Special Issue

Data-Driven Project Planning and Control: Advancing Cost, Schedule, and Risk Management

Message from the Guest Editors

This Special Issue focuses on the application of data-driven technologies and techniques that leverage both qualitative and quantitative data, including the following:

- Regression analysis;
- Bayesian inference;
- Fuzzy logic;
- Monte Carlo simulation;
- Time series analysis;
- Artificial intelligence (e.g., machine learning and deep learning);
- Probabilistic and network models;
- Natural language processing and text mining;
- Building information modeling;
- Blockchain;
- Internet of Things.

Potential applications include the following:

- Cost and duration forecasting;
- Scheduling optimization;
- Risk identification, evaluation, and mitigation;
- Methods for integrating uncertainty into project decisions;
- Advanced techniques for enhancing resource allocation;
- Safety monitoring and improvement;
- Ensuring regulatory compliance;
- Energy applications (e.g., renewable energy integration and efficiency optimization);
- Sustainability-focused solutions (e.g., carbon footprint, waste management and water usage);
- Social impact analysis;
- Smart infrastructure planning to support resilient and adaptive systems.

Guest Editors

Dr. Giulio Mangano

Prof. Dr. Alberto De Marco

Dr. Filippo Maria Ottaviani

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

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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

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

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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).