



## Construction Project Portfolio Management in Digital Era

Guest Editors:

**Prof. Dr. Libiao Bai**

School of Economics and  
Management, Chang'an  
University, Xi'an 710064, China

**Yichen Sun**

Department of Management,  
Economics and Industrial  
Engineering, Politecnico di  
Milano, 20156 Milan, Italy

Deadline for manuscript  
submissions:

**closed (20 February 2024)**

### Message from the Guest Editors

When grappling the with increasing scale of construction projects and the concurrent execution of multiple projects, organizations have begun to embrace construction project portfolio (CPP) management as a prevalent management mode with which to achieve strategic objectives. In this context, integrating rapidly evolving digital tools is an inevitable way for the CPP to achieve innovative management practices and foster leapfrog development.

This Special Issue aims to utilize the various tools of the digital age to address various management challenges encountered during CPP implementation. Topics of interest include:

1. Digital decision support systems for CPP selection;
2. Digital application in risk identification and quantification of CPP;
3. AI-driven risk detection and mitigation models for CPP;
4. Construction engineering and project portfolio selection;
5. Intelligent benefit and value management in CPP;
6. Big data analysis system for CPP performance prediction;
7. Intelligent decision support systems that align the CPP with organizational objectives;
8. Emerging trends and future outlook for digital CPP management.





## 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

## 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.

## Author Benefits

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), Inspec, and other databases.

**Journal Rank:** JCR - Q2 (*Engineering, Civil*) / CiteScore - Q1 (Architecture)

## Contact Us

---

Buildings Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
www.mdpi.com

mdpi.com/journal/buildings  
buildings@mdpi.com  
X@Buildings\_MDPI