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A Systematic Review of Robotic and Automated Manufacturing Applications in Morocco: An African Development Perspective, 2022

Y, a, s, m, i, n, a, A, l, a, m, i, ,, O, m, a, r, T, a, z, i, ,, A, m, a, l, E, l, M, a, n, s, o, u, r, i, ,, K, a, r, i, m, B, e, n, j, e, l, l, o, u, n

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Abstract

The integration of robotic and automated systems is a significant aspect of industrial modernisation, particularly for developing economies. Morocco's status as a growing industrial centre in Africa makes it a relevant case for examining this technological integration within a regional development framework. This systematic literature review synthesises existing scholarly work on robotics and automation applications within Morocco's manufacturing sector. It aims to map the current research landscape, identify predominant application domains, and analyse the reported opportunities and challenges from an African development perspective. A systematic search was performed across several academic databases using predefined search terms. Studies were screened against inclusion and exclusion criteria, with relevant data extracted and synthesised thematically. The process adhered to established systematic review protocols to ensure methodological rigour. The analysis revealed a concentrated research focus on the automotive and aerospace industries, where most documented applications were found. A consistent theme was the alignment of automation investments with national industrial strategies. However, significant challenges, including workforce skills gaps and high initial capital costs, were frequently reported. Robotics and automation are considered pivotal for advancing Morocco's manufacturing capabilities, with implementation largely centred on strategic, export-

oriented sectors. The review concludes that while technological adoption is underway, its broader developmental impact is constrained by structural and human resource factors. Future research should broaden its scope to include smaller-scale manufacturing and the agro-processing sector. Policymakers and industry should support enhanced technical education and explore financing models to reduce capital barriers for small and medium-sized enterprises. Industrial robotics, automation, manufacturing, Morocco, industrial development, systematic review, Africa This review consolidates evidence on robotic applications in a leading African industrialising nation, providing a structured analysis for researchers and policymakers concerned with technology-driven industrial development on the continent.