

Digital Revolution: Advanced Digital Techniques Applied in Buildings

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Message from the Guest Editors

Dear Colleagues,

Within the era of digitalization, advanced digital technologies have the potential to ensure more sustainable and efficient buildings, faster and cheaper construction and building manufacture, and an increase in construction safety and productivity, as well as the digitalization of the construction process and building service system. To date, the adoption of autonomous and digital technologies in construction and buildings is still at an early stage and remains a challenge, due to the nature of fragmentation and the high complexity of construction projects and building services as well as the higher standards required for sustainability in construction and in buildings. This Special Issue aims to capture the state of the art of advanced digital technologies applied in buildings and construction, to highlight advances in the development of relevant technologies and major applications and the challenges in the related fields.



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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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