15th IFAC Workshop on Intelligent Manufacturing Systems

11-12.09.2025, Koszalin, Poland

15th IFAC Workshop

Intelligent Manufacturing Systems (IMS 2025)

Koszalin, Poland, 11-12 September 2025

https://ims2025.pl/

This proposal is endorsed by TC 5.1

Invited Session Proposal:

Smart Supply Chain and Logistics: Leveraging Industry 4.0 and Industry 5.0

Proposed by: Amila Thibbotuwawa (SL), H. Niles Perera (SL), Peter Nielsen (Denmark), Peshala T. Gamage (USA), Anna Tatarczak (Poland).

Keywords: Artificial intelligence, Cyber-Physical Systems, Industry 4.0/5.0 in Supply Chains, Human-machine collaboration, Smart Agri-Food Supply Chains, Optimization, IoT Integration, Sustainable Supply Chains, Circular Economy.

Code: 85u92

ABSTRACT

In the modern global economy, supply chains are increasingly influenced by emerging technologies from Industry 4.0 and Industry 5.0, leading to more intelligent, efficient, and sustainable operations. The fusion of artificial intelligence, machine learning, robotics, and advanced data analytics is enabling more agile, responsive, and optimized supply chains across industries.

The agri-food supply chain and delivery logistics sectors are particularly ripe for transformation, where optimization of end-to-end operations can significantly reduce costs, minimize waste, and improve service levels. This session will explore these cutting-edge developments, along with new methodologies for optimizing logistics systems, incorporating smart technologies, and enhancing overall supply chain performance.

This session invites papers covering theoretical and applied aspects of modern supply chain management systems, emphasizing emerging technologies and optimization techniques. Topics of interest include, but are not limited to:

- Integration of Industry 4.0/5.0 technologies into supply chains, manufacturing, and engineering systems.
- Smart technologies in agri-food supply chain optimization.
- Artificial intelligence for real-time decision-making in logistics and supply chains.
- Delivery logistics optimization using autonomous systems and machine learning algorithms.
- The role of the Internet of Things (IoT) and blockchain in supply chain transparency.
- Cyber-physical systems for enhanced communication and real-time tracking in logistics.
- Sustainable supply chains: Reducing environmental impact and improving efficiency.
- Human-machine collaboration in supply chain processes.
- Data analytics for predictive and prescriptive supply chain management.

Timeline:

- **December 16, 2024:** Deadline for paper submission
- **March 03, 2025:** Notification of acceptance/rejection
- **April 07, 2025:** Final paper submission
- **September 11-12, 2025:** 15th IFAC IMS Workshop (IMS 2025), Koszalin, Poland

Manuscript Preparation

For Manuscript Preparation please look at http://www.ifac.papercept.net/conferences/support/support.php
For Manuscript submission please look at https://ifac.papercept.net/conferences/scripts/start.pl
Upon submission, make sure to use the **Invited session identification code: 85u92**

For any further information, please contact the Special Session Technical Committee

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