



## Intelligent Control for Cyber-Physical Systems in Industry 4.0: How Digital Twins Can Improve Efficiency?

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### Message from the Guest Editors

Dear Colleagues,

Energy efficiency, eco-automation of systems, and efficient use of resources are the major challenges for the industry of the future. In the development of its products, the plant of the future integrates environmental management and implements the principles of the circular economy and sustainability. Digital twin (DT), a virtual clone of a physical system, is considered to be a key and is a breakthrough technology in the industry of the future. It can be used both in the design phase and in the operational phase of a cyber-physical system (CPS). Interoperability between DT and CPS is essential in order to ensure the required level of performance, of both technical (efficient control laws) and environmental (energy efficiency) interoperability. Digital twins are basically simulation models, but their use is no longer limited to the verification phase, they are still useful in the operation phase. New approaches and methodologies can improve energy efficiency, control laws, and so on through the use of digital twins.

Manuscripts based on integrated and interdisciplinary approaches, discussing the links between digital twins and sustainability, are welcome.





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