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EBEAM INITIATIVE MEMBERS JOINTLY PRESENT COLLABORATIVE RESULTS AT SPIE/BACUS SYMPOSIUM 2010

Four Additional Companies Join eBeam Initiative

SAN JOSE, Calif., September 7, 2010—The eBeam Initiative, a forum dedicated to the education and promotion of a new design-to-manufacturing approach known as design for e-beam (DFEB), today announced that several of its members will jointly present the latest breakthroughs in DFEB mask technology at the Annual SPIE/BACUS Symposium 2010—a worldwide technical conference and exhibition and premier event for the photomask industry. The collaborative results demonstrate the effectiveness of DFEB mask technology on advanced photomasks at the 22-nm node and beyond. The SPIE/BACUS Symposium will be held September 13-16, at the Monterey Marriott Hotel in Monterey, Calif.

The eBeam Initiative also announced today that four new companies have joined its ranks. These new members—Abeam Technologies, EQUIcon Software GmbH Jena, Synopsys and TOOL Corporation—are key additions to the Initiative in strengthening the ecosystem that is critical to supporting the commercialization of DFEB mask technology.

Aki Fujimura, CEO of D2S and managing sponsor of the Initiative, said, "Due to the collaborative efforts of the eBeam Initiative members, we continue to make progress on the DFEB mask technology roadmap. At BACUS, members are demonstrating for the first time the improved shot count results of writing curvilinear features using overlapping e-beam shots." Remarking on the four new members of the Initiative, Fujimura added, "We're pleased to add these new members to the Initiative. Increasingly, companies across the semiconductor ecosystem are recognizing the critically important role that DFEB technology can have in enabling the production of cost-effective, complex masks at the 22-nm node and beyond."

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For 22-nm process technologies, the ability to use curvilinear features for mask lithography becomes critical. DFEB mask technology makes cost-effective, optical lithography for 22nm a reality by leveraging the rounding nature of e-beams to enable practical turnaround times for complex and curvilinear features. The collaborative results from the eBeam Initiative members further demonstrate the ability of DFEB mask technology to enable fewer shot counts and less write-time than traditional e-beam writing techniques on advanced photomasks.

At the SPIE/BACUS Symposium 2010, eBeam Initiative members will jointly present the following papers:

September 14

- 10:40 a.m., Steinbeck Forum Session 2: Pattern Generation (invited paper) "Improvement of Mask Write Time for Curvilinear Assist Features at 22nm"
- 1:20 p.m., Ferrante Room Session 6: Mask Data Preparation "Writing 32-nm HP Contacts with Curvilinear Assist Features"
- 5:50 p.m., Ferrante Room Session 8: Optical Proximity Correction "Impact of Model-Based Fracturing on Proximity Effect Correction Methodology"

September 15

• 8:00 a.m., Steinbeck Forum – Special Session on E-Beam Direct Write – Invited speaker, Aki Fujimura, CEO of D2S, to present on design insights for direct-write maskless lithography

In addition to these collaborative papers, the eBeam Initiative is a co-sponsor of a special MCA BrightSpots lithography panel at the SPIE/BACUS Symposium. The live panel event will be held on Tuesday, September 14, at 5:15 p.m. in the San Carlos Ballroom I and will be followed by cocktails. You can RSVP for this event at <u>dmoreno@mcapr.com</u>. Those unable to attend the panel can also participate via a live audio-stream by registering at <u>https://www2.gotomeeting.com/register/871337162</u>.

For information on eBeam Initiative activities at SPIE/BACUS 2010, please visit: <u>www.ebeam.org</u>.

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About The eBeam Initiative

The eBeam Initiative provides a forum for educational and promotional activities regarding a new design-to-manufacturing approach, known as design for e-beam (DFEB). DFEB reduces mask costs for semiconductor devices by combining design, design software, manufacturing, manufacturing equipment and manufacturing software expertise. The goals of the Initiative are to reduce the barriers to adoption to enable more integrated circuit (IC) design starts and faster time-to-market while increasing the investment in DFEB throughout the semiconductor ecosystem. Members and advisors, which span the semiconductor ecosystem, include: Abeam Technologies, Advantest, Alchip Technologies, Altos Design Automation, AMTC, Cadence Design Systems, CEA/Leti, D2S, Dai Nippon Printing, Martin M. Deneroff, EQUIcon Software GmbH Jena, e-Shuttle, Jack Harding from eSilicon Corporation, Fastrack Design, Fraunhofer CNT, Fujitsu Semiconductor Limited, GenISys GmbH, GLOBALFOUNDRIES, HOYA Corporation, JEOL, KLA-Tencor, Magma Design Automation, NuFlare Technology, Petersen Advanced Lithography, Colin Harris from PMC-Sierra, Riko Radojcic from Qualcomm, Samsung Electronics, STMicroelectronics, Synopsys, Tela Innovations, TOOL Corporation, Toppan Printing, Virage Logic and Vistec Electron Beam Lithography Group. Membership is open to all companies and institutions throughout the electronics industry. To find out more, please visit www.ebeam.org.

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