Intelligence and Automation in Construction Industry

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Message from the Guest Editors

The labor-intensive nature of construction, the implementation of artificial intelligence, robotics, and smart technologies has the potential to significantly reduce labor costs while simultaneously enhancing productivity and quality. Crucially, these technologies can contribute to a safer working environment by automating hazardous tasks.

The primary aim of this *Special Issue* is to explore the recent developments and challenges associated with the application of intelligence and automation in construction. Topics include, but are not limited to, the following:

- Robotics for Construction
- Computer vision-based construction quality inspection
- Planning of intelligence and automation techniques
- Smart construction management
- AI-driven decision support systems in construction
- Human–Machine collaboration
- Intelligent algorithms for construction data analysis
- Investigation of the challenges in smart construction

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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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