

# News Release

FOR IMMEDIATE RELEASE

## **Hitachi High-Technologies Develops Wafer Surface Inspection System LS9300A-EG**

Tokyo, Japan, January 30, 2018—Hitachi High-Technologies Corporation (TSE: 8036, Hitachi High-Tech) announced the release of the Wafer Surface Inspection System LS9300A-EG (Edge Grip Type), a new system designed for inspection of wafer surfaces prior to circuit patterning application. The LS9300A-EG, that is based on its previous model LS9300A with high sensitivity and high throughput, is capable of inspecting both the front and backsides of wafers. Accordingly, the new system offers a wider range of uses, and will be an essential contributor to the semiconductor devices mass production quality.

As semiconductor device scaling is constantly progressing to smaller dimensions, wafer quality has become a critical challenge. As the manufacturing process complexity grows – even the minutest particles and defects on the wafer surface can result in device failure. Therefore, the wafer surface inspection step prior to circuit patterning is crucial. Wafer surfaces are inspected for quality assurance purposes prior to shipping and accepting the delivery of wafers, as well as for particle control purposes in the manufacturing processes of various semiconductor devices. Wafer surfaces also are inspected to control cleanliness and sustain the quality of manufacturing equipment. Historically, there has been a strong need for systems that are capable of inspecting both the front and backsides of wafers with high sensitivity and throughput in order to gain further control of the yield during mass production of cutting-edge devices.

The LS9300A-EG is based on its previous model LS9300A, that is targeted for manufacturing advanced semiconductor devices, with high sensitivity and high throughput. The LS9300A-EG provides an edge grip function, which enables inspection without any contact to the backside of wafers. It is also equipped with a wafer flipping mechanism, which allows defect inspection of both the front and the backside of wafers. As a result, the new system offers advanced analysis capabilities and prediction of device failure caused by defects on the backside of wafers and other factors.

Hitachi High-Tech will strive to meet and exceed our customer needs in defect inspection and critical dimension control processes for the development and mass production of semiconductor devices. This will be done by supplying wafer inspection systems based on optical technologies, such as the LS9300A-EG, and products such as CD-SEM\* based on electron beam technologies. Moreover, Hitachi High-Tech will continue to provide innovative and timely solutions for upcoming technology challenges. In parallel, Hitachi High-Tech will contribute to cutting-edge technologies by pursuing and creating new value in collaboration with its customers.

\* CD-SEM (Critical Dimension-Scanning Electron Microscope): A system designed to perform high-precision measurement of the dimensions of fine semiconductor circuit patterns formed on wafers

## **【Product Features】**

1. Capable of inspection of front and backsides of 300 mm silicon wafers with an edge grip function and a wafer flipping mechanism, while minimizing the possibility of particle adhesion on the wafer.
2. Achieves superior cost of ownership by performing inspections with high sensitivity and high throughput.
3. Capable of detecting flat defects as well as miniature particles.



LS9300A-EG

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