Special Issue

Smart Cities and Infrastructure Systems by Digital Twins (DT) and Building Information Modeling (BIM)

Message from the Guest Editors

Smart cities address the challenges of urbanisation by monitoring and integrating critical infrastructures with Internet of Things (IoT) and providing smart services. In recent years, new technologies, e.g., building information modelling (BIM), digital twin (DT), artificial intelligence (AI), blockchain, etc., have been explored in manufacturing, health care, and construction. Among them, DT has great potential for infrastructure and smart cities, with the capability to create a virtual duplicate of the physical world, simulate different scenarios, and support decision making. This Special Issue aims to collect different research studies related to infrastructure and smart city development with emerging digital technologies. Potential topics include, but are not limited to:

- Construction and management of infrastructure and smart cities;
- DT or BIM for infrastructure and smart cities;
- Cognitive digital technologies for infrastructure and smart cities (e.g., digital twin, AI, and blockchain);
- Methods and technologies for resilient and sustainable infrastructure and cities;
- Uncertainty of smart city data.

Guest Editors

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Deadline for manuscript submissions

closed (20 September 2023)

About the Journal

Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

Editor-in-Chief

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