

# PulseForge Achieves Record Photonic Debonding Orders in Q1 2025, Signaling Market Acceleration

AUSTIN, TX, UNITED STATES, April 29, 2025 /EINPresswire.com/ -- [PulseForge](#), Inc., a global leader in high-intensity pulsed-light systems for semiconductor manufacturing, today announced a record volume of [photonic debonding](#) equipment orders in the first quarter of 2025. This milestone marks a significant inflection point for the industry, reinforcing the growing demand

for advanced packaging technologies, particularly in 2.5D/3D integration, AI processors, high-bandwidth memory (HBM) and neuroelectronics applications.

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*Jonathan Gibson, CEO of  
PulseForge*

“This milestone reflects both our customers' confidence and the industry's recognition of photonic debonding as a game-changing technology,” said Jonathan Gibson, CEO of PulseForge. “We’re proud to support global semiconductor leaders with a scalable, high-yield, and low-stress solution that significantly improves cost of ownership and throughput.”

## Driving Forces Behind the Surge

- **Advanced Packaging Adoption:** With the exponential growth in AI chips and next-generation memory modules, PulseForge’s photonic debonding tools—paired with proprietary light-absorbing layer (LAL) coated carriers—are proving indispensable for handling ultra-thin wafers and sensitive architectures.
- **Strategic Partnerships:** In Q1, PulseForge expanded key alliances with tool integration partners and received new collaboration requests from Tier 1 semiconductor toolmakers, broadening customer reach and tool availability.
- **Notable Customer Wins:** Leading IDMs, memory manufacturers, sensors and neuroelectronics manufacturers, robotics companies, energy storage manufacturers, aerospace companies, and a variety of other customers with applications that have delicate substrates requiring temporary bonding and debonding processes are gearing up to deploy photonic debonding. This underscores a major market validation for photonic debonding.

## Technology with a Competitive Edge

PulseForge’s unique photonic debonding solution uses high-intensity pulsed light in tandem with

engineered LAL-coated carriers to release temporarily bonded device wafers, without the mechanical stress or light-induced damage from traditional methods such as laser debond. This enables:

- Superior wafer integrity for fragile and sub-20 µm thin wafers
- Faster throughput than laser or mechanical debonding methods
- Industry best cost of ownership through reduced consumables and tool downtime

#### Enabling the Future of 3DHI and AI Acceleration

As semiconductor manufacturing shifts from monolithic scaling to chiplet-based and 3D heterogeneous integration (3DHI) strategies, photonic debonding is emerging as a cornerstone technology for enabling scalable, high-performance packaging. PulseForge continues to drive this transition forward with a portfolio of modular systems, advanced carrier solutions, and deep integration expertise.

#### 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.

Learn more at [www.pulseforge.com](http://www.pulseforge.com).

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