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**SMIC JOINS THE EBEAM INITIATIVE AS EUV LITHOGRAPHY AND
MULTI-BEAM MASK WRITING BECOME KEY THEMES FOR 2017**

SAN JOSE, Calif., February 28, 2017—The eBeam Initiative, a forum dedicated to the education and promotion of new semiconductor manufacturing approaches based on electron beam (eBeam) technologies, today announced that Semiconductor Manufacturing International Corporation (SMIC)—one of the world's leading global foundries—has joined the eBeam Initiative. This leading authority on semiconductor technology will add its unique perspective and leadership to the more than 45 existing eBeam Initiative member companies and advisors spanning the semiconductor photomask and lithography supply chain.

In related news, the eBeam Initiative also announced today that it will focus its education efforts in 2017 on eBeam technology requirements and new developments to support extreme ultraviolet (EUV) lithography and multi-beam mask writing. These topics will be addressed by industry luminary guest speakers at eBeam Initiative events throughout the year, including the annual eBeam Initiative members and press luncheon event being held today during the SPIE Advanced Lithography Conference at the San Jose Convention Center.

"SMIC is pleased to have been a participant in the eBeam Initiative's annual mask makers survey since it was commissioned two years ago," stated Eric Guo, Senior Director of Mask Operation in SMIC. "As a new member of the eBeam Initiative, we look forward to continuing to support projects like the survey that provide a benefit not only to us but to the industry as a whole."

Last year, the eBeam Initiative's fifth annual perceptions survey, which was completed by 73 industry luminaries and members from across the semiconductor and photomask manufacturing supply chain, revealed that pessimism in EUV lithography was at its lowest level ever recorded by the survey, while confidence in EUV remained steady overall and increased compared to other lithography approaches. At the same time, perceptions of multi-beam mask writing also stood out, with expectations on its use in high volume manufacturing (HVM) by 2018 remaining strong. With the survey results indicating a clear direction and interest among the eBeam Initiative members in new eBeam developments surrounding EUV and multi-beam mask writing, the eBeam Initiative will increase its education focus on these critical technology areas.

"This is truly an exciting time for the eBeam Initiative," stated Aki Fujimura, CEO of D2S, managing company sponsor of the eBeam Initiative. "Not only are we witnessing continued progress and growing optimism in bringing EUV lithography into production, but optical lithography continues to extend its physical limitations beyond the imaginable—through various multi-patterning techniques, inverse lithography technology (ILT), complex mask shapes and multi-beam mask writing. All of these developments are enabled by new innovations in eBeam technology, which shines a brighter spotlight on the need for collaborative industry efforts like those of the eBeam Initiative. To that end, we are very pleased to welcome SMIC as a new member. The company brings a unique perspective to our ongoing mission to educate the photomask and semiconductor industries on the importance of eBeam technology."

The annual eBeam Initiative members and press luncheon event being held today will feature presentations from industry luminaries on the following topics: advances in eBeam technology for rapid edge-placement-error (EPE) metrology; mask modeling for multi-beam mask writing; and the resurgence of ILT. Copies of these presentations will be made available after February 28 on the eBeam Initiative website at www.ebeam.org.

“Beyond the SPIE Advanced Lithography Conference, the eBeam Initiative will continue to promote education on new eBeam developments in EUV lithography and multi-beam mask writing at other industry forums throughout the year,” added Fujimura. “Over the next few months alone, we will highlight these important topics at the China Semiconductor Technology International Conference (CSTIC) in March and the Photomask Japan Conference in April, the latter of which will also include special sessions involving GPU acceleration of mask technologies.”

About The eBeam Initiative

The eBeam Initiative provides a forum for educational and promotional activities regarding new semiconductor manufacturing approaches based on electron beam (eBeam) technologies. 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 eBeam technologies throughout the semiconductor ecosystem. Members, which span the semiconductor ecosystem, include: aBeam Technologies; Advantest; Alchip Technologies; AMTC; Applied Materials; Artwork Conversion; Aselta Nanographics; Cadence Design Systems; Canon; CEA-Leti; D2S; Dai Nippon Printing; EQUIcon Software GmbH Jena; eSilicon Corporation; Fraunhofer CNT; Fujitsu Semiconductor Limited; GenISys GmbH; GLOBALFOUNDRIES; Grenon Consulting; Hitachi High-Technologies; HOLON CO., LTD; HOYA Corporation; imec; IMS CHIPS; IMS Nanofabrication AG; JEOL; KLA-Tencor; Maglen; Mentor Graphics Corporation; Multibeam Corporation; NCS; NuFlare Technology; Petersen Advanced Lithography; Photonics; Sage Design Automation; Samsung Electronics; Semiconductor Manufacturing International (Shanghai) Corporation (SMIC); STMicroelectronics; Synopsys; tau-Metrix; Tela Innovations; TOOL Corporation; Toppan Printing; Toshiba; UBC Microelectronics; Vistec Electron Beam GmbH; Xilinx and ZEISS. 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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