



Business Opportunities

Solid State Gas Sensors

Executive Overview:

Gas sensors are widely used to ensure human safety, protect the environment, and optimize the performance of control systems. The total cost of ownership (TCO) for gas sensors today is a limiting factor in improving safety, air quality, and energy efficiency. The TCO includes not only the up-front cost of sensors but also the cost of performance degradation and replacement. The TCO is particularly high when sensors are needed in larger numbers, subjected to harsh environments and required to maintain accuracy over long periods of time.

Over the past decade, scientists and engineers at Los Alamos National Laboratory (LANL) have developed a family of solid state gas sensors that are accurate, reliable, and inexpensive to manufacture. LANL is now inviting participation from companies ready to cooperate with our gas sensor researchers, in-license select technologies, and commercialize our innovative solid state gas sensor technologies.

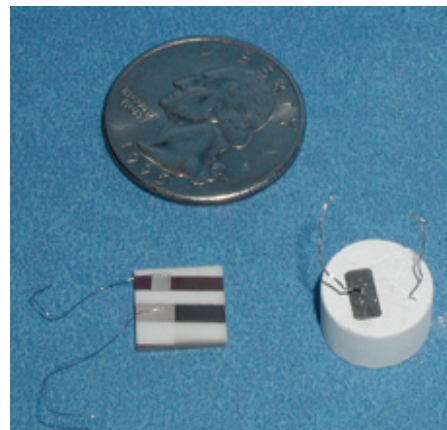
By working with LANL, companies gain access to highly innovative solid state gas sensor technology while minimizing R&D risks and expenditures. Our partners gain access to an advanced gas sensor research team as well as to LANL's extensive solid state gas sensor intellectual property portfolio. We invite you to explore the gas sensor business opportunities available with LANL today.

Select LANL Sensor IP:

- Solid State Oxygen Sensor (US Patents 5,543,025 and 5,695,624)
- Enhanced Electrodes for Solid State Gas Sensors (US Patent 6,277,256)
- Electrodes for Solid State Gas Sensor (US Patent 6,605,202)
- Method for Forming a Potential Hydrocarbon Sensor with Low Sensitivity to Methane and CO (US Patent 6,656,336)
- Mixed Potential Hydrocarbon Sensor with Low Sensitivity to Methane and CO (patent pending)
- Thin Film Mixed Potential Sensors (patent pending)
- Solid State Gas Sensor (patent pending)
- Explosives Detection Sensor
- Tape Casting Method for the Manufacture of Sensors

Partnership Mechanisms:

Licensing Agreements
 Non-Federal Work-for-Others Agreements (WFO)
 Cooperative Research and Development Agreements (CRADA)



LANL's suite of solid state gas sensors opens new markets for gas monitoring and process optimization.

Partner Benefits:

Reduced cost of R&D
 Reduced risk of R&D
 Reduced development cycle
 Design freedom (IP)

Advanced Technologies:

Solid state oxygen sensors
 Solid state CO sensors
 Solid state NO_x sensors
 Solid state hydrocarbon sensors
 Solid state sensors for explosives detection
 Low-cost fabrication methods for mixed-potential sensors

Capabilities:

Solid state gas sensor design
 Gas sensor evaluation and testing
 Mixed potential sensor design
 Degradation testing and reduction

Business Development Contacts:

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