Special Issue

Construction 4.0: Challenges, Trends and Achievements

Message from the Guest Editors

The construction sector is facing significant challenges characterized by the adoption of digital technologies, sensor systems, robotic systems, intelligent machines, and smart materials. This transformation, which by analogy to the manufacturing sector has been called Construction 4.0, will enable the construction sector to improve in terms of innovation, productivity, efficiency, and quality, reducing project delays and cost overruns. This Special Issue aims to collect the most recent developments and trends in the field of Construction 4.0. This includes key enabling technologies (e.g., additive manufacturing, robots, autonomous vehicles), strategies to create value from remanufacturing products of buildings at the end of service life, advanced materials (e.g., smart value-added products, self-healing and self-cleaning materials, functional graded materials), life cycle monitoring, and building information modeling.

Guest Editors

Prof. Dr. Paulo J. Bártolo

Department of Mechanical, Aerospace & Civil Engineering, University of Manchester, Manchester M1 3BB, UK

Prof. Dr. Helena Bártolo

Department of Civil Engineering, Polytechnic Institute of Leiria, PortugalResearch Centre for Architecture, Urbanism and Design, University of Lisbon, Portugal

Deadline for manuscript submissions

closed (30 June 2021)

Buildings

an Open Access Journal by MDPI

Impact Factor 3.1
CiteScore 4.4

mdpi.com/si/54035

Buildings
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
buildings@mdpi.com

mdpi.com/journal/buildings

Buildings

an Open Access Journal by MDPI

Impact Factor 3.1
CiteScore 4.4

mdpi.com/journal/buildings

MDPI

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

Prof. Dr. David Arditi
Construction Engineering and Management Program, Department of Civil, Architectural, and Environmental Engineering, Illinois Institute of Technology, 3201 South Dearborn Street, Chicago, IL 60616, USA

Author Benefits

High Visibility:

indexed within SCIE (Web of Science), Scopus, Ei Compendex, Inspec, and other databases.

Journal Rank:

JCR - Q2 (Construction and Building Technology) / CiteScore - Q1 (Architecture)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 14.9 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).