Special Issue

AI Trends and Digital Twins in Industry 4.0

Message from the Guest Editor

As we enter the era of Industry 4.0, the concept of "digital twins" is revolutionizing industries, blending physical and digital worlds to create smarter, more efficient systems. This Special Issue (SI) aims to explore the dynamic role that digital twins play in transforming industries, enhancing operations, and unlocking new opportunities for growth and optimization.

A digital twin is a virtual replica of a physical object, system, or process that mirrors its real-time performance, environment, and usage. In the context of Industry 4.0, digital twins enable industries to leverage advanced technologies such as the Internet of Things (IoT), artificial intelligence (AI), and data analytics to simulate, predict, and optimize processes across a wide array of sectors. From manufacturing and logistics to healthcare and energy, digital twins are helping industries achieve unprecedented levels of accuracy, control, and efficiency.

This SI will delve into how digital twins are accelerating the shift towards smart factories, predictive maintenance, and agile supply chains.

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Deadline for manuscript submissions

15 February 2026

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/248004

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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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