



2006 ASTech AWARDS FINALISTS AND RECIPIENTS

ASTech INDUSTRIAL RESEARCH PRIZE

This prize is awarded to an Alberta company with less than 500 employees that has demonstrated capacity in industrial research and has shown a commitment to the growth of Alberta's research capacity by employing one or more recent graduate students. The company's technology is judged for factors such as sophistication, industrial applications, and potential to impact Alberta. The recipient receives \$10,000 to support the research project.

Quadrise Canada Fuel Systems [RECIPIENT]

Represented by:

*Dr. Patrick Brunelle, Research Chemist
and Mr. Ross Lennox, VP Technology*

Oil sands and heavy oil operators in Alberta are keeping a close eye on Quadrise Canada Fuel Systems, a young and innovative Calgary-based company looking to be the first in North America to commercialize an alternative to natural gas, coal and oil. This new fuel also holds potential for the electric power industry and a broad range of industrial power and process applications.

Founded in 2003, the team at Quadrise has been working on MSAR™ (Multiphase Superfine Atomized Residue) technology. MSAR™ is a liquid fuel consisting of very fine oil droplets, dispersed in a water carrier, which can be burned as an efficient energy source in many industrial applications. Manufactured from heavy hydrocarbons such as bitumen or refinery residue, MSAR™ can be a practical and cost effective alternative fuel.

For example, the use of this fuel could eliminate the need to consume scarce natural gas at sites using steam assisted gravity drainage (SAGD) production systems. Quadrise estimates that SAGD producers could save one third of their costs for acquiring natural gas by switching to MSAR™.

Security of supply is another advantage. While natural gas reserves are declining, the sources of heavy residue from the world's refineries are increasing, and reserves of bitumen are still great. Using MSAR™ technology these two currently untapped fuel sources provide industry a security of supply that simply cannot be realized with



L to R: Ross Lennox, Dr. Patrick Brunelle

natural gas. MSAR™ provides industry the insurance policy it needs to proceed with the many large energy projects currently at the planning stage. In addition, MSAR™ can be manufactured on site and does not require long-distance transportation, and the MSAR™ combustion and sequestering technology is environmentally friendly.

Quadrise has established strategic alliances with several international companies, including Akzo Nobel and Colt Engineering, to assist with research and provide technical and specialist services in the development of MSAR™ technology.

In June of this year, Quadrise opened a new 325-sq-metre (3,500-sq-ft) facility in Calgary to house its research laboratory. Research Chemist Dr. Patrick Brunelle has overseen the design and organization of the facility that includes a small-scale MSAR™ production unit. Experiments completed or underway include research on the physical and chemical properties of MSAR™ as well as its static and dynamic stability.