

SCREEN Semiconductor Solutions Co., Ltd.**SCREEN Releases New Wafer Pattern Inspection System*****High Resolution and Productivity Support Stable Production of Next-generation Power Devices***

Kyoto, Japan – November 14, 2022 – SCREEN Semiconductor Solutions Co., Ltd. (SCREEN SPE) has finalized the development of its ZI-3600, a new pattern inspection system for wafers used in next-generation power devices, CIS¹ and MEMS. SCREEN SPE plans to launch the ZI-3600 in November 2022.

**ZI-3600**

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In recent years, the drive to achieve carbon neutrality (net-zero CO₂ emissions) for greenhouse gases has accelerated the development of products offering superior energy efficiency, including electric vehicles and energy-saving home appliances. As a result, demand has grown for next-generation power devices that use transistors and materials such as SiC² and GaN³ to efficiently control power. Similarly, to meet the increasing demand for silicon (Si) wafers, there has been a transition to 300 mm, a size that provides greater production efficiency. These factors have created a growing need for manufacturing equipment with space-saving designs and the flexibility to produce devices in different sizes, types and quantities.

SCREEN SPE has responded to these requirements by developing the ZI-3600, a new wafer pattern inspection system that delivers both outstanding resolution and productivity. The ZI-3600 is able to inspect wafers ranging in size from 100 right up to 300 mm. With its proprietary inspection head and improved high-speed image processing engine, the ZI-3600 also achieves a practical processing capacity of approximately double⁴ that of previous systems.

In addition, its unique inspection head is equipped with objective lenses of three different resolutions. The lenses are automatically switched to the optimum focus during operation, enabling this one system to perform a broad range of inspections covering from micro to macro defects. As with previous models, a line sensor is also used to scan the entire wafer surface, which makes it possible to perform inspections at a constant speed regardless of chip size or quantity. This wealth of features boosts yield rates while ensuring highly stable production.

With its development of the ZI-3600, SCREEN SPE has significantly enhanced the resolution and productivity provided by its ZI series. The system is expected to enable more reliable production of next-generation power

devices, CIS and MEMS. SCREEN SPE intends to pursue its current research and development to further improve cutting-edge devices' energy saving and sophistication. As well as helping to achieve a carbon-neutral future, these efforts will support the continuing growth of the semiconductor industry.

1. CMOS image sensor, a type of image sensor that uses CMOS technology and is known for its low power consumption.
2. Silicon carbide, a compound semiconductor material consisting of silicon (Si) and carbon (C).
3. Gallium nitride, a compound semiconductor material consisting of gallium (Ga) and nitrogen (N).
4. Compared to SCREEN SPE's ZI-3500 when performing full surface inspection of a 300 mm patterned wafer.

Note: The new ZI-3600 will be introduced in SCREEN's booth at SEMICON EUROPA 2022, to be held from November 15 (Tue) to 18 (Fri) in Munich, Germany. www.semicon.europa.org

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