

High Fidelity Smart Sensors for Harsh Environments

Richard Liang, MASc Chief Technology Officer

Problem | sensors



Failure in harsh environments



Electromagnetic interferences



Susceptibility to moisture & humidity



Short life span



Single point sensing in short distances

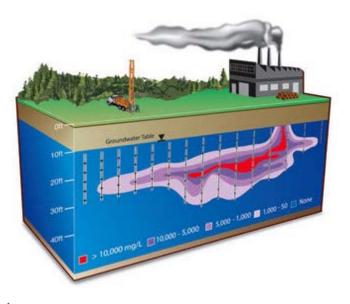


Bulky for multi-point sensing

Problem sensors

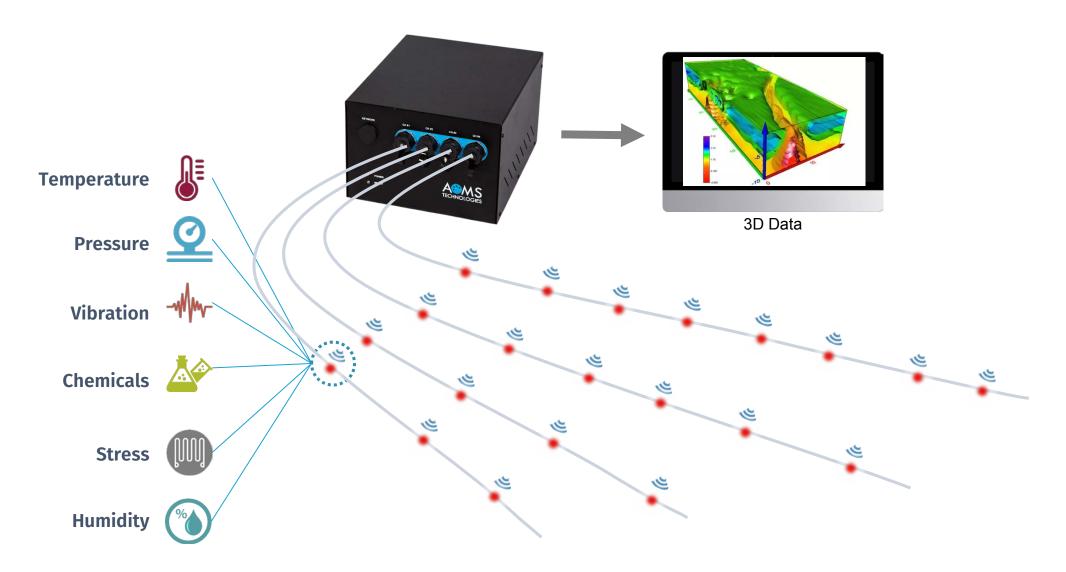
Remediation of AMCO Chemicals Superfund Site (Oakland, CA)

- Chemical distribution company operated from the 1960s until 1989
- Heavily contaminated site requiring treatment (40,000 sq. ft.)
- Contaminant concentration: 53,000 mg/kg (safety threshold: 500 mg/kg)
- No chance of survival for electronic sensors





Distributed Fiber Optic Multi-Parameter Sensing



AOMS All-in-One Monitoring Platform





Distributed Sensing Cables



Optical Data
AcQuisition (ODAQ)





Software & Data Services

About us

- 25+ years of combined experience
- 10+ years of R&D on fiber optic sensing
- Patented fiber optic sensor technology
- Solution driven approach to harsh environment sensing
- Two provisional patents



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Industry Application Sectors



Power Generation



Food Industry



Clean Energy



Structural Monitoring



Environmental



Asset Monitoring



Mining

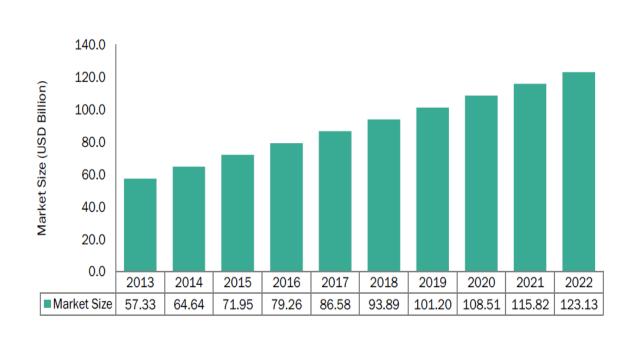


Petrochemical

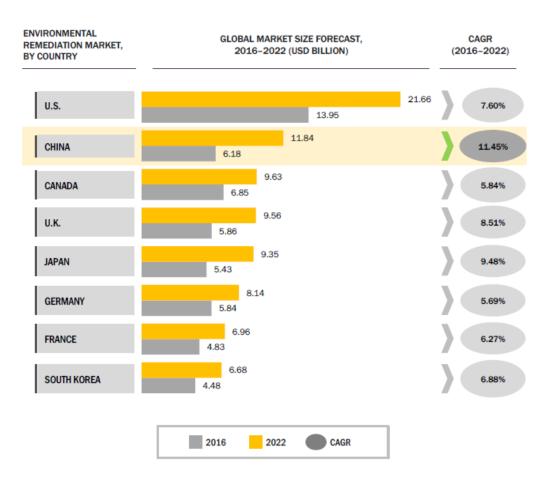


Environmental Sensing

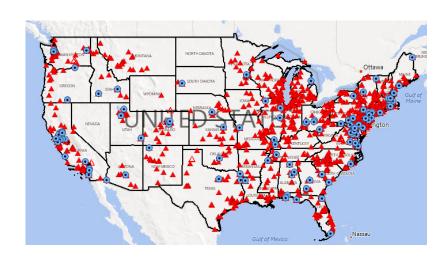
Environmental Remediation Market



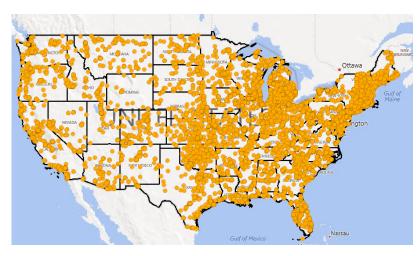
Source: Investor Relation Presentations, Secondary Research, Experts' Interviews, and MarketsandMarkets Analysis



Superfund and Brownfield Sites in the US



1,500 Superfund Sites

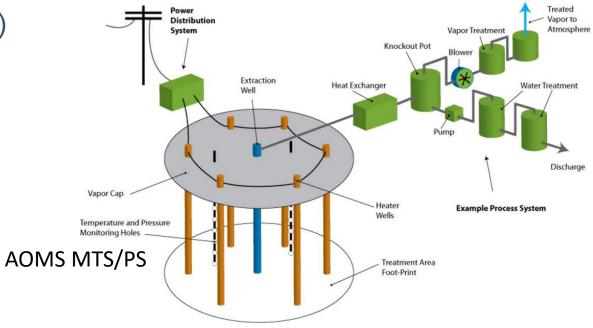


500,000Brownfield Properties

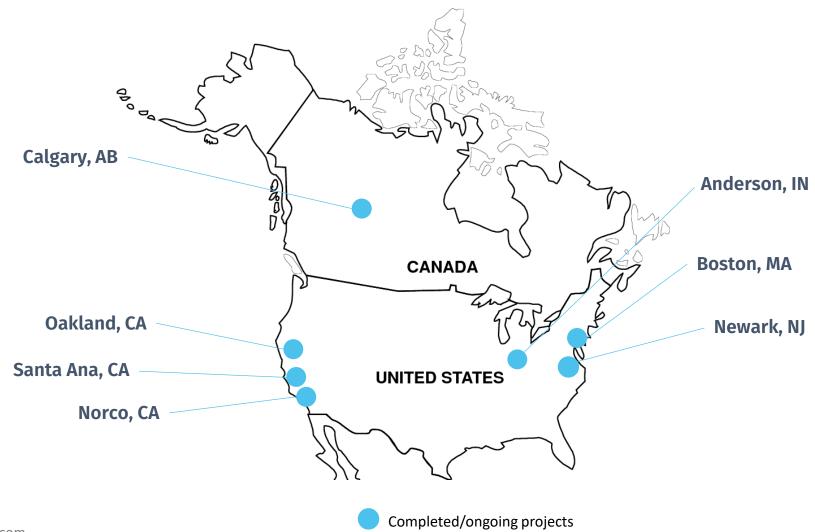
In-situ Thermal Remediation Technologies

- TCH (Thermal Conduction Heating), ISTD
- ET-DSP (Electro-Thermal Dynamic Stripping Process)
- SEE (Steam Enhanced Extraction)
- ERH (Electrical Resistance Heating)





Case Study: Soil & Groundwater Monitoring



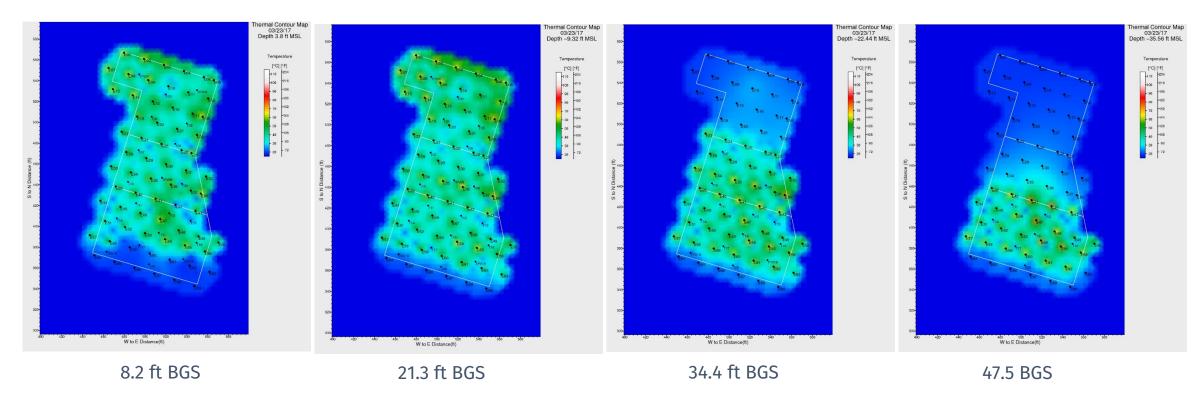
Soil & Groundwater Monitoring: Field Installation

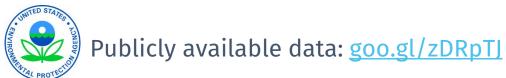






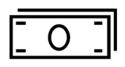
Soil & Groundwater Remediation: 3D Temperature Data





Value Proposition of AOMS Fiber Optic Sensors

Problems



Cost



Sensor Failure



Loss of Credibility

Value Proposition









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