

Additive Manufacture

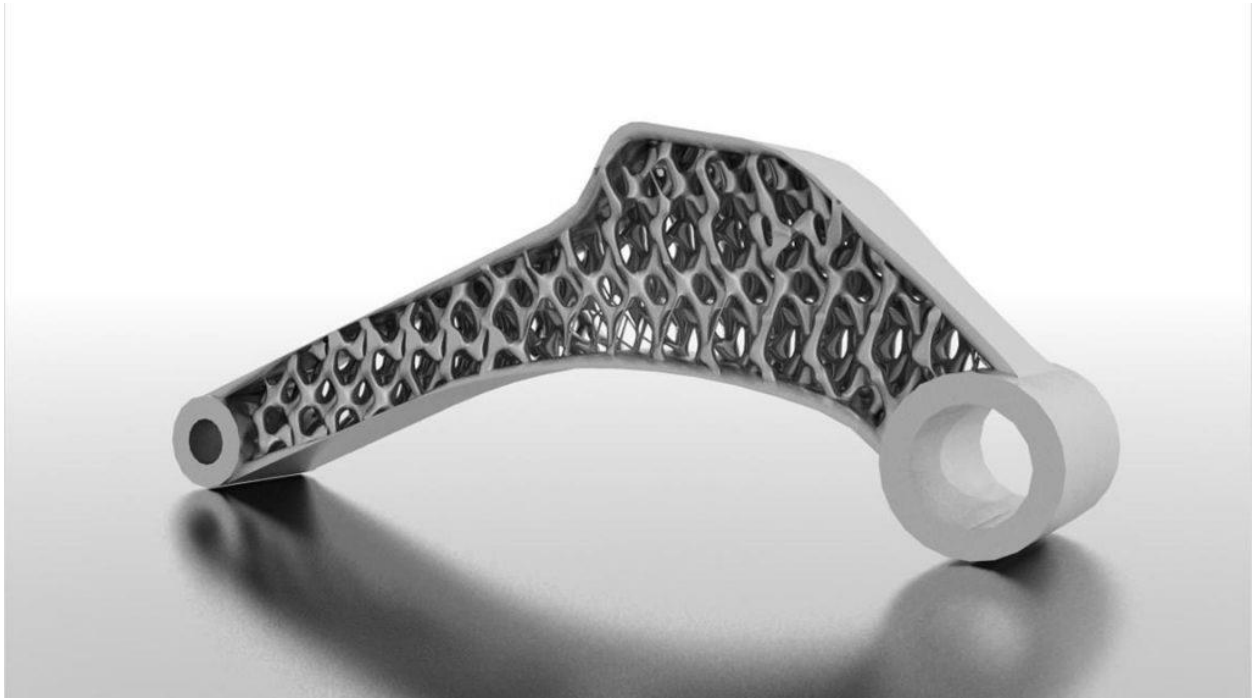
Now additive manufacture is a term that has been thrown around a lot recently, but what is additive manufacture? To put it in its most basic form it's a type of 3D printing utilising metals as the printable materials, the process similar to an FDM printer extrudes filament on and XYZ axis to produce complex and interrogate forms that would otherwise be challenging to create via conventional manufacturing techniques.

This type of manufacture has really been up and coming recently especially in the aviation and high-end automotive industries. Think about it imagine being able to create an air intake or turbine fan which twists, turns, and changes in diameter and shape. A form such as this could be made from a number of parts all needing connecting together along with potential gaskets and other parts to create seals and mounts. However, with additive manufacture you could create these forms as one single piece, these custom bespoke parts are now not a million miles away to create. Parts that could increase efficiency and reliability but cost too much or were too complicated to manufacture can now be created at the push of a button.



So, this all great but as I've mentioned a lot of these parts can already be created it just might take a few more parts and manufacturing techniques. So where does additive manufacture really come into its own? Well for that we need to look at generative design, the idea of running FEA on a part to understand where the strength and material is needed and then cutting away the waste to produce a part that has an excellent

strength to weight ratio. Doing this normally forms interesting and art like forms that would otherwise be impossible to create without additive manufacture.



“Generative design – using algorithms to perfect your 3d model”

With the combination of advancements in CAD technology and the new manufacturing technique of additive manufacture we can now produce parts that otherwise would have been impossible to create. The parts created can improve effectiveness of a product, reduce its upkeep and maintenance cost and help propel our designs into the next era. At STEP2 Design this is exactly the forward thinking we are looking to incorporate into our business, finding modern solutions to modern problems.