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Landscape and opportunities for active pharmaceutical ingredient manufacturing in developing African economies

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ABSTRACT:

Africa is one of the world's fastest growing economies, with South Africa having the fifth highest worldwide pharmaceutical expenditure per capita. In recent years, several companies have considered regional pharmaceutical production but have failed to make the investment, in stark contrast to the massive growth in pharmaceutical production in other BRICS countries. Major constraints identified have been the small local market, lack of skills, and an export-averse culture, which have prevented regional manufacturers from achieving the economies of scale that are essential to survive in a global market. In contrast, the pharmaceutical industry is undergoing a revolutionary change in manufacturing, with the potential to switch from batch manufacturing to continuous flow processing. The possibility of applying this new pharmaceutical business model in emerging markets will open the door for dramatic changes in regional commercial manufacturing. Advances in cloud computing, automation and system unification are paving the way for continuous active pharmaceutical ingredient production with integrated digital connectivity. This review will highlight the opportunities that exist in the localization of cutting-edge manufacturing technologies; in order to show the potential application of fundamental process research key production examples relevant to the region will be provided.