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Operating a business at the speed of light

Michael Mandina's Optimax Systems Inc. excels in the rapid manufacture of prototype optics

By SMRITI JACOB

Michael Mandina has an eye for optics innovation.

The president of Optimax Systems Inc. made his firm one of the first to adopt a breakthrough technology for lens grinding and polishing. And he is constantly looking for new ways to keep the precision-optics firm ahead of competitors in the market.

"We have to continue to develop our technology edge in terms of our ability to develop more diverse product offerings to our customers," Mandina says. "Shapes of optics are changing, the precision requirements of those optics are getting better, and we need to be in a position where we can provide those new requirements to our customers."

At the same time, Mandina never loses sight of the operations and process-engineering aspects of the business.

"I try to deal with process-manufacturing issues and the work force," says Mandina, 48. "It is a mix of working with people, technology and managing the business."

The Wayne County firm employs 85 people, down from 110 some months ago, after an acquisition boosted the work force.

Optimax specializes in the rapid manufacture of prototype optics. It supplies local firms such as Eastman Kodak Co. and Bausch & Lomb Inc., and other customers as distant as Europe and Israel. Some key projects include the Mars Exploration Rover Mission and the Mercury Messenger project for the National Aeronautics and Space Administration.

"Companies have activities that require manufacture of (optical) components while they are still designing and engineering," Mandina says. "So, they have to have a supplier base that is able to provide the components. That is a niche we satisfy second to none in the industry for precision optics."

Optimax's technicians grind and polish optical materials such as glass, crystal, ceramic and stainless steel. The firm produces optical components as small as 2 millimeters in diameter. Some 50 percent of Optimax's business involves materials that measure 20 millimeters to 50 millimeters in diameter.



Photo by Kimberly McKinzie

WHERE WORK IS NO GRIND—Optimax Systems Inc. president Michael Mandina, third from left in the top row, has a passion for optics. "I think this is fun," he says. "I don't do much other than work." He's a hands-on manager who is known as "a guy in the trenches."

The company logged \$10 million in sales last year and in March had expected 2002 revenues to reach as high as \$12 million. But the weak economy, coupled with the absence of a rebound in the telecommunications and fiber-optics industries, has hurt players in the optics industry.

"In March, we almost had a record booking; the consensus was that the optics industry was on track," Mandina says. "But the next few months were awful. I have no reason to expect that the industry is going to come back with any strength within the next few months."

Optimax's ability to serve a diverse group of customers could help the firm match last year's revenue figures.

"We are going to continue to have diverse offerings," Mandina says. "I would be glad to meet last year's numbers."

Growth through acquisition

The company in late 2000 added new capabilities through its acquisition of Binghamton-based Gould Precision Optics. The purchase brought on board techniques to manufacture cylinders, prisms and plano, or flat-surface, optics.

"They had equipment for making cylinders, and we didn't have that here and we have been wanting to do that," Mandina says. "We had some customers that wanted cylinders and we had to pass on that type of optic. Gould Precision has an expertise in that area."

Optimax recently consolidated its employees at one location, moving Gould Precision staffers from the Binghamton facility. The firm lost some 20 employees

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Photo by Kimberly McKinzie

Mandina: "We are just fast. We provide more optics in a short period of time than anybody in the world."

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who were unwilling to make the move here.

"It was a 30-person operation, very busy making precision optics for the electronics industry," Mandina says. "But the electronics industry is probably taking the brunt of the slowdown, along with the telecommunications sector. ... Otherwise, we would be going great guns with Binghamton."

Optimax plans to broaden its ability to produce different types of optics in a timely manner.

"We can take precision optics and offer more of the services—like get into infrared, ultraviolet areas," Mandina says. "We want to be able to offer a full range of services to optics designers and corporations that require precision optics in their systems."

Optimax invested roughly \$250,000 to train its opticians to meet industry demands. Some \$100,000 of training funds came from a state grant.

"The demands at Optimax now and in the future are only going to increase in complexity, and we are well aware of that," Mandina says. "So, we need a work force that is willing and able to learn and continue to grow."

Budding interest in optics

Born in Rochester, Mandina studied philosophy and psychology at St. John Fisher College. An interest in mathematics drew him to the field of optics.

"I felt the need for taking a math course," Mandina recalls. "My roommate's friend

was taking optics at MCC and it sounded interesting."

Mandina transferred to Monroe Community College to pursue an associate's degree in optics technology.

"But how I did it was non-traditional," he says. "I went to college full-time one year and then got a job in an optics firm."

Mandina joined Ilex Optical Co. as a process engineer, while continuing his studies at MCC. He received his associate's degree in 1975.

"I got a job on the second shift on the

Close-up

Michael Mandina

Title: President, Optimax Systems Inc.

Age: 48

Home: Penfield

Education: Associate's degree in optics technology, Monroe Community College, 1975; B.S. in applied physics, SUNY Empire State College, 1984

Family: Wife, Patricia; sons, Paul, 24, and Jonathan, 20; daughter, Jennifer, 23

Quote: "Working together as a team—that is as important as technology, or more important than technology. You've got to have a work force that allows the technology to work to its maximum potential."

shop floor grinding and polishing lenses," he says. "And so it took me four years to get the degree."

The job at Ilex gave Mandina an opportunity to understand the role of engineering in optics. However, Ilex was under the gun of stiff competition from Japan.

"It was adversely affected by Japanese imports," Mandina says. "So, there wasn't much opportunity there."

In 1976, Mandina teamed up with a fellow lens designer at Ilex to start an optics venture, Cormac Industries Inc. The firm produced optics and lens systems.

James VanKouwenberg, a master optician at Optimax who worked at Cormac, calls Mandina a driven individual.

"Mike is a working machine and has a concise perception of the work we are involved in," VanKouwenberg says. "He pushes himself hard."

After running Cormac for six years, Mandina decided to sell the business to Melles Griot Inc., then based in California.

"We were struggling with marketing and sales," Mandina explains. "It was a win-win situation; they had a strong marketing and sales team, and we also needed their financial help."

Mandina became Melles Griot's manufacturing manager. During that time, he also was pursuing a bachelor's degree in applied physics at SUNY Empire State College and taking courses in business and engineering at Rochester Institute of Technology.

"I took courses depending on what I needed at that time," he says.

Mandina received his B.S. in applied physics in 1984. At Melles Griot he was promoted to operations manager, then general manager of the Rochester operations.

"He is very innovative and he is willing to take a chance on something he believes in," says Peter McDermott, purchasing manager at Melles Griot, who worked under Mandina there. "You could always talk to him; he always had time for you."

In 1990, Mandina lost his job at Melles Griot.

"The manager who fired me at Melles Griot and I were not going to last very long, no matter how well I did my job or how poorly I did it," Mandina notes. "We were not on the same page."

Mandina was halfway through an MBA program at RIT. He chose to abandon that goal for an opportunity he could not pass up.

"There were some people who I knew that had just got Optimax going," he says. "So, I joined them. I was their first full-time employee."

Mandina tabled his MBA studies and joined Optimax as a part-owner in 1991.

"I couldn't afford tuition anymore, so I

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put all my energies towards building Optimax," he says.

New technology

A technology developed by the Center for Optics Manufacturing at the University of Rochester soon caught Mandina's attention.

"Mike always had a vision and wanted to do things a little better. He comes over to COM and sees what is going on and says, 'I have got to do it,' and then starts a successful business," COM director Harvey Pollicove recalls.

Mandina was interested in COM's research on the Opticam system, a technology that allowed the manufacture of a diverse range of precision optics with a minimum number of steps. At the time, most lenses were made by skilled artisans who ground and polished the materials. Using computerized technology was a sharp departure from the traditional approach.

"It was really applying the technology from the machine-tooling industry to manufacturing precision optics," he says. "That technology I felt was very powerful and useful, and there really wasn't anyone doing that in the optics industry."

Optimax partnered with Optipro Systems in Ontario.

"They were making the Opticam systems and still do," Mandina says. "We worked very closely together in terms of them developing the technology and equipment and us providing information about how to make the equipment better."

The relationship worked out well for Optimax.

"It enabled us to get the Opticam equipment at a time when we were very small," Mandina explains. "We were able to grow the business to a large extent based upon that technology and implementing the technology."

IBM Corp. and Kodak were Optimax's chief early clients.

By 1995, the company had nine employees and some \$1.4 million in annual sales. Mandina decided to strengthen the firm's sales and marketing abilities, hiring Richard Plympton to head up the effort.

"Marketing and sales is an area that I don't consider myself to have a lot of strengths," Mandina says. "When Rick came on board, it solved the problem."

Optimax CEO Plympton, who had met Mandina some years earlier, was drawn toward the firm's technology.

"I always kept in touch with Mike," Plympton says. "One holiday season, in '94, he showed me how he could turn a block of glass into precision optics, and I was fascinated."

Optimax started offering a money-back guarantee for expedited deliveries. In 1997,

the company's sales jumped to \$3 million.

"I think it was a turning point for the company," Mandina says. "The difference it made to the company is profound."

Optimax began to reach a wide range of customers in fields ranging from aerospace and astronomy to biomedicine and metrology. The firm also began to promote its quick-delivery capabilities; it frequently shipped prototype optics within one week.

"We really started promoting it," Mandina says. "And we have been working on it and making it better; we have been broadening the types of optics that we can provide that service to."

Mandina recalls a customer in Belgium four years ago who was working with the European Space Agency on a project.

"They were going to fly a special optical instrument in a space shuttle. They had three weeks left to get their product into the agency for the launch and their optics didn't work," he says. "When they debugged it, they found their system had some errors, and so we got a call to make the optics in a week."

Optimax met the deadline.

"In Europe, you forget about getting optics in a week—in two months, maybe," Mandina adds. "We got a frantic call from our customer and we were able to deliver, and he was able to get his instrument together for the launch."

The company had its biggest year in 2001. The Gould Precision acquisition increased the work force and sales hit the \$10 million mark.

"What has transitioned the company over the years is the credibility that we have gained and the size (we have achieved) that has allowed us to become suppliers to NASA, Jet Propulsion Laboratory and others," Mandina says. "Those were opportunities that as a small, 10-person company are very hard to gain."

Optimax now has a steady stream of clients focused on defense and space projects.

"We are now talking to major suppliers to the military (and) aerospace, where it is very difficult to be considered to do that type of work," Mandina says. "We are doing it regularly now."

Competition does not faze Mandina.

"It is our speed," he says. "We are just fast. We provide more optics in a short period of time than anybody in the world."

COM's Pollicove says Mandina possesses the qualities needed to steer Optimax through difficult straits.

"When things get tough in the optics industry like it is now," Pollicove says, "Mike can keep his head above water."

Others also have recognized Mandina's talents. He recently was named as a finalist for the 2002 Small Business Person of the Year award handed out by the Small

Business Council of the Greater Rochester Metro Chamber of Commerce Inc.

For his part, Mandina credits Optimax's skilled employees for much of the firm's success.

"That is why I am not so concerned about competition," he says. "They will have to fire their whole work force and hire new people to do what we do."

In-the-trenches management style

Mandina is a hands-on manager who prefers a no-walls office structure. He does not sit in a cubicle; his desk is on the shop floor, where he can be close to the action.

"He is looked upon as a guy in the trenches. He likes to work closely with young people," says Joseph Pinto, quality manager at Optimax.

"When you work with him, he works like a peer," Plympton adds. "He is very involved and is a great coach for our younger opticians."

Optimax's employees go through a rigorous training process. Staffers are encouraged to work on different types of jobs, to broaden their skills.

"In the optics industry 10 years from now, their job is going to change significantly. I don't know into what, but I know it is going to be different, so they have to be willing and able and capable of learning," Mandina says. "And we have to be able to provide that education to them so that they can improve. The people who work here are very action-oriented."

Along with on-the-job training, Optimax offers 80 percent tuition reimbursement to its employees.

"Mike understands the basic good qualities of a person," Pinto says. "He brings those people on board and nurtures them."

Optimax has collaborated with five universities across the country, keeping its finger on the pulse of innovation. The institutions include UR, the University of Arizona and others.

"We learn about what they are doing and try to implement the things that they are doing," Mandina says. "This company is expert at implementing technology developed in a research institution. To us, innovation is very important and we keep pushing toward that."

The company plans to file for a patent for one of its optics-manufacturing processes.

"We think it is significant enough; it has that much value," Mandina says. "We need to do more of that stuff."

Mandina keeps pushing himself too. He has resumed pursuit of an old goal, enrolling as a student in RIT's executive MBA program.

"I waited till the kids were off to college," he says. "And the work force at Optimax allows me to do that; the place runs

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without me.”

Between school and optics, Mandina has little time for anything else.

“I think this is fun,” he says. “I don’t do much other than work.”

“His hobby is making lenses,” Plympton says.

Some years ago, Mandina did have other hobbies. He enjoyed working on cars and camping with his wife, Patricia, and their three children, who now are pursuing college degrees and careers.

“My son and I were reworking a ’73 Corvette,” he says. “That was fun.”

Mandina today drives a well-used Chevrolet Suburban.

“It has some 240,000 miles on it,” he says with a laugh. “I am on a mission to reach 250,000.”

A Penfield resident, Mandina serves the community through the Wayne County Economic Development Corp., the Finger Lakes Investment Board and the Ontario N.Y. Chamber of Commerce. He also keeps in touch with peers in the local and national optics community

through industry meetings and trade shows.

The tough economic climate has not diminished Mandina’s optimism about Optimax’s future.

“If you get the right combination of people and continue to get them, you can do a lot of great things, independent of pricing models, market conditions and technology,” he says. “The reason I feel secure is because of the quality of our workforce—that has more to do with our success than anything else.”

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