Advances in Civil Engineering

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Special Issue on

Digital Twin Technology in the Architectural, Engineering and Construction (AEC) Industry

CALL FOR PAPERS

In terms of digitalization and data-driven decision-making, the Architectural, Engineering and Construction (AEC) industry is still significantly behind other industries. Nevertheless, the emergence of new technologies including big data, deep learning, and the Internet of Things (IoT), brings great opportunities for transforming the AEC industry. The digital twin is the virtual representation of a physical building or infrastructure across its life cycle. It uses real-time data and other sources to enable learning, reasoning, and dynamic recalibrating for improved decision making.

Though the concept has existed for years, it is only in recent times that building information modelling (BIM) and the IoT have made the technology more affordable. While digital twin technology is expected to greatly benefit the AEC industry, there are challenges to its development, applications, and adoption.

The aim of this Special Issue is to collect state-of-the-art research findings on the latest developments and challenges in the field of digital twin for the AEC industry. High-quality reviews and original research papers that present current research gaps, theoretical frameworks, methodologies, and approaches are welcome.

Potential topics include but are not limited to the following:

- Technologies and approaches for digital twin creation and updating, i.e., BIM, laser scanning, photogrammetry, IoT, computer vision, etc.
- Data mining for improved decision making, including classification, association, clustering, and recognition
- Knowledge modelling of various subdomains in the realm of digital twin
- Model- and data-driven approaches for evaluation, prediction, and optimization in building life-cycle management based on digital twin
- Augmented Reality and Mixed Reality that combine the virtual model with the physical world for efficient communication and collaboration
- Real-world case studies of digital twin technology

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/ace/dttae/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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