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**Cardiff University invests in Renishaw additive manufacturing machine**

Cardiff University has invested in a [Renishaw AM250 machine](http://www.renishaw.com/en/am250-laser-melting-metal-3d-printing-machine--15253), adding laser melting to the University’s already extensive additive manufacturing research and development technologies.

In a move which continues the Welsh university’s long history of R&D in 3D printing, the addition of the Renishaw AM250 sees the Additive Laboratories at its School of Engineering adopt a more holistic approach to manufacturing.

Renishaw’s additive manufacturing (metal 3D printing) technology is a digitally driven process that uses a high powered ytterbium fibre laser to fuse fine metallic powders into 3D objects, direct from 3D CAD data. The metallic powder is distributed evenly across the build plate in layer thicknesses ranging from 20 to 100 microns forming the 2D cross section. The layer of powder is then fused using the laser in a tightly controlled atmosphere. The process is repeated, building up parts of complex geometries, layer by layer.

The AM250 machine, which is manufactured at Renishaw’s facility to the west of Cardiff, allows the construction of fully dense, highly complex metal parts and structures that are not possible to build using traditional subtractive manufacturing techniques. Applications for the machine range are vast and range from producing quality prototypes and one-off high value parts, to creating bio-compatible orthopaedic implants.

Commenting on the collaboration between Renishaw and Cardiff University, Rossi Setchi, the professor responsible for high value manufacturing, said she was “very excited” at the prospect.

She said, “Since the mid-1990s the Additive Manufacturing Laboratories at Cardiff School of Engineering have had a fantastic track record of additive manufacturing R&D in metal sintering, in resins, and in polymers.

She continued, “Our Additive Manufacturing Labs incorporate a wide range of 3D printing technologies and the ability to produce macro and micro components - we’re very excited to be able to add laser melting to this mix for the first time with the purchase of this Renishaw AM250 machine.

This equipment combined with our pioneering expertise will advance R&D in the additive manufacturing field as well as enabling research and development in a very wide range fields from advanced manufacturing through healthcare to energy.”

Professor Setchi concludes, “Cardiff’s collaboration with a world-leading metrology company Renishaw, and new metrology facilities at Cardiff School of Engineering, allows our AM Labs immediate access to state-of-the-art measurement equipment in order to verify the dimensional accuracy of R&D and production laser melted components”

Simon Scott, Director and General Manager of Renishaw’s Additive Manufacturing Products Division said, “Renishaw is delighted that Cardiff have chosen Renishaw additive manufacturing technology to accompany the already very extensive facilities.”

He continued, “As with many new and disruptive technologies it is the collaborative relationship that fosters and supports the breakthroughs that lead to wider adoption and we are looking forward to a strong partnership to support this goal.” Ends

**About Renishaw**

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 employs 3600 people globally, some 2,400 of which are located at its 15 sites in the UK, plus 1,200 staff located in the 32 countries where it has wholly owned subsidiary operations.

For the year ended June 2014 Renishaw recorded sales of £356 million of which 93% was due to exports. The company's largest markets are the USA, China, Germany and Japan.

The Company's success has been recognised with numerous international awards, including seventeen Queen's Awards recognising achievements in technology, export and innovation. For more information visit [www.renishaw.com](http://www.renishaw.com)

**About Cardiff University**

Cardiff University is recognised in independent government assessments as one of Britain’s leading teaching and research universities and is a member of the Russell Group of the UK’s most research intensive universities.

Among its academic staff are two Nobel Laureates, including the winner of the 2007 Nobel Prize for Medicine, University Chancellor Professor Sir Martin Evans. Founded by Royal Charter in 1883, today the University combines impressive modern facilities and a dynamic approach to teaching and research.

The University’s breadth of expertise encompasses: the College of Arts, Humanities and Social Sciences; the College of Biomedical and Life Sciences; and the College of Physical Sciences and Engineering, along with a longstanding commitment to lifelong learning.

Cardiff's four flagship Research Institutes are offering radical new approaches to cancer stem cells, catalysis, neurosciences and mental health and sustainable places.