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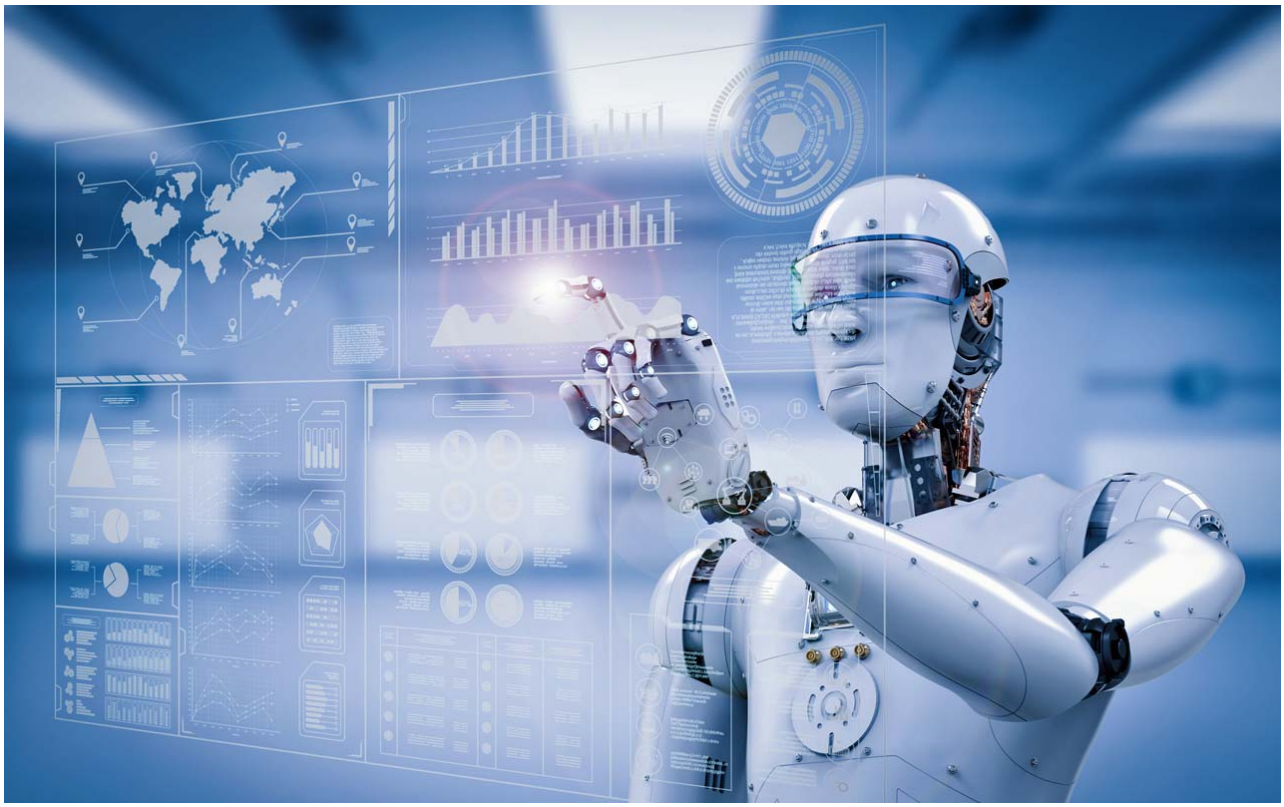
WAY TOWARDS INNOVATION



ARTIFICIAL INTELLIGENCE IN ADDITIVE MANUFACTURING MACHINES

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Preface: What is additive manufacturing?

Additive manufacturing (AM) technique is also referred to as rapid prototyping, is a system that could extract two-dimensional (2D) contours of a plurality of layers from a three-dimensional (3D) image file. The extracted 2D contours are then manufactured as a 3D object. While manufacturing the 3D object, the system directly forms layer-by-layer stacking of raw material on a base, thereby shortening various other manufacturing steps, such as, drilling, facing, etc., and accordingly improving fine finishing structure of the end product.

The Past: What is the Problem?

Researches were mainly focused on reducing time in additive manufacturing process. Because, despite of lesser manufacturing steps involved in additive manufacturing process, compared to subtractive manufacturing process, such as drilling, facing, etc., the additive manufacturing process takes a little longer time in manufacturing the product. Such time factor holds back the manufacturers, from being completely shifting their manufacturing processes to additive manufacturing methodology. Hence, there was a need for a technical advancement that could quicken manufacturing time of additive manufacturing methodology.

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The Present: What are the available Solutions?

Recently, various manufacturers are racing towards the manufacturing time reduction in 3D printing process. CARBON is one of those pioneer manufacturers who is mostly focused on reduction of manufacturing time in additive manufacturing process. CARBON came up with a new Continuous Liquid Interphase Printing (CLIP) interface, which could manufacture a hyper-fast, and layer-less 3D printed object. Carbon was the first printer to employ such rapid production of 3D printed objects, with exceptional surface finish.

The Future: What is the scope for future developments?

In future, in addition to focus on time reduction, the 3D printing machines may also be encapsulated with artificial intelligence for enhancing user comfort. The enhancements may include an adaptive self-diagnostic system, that could start the material from the scrap to finished project without any manual intervention. The self-diagnostics may include a machine learning mechanism that could learn the product defects, if any, and automatically make corrective actions against such defects in the next manufacturing cycle. Contact us to get detailed insights on the same.

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