

Open Invited Track on “Intelligent Methods and Tools supporting Decision Making in Manufacturing Systems and Supply Chains”

Open Invited Track Code: 48q6a



11th IFAC Conference on
Manufacturing Modelling, Management and Control
Trondheim, Norway, 30 June - 3 July 2025

<https://conferences.ifac-control.org/mim2025>

Event:

The industrial and academic worlds around manufacturing and logistics are facing every day new challenges but also rapid changes in technology developments and business models, like Generative AI, smart robotization & automation, digitalization and data-analytics, advanced simulation, industry 4.0 and 5.0, circular economy, shared economy, and many others, which can help decision makers, practitioners, researchers to find solutions to those challenges.

This is why the general theme of the 11th IFAC Conference on Manufacturing Modelling, Management and Control (IFAC MIM2025) at NTNU is “Research and Innovation on Manufacturing and Logistics for a better world”.

The aim of this conference is to bring together researchers and practitioners to present and discuss emerging topics in modern and future manufacturing modeling, management, and control, following a rich tradition of previous IFAC conferences and symposia in manufacturing and logistics.

Through its motto “Be the impact! Make a better world.”, IFAC MIM2025 will focus on the most innovative methods in manufacturing and logistics, with emphasis in how to generate impactful research and innovation for society, with interdisciplinary and innovative methods, cross-sectorial applications, inclusive approaches, engagement, and growth of younger researchers.

Open Invited Track:

Chairs:

- Prof. Dr.-Ing. Michael Freitag, University of Bremen, Bremen, GERMANY
- Associate Prof. Dr.-Ing. Raphaël Oger, IMT Mines Albi, Albi, FRANCE
- Prof. Dr.-Ing. Enzo Morosini Frazzon, Federal University of Santa Catarina, BRAZIL
- Prof. Dr.-Ing. Carlos Eduardo Pereira, Federal University of Rio Grande do Sul, BRAZIL

Abstract:

This Open Invited Track is concerned with the development of decision support systems and approaches for managing manufacturing systems and supply chains. Systems and approaches can be inspired from combinations of tools and methods from industrial engineering, operations research, decision science, computer science, and data science.

The Volatility, Uncertainty, Complexity, Ambiguity (VUCA), and diversity of manufacturing system and supply chain environments lead to an increasing complexity for decision makers to make decisions. So, decision makers need to be supported by proper decision-making models, methods, and software tools. Such systems can be for example based on simulation, optimization, data analytics, machine learning, what-if analyzes, ontologies, taxonomies, or combinations of these. At the same time, these systems are connected to sensors for data acquisition and as well as communication systems to exchange data and information both in vertical and horizontal direction. The proper exchange of data between the physical process and intelligent systems allows for the emergence of adaptive, agile and resilient manufacturing systems and supply chains.

The track chairs invite scientists, engineers and decision makers from academia, industry, and government, to contribute with theoretical and applied research papers. From the business perspective, the track will cover different activities such as design, planning, scheduling, control, monitoring, and maintenance for supply chains, production, transportation, logistics, inventory, and warehouse. From the decision support perspective, the aim of this track is to attract high-quality papers contributing to these business activities by proposing new decision support systems and approaches. In the context of a highly uncertain and opportunistic world, a special attention will be given to paper contributing with new decision support systems and approaches contributing to risk/uncertainty and opportunity management. A special attention will also be directed towards practical relevance and approaches that can foster innovation in manufacturing and supply chains.

This Open Invited Track is proposed by the working group #6 “Intelligent methods and systems supporting supply chain decision making” of the IFAC Technical Committee 5.2 “Management and Control in Manufacturing and Logistics”.

Keywords: IFAC TC 5.2, Modeling of manufacturing operations; Production planning and control; Logistics in manufacturing; Supply Chain Management; Risk management.

Submission:

For author guidelines, please refer to www.ifac-control.org. All papers must be submitted electronically at <https://ifac.papercept.net/>. All papers must be prepared in a two-column format in accordance with the IFAC manuscript style. Please use the official IFAC instructions and template to prepare your contribution as full-length draft paper and submit it on line. Submission details are available on the conference website. All submissions must be written in English. All papers that are conform to submission guidelines will be peer-reviewed by IPC members.

The corresponding authors need to submit their paper online (pdf format) as Open Invited Track Paper using the following code: **48q6a**

Important dates:

30/11/2024 – Submission of papers invited for invited tracks/sessions, extended abstracts deadline

30/01/2025 - Notifications to authors and Registrations open

28/02/2025 - Camera ready paper submission deadline