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MAKING IT IN NORTHERN MICHIGAN

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Who knew they made it here?

BY CLARK MILLER

At Traverse City startup Promethient Inc., it's hot and cold all the time, just the way inventor Chuck Cauchy designed it.

In an era of one-size-fits-all approach to heating and cooling and squabbles over thermostat settings, Promethient takes a different approach.

Cauchy's patented, thermoelectric device – basically a small semiconductor clamped to thin, duct-tape-like strips of graphene – provides spot heating and cooling on an individual basis. The lightweight equipment is installed just below the surface of a seat cover or clothing.

"The payback is individualized control," said Promethient CEO Bill Myers. It's a notion that has attracted early backers such as Traverse City-based Boomerang Catapult LLC, which has invested $500,000 initially and in total has arranged financing of nearly $1.5 million. Other investors so far include Northern Michigan Angels and private investor/former Fiat Chrysler executive Scott Kunselman.

Promethient's technology, which it markets under the brand name Thermavance, could be used in a wide range of settings, including seating.

The devices are slated to show up in motorcycle seats later this year. Promethient has already developed a prototype seat that uses a simple heat/cold switch, but later, more sophisticated versions will have a full range of temperature settings, Myers said.

Above (l-r): Bill Myers and Chuck Cauchy
Right: A prototype of the inside door panel of a car equipped with the technology.

Several car makers have shown interest.

"Initially, it's likely to be used in luxury cars," Myers said. "Over time, however, it's our goal to adapt the technology to a much wider range of vehicles."

Workplace Furniture

The technology also has possible implications for makers of office furniture.

"We've heard that the number one complaint [in office settings] is that one person is too cold, the other one is too hot. It's what the *Wall Street Journal* called 'thermostat wars.' Our individualized approach addresses those issues," Myers said.

On their way to the office, employees can use their smartphone to set the desired temperature of his or her workplace chair, and settings can be fine-tuned throughout the day.

Aircraft Seating

Aircraft seating – a multi-billion dollar annual market in the U.S. – presents another potential target for Promethient. In theory, Thermavance-equipped airplane seats might someday replace those annoying little fans that blow air into your eyes. But Myers said that's a few years off.

"There's a long lead time in aviation, longer even than the automotive sector," he said. "I would expect it to be like cars in that it would appeal first to the high-end market."

Other Uses

Medical devices could be another promising market area for the company. Myers said that in the future, a physical therapist might send patients home with a high-tech neoprene wrap and a program that orders the equipment to alternate between cold and hot.

There's also potential for using Thermavance in outdoor garments for cyclists, hunters, fire fighters, first responders and soldiers.

"We have created assemblies that can be popped into a lot of settings," Myers said. "It's a simple, elegant design, compact, lightweight and scalable. This intellectual property is the heart and soul of the company."

Marketing

Promethient has made a point of reaching out to tech-savvy early adopters (usually engineers) here and elsewhere.

"Marketing to them is the way to go," Myers said. "They tend to be very detail-oriented, and ask lots of questions. But once you have them on your side, they are invaluable. They champion your cause within their company."

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