Special Issue

Intelligent Digital Solutions for High-Performance and Low-Carbon Building Operations

Message from the Guest Editors

In the evolving realm of building operations, a prominent transition is underway towards high-performance and low-carbon solutions, with digital technologies steering this paradigm shift. This Special Issue seeks to delve into the transformative power of intelligent digital solutions in revolutionizing building operations, emphasizing both efficiency and environmental sustainability. As global climate change and energy conservation concerns mount, harnessing the power of digital intelligence to implement high-performance, low-carbon operational strategies becomes increasingly imperative. Such intelligent operations not only enhance building performance but also transform buildings into demand-side resources and smart infrastructures to advance smart grids, smart cities, electric vehicles, and renewable energy systems. This Special Issue invites studies exploring intelligent digital solutions, including intelligent control, data-driven techniques, machine learning, optimization algorithms, predictive analytics, etc., for pioneering new trajectories in building operations ranging from individual buildings to regional scales.

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Deadline for manuscript submissions

closed (30 May 2025)

Buildings

an Open Access Journal by MDPI

Impact Factor 3.1
CiteScore 5.6

mdpi.com/si/183609

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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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