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Renishaw additive manufacturing helps British cyclist Matthew Richardson beat 200m world record

[Renishaw](https://www.renishaw.com/en/renishaw-enhancing-efficiency-in-manufacturing-and-healthcare--1030?utm_source=google&utm_medium=article&utm_campaign=REC1041&utm_id=REC1041&utm_term=cycling&utm_content=Earned)’s metal additive manufacturing technology has helped Great Britain’s track cyclist Matthew Richardson, to become the first cyclist in history to break the nine-second barrier in the UCI Men’s Elite 200m Flying Start. Matthew then broke his own world record 24 hours after setting it, by 0.084 seconds, with a new time of 8.857 seconds.

Riding a custom Hope HB.T track bike, Richardson was equipped with Renishaw’s 3D-printed metal components, including sprint handlebars, track cranks and a twin seat post – designed for maximum stiffness, aerodynamic efficiency and a rider-specific fit. These components helped to enable Richardson to deliver sustained, peak power while maintaining aerodynamic form at over 50 mph (80.5 km/h). Taking place at the Konya Velodrome in Turkey, Richardson’s fastest time shaved 0.231 seconds off the previous world record held by Harrie Lavreysen of the Netherlands.

Renishaw technology also supported British Cycling’s Will Bjergfelt’s and Charlie Tanfield’s as they attempted to break two further world records. Will Bjergfelt shattered the Men’s C5 UCI Hour Record presented by Tissot, covering an impressive 51.471 km in just one hour. Charlie Tanfield also attempted a new Hour Record, but with a distance of 53.967km he fell short of Filippo Ganna’s 2022 record of 56.791km.

“Elite sport is one of the toughest proving grounds for any technology,” said Ben Collins, Lead Applications Engineer at Renishaw. “The demands placed on these bikes, from aerodynamic precision to structural integrity, are extraordinary. To see our additive manufacturing technology contribute to Matt’s historic sub-nine-second ride is a proud moment for everyone at Renishaw.”

By working closely with the British Cycling engineering team, Renishaw’s additive manufacturing team developed components with complex geometries and weight-to-strength ratios that traditional manufacturing cannot achieve. This level of customisation allows riders like Richardson to achieve the optimal blend of comfort, efficiency and power transfer, crucial factors at the highest level of competition.

Richardson’s record is part of a growing list of world-class achievements powered by Renishaw’s additive manufacturing expertise, as it continues to deliver measurable performance gains through precision engineering.

For further information about Renishaw, visit [www.renishaw.com/additivemanufacturing](www.renishaw.com/additivemanufacturing%20)

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**About Renishaw:**

Renishaw is a world leading supplier of measuring systems and manufacturing systems. Its products give high accuracy and precision, gathering data to provide customers and end users with traceability and confidence in what they’re making. This technology also helps its customers to innovate their products and processes.

It is a global business with over 5,000 employees located in the 36 countries where it has wholly owned subsidiary operations. The majority of R&D work takes place in the UK, with the largest manufacturing sites located in the UK, Ireland and India.

For the year ended June 2024 Renishaw recorded sales of £691.3 million of which 95% was due to exports. The company’s largest markets are China, USA, Japan and Germany.

Renishaw is guided by its purpose: Transforming Tomorrow Together. This means working with its customers to make the products, create the materials, and develop the therapies that are going to be needed for the future.

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