

MEDIA RELEASE

NIKON AND A*STAR INSTITUTE OF MICROELECTRONICS TO COLLABORATE ON ADVANCED LITHOGRAPHY TECHNOLOGY TO SET UP A JOINT R&D LAB IN SINGAPORE

1. **Singapore, 20 December 2012-** Nikon Corporation (Makoto Kimura, President) and A*STAR Institute of Microelectronics (IME), a leading semiconductor research institute of Singapore, have announced a collaboration with an agreement to jointly set up a research and development (R&D) laboratory to develop advanced optical lithography technology used in the manufacturing of semiconductor chips.

2. Nikon and IME will collaborate on technologies such as multiple patterning and directed self assembly techniques to drive the extension of ArF Deep Ultraviolet (DUV) dry and immersion lithography down to geometry of 20nm and beyond, targeting advanced applications including logic, high density memory, embedded non-volatile memory, high-speed electronics and nanophotonics, and nano-electromechanical systems (NEMS).

3. For Nikon, this is a strategic addition to new capabilities in Singapore. This collaboration will allow Nikon to tap into IME's advanced R&D infrastructure, process technology and talent pool to get early insights into its next-generation systems which will shorten time-to-market. It will open opportunities to Nikon to learn required technology for future process, and continue pushing ArF immersion lithography for several device nodes.

4. The new capabilities will enhance and expand IME's joint collaborations with industry partners, research institutes and universities to develop advanced technologies such as metrology and materials for further technology shrinkage as well as manufacturing excellence. The Joint Lab exemplifies how IME is able to develop and nurture a local ecosystem for advanced R&D through partnerships with leading corporations.

5. "Through this collaboration with IME, Nikon will gain knowledge of future process technology and total solution, which will be important for our lithography system development. We are very excited to partner with one of the most advanced and established institute in the Asia region," said Mr. Kazuo Ushida, President of Nikon Precision Equipment Company.

6. "The Joint Lab synergizes IME and Nikon capabilities to drive R&D leading to future technology nodes. Nikon is an ideal technology partner well established in technical

excellence to help IME enhance and expand our R&D capabilities to meet the needs of the industry,” said Prof. Dim-Lee Kwong, Executive Director, IME. “The Joint Lab is a significant milestone for advanced semiconductor R&D in Singapore.”

About Institute of Microelectronics (IME)

The Institute of Microelectronics (IME) is a research institute of the Science and Engineering Research Council of the Agency for Science, Technology and Research (A*STAR). Positioned to bridge the R&D between academia and industry, IME's mission is to add value to Singapore's semiconductor industry by developing strategic competencies, innovative technologies and intellectual property; enabling enterprises to be technologically competitive; and cultivating a technology talent pool to inject new knowledge to the industry. Its key research areas are in integrated circuits design, advanced packaging, bioelectronics and medical devices, MEMS, nanoelectronics, and photonics. For more information, visit IME on the Internet: <http://www.ime.a-star.edu.sg>.

About Agency for Science, Technology and Research (A*STAR)

The Agency for Science, Technology and Research (A*STAR) is the lead agency for fostering world-class scientific research and talent for a vibrant knowledge-based and innovation-driven Singapore. A*STAR oversees 14 biomedical sciences, and physical sciences and engineering research institutes, and seven consortia & centre, which are located in Biopolis and Fusionopolis, as well as their immediate vicinity. A*STAR supports Singapore's key economic clusters by providing intellectual, human and industrial capital to its partners in industry. It also supports extramural research in the universities, hospitals, research centres, and with other local and international partners.

About Nikon Corporation

Nikon has been a pioneer in optical technology markets worldwide since its inception in 1917. Today, we offer a wide range of products utilizing advanced technologies, from consumer optics such as digital cameras, camera-related products and binoculars, to industrial precision equipment including IC and LCD steppers and scanners, microscopes and measuring instruments. For more information about Nikon, access Nikon web site at <http://www.nikon.com/>.

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