

Special Issue

Digital Twins and Artificial Intelligence in Transportation Systems

Message from the Guest Editor

This Special Issue will focus on the application and convergence of digital twin (DT) technologies and artificial intelligence (AI) to advance the design, monitoring, and management of transportation systems. This topical collection invites contributions that bridge electronics, sensing, data analytics, and infrastructure engineering to create next-generation intelligent and adaptive transportation networks. The purpose of this Special Issue is to highlight advances that push digital twins beyond conceptual modelling toward scalable, data-rich, and AI-enabled platforms capable of real-time prediction, simulation, and decision support. By gathering interdisciplinary perspectives, this issue aims to accelerate progress in autonomous infrastructure management, predictive maintenance, traffic optimisation, cybersecurity, and resilience planning. Potential topics include, but are not limited to, the following research areas:

- Digital twin frameworks;
- AI for predictive maintenance and asset management;
- Data fusion and sensing;
- Simulation and optimisation;
- Lifecycle and sustainability applications;
- Case studies and real deployments.

Guest Editor

Dr. Javad Zeinali

School of Mechanical and Materials Engineering, University College Dublin, Engineering Building, Belfield, Dublin, Ireland

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Electronics
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
electronics@mdpi.com

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About the Journal

Message from the Editor-in-Chief

Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guestedited by leading experts in selected topics of interest.

Editor-in-Chief

Prof. Dr. Flavio Canavero

Department of Electronics and Telecommunications, Politecnico di Torino, 10129 Torino, Italy

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.4 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the second half of 2025).