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Digital Twin and IoT

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Message from the Guest Editors

Dear Colleagues,

Digital twin (DT) is a powerful concept for the Internet of Things (IoT), offering benefits across various industries such as manufacturing, healthcare, transportation, etc. By creating virtual replicas or representations of physical objects, processes, or systems, DT can significantly enhance both the development and operational phases of IoT networks. DT can facilitate real-time monitoring of physical entities or systems by continuously collecting data from embedded sensors, thus providing immediate insights into their behaviour, performance, and condition. This capability can enable proactive maintenance, predictive analytics, and operational optimization. Moreover, DTs can allow for simulation and what-if analysis of physical entities and systems, identifying inefficiencies, optimizing processes, and improving resource utilization while predicting equipment failures or maintenance needs before they occur.

Despite many benefits that can result from incorporating DT technology into IoT, there are still issues and challenges to be addressed, including data security and privacy, data quality and integrity, interoperability, scalability, energy efficiency...

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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