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Thinking big, thinking small

While major projects like car-testing treadmills yield cyclical payoffs for MTS Systems in Eden Prairie, sales of tiny sensors help to smooth out the bumps.

BY JOHN WELBES
Pioneer Press

When BMW decided it wanted the aerodynamics under its cars to be as good as the airflow above the wheel line, it turned to a massive treadmill that can churn at 200 miles per hour for help.

The maker of the stainless steel treadmill, known as a rolling road system, isn't as well-known to consumers as BMW. But MTS Systems Corp., based in an out-of-the-way corner of Eden Prairie, is a stalwart in industrial testing for companies around the globe.

BMW's deal with MTS is worth \$27 million over several years, and orders for custom testing equipment have long been central to MTS's business. But such big-ticket orders also mean increased volatility. In the second quarter of this year, test orders were down 34 percent, as potential customers put off purchases.

"Large custom business orders are just less predictable," CEO Sidney Emery told analysts in a conference call.

The company, in search of some balance, is thinking small.

Specifically, it's counting on its position sensors — small units used on parts of big machinery — to give sales growth a boost. Along the way it will need to convince customers that its sensors can work in harsh environments, such as on the blade of a road grader or inside a high-speed printing press.

Making sensors that can operate consistently under tough conditions is "probably the biggest single growth opportunity in the company today," Emery said. "It's us creating the opportunity and we think it'll grow as fast as we can get it out in the field and in the marketplace."

Expect Wall Street to take a wait-and-see approach.

"There's tons of potential in sensors," said John Franzreb, an analyst with Sidoti & Co. who follows MTS. That potential, though, is tied to growth in the industrial applications that MTS is targeting, he said.

In the mid-1980s, MTS moved into the sensor business by buying a company on Long Island in New York. Revenue then was \$200,000 to \$300,000 a year, Emery said.

The sensors help machinery operate fast, accurately and consistently. For example, MTS makes a sensor that can be used on the blade of a road grader. If survey work on a highway cloverleaf is done digitally, that information can be fed into a control system, and as the driver runs the grader around a curve, the sensor tells the blade to rise, lower or turn to get into the right position.

Today, MTS does about \$60 million to \$70 million in sensor sales annually, and the growth rate for that line of the business is higher than for the industrial-test market. Still, sensors account for only about 15 percent of the company's revenue.

The remaining 85 percent of revenue still comes from the test segment, which can see wide variations. In regulatory filings, MTS notes that it counts on global ground vehicle and aerospace businesses for revenue, and "is subject to economic cycles affecting those customers."

There are also competitors for the industrial testing equipment, led by names such as Illinois Tool Works and Horiba Ltd., a Japan-based company. Potential MTS customers can also choose to make their own testing equipment using various components.

In sensors, though, Emery said the company has "a strong niche and a decent market."

MTS Systems has been based in Eden Prairie since the 1960s. While the company has made its name well-known in industry, consumers aren't likely to run into the MTS brand anywhere, and it's Minnesota profile is relatively low.

Emery credits earlier generations of executives with seeing the need for global operations. MTS has had offices in Berlin for 34 years, Paris for 31 and Beijing for more than 20. That long history of doing business abroad shows up on its financial statements, where international sales account for 70 percent of total revenue.

Many of the 900 employees at the Eden Prairie headquarters spend time jetting around the world to work with customers. At the time of the 9/11 attacks, MTS had 70 employees in countries around the world.

In addition to its big-ticket items like rolling roads, driving simulators and large-scale structural testing that can determine a building's ability to stand up to earthquake-induced shaking, the company also makes table-top-size testing units. They include equipment for biomechanical testing that can gauge how dental products will wear or how knee joints hold together, among other uses.

The sprawling plant at the Eden Prairie facility is a testament to the variety of testing offered there. Beyond the test equipment devoted to automotive customers, smaller testing offerings on display are the industrial engineering equivalent of the gadgets James Bond finds in the lab when he visits Q.

There's a flat-track system that a car tire can be mounted onto and worn down until it shreds itself into oblivion. The shredding can be a loud affair. "We always joke that it's the sound of money," said David Meier, the director of marketing for vehicle testing.

The company has another system that can put the equivalent of 100,000 miles on a car — including its suspension and all related components — in a month.

The rolling-road system developed for BMW will eventually be shipped to the automaker and set inside a wind tunnel, aiming for a body design that minimizes drag from wind resistance.

As engineers fired up the system to the 200 mile-per-hour mark recently, it delivered a sound roughly equivalent to a jet accelerating for take off.

"Most of the big advances now are in the underbody," Stuart Carver, the market manager for MTS's Motorsports operation, said over the dull roar.

The majority of MTS's testing contracts are for \$5 million or less.

On another side of the plant floor, Luther Johnson, a product manager for MTS's biomechanical division, stood over an ominous looking spine-testing machine. The system's customers include medical technology companies that design replacement discs for the spine.

MTS's industrial testing systems are put together with performance and durability in mind.

"It's really the same thing when you're talking about the body," Johnson said.

The difference with the spine-testing machine is that customers use cadaver spines to gauge bending, load bearing and other functions. Hospitals and universities are also customers for MTS's biomechanical testing apparatus.

Johnson points out that 1.2 million people had back surgery in 2003, and the need isn't diminishing. MTS has also benefited from the sizable cluster of medical technology companies in the Twin Cities.

The company is also making driving simulators that allow engineers to measure drivers' reactions to all kinds of new technology. That includes systems that hit the brakes for a driver if a sensor "sees" an object ahead — say, a stopped car — before he or she does.

To focus on areas with the highest growth potential, MTS has unloaded a number of divisions in recent years. In 2005 it sold its engine-test business and closed a laser technology unit in Eden Prairie. In 2003 the company sold its automation division.

As for the larger testing business, Franzreb, the stock analyst, calls it tough and demanding, in part because "virtual" computerized testing "has diminished the impact of physical testing," he said.

It would have been better for MTS's stock, he added, "if they had somehow increased their software business."

Largely better-than-expected quarterly numbers and company buybacks of its own stock, Franzreb said, drove the run-up in MTS's stock price over the past year and a half. He currently has a neutral rating on MTS stock.

With competitors in mind, Emery said, the company has recently hired a new attorney to attend to intellectual property concerns. He says MTS is managing its patents "more aggressively than before."

But with many of its high-tech items, including the inner workings of some sensors, the company takes a no-patent approach. Why? Because getting a patent requires spelling out in detail the technology that needs protection.

"If you've got a cake," Emery said, a competitor "can take it apart and can determine what's in it. But unless they know the sequence, the temperature, how it was stirred, they can't figure it out."

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