



The printed bicycle

A quick Google search of 'bike fitting' demonstrates the lengths people go to find the perfect bike set-up. Saddle height, stem-to-saddle distance, frame size, the list goes on.

But what if we turned that on its head and printed a bike exactly fitted to your measurements. Now there's a concept that could change the world of cycling.

James Novak, [Queensland College of Art](#) graduate and now lecturer at Griffith University on the Gold Coast, is earning national and international attention through his design for a 3D printed bicycle.

After initial sketches, measurements and experiments to test design, strength and simply what was possible James used a stereolithography resin to print his striking framework in one piece. Stereolithography is a rapid and precise manufacturing and prototyping technology and was ideal for James' design.

"I'm not a great cyclist by any means, but cycling is a sport and a pastime with an extremely high level of popularity and I saw an opportunity there for 3D printing to provide something new," says James.

Having turned his idea into reality, James has no doubt as to the impact 3D printing could have on such a globally popular pursuit as cycling, particularly regarding the technology's ability to produce bikes tailor-made to individuals.

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"It's one of those sports that relies as much on the quality of the equipment as it does on the fitness of the athlete, so there is the potential to make a huge impact on performance.

"As well as allowing you to customise, 3D printing can create a finished product that is much lighter, fits perfectly and is designed for increased safety with components such as LED lighting added within the frame.

"My design was measured and built to fit my body precisely and I'm sure that's where 3D printing's appeal will lie for other cyclists. From a production perspective, the next stage is to move from polymer prototype to 3D printing in titanium and carbon-fibre.

"That's where my real interest lies, in focusing on the application of this technology for sport and sports products."

Having been exhibited recently at the Gold Coast's 19Karen Contemporary Artspace, James' bicycle is about to take a long ride to the US where it will be part of a design exhibition in Philadelphia.

With the Gold Coast 2018 Commonwealth Games just four years away, who's to say the cycling gold medallists won't be riding 3D printed bikes?

