



## **MKS Instruments Unveils a New Approach to Pressure Measurement at the AVS International Symposium**

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### **Demonstration Highlights Compact, Photonics-Based Pressure Standard developed under a CRADA with NIST**

ANDOVER, Mass., Oct. 22, 2018 (GLOBE NEWSWIRE) -- MKS Instruments, Inc. (NASDAQ: MKSI), a global provider of technologies that enable advanced processes and improved productivity, has partnered with the National Institute of Standards and Technology (NIST) to develop a new primary pressure measurement standard.

In its collaboration with NIST, MKS is pleased to announce that it will present, for the first time, a prototype version of its innovative and compact, photonics-based pressure standard at the AVS 65<sup>th</sup> International Symposium and Exhibition, October 23<sup>rd</sup>-25<sup>th</sup>, in Long Beach, California, Booth #215.

Operating under a Cooperative Research and Development Agreement (CRADA), MKS and NIST are on track to scale the pressure measurement system down by creating a more cost-effective standard for use in aircraft applications, weather stations, semiconductor metrology, and many other applications. Although not yet commercially available, this new standard has the potential to replace the expensive, bulky mercury column manometers currently used in pressure metrology applications, and in turn, seeks to offer an affordable and sleeker, yet more precise technique for gas pressure metrology.

One of NIST's missions is to develop primary standards based on the principles of quantum mechanics, and they have achieved this goal through their fixed length optical cavity (FLOC) invention, incorporated into a laser-based measurement system that measures the speed of light in any gas as compared to that in vacuum. With a higher resolution in the ability to measure pressure changes, the FLOC-based system significantly outperforms the traditional mercury standard, yielding more reliable measurements, while reducing cost. Additionally, in an effort to develop this technique into a commercial product, MKS and NIST have cooperated in the development of an innovative laser-based measurement system that is both portable and transportable. It is at least 20 times smaller than the typical mercury column manometers used as primary pressure standards. Moreover, it is mercury-free and therefore environmentally friendly.

"MKS Instruments brings over 50 years of pressure measurement, optical and laser experience, and we are a perfect complement to NIST and their capabilities. MKS is honored to have been selected by NIST to work with them on this important and prestigious development," said Phil Sullivan, CTO of MKS' Pressure and Vacuum Measurement Solutions business. Phil added, "The National AVS 2018 symposium and exhibition is an event focused on emerging technologies so it is a great platform in which to provide this demonstration."

To see a prototype version of the FLOC pressure standard developed under the CRADA, visit the MKS booth #215 at the AVS 65<sup>th</sup> International Symposium and Exhibition, October 23<sup>rd</sup>-25<sup>th</sup>, in Long Beach, California.

### **About MKS Instruments**

MKS Instruments, Inc. is a global provider of instruments, subsystems and process control solutions that measure, monitor, deliver, analyze, power and control critical parameters of advanced manufacturing processes to improve process performance and productivity for our customers. Our products are derived from our core competencies in pressure measurement and control, flow measurement and control, gas and vapor delivery, gas composition analysis, residual gas analysis, leak detection, control technology, ozone generation and delivery, power, reactive gas generation, vacuum technology, lasers, photonics, sub-micron positioning, vibration control and optics. We also provide services relating to the maintenance and repair of our products, installation services and training. Our primary served markets include the semiconductor, industrial technologies, life and health sciences, research and defense markets. Additional information can be found at [www.mksinst.com](http://www.mksinst.com).

Company Contact: Bill Casey  
Senior Director, Marketing Communications  
Telephone: +1 978.645.5433  
Email: [bill\\_casey@mksinst.com](mailto:bill_casey@mksinst.com)



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