

PRESS RELEASE

Lasertec Corporation

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(Tokyo Stock Exchange 1st Section, Code 6920)

New product release: OPTELICS AI² Automatic Inspection and Review System

Yokohama, Japan, December 2, 2021 – **Lasertec Corporation** today announced the release of **OPTELICS AI²**, a confocal microscope-based automatic inspection and review system.

Lasertec has launched OPTELICS AI², a new type of confocal microscope designed to perform automatic defect inspection and review. AI² provides high-speed automatic surface defect inspection, defect mapping, and high-magnification defect shape review from a single platform.

There has been a rapid increase in demand for semiconductor devices due to growing need for 5G mobile communication, high-performance computing, and other applications. Semiconductor device manufacturers are expected to keep developing new devices with increased performance. For the development of new devices adopting new designs and new materials, various challenges need to be overcome with cross-organizational efforts. The evaluation of prototypes, quality control during production, and process improvement for higher yields are among those challenges.

AI² performs automatic surface defect inspection, defect review, and defect shape 3D profiling on a single platform, serving customer need in various situations of R&D and production.

AI² achieves both high-throughput, high-speed inspection and high-magnification surface shape profiling by integrating Lasertec's core technology in confocal optics, automatic inspection software perfected through the development of various semiconductor-related inspection systems, and newly designed high-speed motion hardware into a system. AI² conducts AI-based inspection using deep learning and offers advanced inspection functions such as high-precision image classification, patterned sample inspection, and the extraction of specific types of defects.

Lasertec is dedicated to addressing customer need and helping customers succeed in various R&D and yield improvement efforts.

【Key Features】

- Automatic defect inspection, high-magnification review, and surface shape profiling on semiconductor wafer from a single platform, serving customer need in various situations of R&D and production
- High-speed inspection capability: inspecting a whole 3-inch wafer in 15 minutes with sub-micron sensitivity

- High-magnification review capability: high-magnification surface shape profiling available with switching of objective lens
- Deep learning-based high-precision image classification, patterned sample inspection, and inspection of specific types of defects
- Defect inspection, high-magnification review, and surface shape profiling of transparent samples, such as compound semiconductors and films, without interference of backside reflection
- Lasertec providing a complete system including both hardware and software, making customization for specific need, and offering entire system support

【Applications】

- High-speed automatic defect inspection of semiconductor wafers
- Defect review
- Defect surface shape profiling
- Defect tracking in production process



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