Special Issue

Smart City and Building Information Technologies

Message from the Guest Editor

Cities have always been smart: they are humanity's greatest inventions, incorporating the latest technologies of their time. Technically, a smart city is a complex network of smart buildings and facilities as well as their production, distribution, and consumption. How to define the digital information of a building and successfully implant it into the urban ecosystem is a fundamental condition for the success of a smart city. We need to create a novel built environment model that includes human and environmental information that extends the existing building information model. Combining this with new analytical techniques and design methods is an important research challenge for smart cities.   The main aim of this Special Issue is to explore the recent challenges and developments of multi-disciplinary approaches in smart city and buildings information technologies. Topics include but are not limited to:

- built environment model
- generative urban design
- metaverse mediated participatory design
- urban prototyping
- design for reuse
- digital twin
- uncertainty
- serendipity

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Deadline for manuscript submissions

closed (20 February 2024)

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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.

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