Special Issue

Emerging Technologies in Industrial Internet of Things for Industry 4.0

Message from the Guest Editors

The Industrial Internet of Things (IIoT) plays a central role in enabling Industry 4.0. This Special Issue focuses on emerging IIoT technologies, architectures, and paradigms that address the growing demands of low-latency operation, scalability, autonomy, and resilience in industrial systems.

Recent advances indicate a clear shift from centralized, cloud-centric models toward distributed edge–fog–cloud architectures, which are essential to support real-time analytics, adaptive control, fault tolerance, and enhanced resilience.

This Special Issue invites high-quality research contributions and industrial case studies that investigate novel IIoT-enabled solutions for Industry 4.0. Particular emphasis is placed on IIoT architectures validated through industrial pilots or deployment-scale case studies. Topics of interest include, but are not limited to, architectural frameworks, security and trust mechanisms, low-latency and resilient system design, data-driven intelligence, interoperability strategies, and integration with enabling technologies such as 5G, time-sensitive networking (TSN), and digital twins.

Guest Editors

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Deadline for manuscript submissions

20 September 2026

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/269724

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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.

Editor-in-Chief

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