



Special session:

“Digitalization for sustainable operations in smart manufacturing”

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Manufacturing technology and processes, materials, data, predictive engineering, sustainability, and resource sharing and networking, are the six pillars of smart manufacturing. Among them sustainability has become a key topic, not only at academic, but also at industry and policy level. As direct consequence, operations management is undergoing transformation driven by the rapid developments of digital technologies and data science, and in particular more and more attention is paid to sustainable operations management where the traditional perspectives of efficiency are integrated along with an awareness of the environmental impacts of manufacturing operations.

Digitalization is an enabler of sustainable development, but the convergence of digital transformation and sustainability remains underdeveloped. By adopting Cyber-Physical Systems (CPS), Internet of Things (IoT), and Machine-to-Machine (M2M) communications, companies have the possibility to manage operations in a more intelligent and agile way, producing goods and delivering services in a more sustainable way. For example, the optimization and self-adaptation to real-time variation of manufacturing processes enable factories to improve their sustainability performance at factory level, enhancing the connection among smart manufacturing process and the rest of the digital supply chain.

There is no doubt that the volume of data generated in manufacturing is increasing, however, the volume of the data collected, and its usage varies across different industries, their scale, and production areas. Yet, in majority of discrete manufacturing companies the utilization of data generated in manufacturing still tends to be low.

For these reasons, we propose this session aiming at investigating the links between digitalization and sustainability of the operations in smart manufacturing, focusing on methods and tools to design, assess and implement them leveraging on digital technologies.

<p>This special session calls high-quality contributions that investigate the main research challenges, reviews, case studies, and applications related to the following topics (but not limited to):</p> <ul style="list-style-type: none"> - Data-driven decision-making for sustainable operations - Advanced analytics for sustainable operations - Metrics and assessment methodologies of environmental impact - Data-driven method and tools to design and engineer sustainable smart manufacturing and service processes - CPS and IoT technologies to enable sustainable operations - Modelling and simulation for sustainability in smart manufacturing - Methods and tools for sustainable lifecycle management - Single-piece traceability in smart manufacturing and digital supply chain - Case studies and applications from industry 	<p>PAPER SUBMISSION: Authors are invited to submit draft papers reporting original research of theoretical or applied nature, on the topics of the session. Final manuscripts are limited to 6 pages</p> <p>SPECIAL SESSION CODE: f336e When you submit your paper to the IFAC system, you will be required this ID number in order to associate your paper to the special session: https://ifac.papercept.net/</p> <p>IMPORTANT DATES:</p> <table border="0"> <tr> <td>Full papers submission deadline:</td> <td>31st October 2020</td> </tr> <tr> <td>Notification of acceptance:</td> <td>15th December 2020</td> </tr> <tr> <td>Final papers submission deadline:</td> <td>1st February 2021</td> </tr> <tr> <td>Early registration deadline:</td> <td>8th February 2021</td> </tr> <tr> <td>Late registration deadline:</td> <td>1st April 2021</td> </tr> <tr> <td>Conference date:</td> <td>7th-9th June 2021</td> </tr> </table>	Full papers submission deadline:	31st October 2020	Notification of acceptance:	15th December 2020	Final papers submission deadline:	1st February 2021	Early registration deadline:	8th February 2021	Late registration deadline:	1st April 2021	Conference date:	7th-9th June 2021
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