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SUCCESSFULLY IMPLEMENTATION OF INDUSTRY 4.0 SMART MANUFACTURING

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ABSTRACT

The industry 4.0 will bring profound changes to our society, including an important digital shift in the manufacturing sector. At present, several manufacturing firms are trying to adopt the practices of industry 4.0 throughout their supply chain. This paper aims to examine how manufacturing firms or companies can employ Industry 4.0 smart manufacturing to ensure faster production with more precision and lesser human manipulation. The paper also examines several technologies and enabling factors which make the manufacturing system "smart." These technologies are Additive manufacturing, Information technology-based production management, Cloud manufacturing, etc., and enabling factors are regulations and laws and training and innovative education. Additionally, the paper examined step by step approach to implement Industry 4.0 smart manufacturing. The main steps include identifying business objectives; developing prototype, validation of prototype, replication of prototype and total roll-out. There can be several challenges during the implementation such as the requirement of new skills, effective data security and investment needs. The challenges can be addressed by continuous training of workers; making significant investments of turnover in the acquisition of new digital technologies and improving efficiency by connecting sensor data and operations across several lines andmachines.

Keywords: - Smart manufacturing, Industry 4.0, Implementation, digitaltechnology