

# SMALL BUSINESS DEVELOPMENT CENTER



## Micro-LAM – Client Story for Michigan SBDC Web Site – Feb. 2017

**2015**

**Commercialization of patented advanced manufacturing precision machining.**

**\$1M**

**Sales achieved in first year at market.**

**\$2M+**

**More than \$1 million received from state and federal grants, and another \$1 million plus secured in venture capital financing.**

**University Spinoff**

**First Western Michigan University spinoff of its type.**

### **Initial Situation**

Back in 2009, Deepak Ravindra, Ph.D. was a budding mechanical engineering student at Western Michigan University (WMU). During the final year of his doctoral program, Dr. Ravindra worked with his advisor to develop the technology behind the patented  $\mu$ -LAM System. After trading in his lab coat to be the CEO of Micro-LAM Technologies, Dr. Ravindra reached out to the Michigan SBDC for guidance on the challenges of starting a business and managing the growing pains of a new tech company.

### **How the SBDC Helped**

In the eight years Dr. Ravindra has worked with the Michigan SBDC, he has grown from a pure technologist to a full-fledged entrepreneur. He attributes this growth to a dozen plus Michigan SBDC consultants who have provided him with a wide assortment of services, including business formation, financial modeling, marketing research and definition, technology commercialization and licensing, investor readiness, grant applications, pitch presentations, and more.

### **Success**

Dr. Ravindra reached several milestones even before his product went to market. In 2011, he was accepted into the National Science Foundation's (NSF) Innovation-Corps (I-Corp) program through Stanford University. This was quickly followed by raising more than \$1 million in state and federal grants for feasibility testing and commercialization of the  $\mu$ -LAM System. The company has also been recognized at several pitch/business plan competitions. Most recently, the company ended its first year at market with \$1 million in sales and was able to secure a Series A funding.

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## Overview of Story

As Deepak Ravindra, Ph.D., CEO and Founder of Micro-LAM Technologies, was preparing to transition from working in a lab to running a business, he reached out to the Michigan SBDC for support in understanding entrepreneurship and managing a startup tech company. Since 2009, he has worked with more than a dozen Michigan SBDC consultants. Each consultant has shared with him their own specialty, experiences, resources, and networks.

“I have religiously used the SBDC since before the company was officially launched,” said Dr. Ravindra. “At every stage and every task there has been an SBDC consultant there to help me.”

Based in Southwest Michigan with facilities in Battle Creek and Kalamazoo, Micro-LAM Technologies has developed an innovative, one-of-its-kind technology for precision finishing of hard and brittle materials. The company offers cutting-edge technology through its state-of-the-art  $\mu$ -LAM System. Manufactured in the United States, the patented  $\mu$ -LAM System has been proven through intensive research, testing, and customer trials. The hybrid system consists of an infrared beam that, passing through an optically transparent diamond-cutting tool, emerges at the cutting edge between the tool and the piece being machined. The laser beam softens the cutting surface, allowing one-pass, high precision surface finishing. This technology improves productivity, minimizes waste, reduces tooling costs, and revolutionizes the finishing process of hard and brittle materials used in high precision applications, such as semiconductors, advanced engineered ceramics, and high-end optics.

“We didn’t use the old cliché of ‘build it and they will come’ but rather we figured out their problem and then built a product accordingly,” shared Dr. Ravindra. “Our product is customer driven and addresses almost all of today’s current challenges in the precision manufacturing industry.”

The company has achieved a long list of milestones while working with the Michigan SBDC, including receiving more than \$1 million in state and federal grants from the Michigan Emerging Technology Fund, Michigan Business Accelerator Fund, WMU Technology Development Fund, and several Small Business Innovation Research grants from the National Science Foundation. The company has also been recognized as a finalist at several pitch/business plan competitions, including the Great Lakes Entrepreneur’s Quest, Accelerate Michigan, Annual Collaboration for Entrepreneurship, and BOOST. Micro-LAM also received its first equipment loan of \$150,000 from the Battle Creek Unlimited Direct Investment Fund.

“Micro-LAM represents advanced manufacturing in a way that creates a quantum leap in terms of process and quality over existing technologies,” said Robert Honeyman, Michigan SBDC Technology Business Consultant. “This isn’t just tweaking an old way; it’s an inventive, high-tech approach based on a century-old problem.”

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The company has grown from its early days of a 2-person, on-campus incubator office at WMU to 8 employees at facilities in Kalamazoo and Battle Creek. Micro-LAM is currently planning to merge the two locations into a 10,000-square foot facility in Kalamazoo this spring. The new location will provide them a separate area to house their machines for customer demos and training, and there is plenty of space for future growth. Growth was also seen with the commercialization of the  $\mu$ -LAM System in 2015 and \$1 million in sales in their first year at market. Most recently, Micro-LAM was approved for Series A funding and has already secured commitment for more than \$1.1 million of the \$1.75 million in venture capital financing, which is being led by the Grand Angels based in Grand Rapids (MI).

Dr. Ravindra credits the company's success to what he refers to as the Triple T factor – timing, team, and technology. He is especially grateful to his team for their dedication and hard work. Dr. Ravindra shared that his team works as if it was their own product and this is what truly drives the success of the technology and company.

In the first 18 months at market, Micro-LAM exported 70% of its product to the United Kingdom, Israel, Spain, Sweden, and India. The company is looking forward to continuing the positive momentum and looks to triple sales, expand U.S. market share, and increase applications for the  $\mu$ -LAM System.

## Contact Info

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