



Sandia National Laboratories

# Fluid Interface Position Optical Sensor

## POTENTIAL MARKET APPLICATIONS

Measurements of Hazardous Materials or Contamination

Crude Oil Levels

Bio Fuels

Water Waste and Treatment

## BENEFITS

Mobile and Simplistic

No Moving Parts

Continuous Monitoring

Safe for use with flammable or hazardous liquid

Can operate over a wide range of wavelengths

Response wave shape can be adjusted to provide more controlled measurements

## INTELLECTUAL PROPERTY

US PATENT # 7,049,622  
(SD # 7466)

## TECHNOLOGY SUMMARY

Sandia National Laboratories has developed a continuously monitoring fluid interface optical sensor. The method of determining the liquid level through a single immersed optical wave guide allows for a simple and mobile solution to fluid monitoring systems. Current technologies use monitored floating devices and require mechanical or magnetic coupling, which can pose problems for mobility and hazardous fluids. Current technologies employ a non-contact method for sensing transparency of liquid which lack the precision and safety of a single optical waveguide method.

The fiber optic technology of this Sandia invention utilizes the principal of dual-fluorescence, where a primary and secondary fiber are used to compare emitted to absorbed light in the system and calculate the position of the interface between opaque and clear fluids.



## TECHNOLOGY READINESS LEVEL

Sandia estimates this technology at approximately a TRL 5. Key components of this technology have been demonstrated in relevant environ-

## LICENSING CONTACT

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