Call for Papers for the Invited Track:
Industry 5.0 - Human-centered production and logistics systems

Organized by IFAC TC 5.2 working group 7:

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Despite the opportunities the automation of industrial and logistic systems offers, many companies still rely on human work in many areas. Most decision support models proposed for production and logistics systems in the past neglected the specific characteristics of human workers, often leading to unrealistic planning outcomes or systems that underperform or may even be harmful to workers. To guarantee high productivity and efficiency and ensure that decision support models reflect reality as much as possible, it is necessary to consider human factors (here considered synonymous with ergonomics) in designing production and logistic systems that are reliable, efficient, and safe workplaces. Even though recent research has started to integrate human factors issues into related decision support models – for example by modeling learning effects or human energy expenditure –, there is still a significant gap in the literature concerning the development of decision support models for production and logistic systems that take account of the interactions between the human worker and the design of the system. The technical system can, unlike the worker, be comprehensively influenced by the system designer. Generally, human factors (perceptual, cognitive, physical and psychosocial aspects in the workplace) determine the performance of production and logistics systems to a large extent if human operators are employed. This aspect becomes more challenging in light of an aging workforce, which will likely put human factors-related issues in production and logistics – such as the risk of making errors at work or developing musculoskeletal disorders – on top of the agendas in many companies. In addition, the consequences of using Industry 4.0 technologies that substitute or assist employees in their manual work, such as augmented reality, adaptable workstations or cobots, are not yet fully understood in light of human performance, errors, work motivation, and technology acceptance. Research in this area is therefore crucial for realizing the vision of **Industry 5.0** that emphasizes **human-centered** work, environmental sustainability, and system resilience.

This open invited track aims to investigate the development of innovative approaches for integrating human factors in Industry 5.0 system design to create highly reliable and humanly sustainable production and logistics systems of the future.

Topics may include, but are not limited to:
- Human-centricity in Industry 5.0 and Resilient Operator 5.0
- Opportunities to leverage human factors in Industry 4.0 for human-centered production and logistics systems
- Human factors in Logistics 4.0 (Human-centered Logistics 4.0)
- Technology adoption, reliability and maintainability
- Behavioral issues and the interactions of humans and new technologies in production and logistics
- The impact, chances and challenges of using technical assistance systems (wearables, AR, exoskeletons etc.) in manual industrial work
- Physical, cognitive and psychosocial human factors in production and logistics management
- Learning and forgetting in industrial systems
- The impact of system design on human errors
- Reduction of injury risks in manual operations
- The impact of demographic changes/ an aging workforce on industrial system performance and safety

INVITATION CODE: q786c

Draft papers reporting original research (limited to 6 pages in IFAC format) and extended abstracts are welcome.

When you submit your paper to the IFAC system, you will be required the **invitation code q786c** in order to associate your paper to the invited track: **https://ifac.papercept.net**

IMPORTANT DATES:

Draft papers/ extended abstract submission deadline:	**30.11.2024**
Final papers submission deadline:	**28.02.2025**
Early registration opens:	**28.02.2025**

Conference website:
https://conferences.ifac-control.org/mim2025/

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