Special Issue

Digital Methods for Infrastructures Management towards Sustainability, Intelligence, and Resilience

Message from the Guest Editors

Various road, railway, urban, coastal, airport, energy, and critical infrastructures are integral to the daily lives and social activities of humans. In particular, the recent development of new infrastructures, such as 5G stations and high-speed railways, has greatly improved the quality of residents' lives. Modern societies are becoming increasingly dependent on sustainable, intelligent, and resilient infrastructures. Therefore, more efficient, standardized, and interoperable infrastructure management is urgently needed. Emerging digital methods such as building information modeling (BIM), geographic information systems (GIS), big data, artificial intelligence (AI), virtual reality (VR), augmented reality (AR), etc., are expected to provide powerful tools for infrastructure management throughout their entire life cycle. Achieving digital infrastructure management is considered an ideal path toward establishing sustainable, intelligent, and resilient infrastructures. This Special Issue aims to publish high-quality research papers as well as state-of-the-art review articles that focus on the application of digital methods in infrastructure management.

Guest Editors

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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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