

Out of the lab, into the market

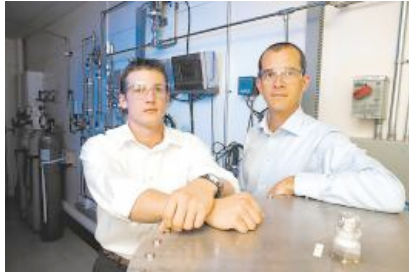
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Technology Fredericton's Centre for Nuclear Energy Research is spawning noteworthy energy industry products

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FREDERICTON - Tucked away in the basement of an unassuming building on the University of New Brunswick's Fredericton campus, a replica of a heat transport system used by CANDU nuclear reactors pumps fluids at 310 Celsius. Opening the door to the room that houses the high-pressure system immediately fills the adjacent hallway with a blast of warm air.

 ENLARGE PHOTO



David Smith/For the Telegraph-Journal

BK Gray, left, product development manager, and Andrew Justason, general director of the Centre for Nuclear Energy Research in Fredericton, in one of the facility's laboratories last week.

This is one of the research laboratories at the Centre for Nuclear Energy Research, a not-for-profit company jointly owned by UNB and the New Brunswick Research and Productivity Council. In recent years, much of the research conducted at the centre's three-storey headquarters has gone on to spawn some impressive commercial products for the energy industry.

"We're growing ever more able to adjust our research to a market pull, as opposed to some of the older model of developing some neat new technology and trying to find out where it fits for an application," says Andy Justason, general manager for the centre. "We have listened to where the applications are, where there's an industry need, and we're directing our research to fill those."

Justason says one of the centre's most exciting technologies is the HEPro, which performs real-time monitoring of corrosion in industrial pipes and vessels, and provides the data online. It's also non-intrusive, meaning a nuclear power plant or an oil refinery doesn't have to shut down operations to get the HEPro installed.

"That alone can save a company millions," he says.

But the real benefit of the \$50,000 monitor is in what it can actually do.

"Most places will use additives or inhibitors to prevent corrosion inside their pipes," says BK Gray, product development manager for the centre. "We're able to say, when this went through your pipes, it worked, or if you're doing a certain process, when this went through your pipes, corrosion increased by 10 per cent. It's all real-time."

The HEPro is the most recent product with commercial applications to come out of the centre. It was developed with the help of a \$4 million grant from the Atlantic Canada Opportunities Agency, provided to the centre in increments starting in late 2003 and ending in the last fiscal year.

However, in addition to nuclear technology, the centre has also been expanding into other energy sectors, including oil and gas. Its technology has been installed at the Coleson Cove Generating Station in Saint John, and will also be put into the Irving Oil Refinery in the city during planned upgrades this fall.

"We have significant exports, and are also straying away a bit from purely nuclear focus, because some of the technologies that we have developed for the nuclear industry have applications for oil and gas. Our board of directors is quite happy to see us pursue those non-nuclear opportunities," Justason says.

The centre currently has 18 employees, as well as a fluctuating number of students that work on research projects in the centre's labs throughout the year.

There are also new ideas on the horizon.

Justason said a number of projects are ready for further testing for market use; the centre is simply waiting to secure funding.

One of the devices is the UTPro, which is an ultrasonic monitoring device. The centre partnered with

one of its two owners, the New Brunswick Research and Productivity Council, to help develop the product. The UTPro will use ultrasonic waves to be able to gauge the condition of concealed or hard to reach equipment, such as piping running under roadways.

"It'll be able to map out damage or cracks without having to spend money to tear up the roadway and get to the pipes," Justason says.

According to Justason, the centre is actively applying for funding to help get the UTPro out of the lab and into the hands of companies. And he's hopeful money will come, especially after the centre met almost all of the goals set out by ACOA after its initial \$4 million investment in 2003.

"Out of the 11 measures of success, we either met or greatly exceeded ten of them," Justason says. "For example, we were supposed to publish a certain amount of technical papers, and we tripled that. We were supposed to host a certain amount of graduate students, and we tripled that. The one measure that we didn't meet was to obtain additional funding for additional instrument development."

The next step for the centre, Justason says, is to continue developing partnerships outside of New Brunswick. Gray will be travelling to the Gulf Coast of the United States in the next six weeks to talk to oil and gas companies in Texas and Louisiana.

The centre is also working alongside partners in Argentina to help that country modernize its nuclear facilities as it undergoes a "nuclear renaissance."

"[The centre] went out there and conquered the biggest, ugliest mountain as far as an industrial installation, which would be a nuclear power plant," says Gray. "And having been able to do that, our team of experts can head out to any industrial setting, knowing that they have the skills to deal with it."

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