

Special Session proposal for MIM 2025 conference

Invited Session:

Recent Advances in Smart and Sustainable Manufacturing: Trends, Innovations and Digital Transformation

1. Organizer(s):

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- Prof. Lyes Benyoucef, Aix-Marseille University, Marseille, France, lyes.benyoucef@lis-lab.fr
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2. Session Objectives and Scope:

In today's highly competitive markets, sustainability has emerged as a critical priority for manufacturing companies, alongside traditional considerations of time, quality, and cost. Achieving a sustainable future necessitates a holistic view of systems, integrating environmental, economic, and social factors to meet present needs without compromising the ability of future generations to meet their own. Various environmental laws and regulations, such as increasing electricity tariffs and fuel prices, carbon footprint reduction, and energy consumption, underscore the urgency of this issue.

In response to these challenges, smart manufacturing and digitalization have emerged as critical enablers. By harnessing real-time data collection, processing, and monitoring, which empowers companies to enhance flexibility, adaptability, and responsiveness. These capabilities and digital transformation support more effective decision-making and management, ultimately contributing to more sustainable, smart and resilient manufacturing systems.

The manufacturing industry, as a major consumer of energy and resources, must adapt to these new circumstances and innovate. A comprehensive approach that considers not only the product but also the processes required for its production is essential in this era. The adoption of smart manufacturing, augmented by advanced AI tools, offers an opportunity to rethink and redesign production systems to be smart, more sustainable, efficient, and adaptive. The era of digitalized manufacturing demands new strategies and business models that can guide industries toward a future that is both smart and sustainable.

This special session aims to provide a dynamic platform for exploration, investigating, exchanging novel ideas, and disseminating knowledge covering the broad area of sustainable and smart manufacturing in today's industry. Experts from academia, industry, and the public sector are encouraged to contribute their latest research findings, professional insights, and practical experiences. The session invites high-quality submissions, including literature reviews, theoretical analyses, case studies, and interdisciplinary research, with the goal of advancing the field and fostering collaboration across sectors to drive innovation in Smart and sustainable manufacturing practices.

3. Submission

Papers must be submitted electronically using the IFAC PaperPlaza conference manuscript management system: www.ifac.paperecept.net. All submissions must be in PDF format, written in English, and prepared according to IFAC format, see this [link](#) for more details. The corresponding author submits the paper online (pdf format) as an invited session paper using **the invited session code: 7v986**. Several international journals are associated with MIM 2025 for publication of special issues.

4. Important dates:

- Full Paper Submission **30.11.2024**
- Notification to authors **30.01.2025**
- Final paper submission **28.02.2025**