EV GROUP®

Heterogeneous Integration Competence Center™
**EVG Heterogeneous Integration Competence Center™ at a Glance**

EVG’s Heterogeneous Integration Competence Center is designed to assist customers in leveraging EVG’s process solutions and expertise to enable new and enhanced products and applications driven by advances in system integration and packaging. These include solutions and applications for high-performance computing and data centers, the Internet of Things (IoT), autonomous vehicles, medical and wearable devices, photonics and advanced sensors.

EVG has an extensive background in heterogeneous integration, providing solutions for this key technology trend for more than 20 years. Among these are: permanent wafer bonding—including direct fusion and hybrid bonding for 3D packaging and metal bonding—and die-to-wafer bonding with and without collective carriers for integration of III-V compound semiconductors and silicon as well as high-density 3D packaging; temporary bonding and debonding, including mechanical, slide-off/lift-off, and UV laser assisted; thin-wafer handling; and innovative lithography technologies, including mask aligners, coaters and developers, and maskless exposure / digital lithography.

EVG’s new HI Competence Center provides an open access innovation incubator for our customers and partners across the microelectronics supply chain to collaborate while pooling our solutions and process technology resources to shorten development cycles and time to market for innovative devices and applications enabled by heterogeneous integration.

**Direct Bonding**
- Plasma Activated Bonding
- Anodic Bonding
- ComBond®
- Hybrid Bonding <100 nm overlay

**Metal Bonding**
- Eutectic Bonding
- Solder Bonding
- Transient Liquid Face Bonding
- Metal Thermo Compression Bonding

**Temporary Bonding**
- Adhesives, Tapes Waxes
- Slide Off
- Mechanical Debonding (ZoneBond®)
- Laser Debonding

**Heterogeneous Integration / C2W**
- Process Integration
- Wafer Level Die Transfer
- Metrology

**Resist Processing**
- Spin Coating
- Spray Coating
- Thin Film (down to 40 nm)
- Thick Film
- Edge Coating

**Lithography**
- Maskless Exposure
- Proximity Mask Aligner
- Fine Pitch Redistribution
- Bumping
- Customized Exposure Processes for Novel Device Requirements

**Developing**
- DI rinse, Solvents
- Spray
- Puddle
- Temperature Enhanced
- Megasonic Enhanced

**Advanced Resist Coating**
- NanoFill™
- NanoSpray™
- Cover Spin
- Black Resists
- Quantum Dots
- Plasma Dicing

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Cleanroom at EVG headquarters

www.EVGroup.com
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EVG’s equipment solutions and manufacturing process expertise are critical to supporting many applications within the semiconductor industry, with proven success in a variety of key markets, including:

- Advanced Packaging, 3D Interconnect
- MEMS (MicroElectroMechanical Systems)
- SOI (Silicon-On-Insulator)
- Compound Semiconductor and Silicon-based Power Devices
- Nanotechnology

EVG’s recent developments in maskless lithography, fusion and hybrid wafer bonding as well as other processes offer new capabilities to develop next generation heterogeneous and 3D integrated device solutions.

**EV Group (EVG) offers equipment solutions for:**

- Wafer Bonding
- Mask Aligner
- Coating and Development
- Temporary Bonding & Debonding
- Cleaning
- Metrology
- Maskless Exposure / Digital Lithography

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**Contact**

Companies and other parties interested in partnering with the Heterogeneous Integration Competence Center™ can contact EV Group by phone at +43 7712 5311 0 or e-mail. Get in touch:

**HeterogeneousIntegration@EVGroup.com**

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