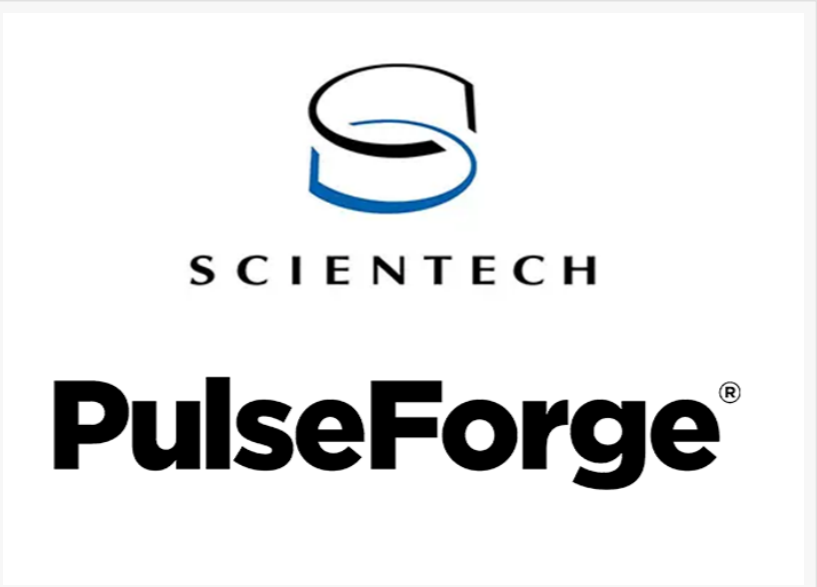
Scientech and PulseForge Partner to Launch Next-Generation Photonic Debonder for Advanced Packaging Applications

HSINCHU, TAIWAN, December 8, 2024 /EINPresswire.com/ -- Scientech, a leading semiconductor equipment manufacturer, and PulseForge, a pioneer in photonic debonding technology, have joined forces to launch a Fully Automated Photonic Debonding Solution tailored for advanced packaging.



Scientech and PulseForge have joined forces to launch a Fully Automated Photonic Debonding Solution tailored for advanced packaging.

This next-generation system combines cutting-edge photonic debonding technology with end-to-end automation, providing semiconductor manufacturers with a solution that addresses the growing demands of AI chip packaging, high-performance computing, and power devices.

Key Features

1. Localized, Stress-Free Debonding: The transient nature of photonic debonding vaporizes a few nanometer-thin adhesive layers. This minimizes heat on the wafer and allows easier carrier separation with less stress, even for delicate wafers under 10 µm thick.

2. High Throughput: Next-generation photonic debonder enables significantly faster cycle times compared to traditional debonding methods, boosting productivity. It achieves high-speed debonding while maintaining stringent alignment and process accuracy.

3. Cost Savings: Reduced material waste, carrier reusability, simplified preventive maintenance and energy efficiency contribute to lower operational costs.

4. Versatile Material Compatibility: Optimized for various adhesives and device wafers, including

silicon wafers, glass substrates, and molded wafers, ensuring adaptability for diverse packaging requirements.

Applications

- AI chip packaging wafer/Panel
- Heterogeneous integration
- High-density fan-out wafer-level packaging (FOWLP)
- 2.5D and 3D ICs
- Power devices

Industry Impact

This fully automated solution redefines efficiency and precision in advanced semiconductor manufacturing. By combining Scientech's expertise in debonding systems with PulseForge's photonic debonding, the system delivers scalable, reliable, and high-yield production, meeting the challenges of next-generation semiconductor devices.

About Scientech

Scientech is a leading global provider of advanced semiconductor manufacturing equipment, specializing in wafer wet processing, bonding, debonding, and cleaning technologies. With a strong commitment to innovation and quality, Scientech partners with semiconductor manufacturers worldwide to enable the next generation of electronic devices.

About PulseForge

PulseForge, Inc. develops and manufactures state-of-the-art flashlamp-based tools that deliver energy in a precise and targeted manner to enable innovation in industrial manufacturing. Our expertise and tools empower our customers to explore novel materials and manufacturing methodologies, driving dynamic and efficient production at an industrial scale.

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