i> <u>M. Borg</u> , P. Refalo, E. Francalanza	PROCIR-D-23-00643 <i>Developing a methodological framework for assessing absolute sustainability in battery upscaling within planetary boundaries</i> <u>T. Lavisse</u> , R. Panariello, F. Perdu, S. Rolère, P. Zwolinski
	15:20 PROCIR-D-23-00711 <i>Tool fracture detection in electromechanical broaching through machine sensor</i> S. Sendino, <u>L. Sastoque-Pinilla</u> , A. del Olmo, L.N. López de Lacalle	PROCIR-D-23-00617 <i>Simplified primary energy models for the selection of Electron Beam Melting over turning in the production of titanium alloys components</i> G. Ingarao, D. Ruggirello, D. Palmeri, <u>R. Di Lorenzo</u> , L. Fratini	PROCIR-D-23-00670 <i>Toward a quasi-satisficing sustainable manufacturing.</i> <u>A.A. Bruzzone</u>	PROCIR-D-23-00346 <i>End of Life focused data model for a digital battery passport</i> <u>J. Ott</u> , J.-P. Schoeggl, R.J. Baumgartner
15:40 - 16:00	Coffee break			

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Timetable	Room: 1 I Session #21 Management of sustainability	Room: 3 I Session #22 Decision making tools	Room: 5 I Session #23 Sustainable manufacturing systems	Room: 7 I Session #24 Batteries lifecycle
16:00 - 17:40	16:00 PROCIR-D-23-00522 <i>A method for identifying use cases in data-driven product management</i> T. Fichtler, L. Kirchberg, K. Grigoryan, C. Koldewey, R. Dumitrescu	PROCIR-D-23-00381 <i>Decision tree approach based on food waste valorisation pathways: A case study on moisture content level of spent coffee grounds in Singapore</i> Z. Jian Lee, S. Ying Chung, A. Wei Lun Lee, Y. Shee Tan	PROCIR-D-23-00199 <i>An economic evaluation of hybrid WAAM-subtractive manufacturing in relation to deposition process parameters</i> A.R. Catalano, P.C. Priarone, L. Settineri	PROCIR-D-23-00348 <i>Extended Kaya identity for primary and secondary material production for Lithium-ion batteries</i> S. Blömeke, J. Husmann, F. Cerdas, C. Herrmann
	16:20 PROCIR-D-23-00109 <i>A serious maintenance management game for decision-making on digitized railway assets</i> A. Kok, J.-j Moerman, W. Haanstra, A. Martinetti, J. Braaksma	PROCIR-D-23-00588 <i>Green gateways: A concept for decisions in circular-oriented economies</i> N. Frigerio, B. Tan, A. Matta	PROCIR-D-23-00268 <i>Enabling product carbon footprint management in the material extrusion process</i> S. Winter, J.O. Osterod, B. Schleich	PROCIR-D-23-00335 <i>Laser-based battery pack disassembly: A compact benchmark analysis for separation technologies</i> M. Rettenmeier, A. Sauer, M. Möller
	16:40 PROCIR-D-23-00673 <i>A unit product energy mapping framework for operation management in manufacturing industries</i> Y. Atescan Yuksek, Y. Haddad, R. Cox, K. Salonitis	PROCIR-D-23-00684 <i>Life Cycle Assessment (LCA) e Multi Criteria Decision Analysis (MCDA) of eco-friendly packaging for dairy products and fourth range</i> M.P. Desole, A. Gisario, M. Barletta	PROCIR-D-23-00650 <i>Energy consumption and unit process emissions in laser removal of diamond-like coatings from tooling</i> M. Tajuddin Reduan, P. T. Mativenga	PROCIR-D-23-00905 <i>Reevaluating the land use impact of a Li-ion battery related mining project, A case study of greenbushes mine</i> S. Khakmardan, T. T. Werner, R. Crawford, W. Li
	17:00 PROCIR-D-23-00742 <i>An integrated decision-making process for sustainable supplier selection and order allocation in the automotive industry</i> P. Ghadimi, K. Sar, A. Hossein Azadnia	PROCIR-D-23-00360 <i>Parametric LCA integrating a product's state of health: A decision-making tool based on environmental impact in the context of circular strategy</i> C. Wandji, H. Ben Rejeb, A. Riel, P. Zwolinski	PROCIR-D-23-00332 <i>Environmental assessment of metal chip recycling – Quantification of mechanical processing's global warming potential</i> C. Rietdorf, S. Ziehn, S.M. Giunta, R. Miehe, A. Sauer	PROCIR-D-23-00300 <i>A standardized data model for the battery passport: Paving the way for sustainable battery management</i> M. Gianvincenzi, M. Marconi, E.M. Mosconi, F. Tola
	17:20 PROCIR-D-23-00631 <i>Data quality in environmental assessment methods – Implications for the operational management in manufacturing</i> J. Elsner, H. Brings, F. Sohnius, R.H. Schmitt	PROCIR-D-23-00472 <i>The Circular Digital Cockpit: Towards an actionable framework for life cycle circularity assessment and decision</i> B. Yannou, G. Bouillass, M. Saidani, M. Jankovic	PROCIR-D-23-00430 <i>On the performance of cryogenic technology in milling of hardened H13 tool steel</i> A. Damir, A. Sadek, H. Attia	PROCIR-D-23-00317 <i>Sustainability implications of establishing a circular European supply chain of battery materials</i> J. Husmann, J.-L. Popien, F. Cerdas, A. Barke, T.S. Spengler, C. Herrmann
From 19:00	Conference dinner at the 'Museo Nazionale del Risorgimento Italiano', Palazzo Carignano, Piazza Carlo Alberto 8, Torino			

June 21st, 2024 / Morning sessions (continued on next page)

Timetable	Room: 1 I Session #25 Management of sustainability	Room: 3 I Session #26 Energy/Efficiency	Room: 5 I Session #27 Sustainable manufacturing systems	Room: 7 I Session #28 Optimization towards sustainability
09:00 - 10:40	<p>09:00 PROCIR-D-23-00592 <i>From Engineering Change to Enterprise Change Management: An empirical study on CM2 processes in the automotive industry</i> R. Gangl, T. Gollmann, <u>T. Gruchmann</u></p>	<p>PROCIR-D-23-00647 <i>Balancing energy and material efficiency in green hydrogen production via water electrolysis</i> M. Lejeune, R. Daiyan, M.Z. Hauschild, <u>S. Kara</u></p>	<p>PROCIR-D-23-00690 <i>Online carbon emissions auto-accounting approach in aluminum casting production</i> Z. Wang, J. Wu, Y. Wang, X. Zhang, <u>T. Peng</u>, W. Liu, R. Tang</p>	<p>PROCIR-D-23-00391 <i>A comparative study of ϵ-constraint, LP-metric, and weighted sum multi-objective optimization methods in a circular economy</i> V. Poonia, <u>R. Kulshrestha</u>, K. Singh Sangwan</p>
	<p>09:20 PROCIR-D-23-00820R <i>Leveraging digital solutions for enhanced sustainability management in production systems: a case study in Baden-Württemberg</i> <u>R. Camargo Garcia</u>, D. Koch, S. Steinmeier</p>	<p>PROCIR-D-23-00257 <i>Forecasting rare earth element demands for clean energy technologies with the Bass diffusion model</i> N. Mathur, T. Maani, C. Rong, <u>J.W. Sutherland</u></p>	<p>PROCIR-D-23-00406 <i>Preliminary environmental and economic assessment of mineral carbonation of steel slags as a carbon capture, utilization and storage technology</i> <u>P. Watjanatepin</u>, L. Steinwider , A. de Schutter, N. Miladinović, G. Granata, S. Vicca, T. Van Gerven, K. Van Acker</p>	<p>PROCIR-D-23-00586 <i>A multi-objective optimization workflow of ring-rolling process parameters based on production energy and time</i> <u>C. Cappellini</u>, C. Giardini, S. Bocchi</p>
	<p>09:40 PROCIR-D-23-00431 <i>Simulation-based management method for circular manufacturing using response surfaces</i> <u>M. Imai</u>, S. Fukushima</p>	<p>PROCIR-D-23-00409 <i>Analyzing the impact of geographic variability on emissions reduction and cost efficiency in automotive lightweighting strategies</i> <u>P. Krishna Jois</u>, F. Wanielik, J. Grenz, F. Cerdas, C. Herrmann</p>	<p>PROCIR-D-23-00291 <i>Techno-economic assessment of a novel continuous hot-roll process for manufacturing nanograin NdFeB magnets</i> <u>N. Shakelly</u>, J.R. Pérez-Cardona, C. Pan, J. Cui, J. W. Sutherland</p>	<p>PROCIR-D-23-00613 <i>Combining material flow simulation and optimization for sustainable manufacturing – Application in automotive paint shops</i> <u>M. Süße</u>, X. Xie, S. Ihlenfeldt</p>
	<p>10:00 PROCIR-D-23-00320 <i>Streamlining customization and standardization: Improving configuration lifecycle management</i> <u>S. Shafiee</u>, M. Bejlegaard, R. Galocha Rey, A.M. Gordo Ripoll</p>	<p>PROCIR-D-23-00603 <i>Assessment of the most energy consuming items in professional espresso coffee machines</i> <u>L. Gigli</u></p>	<p>PROCIR-D-23-00322 <i>Value-based Identification of eco-effective mitigation options for manufacturing processes</i> <u>N. Mindt</u>, M. Wiese, M. Mennenga, C.Herrmann</p>	<p>PROCIR-D-23-00654 <i>Enabling industrial energy efficiency and flexibility with dynamic simulation-based optimization of manufacturing operations</i> <u>J. Breitschopf</u>, T. Sobottka, G. Zabik, F. Ansari</p>
	<p>10:20 PROCIR-D-23-00443 <i>Understanding the goals and needs for the use of eco-labels in the European railway sector</i> <u>C. Cannappah</u>, W. Haanstra, J. Braaksma</p>	<p>PROCIR-D-23-00672 <i>Reducing energy consumption in secondary aluminum manufacturing through the implementation of improved workflow practices</i> A. Grilli, <u>B. Bras</u></p>	<p>PROCIR-D-23-00634 <i>Approach for the development of a sustainability-oriented implementation strategy of smart automation technologies</i> <u>S. Yang</u>, T. Stempfle, S. Thiede, G. Lanza</p>	<p>PROCIR-D-23-00741 <i>Experimental characterization of energy consumption in 5-axis milling machine and developing optimization strategy</i> <u>S. Kumar Maurya</u>, G. Campatelli, M. Veracini</p>
10:40 - 11:00	Coffee break			

June 21st, 2024 / Morning sessions (continued from the previous page)

Timetable		Room: 1 I Session #29 Quality and product/service systems	Room: 3 I Session #30 Reuse and recycle	Room: 5 I Session #31 Sustainable manufacturing systems	Room: 7 I Session #32 Optimization towards sustainability
11:00 - 12:40	11:00	PROCIR-D-23-00485 <i>3D point cloud analysis for surface quality inspection: A steel parts use case</i> M. Ntoulmeris, P. Catti, <u>S. Discepolo</u> , W. van de Kamp, P. Castellini, N. Nikolakis, K. Alexopoulos	PROCIR-D-23-00422 <i>A circular economy for reusable plastic packaging: Digital assessment for cleaning assurance</i> <u>E. Woolley</u> , S. Nahar, A. Simeone, K. Lee, G.T. Wilson	PROCIR-D-23-00712 <i>Energy demand and manufacturing system performance – A data-based modelling approach towards deeper understanding and integrated improvement.</i> <u>S. Thiede</u> , R. Anijs	PROCIR-D-23-00573 <i>Integrated costs and environmental impacts optimization for production of a multi-material component</i> F. Borda, G. Ambrogio, L. Filice, <u>F. Gagliardi</u>
	11:20	PROCIR-D-23-00680 <i>Data-driven model for CMM probe calibration to enhance inspection efficiency and sustainability</i> <u>S. Kugunavar</u> , S. V Iyer, K. Singh Sangwan, T. Chandra Bera	PROCIR-D-23-00287 <i>Influence of the material history on the properties of recycled glass fiber reinforced polypropylene - Impact of screw speed during injection moulding</i> <u>L. Dahrmann</u> , R. Kupfer, M. Gude	PROCIR-D-23-00608 <i>Information process-system modelling for Circular Economy of manufacturing systems</i> <u>M.C. Magnanini</u> , T. Tolio	PROCIR-D-23-00605 <i>Intelligent optimisation in smart and sustainable compressed air systems: Towards support for decision-making under faulty conditions</i> <u>J. Mallia</u> , E. Francalanza, P. Xuereb, D. Baldacchino, P. Refalo
	11:40	PROCIR-D-23-00645 <i>Digitalization and the work against its rebound effects – Sustainability as quality characteristic in the product and service life-cycle</i> A. Poth, O. Rrjolli, <u>A. Riel</u>	PROCIR-D-23-00427 <i>Recovery pathway assessment of recycled HDPE for circular economy: Shorter-life vs longer-life products</i> B. Hapuwatte, <u>A. Hartwell</u> , M.J. Triebe, A. Chatterjee, N. Mathur, D. Figola, KC Morris	PROCIR-D-23-00296 <i>Material substitution to reduce the environmental impacts in construction of car body manufacturing plants</i> <u>T. Wallrapp</u> , F. Wanielik, F. Cerdas, M. Juraschek, C. Herrmann, M. Rössinger	PROCIR-D-23-00375 <i>Optimization of ball milling parameters for efficient copper slag valorization</i> <u>P. Hosseini</u> , G. Beersaerts, J. Duflou, Y. Pontikes
	12:00	PROCIR-D-23-00581 <i>Enhancing sustainability in the production of cruise-ship modules through quality monitoring</i> <u>D.A. Maisano</u> , D. Laurenza	PROCIR-D-23-00411 <i>Recycling of plastic wastes – Substitution potential of recyclates based on technical and environmental performance</i> <u>V. Venkatachalam</u> , S. Spierling, Y. Celik, M. Shamsuyeva, H.-J. Endres	PROCIR-D-23-00460 <i>Smart glocal production – An assessment approach for the readiness level of manufacturing companies</i> <u>M. Hertwig</u> , M. Nowak, A. Werner, S. Martineau, S. Schlund	PROCIR-D-23-00376 <i>Pneumatic control for sustainable compressed air systems: Multi-criteria optimisation for energy efficient production</i> <u>R. Abela</u> , P. Refalo, M. Borg, E. Francalanza
	12:20	PROCIR-D-23-00407 <i>Expanding the boundaries of Zero Defect Manufacturing - A systematic literature review</i> <u>B. Gal</u> , T. Madreiter, N. Scheder, E. Liesinger, P. Hold, A. Schlund	PROCIR-D-23-00437 <i>Towards plastics circular economy: Sustainability assessment of mono-material design for recycling</i> A. Gonçalves, E. Henriques, <u>I. Ribeiro</u>	PROCIR-D-23-00644 <i>Social sustainability in production systems: An exploration along the supply chain</i> <u>G. Zangara</u> , V. Corvello, L. Filice	PROCIR-D-23-00134 <i>Unleashing manufacturing potential: A simulation-based journey towards optimal efficiency</i> S. Shafiee, <u>S. Ladikos</u>
12:40 – 14:00	Lunch break				

June 21st, 2024 / Afternoon sessions (continued on next page)

Timetable	Room: 1 I Session #33 Quality and product/service systems	Room: 3 I Session #34 Reuse and recycle	Room: 5 I Session #35 Digital technologies	Room: 7 I Session #36 Roadmap for plastic industry
14:00 - 16:00	14:00 PROCIR-D-23-00700 <i>Maturity assessment for the introduction of predictive quality approaches in production environments</i> R. Günther, R.H. Schmitt (Presented by: J. Elsner)	PROCIR-D-23-00593 <i>Common challenges for circular manufacturing industry in recycling</i> M. Ameer, N. Frigerio, A. Matta	PROCIR-D-23-00688 <i>Developing Digital Twins for energy efficiency in the production phase of products</i> S. Wehking, T. Riedelsheimer , C. Tanrikulu, K. Lindow	PROCIR-D-23-00655 <i>Circular economy indicators for the design and procurement of plastic products in the healthcare sector – A review</i> J. Matschewsky , S. Lingegård, M.A. Martin
	14:20 PROCIR-D-23-00477 <i>Trustworthiness of artificial intelligence applications for quality optimisation in metal additive manufacturing</i> J. Büscher , J. Zajackowski, H.-G. Rademacher, W. Tillmann, J. Deuse	PROCIR-D-23-00576 <i>Smart disassembly cell for circularity: Turn industry 4.0 technologies for disassembly and recovery of components.</i> S. Parthasarathi , U. Eibar, T. Alix, R. Chavanne, M. Cherif, N. Perry	PROCIR-D-23-00484 <i>Digital Twins: enhancing circular economy through digital tools</i> A. Pehlken , M.F. Davila Restrepo, L. Dawel, O. Meyer	PROCIR-D-23-00610 <i>Closing the perception-reality gap for sustainable fresh food plastic packaging</i> E. Horsthuis , F. Groenen, M. Toxopeus, E. Lutters
	14:40 PROCIR-D-23-00364 <i>A model-based approach to assess the circularity of product-service systems</i> M. Werrel , M. Glatt, J.C. Aurich	PROCIR-D-23-00653 <i>Connecting producers and recyclers: A digital product passport concept and implementation suitable for end-of-life management</i> C. Plociennik , A. Nazeri, M. Hossein Rimaz, S. Knetsch, A. do Carmo, P. Lopes, T. Hagedorn, J. Baehr, M. Vogelgesang, C. Li, W. Benner, B. Kellerer, E. Ionescu, M. Ruskowski, A. Weidenkaff	PROCIR-D-23-00675 <i>Towards a process model for digital twin implementation: The implementation canvas</i> H. van der Valk , R. Schmelzer, D. Rose, B. Dinter	PROCIR-D-23-00630 <i>Determination of circular economy targets based on absolute sustainability: A case study on plastics</i> S. Weise , A.-R. Ali, F. Cerdas, C. Herrmann
	15:00 PROCIR-D-23-00379 <i>Identification of the causal relationship between product-service systems features and barriers based on Bayesian network model</i> Y. Mitake , Y. Inagaki, S. Tsuji, Y. Shimomura	PROCIR-D-23-00665 <i>Exploiting high voltage fragmentation to enable demand-driven recycling of end-of-life wind blades</i> M. Diani , S. Torvi, M. Colledani	PROCIR-D-23-00415 <i>Framework for mapping and developing closed loops in urban areas</i> H. Lickert , S.J. Görgens, K. Meyer, F. Dietrich	PROCIR-D-23-00400 <i>Environmental impacts of circular economy practices for plastic products in Europe: Learnings from life cycle assessment studies</i> M. Jürgens , H.-J. Endres
	15:20 PROCIR-D-23-00333 <i>Conceptualization of a digital product passport to enable circular and sustainable automotive value chains – The combustion engine use case</i> A. Pohlmann , M. Popowicz, J.-P. Schöggel, J. Bachler, J. Keler, R.J. Baumgartner	PROCIR-D-23-00658 <i>Selection for reuse in WEEE reverse logistics with text-based model identification</i> W. Sterkens, J.R. Peeters	PROCIR-D-23-00295 <i>Innovative teaching method of circularity design for sustainable manufacturing systems: an application on urban factories</i> W. Ijassi , D. Evrard, P. Zwolinski	PROCIR-D-23-00713 <i>Open data sources for post-consumer plastic sorting: What we have and what we still need</i> N. Basedow , K. Hadasch, M. Dawoud, C. Colloseus, I. Taha, D. Aschenbrenner

	15:40			PROCIR-D-23-00370 <i>Simulation-based comparison of the material and energy efficiency of decentralized urban manufacturing systems</i> N.L. Martin, S. Rudolf, P. Grimmel, M. Mennenga, M Juraschek, C. Herrmann	PROCIR-D-23-00441R2 <i>Sustainable value roadmap for the plastics industry</i> A. Gonçalves, G. Cardeal, E. Henriques, I. Ribeiro
16:00 – 16:20	Coffee break				
16:20 – 16:50	Closing remarks (Room 1 I)				