Invited Session on "Industry 4.0 and tradeoff between efficiency and resilience" for IFAC MIM 2022

Invited session identification code *x9abi*

IFAC MIM 2022, June 22-24, 2022, Nantes, France

https://ifac.papercept.net/

Session Chairs:

- *Dr. Anas Iftikhar, Lancaster University, United Kingdom. A.iftikhar@lancaster.ac.uk*
- *Dr. Ilaria Giannoccaro, Politecnico di Bari, Italy. Ilaria.giannoccaro@poliba.it*
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Nowadays firms operate in complex and turbulent scenarios where frequent and unpredictable disruptions drastically threaten the core business operations and inter-firm relationships, thus negatively influencing their firm performance. Prior to the Covid-19, firms often lauded their ultra-efficiency, single-sourcing techniques, and just-in-time capabilities. The pandemic, on the other hand, drastically impacted these companies' supply chains. Furthermore, the pandemic has shifted consumer focus from in-store purchases to online buying, necessitating a greater requirement for network visibility than ever before. As a result, many businesses were unprepared to handle the rapid surge in online demand orders. To survive in such turbulent environments, the use of innovative technologies, such as Industry 4.0 (I4.0), can help businesses develop stronger control mechanisms, anticipate disruptions, mitigate their impact, and create resiliency in the supply chains.

To strengthen the literature the Invited Session aims at exploring major features of the I4.0 technologies to tackle complex scenarios, disruptive occurrences, and strategies to assure business continuity and create resiliency. The aim of this session is to attract high-quality papers that highlight how I4.0 influences supply chain resilience, by improving operational flexibility, strengthening inter-firm relationships (cooperation, coopetition), and securing high economic performance in turbulent environments. We encourage the submission of qualitative and quantitative research studies developed through methodologies (e.g., agent-based simulations, discrete event simulations, empirical research including surveys, and single or multiple case studies) and theories (Complex Adaptive System Theory, Contingency Theory, Dynamical System Theory, etc.) that provide new insights into the research of supply chain (SC) resilience.

Session topics:

The session chairs invite researchers and decision-makers from academia, industry, and government to contribute theoretical and applied research papers in areas including but not limited to the following topics:

- *Trade-off between supply chain resilience and operational efficiency in facing frequent and high-impact disruptions;*
- *Digitally-enabled strategies enhancing network robustness and resilience;*
- *Industry 4.0 applications for SC recovery policies in distinct SC complexities (structural & dynamic);*
- *Industry 4.0 applications for creating flexibility and adaptability in the localized supply chains.*
- *Other related aspects are also welcome.*

Submission

For author guidelines, please refer to **www.ifac-control.org**. All papers must be submitted electronically using Symposium Manuscript Management System (CMMS). 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 online by December 15, 2018. Submission details are available on the symposium website. All submissions must be written in English. All papers that conform to submission guidelines will be peer-reviewed by IPC members. The corresponding author submits the paper online (pdf format) as **an invited session paper**. Submission as an invited paper requires the **invited session code *x9abi*.** Several international journals are associated with the MIM 2021 for the publication of special issues.

Important dates:

December 25, 2021	Deadline for the submission
February 15, 2022	Notification of acceptance/rejection
March 15, 2022	Deadline for the final submission