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## Northville Firm Helps Manufacturers 'See The Light,' Boost Quality

Imagine you're running a factory with complicated assembly operations.

Now imagine a light could shine down from overhead on each work station, showing operators exactly how to put together the parts -- shining lights and words, giving them information on what parts to pick from each bin and the order in which they are to be picked and assembled. Particularly tricky bits would even be covered by a demonstration video displayed on part of the work station.

No 'Angel of Manufacturing' is required for such a scenario. Instead, it's new technology called Light Guide Systems from Northville, specifically brothers Paul and Jim Ryznar and their Ops Solutions Inc.

The company received United States Patent No. 7,515,981 for the technology in April 2009 and is about to sign up its first customer, a Chicago manufacturer of exercise equipment.

Paul Ryznar left Auburn Hills-based United Solar Ovonic recently to join his brother Jim full-time in the business.

Paul Ryznar said they've been working on the technology since 2005. He said his "aha" moment that it could work came when he was a plant manager at Detroit Diesel, when a quality consultant told his assembly operators that they needed to point at their assembly station at each step and each part along the way. "I knew my guys wouldn't do that," he said.

But Light Guide Systems does. It uses software and an industrial-strength TV projector to beam instructions down on a workstation, telling an operator which parts to pick and in which order and how to assemble them.

"We cover the parts bin and the work bench, guiding the operator through every step of a parts selection and work process," Paul Ryznar said. The information is presented step by step. Operators either touch a screen or hit a foot pedal to confirm a step is complete. Some steps that require machine operations use the machines' feedback as confirmation.

Paul Ryznar said that as a test in his basement, he got his teenage daughters to build a fuel injector correctly -- although, he added with a grin, "they didn't hit my cycle time target."

The system replaces hard copy work instructions and blueprints.

And the brothers noted that it can be used in any industry, in any language. Possible industry applications include automotive, medical devices, electronics, computers, aerospace, military and food processing.

It could also be adapted to train a wide variety of workers, including doctors.

And it can be used to analyze assembly operations in detail, measuring the time required to complete every step of every operation across all operators and plants -- with the information available to managers anywhere there's an Internet connection.

The brothers say the software involved in the system represents 50,000 lines of code. They say it's easy to program -- "If you can program Power Point, you can program this," Jim Ryznar said.

The Ryznar brothers grew up on a small farm in Belleville. Both attended the University of Michigan -- Paul graduated with a bachelor's degree in mechanical engineering in 1983, Jim with a degree in German and political science in 1990. Paul has worked in manufacturing management, Jim in sales, before starting Ops Solutions.

For more information, visit [www.ops-solutions.com](http://www.ops-solutions.com).