

Confidential Business Profile

Optoniks supplies high accuracy optical inspection solutions for semiconductor manufacturers, automotive, and life science technologies, all markets where denser components, tighter tolerances and daunting quality control issues drive competitive advantage. Optoniks uses a combination of algorithms and structured light techniques developed in collaboration with Intel and UNC Charlotte's Center for Precision Metrology. The patented process enables the cleanest, fastest and least invasive data set for measurement and analysis across a range of component characteristics and materials.

Milestones and Market Response

The Company completed the technology transfer from UNCC, successfully delivered on Intel collaboration and expanded its business team in response to Intel and the market's positive interest in the product functions and capabilities.

Optoniks has achieved key milestones and partnerships in semiconductor, life science and production line solutions:

- Socket measurement solution developed with Intel completed and accepted for installation in Intel's AMCL lab for refinement and operation in their supply chain
- Film layer measurement system developed from continuing Intel discussions has opened partnership opportunities in life sciences and in automotive paint with our ability to measure both very rough surfaces and turbid layers
- High accuracy detection of defects and fine scale features across a range of part characteristics has opened a partnership with a Boston pharmaceutical research technology supplier
- International integrator of automated production line solutions has requested collaboration to meet tighter and more challenging inspection and quality control needs from Intel suppliers and other high-density interconnect manufacturers
- Two companies in the emerging field of flexible ceramics are actively pursuing precision solutions

Path to Success

Optoniks has funded operations to date with grants, research collaborations, Intel partnership and private investment. Cash flow needs have been minimized and managed by facility sharing, academic collaboration, alliances, field development and conservative hiring.

Since achieving exciting product, market and partnership milestones, the Company is ready to expand and pursue the market opportunities already knocking at its door within semiconductor manufacturing, automotive and life sciences.

Strategic Partnerships



Optoniks Team



Strategy for Growth

Products

Intel has accepted Optoniks **3D measurement** product for socket measurement. The product stands out for its ability to effectively measure shadows and dark/shiny surfaces. Optoniks is already working with a production line integrator to use the product on high-end components requiring 100% quality control, serving Intel's supply chain and elsewhere.



Non-Destructive Measurement

Non-contact and No-Coating are two aspects of Optoniks' 3D profilometry system that makes it a Non-Destructive Measurement (NDM) metrology tool.



3D Shadow Removal™

Optoniks has developed a technique based on multiple camera angles to effectively remove errors in profile measurement due to obstruction of light at particular locations.



HDR Metrology™

Optoniks has developed the HDR Metrology™ technology to overcome the issue of high-contrast ratio objects and surfaces in dimensional metrology.

The Company's second family of products, **Film Layer Thickness measurement** evolved from continuing collaboration with Intel and the need to measure layers without cutting or needing top/bottom access. Optoniks successfully uses advanced optical distortion techniques and algorithms to achieve non-destructive measurement of thin layers. This technique has received inquiries from companies serving the pharmaceutical research and medical device industry, both needing non-destructive 100% quality control inspection solutions. One partner company currently does full manual inspection in Malaysia and wants to integrate Optoniks technology (3D and Film Layer) to boost accuracy and automation.

Markets

Devices and technologies that serve the **life sciences industry** increasingly involve complex materials, fine-scale features and the need for 100% quality control. Optoniks has development collaborations underway or discussions started with four such suppliers. The **automotive industry** also demands non-destructive precision measurement of roughness/flatness/topography across a range of paints and coated components.

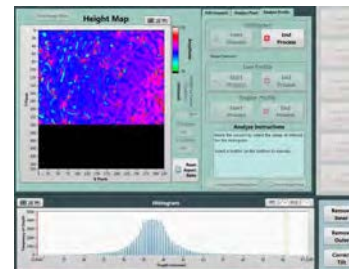
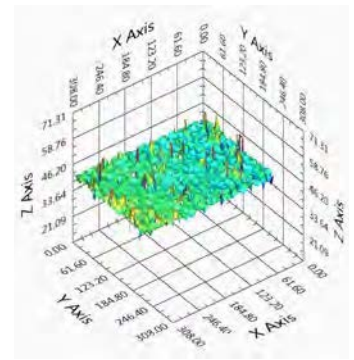
Collaborative development – all aspects of manufacturing are moving towards tighter tolerances, advanced materials, and refined processes. Optoniks will continue to pursue a collaborative development strategy.

Technology

Optoniks has an exceptional patent position focusing its technical resources on partnerships and collaborative development in the field, as well as furthering our research presence at UNCC Center for Precision Metrology.



ContourPro 4D



optoniks.com

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