Special Issue

Digital Transformation in the Architecture, Engineering and Construction (AEC) Industry

Message from the Guest Editors

This Special Issue will focus on the digital transformation of the Architecture, Engineering, and Construction (AEC) industry, highlighting how emerging technologies are reshaping project planning, design, construction, and facility management. The integration of Building Information Modeling (BIM), artificial intelligence, big data, the Internet of Things (IoT), and blockchain technology is accelerating the shift toward smart construction and sustainable development. We seek original research and case studies addressing the opportunities and challenges of digitalization. Contributions should examine: 1. Core Technologies: BIM/CIM, IoT, Blockchain, Computer Vision, Generative Design, Advanced Automation.
2. Data & Intelligence: Big Data Integration, Visual Analytics, Intelligent Information Processing, Automated Decision-Making (e.g., quality inspection/control using CV & ontology), Intelligent Risk Assessment.
3. Safety & Resilience: Occupational Health & Safety tech, Infrastructure Health Monitoring, Disaster Early Warning, Resilient City Development.
4. Process & Collaboration: Innovative Business Models, Cross-disciplinary Digital Workflows, AR-enhanced Engineering.

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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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