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Digital Design and Fabrication: A Review of Trend and Its Impact in the African Context

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Abstract : In recent years, the architecture, engineering, and construction (A.E.C.) industry have been exposed to important innovations, most notably the global integration of digital design and fabrication (D.D.F.) processes in the industry's workflow. Despite this evolution in that sector, Africa was excluded from the examination of this development. The reason behind this exclusion is the preconceived view of it as a developing region that still employs traditional methods of construction. The primary objective of this review is to investigate the trend of digital construction (D.C.) in the African environment and the difficulties in its regular utilization of it. This objective can be attained by recognizing the notion of distributed computing in Africa and evaluating the impact of the projects deploying this technology on both the immediate and broader contexts. The paper's methodology begins with the collection of data from 224 initiatives throughout Africa. Then, 50 of these projects were selected based on the criteria of the project's recency, typology variety, and location diversity. After that, a literature-based comparative analysis was undertaken. This study's findings reveal a pattern of motivation for applying digital fabrication processes. Moreover, it is essential to evaluate the socio-economic effects of these projects on the population living near the analyzed subject. The last step in this study is identifying the influence on the neighboring nations.

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