



SpectraSensors Receives 2009 North America Frost & Sullivan Award for Technology Innovation of the Year

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Houston, TX ([PRWEB](#)) September 21, 2009 -- Based on its recent analysis of the trace gas and moisture measurement instrumentation market, Frost & Sullivan recognizes SpectraSensors with the 2009 North America Frost & Sullivan Award for Technology Innovation of the Year. The recipient has developed instruments that use laser absorption spectroscopy and a tunable diode laser (TDL) that emit near-infrared light (NIR) for enhanced, non-contact, precise measurement of key constituents such as moisture, hydrogen sulfide, carbon dioxide, and acetylene in a gas sample.

[SpectraSensors' TDL technology](#) can be applied in critical and demanding applications, including natural gas quality measurement, trace measurement in industrial process plants, and atmospheric monitoring. The company offers high selectivity, immunity to interfering analytes in the gas stream, increased sensitivity and repeatability, rapid response time, and freedom from contamination.

"SpectraSensors' analyzers can help [natural gas](#) companies address an intensifying need for more cost-effective and reliable ways to inspect natural gas pipelines for signs of internal corrosion," says Frost & Sullivan Research Analyst Peter Adrian. "The value proposition that the company's analyzers offer in natural gas quality measurement include low maintenance, minimal or the possibility of no need for calibration over the lifetime of the instrument, and the ability to measure key analytes or multiple key analytes using a single instrument."

SpectraSensors' sensing systems can help provide improved continuous aircraft-based weather modeling and forecasting, which in turn, can improve aircraft routing (thereby conserving carbon dioxide emissions and fuel costs), safety, and understanding of the role of water vapor in global warming. SpectraSensors' second-generation [water vapor sensing system](#) (WVSS-II) is expected to be deployed on commercial aircraft in the latter half of 2009.

SpectraSensors' TDL gas analyzers use laser absorption spectroscopy to detect one or more specific gases in a mixture of gases. The optical spectrometric approach is not affected by corrosive gas streams and is more reliable as the sensing element is not in contact with the gas sample of interest. Advances in semiconductor lasers have made this technology more economically viable for the measurement of H₂O and in CO₂ in natural gas because of the special wavelengths required. Analytes such as [H₂O, CO₂, H₂S, and C₂H₂](#) are measured by monitoring their absorption of laser light at specific wavelengths in the NIR wavelength region.

"Using a laser that operates precisely at a wavelength where the analyte of interest absorbs, it is possible to accurately determine the concentration of the gas by measuring the fraction of light that is absorbed by the molecules," notes Peter Adrian. "Since the length of the laser beam can affect the sensor's sensitivity, SpectraSensors offer the dual-pass optical configuration in most applications, while it can require a different number of passes."



Some of the key benefits of the TDL include low cost of ownership, minimal maintenance, sporadic calibration and more reliable performance compared to other technologies such as electrochemical sensors. Moreover, the [TDL analyzer](#) provides rapid, continuous, real-time measurements with no wet-up or dry-down delays.

Depending on the application, the response speed of the TDL analyzers can be between 5 and 60 seconds. In contrast, conventional capacitive probe-based moisture analyzers could require dry-down time for the moisture to evaporate from the probe and it may have to be replaced by a fresh sample. Traditional techniques could also rely on the diffusion of the sample gas into the sensor's detection cavities, so the sensor must dry down before it can provide accurate readings.

"SpectraSensors continues to create more accurate pressure and temperature algorithms that improve the analyzer's ability to detect stream composition and renders the analyzer less sensitive to temperature and thus, more stable," observes George Balogh. "For specific applications, the TDL analyzers have a detection capability down to 50 ppb (parts-per-billion)."

Each year, Frost & Sullivan presents this award to the company that has carried out new research, which has resulted in innovations that have or are expected to bring significant contributions to the industry in terms of adoption, change, and competitive posture. This award recognizes the quality and depth of a company's research and development program as well as the vision and risk-taking that has enabled it to undertake such an endeavor.

Frost & Sullivan's Best Practices Awards recognize companies in a variety of regional and global markets for demonstrating outstanding achievement and superior performance in areas such as leadership, technological innovation, customer service, and strategic product development. Industry analysts compare market participants and measure performance through in-depth interviews, analysis, and extensive secondary research in order to identify best practices in the industry.

About SpectraSensors

SpectraSensors, Inc. is a leading manufacturer of optically based gas and moisture analyzers for analytical process markets. SpectraSensors uses Tunable Diode Laser (TDL) Absorption Spectroscopy in an array of products such as Ambient Air Monitoring, Moisture Analyzers (Hygrometers) and Gas Analyzers for Natural Gas Pipelines and Processors, Petrochemical Refineries and Chemical Companies. SpectraSensors' gas analyzers measure moisture (H₂O), carbon dioxide (CO₂), hydrogen sulfide (H₂S), acetylene (C₂H₂), oxygen (O₂) and more. For more information please visit <http://www.spectrasensors.com>.

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