

The Impact of Artificial Intelligence on Digital Construction

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Abstract : The construction industry is currently experiencing a shift towards digitisation. This transformation is driven by adopting technologies like Building Information Modelling (BIM), drones, and augmented reality (AR). These advancements are revolutionizing the process of designing, constructing, and operating projects. BIM, for instance, is a new way of communicating and exploiting technology such as software and machinery. It enables the creation of a replica or virtual model of buildings or infrastructure projects. It facilitates simulating construction procedures, identifying issues beforehand, and optimizing designs accordingly. Drones are another tool in this revolution, as they can be utilized for site surveys, inspections, and even deliveries. Moreover, AR technology provides real-time information to workers involved in the project. Implementing these technologies in the construction industry has brought about improvements in efficiency, safety measures, and sustainable practices. BIM helps minimize rework and waste materials, while drones contribute to safety by reducing workers' exposure to areas. Additionally, AR plays a role in worker safety by delivering instructions and guidance during operations. Although the digital transformation within the construction industry is still in its early stages, it holds the potential to reshape project delivery methods entirely. By embracing these technologies, construction companies can boost their profitability while simultaneously reducing their environmental impact and ensuring safer practices.

Keywords : architectural education, construction industry, digital learning environments, immersive learning BIM, digital construction, construction technologies, digital transformation artificial intelligence, collaboration, digital architecture, digital design theory, material selection, space construction

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