

# A Review on 3D Printing Technology Used in Pharmaceutical Industry

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**Abstract:** *Three-dimensional printing (3DP) makes it possible to create a variety of geometries using computer-aided design with various materials and procedures for intended uses, such pharmaceutical drug delivery systems. Despite the fact that 3D printing was patented in 1986, 3DP research did not gain traction until the past 10 years. The expectations of regulatory bodies, constraints, challenges in setting up such facilities for the manufacturing of pharmaceutical goods, benefits, drawbacks, uses, techniques, and related manufacturing hazards are all presented here. FDA. When compared to conventional drug preparation methods, 3D printing technology offers substantial benefits for customized drug production, making it simple to create preparations with intricate structures or drug release characteristics and enabling quick production of tiny quantities of medications. It also offers a thorough analysis of the state of this platform's research and development at the moment. The present review aims to provide an overview of the benefits, limitations, and uses of 3D printing in pharmaceutical technology by outlining several techniques (such as thermal ink jet printing, ink jet printing, fused deposition modeling, extrusion 3D printing, zip dose, hot melt extrusion, 3D printer, stereolithography, selective laser sintering, laser-based writing system, continuous layer interface production, and powder-based 3D printing). [15]*

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