

# Lumenera Creates Custom Imaging Solution for Robotic Welding Machine Application

## Lumenera Selected for Proven OEM Capabilities

A well known machine vision company chose Lumenera to design and manufacture the vision component of its next generation robotic welding machine inspection system. Lumenera was selected from a large pool of providers for its experience and expertise in custom and OEM imaging solutions. Lumenera is assisting this organization in delivering outstanding product quality, and improving operational processes while reducing costs.

## Traditional Robotic Welding Inspection Wastes Resources and Dollars

Traditionally, robotic welders had to manually inspect each weld tip to ensure quality. This process took considerable time and required the robotic welding cell to be completely shut down during the inspection process. In other cases, robotic welders would just assume the tip was no longer useful after a certain number of welds, and would waste resources and dollars by throwing the tip away without knowing its true quality.

## Lumenera Helps Save Time and Money

In order to avoid interrupted production and maximize valuable time and money, an imaging solution was required that would specifically analyze the welding tips to determine if they needed to be dressed, and ensure they were not damaged or misshaped. When a mashed or mushroom shaped tip was found, the part was dressed in order to produce a proper arc.

In developing its prototype, Lumenera's client was in need of a "one-stop-shop" that could assist with the development of its model, the creation of a custom enclosure, the addition of specific components, the assembly of the camera and the delivery of one complete, seamless solution. Relying on only Lumenera to manage this project eliminated the timely task of finding multiple suppliers.

## Lumenera Allows Client to Focus on Core Business

Lumenera's expertise in custom and OEM imaging solutions made it the company of choice, enabling the client to focus on its core competencies. Lumenera was chosen for this large camera project for the following reasons:

**Feature Rich API:** The ease-of-use of Lumenera's feature rich API allowed its customer to quickly integrate images into its network processing environment.



## Highlights

Lumenera's expertise in custom and OEM imaging solutions made it the company of choice.

- Feature Rich API
- One-Stop-Shop
- Megapixel Resolution
- Embedded "Smart" Solution
- Custom & OEM Camera Provider
- Cost-Effective Solution
- Large Number of Engineering Staff
- Timely Modifications
- Flexible Architecture
- Mechanical Enclosure Design
- Superior Technical Assistance Centre



**One-Stop-Shop:** Lumenera was able to provide its customer with a complete solution. The scope of the project included help with its initial design, installation of an LED light and controlling its intensity, connecting to the PC104 embedded computer, and assembling the complete solution in a customized enclosure.

**Megapixel Resolution:** Provided a more precise measurement tool, increased accuracy, and the ability to detect much smaller defects.

**Embedded “Smart” Solution:** Lumenera’s solution functioned as a smart camera, with an embedded computer that allowed full camera control and ran the customer’s custom solution.

**Custom & OEM Camera Provider:** Lumenera has developed a reputation as the industry’s leading custom camera provider. It has designed over 1250 camera models for unique OEM requirements, based on CMOS, CCD, Cooled CCD, large format, pixel shifting, IR bolometer sensors of all resolutions and performance.

**Cost-Effective Solution:** The superior image quality of megapixel resolution made this a cost-effective solution as only one camera was required per cell. Lumenera was able to leverage existing partnerships with suppliers to create the entire solution at a reduced rate.

**Large Number of Engineering Staff:** The customer had a problem finding a company that develops custom solutions and had the knowledge to satisfy complex needs. Lumenera’s large number of engineering staff provided a knowledgeable resource from conception, through development and implementation.

**Timely Modifications:** The customer enjoyed timely results due to Lumenera’s experience in custom and OEM solutions. Experience ranging from small hardware and software adjustments such as private labeled enclosures, to complete made-to-spec solutions with alternate form-factors and unique mechanicals.

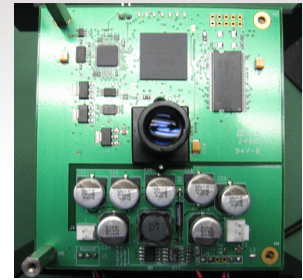
**Flexible Architecture:** Allowed for rapid prototyping and quick time to market.

**Mechanical Enclosure Design:** Customized designs met a variety of environmental requirements and project restrictions including enclosure design, mechanicals and hardware modifications.

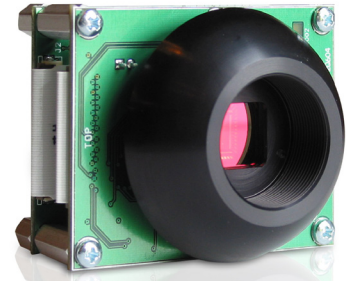
**Superior Technical Assistance Centre:** Lumenera’s TAC team was fully committed to supporting the customers vision needs through product development, design, integration, deployment and post-sales support.

Customer demands for process improvements, shorter build and inspection cycles, and lower costs are key drivers for new product development. Lumenera’s trained professionals work closely with Project Managers and Engineering Teams to meet a clients application requirements, and assist with the integration of standard and customized cost-effective imaging solutions.

**Contact Lumenera for your next imaging project at [info@lumenera.com](mailto:info@lumenera.com).**



**Lumenera’s Lu171M single board camera was customized to meet the customers application needs.**



**Board-level USB 2.0 Camera Module**

#### About Lumenera

Lumenera Corporation, a division of Roper Technologies, headquartered in Ottawa, Canada, is a leading developer and manufacturer of high performance digital cameras and custom imaging solutions. Lumenera cameras are used worldwide in a diverse range of industrial, scientific and security applications.

Lumenera solutions provide unique combinations of speed, resolution and sensitivity in order to satisfy the most demanding digital imaging requirements. Lumenera customers achieve the benefit of superior price to performance ratios and faster time to market with the company’s commitment to high quality, cost effective product solutions.

For further information about Lumenera, please visit [www.lumenera.com](http://www.lumenera.com) or call 613-736-4077.

