

## ***Special issue***

### **Smart manufacturing for sustainability: Trends and research challenges**

Industrial organisations are essential stakeholders for global sustainable development and must shift towards a novel manufacturing paradigm that sheds light on sustainable value creation. Indeed, manufacturing companies are facing several challenges, such as physical resource depletion, stricter laws and regulations, economic stagnation and customers' demand for higher product quality. The Industry 4.0 era makes factories and manufacturing processes more intelligent by the adoption of several technologies, such as highly developed automation, digitalisation processes, sensors, and IT, therefore, can strongly contribute to sustainable value creation. Indeed, to achieve new business solutions for sustainable manufacturing is not possible without considering new technologies as an integral part of the development.

This special issue aims to explore the current research trends and challenges in the field of smart and sustainable manufacturing across multiple sectors and different industries. In particular, how the several business functions are addressing the integration of new technologies in order to create new sustainable business models and improve their economic, environmental and social performance. Moreover, the special issue would advance our knowledge and understanding on the impacts of recent technologies enabling Industry 4.0 on the operations management.

Novel researches, methodologies, models, case studies, tools, and literature reviews investigating changes in business models, strategies, and operations management of companies promoting sustainability principles in the new digital era are welcome.

Specific **topics** of interest include, but are not limited to the following:

- Emerging enabling technologies for sustainable manufacturing and supply chain management;
- Integration of additive manufacturing in smart factories;
- Relation between Industry 4.0 and Sustainable production;
- Awareness and maturity of companies concerning Industry 4.0's paradigm;
- Smart operator;
- Human skills and competences required by Industry 4.0;
- Sustainable production and social sustainability in Industry 4.0;
- Digital twin for smart and sustainable manufacturing;
- Interaction between circular economy and smart manufacturing;
- Maintenance 4.0 and sustainability.

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