Towards the 'Smartification' of Buildings and Neighbourhoods for Sustainable and Resilient Smart Cities

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Deadline for manuscript submissions:
closed (10 April 2024)

Message from the Guest Editors

Dear Colleagues,

The evolution of Industry 4.0-related technologies has led to the rapid adoption of ubiquitous computing in data-driven built environments, driven by Internet-of-Things (IoT) connectivity. This connectivity could help to address problems at three different scales, starting with smart buildings, to smart communities and then smart cities. We use this opportunity of this Special Issue to invite manuscripts, including original research, case studies, theoretical and experimental work, critical and comprehensive reviews, that focus on the following themes:

- Smart materials for smart cities;
- Digitally twinned smart cities;
- Retrofitting for smart Buildings;
- Re-purposing disused buildings for circular and smart communities;
- Smart and energy efficient buildings and communities;
- Smart communities for vulnerable people;
- VR and AR for smart communities and cities;
- Tools for the design, development and operation of smart communities and cities;
- Smart cities for pandemic resilience;
- Building integrated agriculture for smart communities;
- Cost-benefit analysis of smart communities;
- City information modelling for smart city applications.

mdpi.com/si/142769

Special Issue

Guest Editors

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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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