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PEMTRON Highlights Breakthrough Inspection Technologies for Semiconductor Manufacturing at SEMICON Japan 2025

November 2025 — PEMTRON, an inspection equipment developer and supplier, will exhibit at SEMICON Japan 2025, taking place December 17–19 at Tokyo Big Sight. Visitors can find PEMTRON at Booth E4828, where the company will showcase its latest inspection technologies, including the 8800WIR, JUPITER, APOLLON, and MARS systems.

PEMTRON is advancing inspection technology with systems built to keep pace with the changing needs of semiconductor and electronics production.

8800WIR Wafer Inspection System: Advanced Imaging for Defect Detection

The 8800WIR wafer inspection system incorporates state-of-the-art 2D and 3D imaging technologies to inspect various types of bumps, including micro bumps. Its advanced imaging capabilities enable the system to detect and address quality issues at an early stage of semiconductor manufacturing. The 8800WIR ensures that even the smallest defects are identified and corrected, improving yield and product quality.



JUPITER 3D X-ray Inspection System: Precision Redefined

The JUPITER 3D X-ray Inspection System delivers both 3D and 2D inspection through advanced PCT reconstruction-based processing. Combining high-resolution optical imaging with PEMTRON's proven AOI defect detection algorithms, JUPITER provides a complete solution for in-line inspection and process analysis. Its seamless data sharing with SPI and AOI systems enables deeper insight into production trends and improved process efficiency.

MARS: High-Speed Memory Module Inspection

Built for speed and reliability, the MARS Automated Visual Inspection (AVI) system is optimized for memory module production. Leveraging advanced image processing and high-speed

architecture, MARS ensures consistent, accurate defect detection while keeping pace with modern high-throughput assembly lines.

APOLLON: Versatile Package Inspection

The APOLLON inspection system supports a broad range of package types, including BGA, LGA, QFN, QFP, CSP, and SOP. With real-time defect detection and automated reporting, APOLLON helps manufacturers identify issues early and maintain consistent quality across the packaging process, minimizing rework and downtime.

With decades of expertise in automated optical and X-ray inspection, PEMTRON continues to develop practical, high-performance solutions that help manufacturers achieve stable, efficient, and high-quality production.

For more information about PEMTRON, please visit www.pemtron.com.

About PEMTRON

Based on 3D precision measurement and vision source technology, PEMTRON develops equipment used in various fields such as SMT, Automotive Field, Lead Tab, Semiconductor, and supplies Soldering Inspection equipment (3D SPI), 3D Mounting Inspection equipment (3D AOI, MOI), Conformal Coating Inspection equipment (TROI-8800 CI), Bottom Head Inspection equipment (Eagle 8800TH), Top & Bottom Double Sided Simultaneous Inspection equipment (Eagle 8800TWIN), Automated X-Ray SMD Counter (MERCURY), Wafer Sawing Before/After 3D Inspection equipment (8800 WI/WIR), Wire Bonding 3D Inspection & MEMS Auto Inspection equipment (ZEUS), Package AVI equipment (APOLLON), Memory Module / SSD Auto Inspection equipment (MARS), FC-BGA, FCP-CSP Inspection equipment (POSEIDON-S), Scale Sorter Of FC-BGA Products (8800 FI), Bump Metal Mask Inspection equipment (8800 MI), PCB Appearance Inspection equipment (8800 AI) and Lead Tab Process/Inspection equipment (Hawk 7300).