DoE Funding for IoT Methane Sensor System Received by UNM and SensorComm Technologies for Natural Gas Leak Detection

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Natural Gas Leak Detection: DoE Funding Received by UNM and SensorComm Technologies, Inc. for Innovative IoT Methane Sensor System.

ALBUQUERQUE, NM, UNITED STATES, September 14, 2021 / EINPresswire.com/ -- SensorComm Technologies, Inc. (the “Company”, “SensorComm” or “SCT”) with offices in New Mexico and California (USA), together with the University of New Mexico Center for Micro-Engineered Materials (“UNM”), is pleased to announce that U.S. Department of Energy (“DoE”) year two funding has been received for natural gas leak detection using an innovative Internet-of-Things ("IoT") methane sensor system.

In 2020 DoE awarded UNM, through its Office of Fossil Energy (Award DE-FE0031864), a three year program to develop an innovative methane sensor for natural gas leak detection. Year one progress was reviewed by DoE and year two funding was approved.

The IoT methane sensor system utilizes additive manufacturing for rapid prototyping and low-cost production, machine learning techniques for quantification and identification of methane leaks, and IoT-based remote data transmission for testing, evaluation and deployment.

The team has presented its ongoing results at a series of conferences. In October 2020, presentations were delivered at the PRiME Pacific Rim Meeting on Electrochemical and Solid State Science. In June 2021, presentations were delivered at the 239th ECS Meeting with the 18th International Meeting on Chemical Sensors.

Emissions of methane from natural gas infrastructure account for over 13 Tg/yr of per year CO2 equivalent in the U.S. with an estimated annual cost of over $2 billion dollars to the industry. A major challenge is that pipeline infrastructure often overlaps with other sources of methane emissions (e.g. agricultural and wetland sites). Therefore, accurate leak detection requires

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> *Kamil Agi, Ph.D., President & CEO, SensorComm Technologies, Inc.*

sensors that can differentiate pipeline emissions from livestock and/or wetlands.

"Additive manufacturing is a promising route to the fabrication of these sensors, especially for rapid prototyping," stated Fernando Garzon, Ph.D., Distinguished Professor, University of New Mexico, Department of Chemical and Biological Engineering, and Director, Center for Micro-Engineered Materials. "Material systems are carefully selected for sensitivity to CH4, heavier hydrocarbons and other subcomponents, which allow the fingerprinting of methane emissions."

Lok-kun Tsui, Ph.D., Research Assistant Professor, University of New Mexico, Center for Micro□Engineered Materials, added: "We have demonstrated that we can perform both identification and quantification with artificial neural networks for mixtures of CH4, NH3 and Natural Gas. Additional on-premise, low-cost analytics allows for rapid determination of methane emissions sources with better than 99% accuracy for mixture identification and < 2 % ppm error for quantification of CH4."

IoT capability allows for low-cost deployments, real-time monitoring and early-warning alerts for leak detection. Additional capabilities include cloud-based post-processing analytics, data storage for baselining and trend analysis.

A recent article published by Nature found that anthropogenic emissions are expected to be significantly higher than originally anticipated. Kamil Agi, Ph.D., President and CEO, SensorComm Technologies, Inc., concluded: "By bringing together industry-leading sensor technology with IoT capability, this platform can have a rapid and significant impact on decreasing greenhouse gas methane emissions, and thus, slowing climate change."

Additional information will be made available in future news releases.

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About SensorComm Technologies: SensorComm is building a better, more sustainable world with smart IoT solutions for transportation, healthcare and energy. We provide Wi-NOx™ pollution monitoring systems for vehicles, Data-Centric Care™ for COVID-19 (EvexiaBand™) and emission sensing for natural gas infrastructure. Our systems provide information and intelligence leading to efficiencies that enable individuals to make smarter choices for themselves, and the world around them.

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