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Sydor Instruments LLC: Using laser technology to commercialize products

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Michael Pavia sees high-growth potential for Sydor Instruments LLC.

Pavia, the company's president, said revenues this year will reach some \$1.5 million but are expected to climb to \$22 million in 2009. Staff also is expected to increase, from six now to 25 or 30 in 2009.

The privately held Rochester-based company was founded in 2004. The firm commercializes high-precision instruments by transferring technology from laser research programs that develop new instrument technology to other laser research programs in need of measuring new levels of performance. James Sydor serves as the company's CEO and lead investor.

Pavia said growth at the optics company will be due largely to providing customers with products they need.

"I've personally seen that advancing high-energy physics research demands an ever-faster flow of more precise and accurate data," Pavia said.

Instrumentation available today often is difficult to maintain and insufficient to measure performance levels, he said.

"Our company is very interested in finding ways to commercialize advanced instrumentation to help our customers get that data and get it faster and more cost-effectively," Pavia said.

Through a licensing agreement with the University of Rochester's Laboratory for Laser Energetics, Sydor Instruments is manufacturing a new self-calibrating streak camera developed by the laser lab with the highest precision and accuracy of any commercially available instrument of this type, company officials said.

The name of the instrument is ROSS, which stands for Rochester Optical Streak System. It is the only self-calibrating streak camera in the world, officials said, and it measures the power balance of high-intensity lasers used in high-energy physics research.

The instrument sells for \$325,000 to \$375,000 each and the laser market for this instrumentation is estimated at 100



Photo courtesy of Eugene Kowaluk

Sydor Instruments LLC president Michael Pavia with the company's Rochester Optical Streak System camera. He expects \$1.5 million in sales this year.

or more units over the next three to seven years. Pavia said the company has received four orders from two large customers in the United States and Europe.

The company serves a worldwide market of some \$350 million in the areas of government research, next-generation semiconductor capital equipment, telecommunications, biomedical research and other fast optical events requiring precision image analysis.

Research laboratories around the world have been using instrumentation developed during the 1970s and 1980s, Pavia said, noting these programs are undergoing billion-dollar upgrades. The Sydor ROSS instrument will replace older, obsolete equipment that has grown fragile, inefficient and full of difficult-to-replace parts, he added.

Future opportunities include selling software packages, service, spare parts and custom engineering services, Pavia said.

Pavia has almost 20 years experience in the design, fabrication, assembly and testing of precision optical systems and lasers. He provides general management at Sydor Instruments and also assesses and manages key customer and market needs.

Pavia's earlier work includes laser fusion and systems for semiconductors, space exploration and advanced imaging experimentation. He also has worked on advanced product commercialization at Eastman Kodak Co., launching products globally as the worldwide marketing manager of a \$1.5 billion strategic product group.

Pavia also worked at LLE, where he served as a member of the activation team for the Omega Laser, the highest-powered ultraviolet laser in the world.

James Sydor has more than 30 years experience manufacturing precision optical components for advanced light applications for the Department of Energy, Department of Defense and NASA. In addition to providing strategic direction and financial management at Sydor Instruments, he is the president and owner of Sydor Optics Inc. and sits on the boards of the American Precision Optics Manufacturers Association and the Rochester Regional Photonics Cluster.

Sydor also has held senior manufacturing positions at American Optical's Scientific Instrument Division and American Cystoscope Makers Inc.

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