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**Renishaw brings engineering expertise to British Cycling Team at Commonwealth Games**

Global engineering technologies company [Renishaw](https://www.renishaw.com/en/renishaw-enhancing-efficiency-in-manufacturing-and-healthcare--1030) has used its expertise in additive manufacturing (AM) to contribute to the new track bike for the Great British Cycling Team (GBCT). Team members raced the bike at the Lee Valley Velodrome as part of the Birmingham 2022 Commonwealth Games, from 28th July to 8th August. Renishaw has partnered with British Cycling since 2019, when it helped to produce innovative new parts for the track bike which won seven medals at the Tokyo Olympics.

Lotus Engineering and Hope Technology first collaborated to develop the new bike, particularly focusing on speed to maximise its performance and push for medals. British Cycling then approached Renishaw to join the development team, recognising the benefits of metal 3D printing when developing lightweight yet complex components.

“The Commonwealth Games was a brilliant opportunity to display the innovation of British engineering as well as British talent on our home turf,” stated Ben Collins, Senior Additive Manufacturing Application Engineer at Renishaw. “The riders needed the best equipment to perform at such high levels. By providing tailored AM parts to the cycling team, we’ve delivered the performance the team requires while also highlighting the potential of AM in producing high quality strong, lightweight, and complex components.”

Renishaw’s additive manufacturing team used its expertise to rapidly manufacture and prototype plastic and metal parts during the bike design process to ensure the parts provided optimal aerodynamics. Rapid testing was essential; while carbon fibre is the most effective material for lightweight yet strong engineering, this requires injection moulding which takes longer from design to finished part than AM methods. Creating a different mould for every design change made with carbon fibre means a slow testing process, whereas printed titanium allows for further innovation with part design, plus quicker turnaround during prototyping.

British Cycling benefitted from the rapid precision of AM when designing the parts that require customisation such as the handlebars. For the Tokyo Olympics Renishaw engineers created custom handlebars, tailored to individual riders for optimum ergonomics. AM enables a quicker turn around than specially moulded carbon fibre parts, which allow the team to make last-minute modifications before a race. At Tokyo this was a necessary contingency that proved beneficial.

For further information on Renishaw’s partnership with the Great British Cycling Team bike or its expert additive manufacturing division visit <https://www.renishaw.com/additive>

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**Notes to editors**

UK-based Renishaw is a world leading engineering technologies company, supplying products used for applications as diverse as jet engine and wind turbine manufacture, through to dentistry and brain surgery. It has over 5,000 employees located in the 36 countries where it has wholly owned subsidiary operations.

For the year ended June 2021 Renishaw recorded sales of £565.6 million of which 95% was due to exports. The company’s largest markets are China, the USA, Japan and Germany.

Throughout its history Renishaw has made a significant commitment to research and development, with historically between 13 and 18% of annual sales invested in R&D and engineering. The majority of this R&D and manufacturing of the company’s products is carried out in the UK.

The Company’s success has been recognised with numerous international awards, including eighteen Queen’s Awards recognising achievements in technology, export and innovation.

Further information at [www.renishaw.com](http://www.renishaw.com/)