



## **Digital Twins Applications in Manufacturing Optimization**

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Deadline for manuscript  
submissions:

**3 June 2024**

### **Message from the Guest Editors**

Dear Colleagues,

In recent years, Digital Twin (DT) technology has emerged as a transformative force, reshaping the landscape of manufacturing optimization across various industries. This innovative technology has opened new horizons for predictive maintenance, Machine Learning (ML) and Deep Learning (DL) applications, modeling and simulation techniques, reference architectures, big data-driven strategies, and the integration of IoT and edge architectures in the smart manufacturing sector.

This special issue aims to explore the dynamic evolution of DT applications in the context of manufacturing optimization and beyond. Moreover, we will delve into the intricacies of ML and DL techniques, modeling and simulation advances, reference architectures for optimizing manufacturing processes, the role of big data in predictive maintenance, and the synergy between IoT and edge architectures in the era of Industry 4.0.

I/We look forward to receiving your contributions.

### **Keywords**

- digital twins
- smart manufacturing
- predictive maintenance
- modeling and simulation
- IoT edge architecture
- machine learning





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