

Special Issue

Decision-Making and Simulation Applications in Intelligent Transportation Systems

Message from the Guest Editors

This Special Issue focuses on the synergy between decision-making methodologies and simulation applications in ITS, and aims to highlight innovative approaches that leverage artificial intelligence (AI), soft computing, machine learning (ML), agent-based modelling, digital twins, and multi-criteria decision analysis to address challenges such as traffic congestion, autonomous vehicle integration, multimodal transport coordination, and sustainability. The scope of this Special Issue includes, but is not limited to, the following topics:

- Decision-support systems for ITS planning, operations and control;
- Simulation-based evaluation of traffic management strategies;
- Multi-criteria decision-making in transportation infrastructure development, preference modelling and trade-off analytics in transport policies and investments;
- Agent-based and system dynamics modelling of traveler behaviour, mode choice and network interactions under policy change;
- Digital twin applications in transport networks;
- AI/ML-driven predictive analytics for demand, traffic states, incidents and maintenance, integrated into operational decision-making processes, etc.

Guest Editors

Dr. Jiří Křupka

Department of Transport Management, Marketing and Logistics,
Faculty of Transport Engineering, University of Pardubice, Studentska
95, 53210 Pardubice, Czech Republic

Dr. Roman Hruska

Department of Transport Management, Marketing and Logistics,
Faculty of Transport Engineering, University of Pardubice, 53210
Pardubice, Czech Republic

Deadline for manuscript submissions

30 April 2026



Systems

an Open Access Journal
by MDPI

Impact Factor 3.1
CiteScore 4.1



mdpi.com/si/254838

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

[mdpi.com/journal/
systems](https://mdpi.com/journal/systems)





Systems

an Open Access Journal
by MDPI

Impact Factor 3.1
CiteScore 4.1



[mdpi.com/journal/
systems](https://mdpi.com/journal/systems)



About the Journal

Message from the Editor-in-Chief

Systems is a leading venue for the quick and global dissemination of results of cutting-edge research in various areas of systems science and systems-related fields. An increasing number of researchers are realizing the enormous potential of systems thinking in managing the many unprecedented and complex issues in all areas of need. The *Systems* journal provides a home of exceptional quality for the manuscripts of these researchers who often find it difficult to publish their work in conventional discipline focused journals.

Editor-in-Chief

Prof. Dr. Ben Clegg
Operations & Service Management Department, Aston Business
School, Birmingham B4 7ET, UK

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SSCI (Web of Science), Ei Compendex, dblp, and other databases.

Journal Rank:

JCR - Q1 (Social Sciences, Interdisciplinary) / CiteScore - Q2 (Modeling and Simulation)