Invited Session for MIM 2025 conference

INVITED SESSION CODE: XXX

1. Session Title: **Reconfigurability, Flexibility or Agility for Manufacturing Systems in a VUCA World**

2. Session Objectives and Scope:

To remain competitive in a Volatile, Uncertain, Complex and Ambiguous (VUCA) World, companies have to adapt their production systems. Reconfigurable Manufacturing Systems (RMS) have been introduced for this purpose, with machine components, machines software's or material handling units which can be added, removed, modified or interchanged as needed and when imposed by the necessity to react and respond rapidly and cost-effectively to changing requirements. They are still relatively scarce in the industry, and their integration to improve resilience all along the supply chain remains challenging, however digitalization is an important lever to support this evolution. In addition to dealing with uncertainty, the agility of these systems could also provide innovative ways to deal with new societal challenges such as sustainability (e.g. energy or life-cycle management) and allow evolving toward new business models (e.g. servitization).

This special session will provide a forum to investigate, exchange novel ideas and disseminate knowledge covering the broad area of RMS applications in nowadays industry. Experts and professionals from academia, industry, and the public sector are invited to submit papers on their recent research and professional experiences on the subject. High quality works reporting on relevant reviews of existing literature, theoretical studies, case studies, inter-disciplinary research are all very welcome.

Topics may include, but are not limited to:
- Resilience of Manufacturing Systems or Networks,
- Innovative ways to improve the Sustainability of Manufacturing Systems,
- Lifecycle management of Manufacturing Systems,
- Reconfigurable Manufacturing Systems (RMS),
- Reconfigurable Cellular Manufacturing Systems,
- Conceptual frameworks to support RMS development,
- Optimization models and methods for the design or planning of Reconfigurable or Flexible Manufacturing Systems,
- Management of Uncertainties in Reconfigurable Manufacturing Systems,
- Ramp-up and reconfiguration of manufacturing systems,
- Dynamic manufacturing adjustments for demand mix and volume changes,
- X-Network or Intertwined Supply Network,
- Factory Production Network,
- Cloud Manufacturing or Manufacturing as a Service (MaaS),
- Impact of Industry 4.0 on Reconfigurability or Agility.

3. Organizers:

Dr. Ann-Louise Andersen, Aalborg University, Denmark, ala@mp.aau.dk

Prof. Olga Battaïa, Kedge Business School, France, olga.battaia@kedgebs.com

Prof. Lyes Benyoucef, Aix-Marseille University, Marseille, France, lyes.benyoucef@lis-lab.fr

Prof. Yuval Cohen, Afeka Tel-Aviv College of Engineering, Israel, yuvalc@afeka.ac.il

Prof. Xavier Delorme, Mines Saint-Etienne, Saint-Etienne, France, delorme@emse.fr

Prof. Rita Gamberini, Università degli Studi di Modena e Reggio Emilia, Italy, rita.gamberini@unimore.it

Dr. Alessia Napoleone, Delft University of Technology, Netherlands, A.Napoleone@tudelft.nl

4. Submission:

For author guidelines, please refer to www.ifac-control.org. All papers must be submitted electronically using https://ifac.papercept.net/ and must follow the two-column format in accordance with the IFAC manuscript style. Please use the official IFAC instructions and template to prepare your contribution as a full-length draft paper (6 pages). Submission details are available on the symposium website. There is the possibility to submit discussion papers (limited to 4 pages) that are published in the preprints only. All submissions must be written in English. All articles that comply with the submission guidelines will be peer-reviewed by IPC members. The corresponding author submits the paper online (pdf format) as an open-invitation session paper. **Submission as an invited paper requires the invited session code: XXXX. Special issues of MIM 2025 Conference are planned in IFAC and other high-ranking journals.**

5. Important dates:

- Draft paper submission deadline: 30/11/2024
- Notification of acceptance: 30/01/2025
- Registration opening: 30/01/2025
- Final papers submission deadline: 28/02/2025
- Conference date: 30/06/2025-03/07/2025