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MKS' Ophir® Business Unit Announces BeamCheck™, Beam Profiling System for Additive Manufacturing

Andover, MA, March 13, 2017 – [MKS Instruments, Inc.](http://www.mksinst.com) (NASDAQ: MKSI), a global provider of technologies that enable advanced processes and improve productivity, has announced BeamCheck™ from Ophir®, a new beam profiling system that ensures accurate laser performance in additive manufacturing applications, like selective laser sintering (SLS) and selective laser melting (SLM).

BeamCheck is an integrated laser measurement system that measures critical beam parameters in laser-based additive manufacturing: focal spot size, laser power, and laser power density at the build plane, and changes in spot size and power density over time.

Gary Wagner, General Manager, Ophir (U.S.) said, "Laser-based additive manufacturing processes, such as SLS and SLM, require consistent energy be delivered to the material so the power density is just right -- neither too hot nor too cold -- for successful material modification. BeamCheck determines if the laser is delivering the right amount of power, and if it is distributed and focused at the right location."

BeamCheck integrates a high resolution CCD camera for spatial measurements and a NIST-traceable power sensor for a complete analysis of the laser power density profile. The camera is precisely located at the build plane so an accurate power density model of the working laser beam can be made. A beam splitter directs a small percentage of the beam from the fiber laser to the camera, while the majority of the beam is directed to the integrated power sensor. From these measurements, an



accurate beam spot size and power density can be derived.

Availability & Pricing

The BeamCheck beam profiling system for additive manufacturing is available now. OEM prices available on request.

Video: <http://ow.ly/cai4309xwQO>

Data Sheet: <http://ow.ly/MQs6309qkA1>

About MKS

[MKS Instruments, Inc.](#) (NASDAQ: MKSI) is a global provider of instruments, subsystems and process control solutions that measure, control, power, monitor and analyze critical parameters of advanced manufacturing processes to improve process performance and productivity. Our products are derived from our core competencies in pressure measurement and control, materials delivery, gas composition analysis, control and information technology, power and reactive gas generation, vacuum technology, photonics, optics, lasers and motion control. Our primary served markets are manufacturers of capital equipment for electronic thin film, process manufacturing, environmental monitoring and life sciences, as well as government and research.

About Ophir Business Unit

With over 40 years of experience, [Ophir](#) provides a complete line of instrumentation including power and energy meters, and beam profilers. Dedicated to continuous innovation in laser and LED measurement, the company holds a number of patents, including the R&D 100 award-winning BeamTrack power/position/size meters; BeamWatch®, the industry's first non-contact, focus spot size and position monitor for lasers in material processing; and Spiricon's Ultracal™, the baseline correction algorithm that helped establish the ISO 11146-3 standard for beam measurement accuracy. The Photon family of products includes NanoScan scanning-slit technology, which is capable of measuring beam size and position to sub-micron resolution. The company is ISO/IEC 17025:2005 accredited for calibration of laser measurement instruments. Their modular, customizable solutions serve manufacturing, medical, military, and research industries throughout the world.

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