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**Welsh bike manufacturer races ahead with additive manufacturing**

Global engineering technologies company, [Renishaw](https://www.renishaw.com/en/renishaw-enhancing-efficiency-in-manufacturing-and-healthcare--1030?utm_source=Renishaw&utm_medium=HN&utm_campaign=REC557), has collaborated with Wales-based bespoke bike manufacturer [Atherton Bikes](https://www.athertonbikes.com/?utm_source=Renishaw&utm_medium=HN&utm_campaign=REC557), to help develop its in-house additive manufacturing (AM) processes and develop more durable, World-cup winning bikes.

The Atherton family, founders of Atherton Bikes, are World Championship-winning mountain bikers who use their own bikes to race in downhill mountain biking competitions. The family has won three World Cups on their bikes and use their expertise to produce a range of bespoke mountain bikes that are used internationally.

Atherton is proudly located in Machynlleth, Wales and wanted to give its customers the ability to test their new bikes on the Welsh mountains, which are a short drive from the office. To reduce part manufacturing time, Atherton has moved all manufacturing processes in-house. This includes additively manufacturing (3D printing) lightweight and robust lugs to reinforce joints between tubes and help distribute the stresses put on the bike in harsh terrain.

“The small size of our office in Wales was a challenge, because most machines are produced to fit an industrial unit, so Renishaw’s experts suggested we opt for the RenAM 500Q,” explained Dan Brown, Co-founder of Atherton Bikes. “The machine’s compact size, high speed and build accuracy made it a perfect solution. With this machine we are able to keep up with the bespoke and high demand manufacturing requirements, especially during the busy race season. We are able to easily modify the lug design using computer aided design, allowing us to quickly produce bespoke lugs and reproduce them if necessary.

“Renishaw has supported us throughout the process, from manufacturing parts before we invested in a machine to installation and training our staff,” continued Brown. “Some of our colleagues were personally trained by the Renishaw engineer at New Mills who personally manufactured our parts. His specific knowledge about our production process allowed our staff to quickly adapt to in-house manufacturing after the training session.”

“By investing in AM processes, Atherton has the design freedom to develop the best parts for its bikes, something that was difficult to achieve using traditional casting methods,” commented Bryan Austin, Director of Sales for Renishaw’s Additive Manufacturing Group. “Casting using moulds does not lend itself to producing the bespoke components that are required for Atherton’s customers. Casting also produces heavier parts because it cannot produce the internal honeycomb structure that allows 3D printed parts to be lighter.”

The compact four-laser RenAM 500Q metal additive manufacturing system features four 500 W lasers and greatly improves productivity whilst increasing the quality of the components being built. By speeding up the manufacturing process by up to four times, the system has broadened the market for applications that were previously uneconomic. The system is manufactured at Renishaw’s site in Miskin, Wales.

For further information on metal AM systems from Renishaw, visit [www.renishaw.com/am](http://www.renishaw.com/am)

Find out more about Atherton Bikes’ latest innovations on their new website [www.athertonbikes.com](http://www.athertonbikes.com)

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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 37 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/)