Additive Manufacturing (3D Printing) in Smart Factories

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Abstract: *Additive Manufacturing (AM), commonly known as 3D printing, is transforming industrial production in the era of Industry 4.0. This paper explores the role of 3D printing in smart factories, highlighting its advantages, applications, and future potential. By integrating additive manufacturing with advanced digital technologies like the Internet of Things (IoT), Artificial Intelligence (AI), and Digital Twin technology, industries are achieving greater flexibility, reduced material waste, and enhanced production efficiency. The paper also discusses various AM technologies, challenges, and future prospects in smart manufacturing*

Keywords: Additive Manufacturing, 3D Printing, Hybrid Manufacturing, Sustainable Manufacturing