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Focus on Water

Water research venture yielding results

Premium content from The Business Journal by Rich Kirchen, Senior Reporter

Date: Friday, May 18, 2012, 5:00am CDT

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Badger Meter Inc. doesn't need to be sold on the value of a joint industry-academic research venture for the metropolitan Milwaukee water industry.

The Brown Deer-based manufacturer of flow-measurement products was a charter member of the initiative that seeks to convert university research into industrial applications. Badger Meter, which has committed to paying $50,000 per year for five years for membership, already has a patent pending as a result of the research.

"We certainly couldn't get the same amount of research (internally) out of putting in same amount of money," said Gregory Gomez, Badger Meter's vice president of business development.

Leaders of the research group, which is in its third year, are seeking a few more private-sector members that would fund additional research projects. All research is related to generating new products and processes and advance the region's water industry.

The research is conducted by professors and graduate students at the **University of Wisconsin-Milwaukee** and **Marquette University**.

The effort is funded by each of the six industrial members and a grant from the **National Science Foundation**. The research center is affiliated with the **Milwaukee Water Council** with the goal of boosting economic growth and improving water quality.

"We would like to see new companies form and companies get new expertise — we'd like to be part of that," said Mike Switzenbaum, an environmental engineering professor and executive associate dean at the Marquette College of Engineering.

The Water Equipment & Policy Center is administered by UWM mechanical engineering professor Junhong Chen.

The National Science Foundation awarded the two universities a total of $675,000 over five years to form the research center. It is one of about 55 such centers in the country and one of only two that focus on freshwater issues, according to UWM.

Even before the Water Council, Chen began conducting research in UWM's Engineering and Mathematical Sciences building on a sensing device that detects mercury in water.

As a result of Water Equipment & Policy Center research, UWM is seeking a patent on a polymer foam that removes lead from water.

The research center businesses interested in the product are Baker Manufacturing Co., Evansville, which makes water system products, and Pentair Water Solutions, Brookfield, Chen said.

UWM also has disclosed an invention of remote-read, passive wireless sensors that use acoustic wave devices. Badger Meter and Gannett Fleming Inc., a Camp Hill, Pa.-based firm that designs and builds water and wastewater treatment plants, have expressed interest in pursuing patent protection on the sensors, Chen said.

A patent application from Marquette via the research center involves ultrasonic sensor technology that would improve the efficiency of an existing Badger Meter product, Gomez said.

The other industrial members of the research center are A.O. Smith Corp., Milwaukee, and the Milwaukee Metropolitan Sewerage District.

Research goals

The university researchers develop concepts for products to study based on the research goals of the industrial members. UWM and MU researchers then present proposals to the industrial members, who select six or seven per year to fund at $50,000 each.

In the most recent round, UWM researchers submitted 16 proposals and Marquette submitted six. Four research projects from UWM and three projects from Marquette were approved.

More members would be advantageous because they could fund additional research projects, Chen said. UWM has greater research capabilities in this field and could accept additional assignments, he said.

"Each new member allows one additional research project," Chen said.

Chen, Switzenbaum and the private-sector members of the research center are hoping to recruit one to two more industrial members for the next round of research projects that starts this fall.

To induce more smaller firms to participate, the research center has reduced the annual cost for an associate membership to $10,000 from $25,000, Chen said. Associate members cannot vote on which projects are selected each year, but gain access to the patents, he said.

Gomez said working with UWM and Marquette has been a pleasure and the business members' annual fees are beginning to show tangible results. As new products emerge, he believes more businesses will join the research center.

"When we can point to a product, that will be a milestone — a seminal event for the center," Gomez said.

Rich Kirchen is The Business Journal's senior reporter. He covers banking, financial services and politics.