Renishaw Inc.
Additive Manufacturing Products Division

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News from Renishaw

For Immediate Release

Renishaw Introduces New Software to Improve Additive Manufacturing (AM) Quality

West Dundee, IL – January 27, 2020 – Renishaw, a precision engineering and manufacturing technologies company, recently launched its 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 installed option and includes four acoustic energy sensors to detect vibration in the build. The sensors detect minute vibrations and collect the sound waves so that they can be heard, viewed and analyzed. 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, providing a level of assurance regarding where the noise occurred, as well as 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 in conjunction with 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 the 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 better understand their AM parts and processes, and identify potential causes of defects early in the process. This is particularly useful while developing and validating parts. The more data available, the quicker it is to confirm manufacturing is meeting specifications. 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.

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About Renishaw

Renishaw is one of the world's leading engineering and scientific technology companies, with expertise in precision measurement and healthcare. The company supplies products and services used in applications as diverse as jet engine and wind turbine manufacture, through to dentistry and brain surgery. It is also a world leader in the field of additive manufacturing (also referred to as 3D printing), where it designs and makes industrial machines that “print” parts from metal powder.

The Renishaw Group currently has more than 70 offices in 35 countries, with around 4,500 employees. AM Solutions Centers are located in the USA, UK, Germany, Canada, India and China. For more information on Renishaw, visit www.renishaw.com.

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