



35th CIRP Design Conference 2025 — “Reshaping Design towards Adaptive, Human Centric and Sustainable Products, Processes, and Systems”

EDITORIAL

Dear Colleagues:

This special issue of Procedia CIRP contains 175 papers presented at the 35th CIRP Design Conference (CIRP Design 2025) held from the 2nd to the 4th of April 2025 at the University of Patras—Greece, divided in sixteen (16) thematic areas.

Manufacturing systems are undergoing a rapid and deep transformation as a result of rapidly changing economic, social, and environmental factors. By adopting novel value chain structures, new organizational and production paradigms, as well as innovative digital and automation technologies, is critical to leading such a transformation. The current market scheme is driven by the need for improved quality, increased product quantities and lower delivery times. Moreover, customers seek highly personalized products. Customers should be actively involved in the product design phase. Automation and smart systems revolutionize the factory shop floor, and horizontal and vertical integration via digital means are key features for sustainability.

The CIRP Design has been a unique and outstanding series of scientific conferences on manufacturing systems for more than 30 years. CIRP Design has been held on most continents over the last decades with a long tradition among CIRP conferences. The 35th CIRP Design 2025 fosters interaction between the industrial and academic communities. Through CIRP Design, scholars, engineers and members of the business community address basic research, education, dissemination, and implementation issues related to manufacturing.

The CIRP Design Organizing Committee prepared an event, with physical participation only, that allowed many registered participants to present, interact, and disseminate their research work, seek collaborations, and engage in discussions via live sessions. CIRP Design provided a technological as well as a social platform for an information exchange with diverse international perspectives, thanks to the enthusiastic support by the authors, presenters, and participants.

The theme of the 35th CIRP Desing 2025 was “Reshaping Design towards Adaptive, Human Centric and Sustainable Products, Processes, and Systems”. The one hundred seventy-five (175) papers accepted were submitted by authors from nineteen (19) countries and were organized into thirty-three (33) parallel sessions. The papers of the 35th CIRP Design 2025 address a wide variety of research topics: (Eco-Dn) Ecofriendly Design, (HMI-AI) Human-Machine Intelligent Cooperation, (AI- BIG-DA) Artificial Intelligence Methods and Big Data Analytics for Smart Production Systems, (Dn-Ind4.0 – 5.0) Human-Centric Smart Manufacturing systems towards Industry 5.0 & Society 5.0, (IoT-SMART) Internet of Things and Smart Sensing, (CUS_TDn) Integration of Customer in the Product/Process Design, (DIG-PSS) Digitalization and Product Development Cycle – Product Service Systems (PSS), (HDTWIN) Human Digital Twin (HDT), (Dn4S) Design for Sustainability, (APSSE) Advanced Product Service System Engineering, (DIG-PSS) Digitalization and Product Development Cycle – Product Service Systems (PSS), (DnD-SPS) Design and Development of Capabilities for Smart Products & Services, (AR- VR – METAV) Augmented Reality (AR)-Virtual Reality (VR)-Metaverse towards Sustainable Manufacturing, (Dn-BIOMFG) Design for Bioinspired Manufacturing, (SEM-Dn) Semantics in Design of Products & Services, (SVDn) Smart Vehicles Design.

We wish to acknowledge the members of the International Program Committee for having devoted their time to making this event successful. Finally, we thank all the authors and the attendees for their participation, and hope that you find your interactions with this community to be an enriching experience.

Professor Dimitris Mourtzis
University of Patras, Laboratory for Manufacturing Systems and Automation (LMS)
Conference Chair, 35th CIRP Design 2025

Acknowledgments

I would like to acknowledge the International Program Committee that involved in the organization of the 35th CIRP Design 2025. My sincere gratitude goes to the authors of the papers for their high expertise, the time invested in this collaborative process and for their contributions.

Finally, I would like to thank the members of the Local Organizing Committee, for their dedication and contribution to the success of 35th CIRP Design 2025.