

EV Group capitalizes on MEMS market leadership, further diversifies business with key 3D IC and LED manufacturing technology advances

I-Micronews

EV Group (EVG), a leading supplier of wafer bonding and lithography equipment for the MEMS, nanotechnology and semiconductor markets, today announced it has received an order for its EVG520IS semi-automated wafer bonding system and EVG620TB mask and bond aligner from the University of Texas at Arlington (UTA). The tools will be employed at Nano Fab – UTA’s Nanotechnology Research and Teaching Facility, which is funded by the National Science Foundation’s Major Research Instrumentation Program – for a wide range of MEMS-related as well as photonics and optoelectronics research.

The order is EVG’s latest centered on the MEMS market, following its March shipment of two wafer bonders to the University of Michigan’s Lurie Nanofabrication Facility for advanced MEMS research. MEMS are currently undergoing explosive growth, according to market analyst firm Yole Developpement, outpacing nearly every other segment of the electronics industry due to their implementation in sensors and accelerometers for mobile handsets, set-top boxes, gaming consoles and other high-volume consumer applications. A long-established premier provider of wafer bonding, alignment and handling equipment to MEMS-focused customers in industry as well as academia – 27 of the world’s top 30 MEMS manufacturers use its equipment – EVG has leveraged its success in this arena to migrate into key emerging technologies, including 3D ICs and light-emitting diodes (LEDs).

Driving advances in 3D ICs

Since EVG first entered the 3D IC market in 1999, it has quickly grown its market share, securing numerous competitive order wins in the space. In the last year alone, multiple customers in North America, Asia Pacific and Europe purchased EVG systems for both R&D and production applications. The company has also taken a leading role in driving 3D market evolution, co-founding the EMC3D Consortium in 2006 to commercialize a cost-effective, manufacturable through-silicon via (TSV) interconnection process for 3D chip stacking. The consortium has continued to gain momentum, adding new members and is aggressively targeting to drive cost of ownership of TSVs below US\$150.

Most recently, at the IEEE International Interconnect Technology Conference, SEMATECH and EV Group presented initial results following the installation of a fully-automated GEMINI wafer bonder announced at SEMICON West 2009. A fully automated 300-mm EVG GEMINI production wafer bonding system was installed at SEMATECH’s 3D Research and Development Center at the College of Nanoscale Science and Engineering on the University at Albany (N.Y.) campus. The system integrates four types of wafer bonding – thermo compression, fusion, temporary and chip-to-wafer – in one tool, enabling ultimate R&D flexibility.

Becoming a contender in LED

With yesterday's launch of its EVG560HBL fully automated wafer bonding system, EVG's newest key target market is high-brightness LEDs (HB-LEDs). According to a forecast by market researcher Strategies Unlimited, the HB-LED market is expected to grow more than 50 percent this year, reaching \$8.2 billion in revenues. The new EVG system delivers the higher capacity needed to accommodate the technology's rapid growth, while capitalizing on EVG's 30 years of wafer bonding experience to meet device makers' demand for manufacturing techniques that mirror those used in the semiconductor industry.

Growing global momentum

As EVG approaches its 30th anniversary, the company continues to expand its global presence while targeting important customers whose work ranges from high-volume production all the way down to small-volume/R&D environments. To ensure its ability to meet these wide-ranging customers' needs, the company recently rolled out its EVG610 mask and bond aligner, a lower-cost system with greater process versatility that will enable universities and research institutions to attain cost and system flexibility without sacrificing quality of results.

Strong presence at SEMICON West

EVG will be addressing key developments in each of its core markets in its presentations at SEMICON West 2010 this week (July 13-15) in San Francisco, Calif.:

- * HB-LED – SEMICON Extreme Electronics Stage, Moscone Center, South Hall
Dr. Thomas Uhrmann, Business Development Manager, will be presenting “Wafer-level Packaging for Cost Reduction of High-brightness LEDs” on Wednesday, July 14 at 3:00 p.m. during the Extreme Electronics' Solid-state Lighting session on “More Lumens per Dollar: The Road to More Efficient HB-LED

Manufacturing—Progress and Next Challenges in Back-end Manufacturing”

- * Wafer Bonding and Advanced Interconnects: IMAPS and SEMI Topical Workshop on Advanced Interconnect Technologies – San Francisco Marriott Marquis Hotel

Bioh Kim, Business Development Manager, EV Group, will be presenting on “Advances in Wafer Bonding Techniques Enabling Vertical Integration” on Wednesday, July 14 at 10:30 a.m.

- * SEMATECH 3D Metrology Workshop – San Francisco Marriott Marquis Hotel
Markus Wimplinger, Corporate Technology Development & IP Director, will be presenting on “Infrared Overlay Metrology of Bonded Wafers and Stacked Layers for 3D Integration” on Wednesday, July 14 at 3:40 p.m.

- * Plasma Activation for Wafer Bonding – SEMICON TechSITE North, Moscone Center, North Hall

Eric Pabo, Business Development Manager, will be presenting on “Plasma Activation – An Enabling Technology for Wafer Bonding” on Thursday, July 15 at 11:00 a.m.-3:00 p.m.

In addition, EVG will be exhibiting at SEMICON West. Editors and analysts interested in learning more about the company and its recent developments are invited to visit EVG's booth #1225 (South Hall), where the company will hold a happy hour event in celebration of its 30th anniversary on Tuesday, July 13, from 3:30-5:00 p.m.

About EV Group

EV Group (EVG) is a world leader in wafer-processing solutions for semiconductor, MEMS and nanotechnology applications. Through close collaboration with its global customers, the company implements its flexible manufacturing model to develop reliable, high-quality, low-cost-of-ownership systems that are easily integrated into customers' fab lines. Key products include wafer bonding, lithography/nanoimprint lithography (NIL) and metrology equipment, as well as photoresist coaters, cleaners and inspection systems.

In addition to its dominant share of the market for wafer bonders, EVG holds a leading position in NIL and lithography for advanced packaging and MEMS. Along these lines, the company co-founded the EMC-3D consortium in 2006 to create and help drive implementation of a cost-effective through-silicon via (TSV) process for major ICs and MEMS/sensors. Other target semiconductor-related markets include silicon-on-insulator (SOI), compound semiconductor and silicon-based power-device solutions.

Founded in 1980, EVG is headquartered in St. Florian, Austria, and operates via a global customer support network, with subsidiaries in Tempe, Ariz.; Albany, N.Y.; Yokohama and Fukuoka, Japan; Seoul, Korea and Chung-Li, Taiwan. The company's unique Triple i-approach (invent - innovate - implement) is supported by a vertical integration, allowing EVG to respond quickly to new technology developments, apply the technology to manufacturing challenges and expedite device manufacturing in high volume. More information is available at www.EVGroup.com.

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