

Business center incubator at University of Wyoming attracts technology startup company

LARAMIE, Wyoming — Bill Gillette said Laramie is an ideal place for a company like his to set up shop.

Gillette is founder and chief executive officer of Logimesh Technologies, LLC., a technology startup that opened a research and development office in December 2012 at the Wyoming Technology Business Center, located at the University of Wyoming.

"I had been, for the past year, investigating the opportunity to move to Laramie," Gillette said. "When I discovered how focused the university is on energy-related issues and matters and technology, I then set forth to look for opportunities to set roots down in the (WTBC) incubator."

Logimesh, based in Fort Collins, Colorado, is founded on a platform of high-tech gear and software that is used to monitor the health of machines in the oil and gas industry.

"There's 1 million horsepower of engine compressors in the Rocky Mountain region, which for the most part is Wyoming, Colorado and Montana," Gillette tells the Laramie Boomerang (<http://bit.ly/148COVJ>). "And the vast majority, about 70 percent of it, is right here in Wyoming."

Those compressors are vital to oil and gas companies' operations, Gillette said, and the Logimesh technology — called Logimote — should help keep them alive and running.

"All of these various gas wells are piped together into a kind of labyrinth, a manifold, and then you have this huge, big compressor engine — typically an internal combustion engine and the big compressor it's attached to — and it compresses the gas up to a very high (pounds per square inch) and forces this gas through a pipe 1,000 miles off to a plant to get processed," Gillette said. "The deal in this gas and oil business is every hour that a machine is not working is worth \$5,000 to \$6,000 an hour. Some of these machines are worth half a million dollars a day in production."

That's where Logimesh sensors come in.

"We deduced that it would behoove the owner of the engine to basically strap a heartbeat monitor on it and know exactly how it's behaving," Gillette said.

Logimesh developed a lightweight sensor that has perpetual power and is rated "intrinsically safe" by the National Electronic Manufacturer's Association, he said.

"We can place a device on an engine or compressor and actually turn that excess heat into voltage that we can then store for use in the sensors and radios and other things," Gillette said. "This replaces the need to have hardwires or special connectors or batteries."

Such equipment is potentially hazardous in oil and gas environments, Gillette said.

"In the oil and gas industry, as you can well imagine, it is considered a hazardous operation; you're in an explosive environment — specifically when it involves natural gas," he said. "You don't want to have exposed wires or connectors or even batteries — anything that could potentially cause sparks."

Oil and gas engine compressors run round the clock for months or years at a time, Gillette said.

"And they're mechanical things, so they're going to wear out, they're going to break down, they're going to suffer failures just like the motor in your car," he said.

The Logimesh team determined how the machines were most likely to break down, Gillette said.

"There are many, many ways for one of these machines to fail, but we deduced the two most common ways for failure are if it overheats or if there's way too much vibration," he said.

The sensors attached to machines monitor vibration and heat and send readings via the Internet. Logimesh's proprietary software analyzes the data to predict breakdowns.

"If you've got a curve that's trending northward, it's getting hotter and hotter, and eventually it's going to cross that threshold of when you need to shut the thing off," Gillette said. "But, if you can have a math formula that says, 'Hey, this is going to exceed the maximum temperature next Wednesday,' you would have time to actually requisition a mechanic team to go fix this thing before it fails."

Gillette said Logimesh is still in "startup phase," but he plans to expand into manufacturing.

"As we move into the manufacturing phase of our business, we'll look into expanding into other regions in the Laramie area, possibly the new (Cirrus Sky) Technology Park," he said. "It just depends on what kind of manufacturing base we'll need."

That could mean manufacturing jobs for Laramie down the line, Gillette said.

Other locations are under consideration as well, he added.

"As we develop new clients, some of them are large, and they might have a need for, say, 50,000 of our units, so we might need to set up manufacturing to support that kind of capacity," Gillette said. "The tech and manufacturing would be machining, castings, injection molding, assembly, etc. — so it's less blue collar and more of a higher-end manufacturing assembly."

Information from: Laramie (Wyo.) Daily Boomerang, <http://www.laramieboomerang.com>

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