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**Renishaw launches new software to improve additive manufacturing (AM) quality**

At Formnext 2019 in Frankfurt, Germany (the leading global exhibition and conference on additive manufacturing), Renishaw launched InfiniAM™ Sonic acoustic process monitoring software to complement its InfiniAM suite of additive manufacturing (AM) monitoring tools. InfiniAM Sonic enables engineers to detect acoustic events within the AM build chamber and turn this data into useful information about build quality. The software is the first of its kind in the AM industry.

The InfiniAM Sonic package is installed into the RenAM 500Q system as a factory fit option and includes four acoustic energy sensors to detect vibration in the build,. The sensors detect minute vibrations and collect these sound waves so that they can be heard, viewed and analysed. Using four high frequency sensors in different locations results in a slight time difference, due to the speed of sound. The software uses this to triangulate the position of the noise on the build plate. In addition, the software presents a level of certainty regarding where the noise occurred, and the magnitude. This data can then be combined graphically with other sensor data to build a comprehensive view of the part and the conditions at the time of build.

InfiniAM Sonic works alongside InfiniAM Central and InfiniAM Spectral, which provide improved understanding of build quality, increased confidence in the build process and accelerated process development. The InfiniAM Central mobile app is also available, so that users can receive notifications on their build process in near real-time.

“The rapid heating and cooling that takes place during an AM build leads to residual stress in the part,” explained David Ewing, AM Product Manager at Renishaw. “While each laser weld results in a small amount of stress, residual stress can build up within the part, and if it increases past the strength of the metal it may lead to a fracture in the support material or part itself.”

“Renishaw’s InfiniAM software suite makes it a lot easier to understand what is happening during an AM build,” continued Ewing. “ Spectral and Central give manufacturers ‘eyes’ inside their AM component and process - now we’ve launched InfiniAM Sonic as the ‘ears’. These tools help engineers to better understand their AM parts and processes, and identify potential causes of defects early on. This is particularly useful whilst developing and validating parts. The more data available, the quicker it is to confirm manufacturing is in specification; root cause investigation is simplified, and if necessary the build can be stopped, saving material and time.”

Renishaw manufactures laser powder bed metal additive manufacturing machines. Its product portfolio includes the RenAM 500Q, a highly-productive machine that features four lasers in the most commonly used platform size.

For further information on Renishaw’s software for additive manufacturing, visit <https://www.renishaw.com/en/software-for-laser-powder-bed-fusion-metal-3d-printing-systems--15255>.

**-ENDS-**

**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 5,000 employees located in the 36 countries where it has wholly owned subsidiary operations.

For the year ended June 2019 Renishaw recorded sales of £574 million of which 94% was due to exports. The company’s largest markets are the USA, China, 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](https://renishawplc-my.sharepoint.com/personal/lp138190_renishaw_com/Documents/www.renishaw.com)