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Applied Optoelectronics Introduces Ultra-Narrow Linewidth Sensor Laser for Oilfield Applications

SUGAR LAND, Texas, Feb. 11, 2014 (GLOBE NEWSWIRE) -- Applied Optoelectronics, Inc. (Nasdaq:AAOI), a leading provider of fiber-optic access network products for the cable broadband, internet data center, and fiber-to-the-home markets, today announced availability of an ultra-narrow linewidth laser that is ideally suited for acoustic sensing applications.

The new sensing laser uses a novel external-cavity design to produce an exceptionally spectrally-pure beam. The ultra-narrow linewidth of less than 100 kHz is approximately 500 times more narrow than comparable distributed feedback (DFB) lasers that lack the novel external cavity design.

These new sensing lasers have application in acoustic sensing as well as a broad array of other applications that utilize optical technology to provide less intrusive sensing techniques. Using a very narrow linewidth allows the construction of acoustic sensors with pressure sensitivity that is hundreds of times better than could be achieved with typical DFB lasers.

Sensing lasers with increased pressure sensitivity have particular use in oilfield applications, including distributed sensors that are introduced within a well bore to monitor pressure and temperature along the bore. Also, arrays of such sensing lasers can be used in seismic applications in the oilfield for higher-resolution reservoir mapping or near-real-time monitoring of hydraulic fracture propagation.

"We have a deep heritage in the optical sensing market," commented Dr. Stefan Murry, AOI's Chief Strategy Officer. "With the advent of revolutionary new techniques for extraction of oil and gas such as hydraulic fracturing, new advanced deposit locating technologies using optical sensing lasers are in active development. Our new lasers are key components for a new generation of high-precision acoustic sensors. Leveraging our laser expertise and expanding our product portfolio to address new markets is a key strategy for AOI. Our new sensing laser is an example of the applicability of our extensive optics design capabilities for these exciting new areas."

The new sensing lasers were developed by AOI's R&D team located in Houston, Texas, America's energy hub. Manufacturing of the sensing laser components also takes place in Houston (at AOI's Sugar Land facility), and the lasers are currently in volume production.

For more information about AOI's complete portfolio of components, modules, and systems, contact us by email at sales@ao-inc.com, or visit our website at www.ao-inc.com.

About Applied Optoelectronics

Applied Optoelectronics Inc. (AOI) is a leading developer and manufacturer of advanced optical products, including components, modules, and equipment. AOI's products are the building blocks for broadband fiber access networks around the world, where they are used in the CATV broadband, internet datacenter, and fiber-to-the-home markets. AOI supplies optical networking lasers, components and equipment to tier-1 customers in all three of these markets. In addition to its corporate headquarters, wafer fab and advanced engineering and production facilities in Sugar Land, TX, AOI has engineering and manufacturing facilities in Taipei, Taiwan and Ningbo, China. For additional information, visit www.ao-inc.com.

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