

FLYING ROBOT TECHNOLOGY (DRONE) TRENDS: A REVIEW IN THE BUILDING AND CONSTRUCTION INDUSTRY

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Abstract

With the emergence of Industry 4.0, the use of robotic technologies is among today's trends. The innovations that this revolution brought to robotic construction in the fields of communication, control, and software also improve flying robot technology. In the study, the place and importance of drone technology, which is one of the flying robot technologies at the intersection of Industry 4.0 and AEC (architecture, engineering, and construction) industry, in architecture is defined. The research aims to analyze the digital fabrication studies with drone technology in the field of architecture by reviewing the literature and to reveal how these applications are followed. Studies with drones, which are the technology of the future, are presented by creating a timeline. Drone studies in the building and construction industry were classified according to drone type, gripper and software features and comparative analyses were made. As a result, it is desired to show the development of drone technology in architecture, examine how it is used, and create a reference study in the light of existing examples for its use in future applications.

Keywords: AEC Industry; Digital fabrication; Flying robots (drone) technology; Industry 4.0 revolution; Robotic architecture.