Special session - Integrating Human Factors in Operation Management Models

Efficient production and inventory management are crucial for modern businesses seeking to optimize resource utilization and meet customer demands. However, the successful implementation of these models is not solely dependent on technological advancements as humans play a pivotal role in determining the real-world effectiveness of these strategies. This is in line with the concept of Industry 5.0, also known as the "Human-Centric Industry", which places a strong emphasis on the role of humans in the various processes and the need to consider human physical, physiological, and cognitive factors when designing and adopting new strategies and processes. By doing so, optimization or simulation models can better reflect the complexities of real-world decision-making and improve their accuracy and relevance to the problems they seek to address.

Integrating human factors into operation management models requires a multidisciplinary approach that combines domain expertise, behavioral science, human-computer interaction, and adaptive learning techniques. As such, this special session aims to explore the diverse aspects of assessing and integrating human factors into production and inventory management models, offering valuable insights into bridging the gap between theory and practice. The special session will provide a forum for researchers, practitioners, and industry experts to share insights and best practices. Speakers are invited to present case studies, methodology, or new models that integrate worker well-being, productivity, and safety in Industry 4.0-based practices involving techniques and technologies such as Artificial Intelligence, Digital Twins, and real-time decision-making tools. The aim is to discover the latest developments and best practices to operationalize Industry 5.0 strategies in the manufacturing and logistics domain.

In this Special Session, accepted presentations can include, but not limited to, in the following areas:

- Human-Centered Supply Chain Design
- Assessment and integration of human factors in planning, forecasting, predictive, and scheduling models
- Integration of human physical, physiological, and cognitive variables in Artificial Intelligence or optimization tools, Digital Twins, and Industry 4.0 frameworks
- Assessment of employee Engagement in Industry 4.0 practices
- Integration of Lean and Industry 4.0 Practices

Special session chairmen:

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