

Sporian Developing High Temperature Pressure Sensor for NASA

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Sporian Microsystems, has been awarded a contract from the U.S. National Aeronautics and Space Administration (NASA) to develop a capacitive pressure sensor for harsh environments. The sensor will be able to survive extremely harsh conditions including temperatures in excess of 1000oC (1832oF), pressures in excess of 500 PSI (34 bars), plus exposure to corrosive and oxidizing gasses. The effort will leverage Sporian's expertise in technology areas including: piezoresistive pressure sensors, PDCs (polymer derived ceramic materials) and electronics packaging for harsh environments.

Sporian will provide a subcontract to Boeing to assist with the development of this technology. Robert Frampton, a senior systems engineer for Boeing Phantom Works in Huntington Beach, Calif., said: "Boeing looks forward to working with Sporian to demonstrate this technology. The high-temperature capability of Sporian's pressure sensor will allow applications to measure pressures in small rocket thruster combustion chambers and in jet engines, where in situ pressure measurements are not now possible."

"Our goal is to develop a sensor that improves the ability for active control of combustion instabilities in lean burning, low emission aircraft engines. This will enable combustor designs that allow for complete combustion of the fuel while forming fewer pollutants," said Sporian principal investigator Dr. Kevin Harsh. "Other opportunities exist for the sensor to aid in space exploration. The sensor could potentially be used in a Venus probe or for processing extraterrestrial soil to 'live off the land' in space instead of bringing all of the space crew supplies from earth."

NASA Glenn Research Center, Aeronautics Research Directorate, Supersonics and Environmentally Responsible Aviation Project will monitor the results of Sporian's development efforts. Beyond aerospace, Sporian recognizes opportunities in the electric utility industry where major efforts in harsh environment sensing need to be realized to improve the efficiency of electricity generating assets.

ABOUT SPORIAN: Sporian Microsystems, Inc. develops, markets, manufactures and sells a family of novel sensors, multiple sensor-suites, sensor-subsystems and sensor data-loggers. These systems communicate via wireless and wired interconnects, and they deliver several key features including small size, weight and power (SWaP) consumption and low cost. The company owns deep technical, marketing and managerial talent and a strong, differentiated intellectual property and patent base. Sporian is pursuing a product development roadmap that includes four interrelated product lines:

- * Environmental sensors including such parameters as temperature, vibration, humidity, and shock,
- * Biological and chemical sensors for environmental contaminant and serum pathogen detection,
- * Sensors, coatings and packaging for harsh, high temperature and pressure environments,
- * Systems to integrate sensors with signal processing, data logging, wired and wireless communications, and interface software.

For more information visit www.sporian.com or call 303-516-9075 X 19.

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