

3-d printing innovations: bio tech and aeronautics parts



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“ What’s almost 40 years old but looks brand new? Believe it or not, it’s 3-D printing and its innovations. Yep, additive manufacturing technology has been around since the Reagan era” (Goldberg, 2018). Building one layer over the other to form a physical 3-D objects is the basic concept of the 3-D printing and its innovations. Since last 40 years, the human era has observed the great demands of the new manufacturing technology that results as the enormous creations on the layer by layer material basis. Bio Tech and Aeronautics parts are among the other remarkable innovations of the 3-D printing.

Bio Tech with 3-D Printing proved highly beneficial in manufacturing vascular networks along with a kind of realistic dummies of the human organs and the drugs with the greater efficiency. This innovation helped the human race in one or the other way. “ Crucially, the 3-D printed bio tech technique enables the creation of intertwining vascular networks that mimic the natural passageways for blood, air, lymph and other vital fluids” (Blakely&Ryhs, 2019). So, the vascular networks that allows the smooth movement of the blood, lymph and other fluids can be artificially created using 3-D innovated Bio tech. Not only this, “ Bio tech also enables the formation of the synthetic organs like heart, kidney, arms, legs etc. Even AMTZ setting up one of the largest 3-D facilities in the universe and main motive is to develop 3-D innovated parts of the body under BHARAT to boost up diagnostics and therapy” (Nautiya&Shardul, 2019). Apart from these, it has shown the sign of the credibility in drug delivery system as these system aiming to improve the pharmacokinetics of drugs which in turn helps make designing complex shapes, printing of drugs on demands creating dosage according to the

needs of the patient proliferation the bioavailability of drugs”(Uzeil, Shippel, Nir&Dan Y, 2019)”. Therefore, this innovation is kind of an ethical option that helps most of the treatments to often go with greater velocity and advantages in providing man-made organs seems like realistic ones which in turns benefits patients, their relatives and also centers of healthcare.

Different companies specifically related to aircraft industry requires different aeronautical parts like fixtures, surrogates and mounting brackets in the formation of each single aircraft. These 3-D printed components come with the plus point of the reduced cost almost 60 to 90 percent and lead timing as compared to the other manufacturing (Artley, n. d). Supporting, ensuring repeatability, accuracy and securely locating the work is the primary function of the fixtures. Because of 3-D printed fixtures company witnessed the improvement the production as it allows quick transactions and smooth operations from part to part. Another 3-D printed appliance called surrogates is a type of placeholder works to represent the parts that are later installed in final assemblies and mainly used for training (Artley, n. d.). Even many air-force bases use parts of surrogates on the production floor. Furthermore, Mounting brackets innovated by 3-D printing are used to manufacture structural, low-volume metal brackets (with DMSL/SLM) that mount complex life-saving systems to the interior wall of a plane” (Artley, n. d.). These brackets usually projected to carry heavy weights and strengthen an angle. Hence, it would not be denied if one says the present generation is having miraculous kind of pieces that 3-D has innovated, with a clear value proposition and the created parts that are stronger and lighter than parts made before using traditional manufacturing.

To culminate, these are the two prodigious innovations of 3-D printing. Therefore, the time where raw materials are cut into small pieces through machinery in order to shape them has been totally changed by the 3-D innovated machines where machines not only add layer of material even creates the final mode. 3-D printed innovated medicines and bio tech modals helps to create prosthetics and restructure bones and body parts in forensic pathology. Tendency to design new complex geometries, printing with more than one color, and printing a moving mechanism are the best qualities with which creations of 3-D printing comes and are the cheaper, reliable, make less waste and at last work with rattling speed.

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