

December 21, 2009

## Sydor Instruments is No. 54 in Top 100

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*Staff writer*

*The Rochester Top 100, which annually recognizes the fastest-growing privately held companies in the nine-county region, is sponsored by the Rochester Business Alliance and KPMG.*

*Here is an interview with Michael Pavia, president of Sydor Instruments.*

### **Tell us about Sydor Instruments LLC. Its founding revolved around a patent, correct?**

Correct. Sydor Instruments began with a patent license for a novel imaging technology developed at the University of Rochester's Laboratory for Laser Energetics.

The inventors, Dr. Paul Jaanimagi and Robert Boni, devised a method for capturing ultrafast images faster and more accurately than previously possible.

The prototype caught the attention of U.S. and European government customers.

Jim Sydor and I formed Sydor Instruments in March of 2004, licensed the technology from the university and began commercializing the product.

### **How did the company unfold after you formed it? What helped you grow in the first years?**

In the first year of operation, we needed just about everything.

We received a lot of support from the inventors and the management at the Laser Energetics Lab. This was critical to the technology transfer process and building our knowledge base.

Next, we were very fortunate in hiring the right people to document the technology and build the cameras.

After that, we were able to hit revenue and profitability relatively quickly. It's been continued growth ever since.

### **In layman's terms, please explain what your product is and what it is used for.**

We manufacture ultrafast camera systems. Just like a microscope can image very small objects, our camera systems can image very small slices of time, typically less than a billionth of a second.

By capturing an image in less than a billionth of a second, our customers are able to obtain data from fast-moving events that were previously hidden from view.

Examples include watching isotopes of hydrogen fuse to release energy; detecting nuclear, chemical and biological materials for homeland security; watching molecules combine to create disease-resistant crops; and remote countermeasures for detecting a wide variety of ballistic threats to our military personnel.

### **Finding new, clean and cheaper energies is a top concern of 21st-century leaders. How does your product help the research?**

The concept is to reproduce a burning ball of hydrogen here on Earth and harness the power of the sun and stars in a controlled setting.

Hydrogen is a limitless, clean fuel that holds tremendous promise for our future energy needs. The United States, Europe, Japan and other countries all have programs of national importance in the field of fusion energy research.

Our products and technology are critical to characterizing this work and capturing the data necessary to evaluate the underlying science.

**Who are your customers and what are their needs?**

Our customers are primarily the U.S. Department of Energy, the U.S. Department of Defense, the United Kingdom's Ministry of Defense and the French Energy Commission.

We also do a fair amount of work in the aerospace industry along with the major research universities.

These are large, well-funded customers interested in sophisticated camera systems that sell for between \$175,000 and \$350,000. They take several months to produce.

**What are your expansion plans?**

Recently, we've been seeing increased demand from both the aerospace sector along with the life sciences market.

We developed a product for the biomedical and life sciences market that we'll be exhibiting next month at the Photonics West trade show in San Francisco.

For the defense contractors and aerospace customers, we've added to our staff to capture larger defense program work for high-speed and low-light imaging applications.

We've been growing at a pretty good rate the past few years and plan on continued expansion in 2010.

This is a very good time to be in the imaging business. Digital imaging holds a lot of promise in many future applications. We will continue to innovate and grow to help our customers get the information they need.

**Please explain the manufacturing process. Is the product made in Chili?**

Early on, we decided to build everything ourselves due to the complexity of the product. We manufacture the camera systems in our Chili facility from individual parts that are sourced locally as much as possible.

From over 1,400 discrete components, highly skilled engineers and technicians build the electronic, mechanical and optical sub-assemblies that go into our systems.

We are very fortunate to be in Rochester. We have a strong talent base, and many of the local shops can produce the precision components we need.

**You operate a small company that makes a big product with big buyers. Describe your daily routine and how you manage it all.**

We have a small, highly talented team that can design and build some pretty amazing systems. By focusing on "top of the pyramid," low volume-high dollar products and applications, we are able to leverage our small size into relatively large opportunities.

Once we capture these large opportunities, we can add staff to support the additional work and expand relatively quickly. The workday can be pretty long and chaotic sometimes, but I always set aside dedicated time for selling.

Finding new customers and applications for our products is our future, so it's important to hit that every day.

After that, it's a mix of complex problem-solving, which I really enjoy. I'm very fortunate to have great employees and a strong support network of local experts that can help out when we need it.

**What was your key to success when you first started? Is there any routine, life skill, management technique or philosophy that helps you succeed?**

Maintaining a positive outlook is a prerequisite for starting and running a successful company. You really have to believe that tomorrow will be better than today and pursue a long-term, future vision of what you are building. If you get caught up in the day-to-day turmoil, it's easy to lose focus.

Keep your eye on serving your customers and make forward-looking decisions with courage, knowing that you can get through anything that the environment throws at you.

Surround yourself with talented, smart, hard-working people who can work well as a team and fit the culture of the company.

Be a relentless marketer and talk about your company's capability any chance you can get. Good things can happen unexpectedly just by making connections with people, but they can't help if they aren't aware of your skills and capability.

Be flexible, adaptable, and don't sweat the small stuff.

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## Additional Facts

Sydor Instruments LLC, No. 54

**Sydor Instruments:** Maker of high-speed imaging equipment for energy research.

**Year founded:** 2004.

**Location:** 31 Jet View Drive, Chili.

**Executives:** James Sydor, CEO; Michael Pavia, president.

**Employees:** 10.

**Web:** [www.sydorinstruments.com](http://www.sydorinstruments.com).