

Special Issue

Digital Twin Networks, Network Virtualization and Applications for Next-Generation Sensor Systems

Message from the Guest Editors

The convergence of Digital Twin Networks with 6G technology and advanced Sensor Networks represents a promising breakthrough capable of transforming how we connect, communicate, and utilize networks. By integrating terahertz communications, AI-native network orchestration, and ultra-massive MIMO, this synergy establishes the foundation for a new generation of intelligent, ultra-responsive applications and services, enabling unprecedented levels of automation, connectivity, and real-time data exchange. Network virtualization serves as a key enabler for the seamless deployment and scalability of Digital Twin Networks for a new generation of resilient, adaptive, and context-aware applications and services.

This Special Issue aims to highlight original research and review articles in this field. Potential topics includes:

- Architectural foundations;
- Modelling;
- Data acquisition and synchronization;
- Network communications and protocols;
- Energy-efficient protocols for large-scale sensor-digital twin network connectivity;
- Data management;
- AI processing;
- Edge devices;
- Security;
- Resilience and fault-tolerant strategies;
- Application domains.

Guest Editors

Dr. Xavier Hesselbach

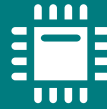
Department of Network Engineering, Polytechnic University of Catalonia (UPC), Jordi Girona 1-3, E-08034 Barcelona, Spain

Dr. Juan Felipe Botero

Electronics and Telecommunications Engineering Department, Universidad de Antioquia, Antioquia, Medellin 050010, Colombia

Deadline for manuscript submissions

31 August 2026



Sensors

an Open Access Journal
by MDPI

Impact Factor 3.5
CiteScore 8.2
Indexed in PubMed



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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
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Editor-in-Chief

Prof. Dr. Vittorio M. N. Passaro
Department of Electrical and Information Engineering, Politecnico di
Bari, Via Orabona 4, 70126 Bari, Italy

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