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Advancements in Smart Manufacturing: A Comprehensive Review

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Abstract: *Smart manufacturing represents a paradigm shift in industrial production, integrating advanced technologies to enhance efficiency, flexibility, and customization. This review synthesizes findings from 20 recent research papers, exploring key technologies, applications, challenges, and future directions in smart manufacturing. The analysis highlights the pivotal roles of Artificial Intelligence (AI), Big Data, the Internet of Things (IoT), and cloud computing in transforming traditional manufacturing processes. Emphasis is placed on the integration of these technologies to achieve intelligent, data-driven decision-making and adaptive production systems.*

Keywords: Smart manufacturing, Future advancement in manufacturing

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