SpringBoard

Maximizing Techonology Transfer Opportunities for DOD

DEPARTMENT OF DEFENSE PARTNERSHIP INTERMEDIARY

Multimillion-dollar projects offer opportunities for DoD technologies in the energy, mining, transportation, aerospace, environmental, and forest products industries. Maximizing the benefits of being in Alaska, the SpringBoard team creates technology transfer opportunities for Department of Defense laboratories and the private sector anywhere in the nation. Working with key national industrial sectors that have significant footprints in our region, we determine the current and developing innovation needs and discover collaborative technology transfer partnership opportunities.

TECHNOLOGY TRANSFER

Oil and Gas

SpringBoard's Focus on the Oil and Gas Sector

- Alaska's known natural energy resources include over 4 billion barrels of oil, 37.5 trillion cubic feet of natural gas, and 478 million barrels of natural gas liquids
- Estimates of Alaska's recoverable undiscovered resources include up to 5.9 billion barrels of oil, 49 trillion cubic feet of natural gas, and 387 million barrels of natural gas liquids
- Roughly 20 percent of US oil production flows annually through the 48-inch diameter, 800-mile Trans-Alaska pipeline linking Prudhoe Bay on the Arctic Ocean with the terminal at Valdez
- A proposed Alaska Natural Gas Pipeline will transport natural gas from Alaska's North Slope to the US Midwest

Proposals to build a natural gas pipeline from Alaska to the Lower 48 lack many details, suggesting a wealth of technology transfer oppor-

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tunities for DoD. In Alaska's harsh environment, data-gathering technologies must ensure that departures from normal parameters are not overlooked. Technologies from DoD labs could have positive impacts and yield major mutual benefits.

Alaska's commercial sector has considerable experience in evaluating such things as pipeline integrity, but there remain significant opportunities for labs with extensive experience in nondestructive testing techniques. Ensuring the safety of the nation's hazardous liquid and natural gas pipeline systems also represents a rapidly growing area of technological opportunity.

Oil and Gas Industry Technology Needs

Telemetry and Multisensor Data Fusion

- Seismic measurements and effects
- Video and other security sensors
- Metallurgical sensors such as pressure transducers, strain gauges, flow sensors, stress corrosion monitoring, hydrogen and sulfide in situ sensors
- Environmental data concerning pipes, surface, ground, and water, including temperature, pressure, corrosion, and chemical reactions

Structural Inspection

- Nondestructive testing techniques for weld inspections, stress corrosion and cracking, assessment of fatigue damage and subsurface corrosion

Security

- Security analysis and programs to maintain pipeline and domain awareness, with particular focus on critical systems and infrastructure
- Identification of industry and governmental best practices and lessons learned
- Dynamic modal network of effective communications within the industry and among stakeholders
- Security sensors and manned/unmanned aerial monitoring

SpringBoard
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