GRABCAD VOXEL PRINT: UNLIMITED DESIGN FREEDOM

Push 3D Printing Innovation Down to the Voxel Level

Digital design has come a long way in the last few decades. We have seen the design office transition from the traditional drawing board and pen, to 2D CAD design, to 3D CAD design and 3D printing. These developments have meant that designers and engineers are now in the driving seat for design innovation and are able to synthesize their ideas into physical objects, all in a streamlined and efficient way without jumping through hoops to get there. Now it's time to get ready for the next level of design innovation which will facilitate the most powerful and precise method of fabrication yet. In digital art, it's pixel by pixel, in biology it's cell by cell, and now in 3D printing, it's voxel by voxel.

What is a voxel you ask? A voxel is a programmable unit similar to a pixel. Pixels are different coloured units working together to create new colours; if you were to take one of these pixels and extrude it in 3D, you get a volumetric pixel, better known as a voxel. Voxels have specific colour properties similar to pixels, but can also be given specific material properties such as flexibility, opacity and rigidity. A voxel takes digital design from a macro to a micro level.

GrabCAD voxel print was recently unveiled by Stratasys product manager, Tomer Gallimidi, and introduces pure control over the microscopic properties of the materials you're using by enabling the designer to program a specific material and its viscosity. One of the most ground-breaking elements of GrabCAD voxel print is the ability to build materials from the ground up. Designers can now create their own textures and microstructures that have a variety of both design and engineering properties; these specific materials can then be put into very precise and different point-by-point locations to create an entirely new and unique product that is able to adapt and react to the desired environment.

So what does this mean for future design innovation? By being able to incorporate specific properties into a material, it opens doors to a whole load of possibilities for both industries we currently work with and new ones! Some innovations currently being developed include buildings that stay stable during an earthquake, aeroplane wings that can flex during flight, and digital anatomy that reflects a patient's anatomy inside and out.

GrabCAD voxel Print has turned the Stratasys J750 into the world's premium platform for experimentation, discovery and innovation. Here at Tri-Tech were eager to see what

opportunities the software will bring for our customers! Contact our team if you would like to know more at info@tritech3d.co.uk or call 01782 814551.