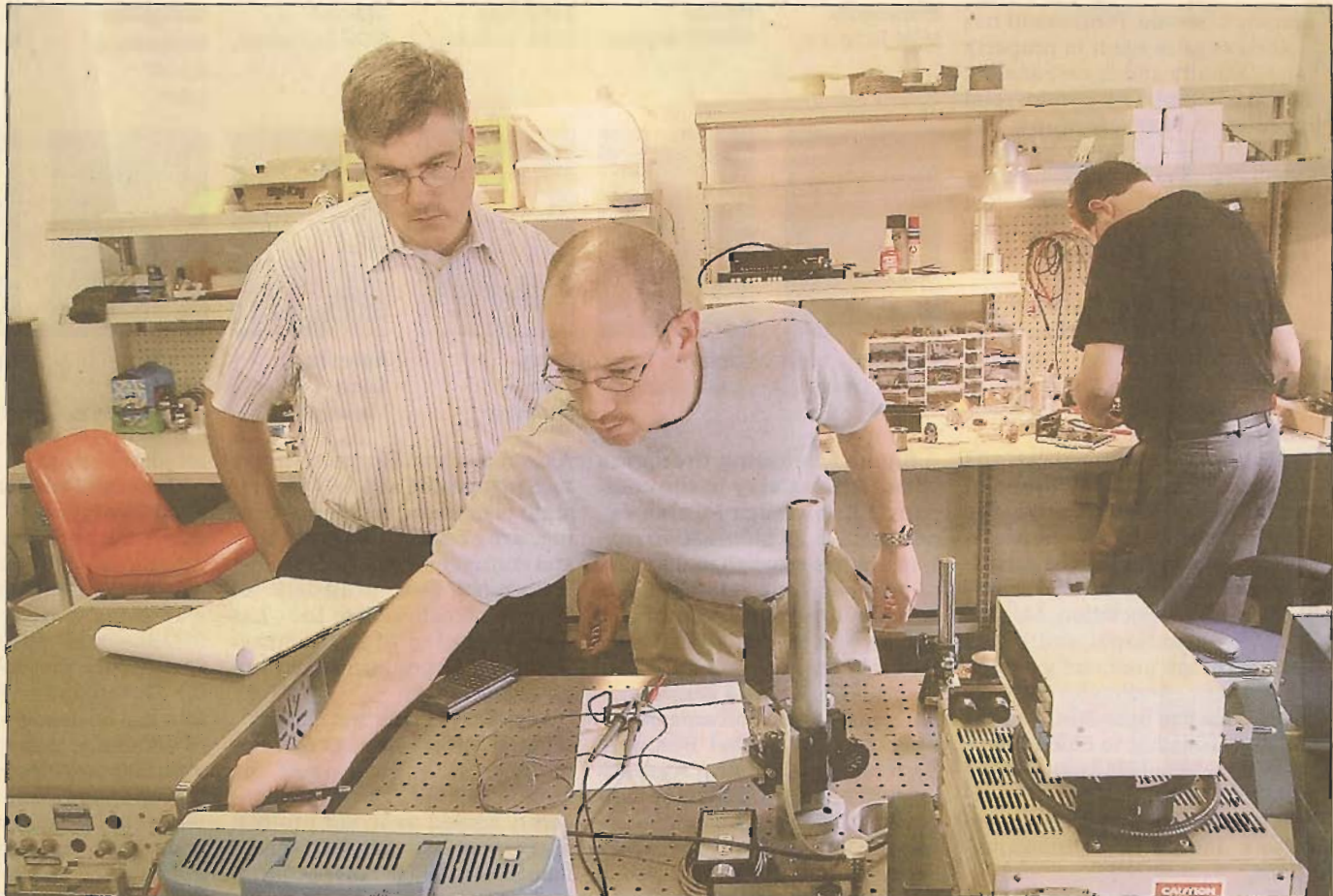


# BUSINESS PEOPLE

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MAX SCHULTE staff photographer

New Scales Technologies President David Henderson, left, and Engineering Manager Dan Viggiano III test a system.

## A new scale of precision

■ A new motor is a breakthrough for medical research and robotics.

MICHAEL WENTZEL  
STAFF WRITER

University researchers must position small tools precisely to investigate cell membranes.

Astronomers and scientists also require precision to make extremely fine adjustments to telescopes or the mirrors and lenses of a laser.

New Scale Technologies Inc. in Victor, Ontario County, has developed a unique system that could replace the standard electromagnetic motors routinely used to place and activate research tools or align mirrors and lenses.

David Henderson, founder

and president of the 2-year-old company, also sees a rewarding future for the New Scale system in robotic surgery and medical devices, such as drug pumps.

"It's small and getting smaller," Henderson said. "It's simple. It has only a few parts. And it can be made inexpensively in bulk."

The New Scale motor system consists of a ceramic tube connected to a threaded nut with a screw. Electricity causes the tube and the nut to vibrate. The vibration then causes the screw to rotate. The screw can become a motorized shaft that can complete tasks



Henderson



MAX SCHULTE staff photographer

Viggiano tests a Squiggie Motor by using a laser. The miniature motors are used in projects that require precision.

such as repositioning a lens or plunging a syringe.

New Scale, which has applied for a patent on the system, calls the motor "Squig-

gle."

"It's named after the motion it makes," Henderson

## Scale

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said. "It moves moves when the Hoop. The hip the head goes t

Biophan Tec Henrietta early quired worldw rights for New system. Biophan the company a vide sales and ices.

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New Scale tomers who the product.

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## Scale

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said. "It moves the way the body moves when you do a Hula Hoop. The hips go one way and the head goes the other."

Biophan Technologies Inc. of Henrietta earlier this month acquired worldwide distribution rights for New Scale's Squiggle system. Biophan also invested in the company and agreed to provide sales and marketing services.

The Squiggle system currently costs about \$2,000. Most customers buy only one or two systems, but sales have increased steadily this year, Henderson said. New Scale already has customers in the Netherlands, Taiwan and Japan, as well as in the United States.

"Using only four moving parts — other motors can have as many as 100 moving parts — it provides a unique combination of high reliability, flexibility and power consumption advantages," said Michael Weiner, Biophan's chief executive officer.

The Squiggle also meets one of Biophan's strategic goals: It can be used safely with magnetic resonance imaging.

Henderson, 43, formed New Scale in 2002 based on his idea for the ceramic motor. He had worked more than 10 years with Burleigh Instruments in Fishers, Ontario County. The company's other three employees also have extensive experience with Burleigh, which is now part of the Canadian firm Electro-Optical Engineering Inc., or EXFO.

"They are leveraging their expertise and prior experience," said Paul Wetenhall, executive director of High Technology of Rochester Inc., who is familiar with New Scale. "They have technical and market knowledge. That's usually a good predictor of success."

New Scale also has found customers who have helped refine the product.

"They will buy at a high price. They're using it in a high-value application or doing something for research," Wetenhall said. "That kind of customer gives lots of feedback. That is an excellent situation for a startup — you getting paid for a product as you refine it."

Henderson and his wife, Susan Henderson, who serves as the company's bookkeeper and webmaster, financed the start-up of New Scale. Investment by New Scale's employees, friends and Biophan completed the first stage of funding.

"We personally took a fairly high-risk position to get to this point," Henderson said. "We've been running on a tight budget. We're getting orders and revenue now. That shows investors we have more than just a good idea."

New Scale also sells a device that stretches optical fiber using an electrified ceramic cylinder.

"It's a good product that uses a different material and method," said John Hart, president of Lumetrics Inc., a Rochester-area firm that has purchased the system.

The Squiggle motor systems are assembled at the New Scale offices in Victor. Henderson and the New Scale staff plan to enhance software integration with the motor and develop motors with multiple shafts. Bulk production eventually will lower the price, Henderson said.

The current Squiggle motor housing is a half inch in diameter and about 1½ inches long. New Scale has developed a new version that is about half the size of the current motor.

"We're just getting started on miniaturization," Henderson said. "Smaller and smaller machines are the future. I can see a motor as big as the screw that holds the frame of eyeglasses together. The Squiggle we're making now is as big as we'll ever make it." □

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