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MEDIA RELEASE

A*STAR INSTITUTE OF MICROELECTRONICS, GLOBALFOUNDRIES SINGAPORE & MASDAR INSTITUTE OF SCIENCE AND TECHNOLOGY TO ESTABLISH R&D TWIN LAB TO ADVANCE MEMS TECHNOLOGIES FOR KEY INDUSTRIES

The MoU was signed at the 7th Abu Dhabi-Singapore Joint Forum 2013 in Singapore

1. **Singapore, 26 Nov 2013** – A*STAR Institute of Microelectronics (IME), GLOBALFOUNDRIES Singapore Pte. Ltd., and Masdar Institute of Science and Technology (MI) have entered into a collaboration to develop and advance micro-electro-mechanical systems (MEMS) technologies for automotive, aerospace, consumer, healthcare, industrial, and mobility applications. The joint research initiative, which builds on the Abu Dhabi-Singapore Joint Forum (ADSJF), is supported by the Advanced Technology Investment Company (ATIC), a Mubadala company focused on building leading technologies companies, and the Economic Development Board (EDB) of Singapore.
2. The Abu Dhabi-Singapore Twin Lab will focus on the development of MEMS technologies including inertial sensors, energy harvesters, nano-opto-mechanical sensors, and ultrasonic transducers. These platform technologies form the foundation of a wide spectrum of sensors that address high volume markets, including mobile platforms, distributed wireless sensor network, healthcare and environment monitoring.
3. GLOBALFOUNDRIES Singapore is a leading semiconductor foundry providing full-scale wafer manufacturing services to fabless and fablite semiconductor companies. The foundry will serve as the programme manager and manufacturing partner in this

collaboration. The opportunity will also enable the foundry to expand its IP portfolio to address MEMS high-volume manufacturing at effective cost levels and capacity to serve the fast growing MEMS market.

4. “We are pleased to be in a strategic and mutually beneficial collaboration with the renowned research institutes from Singapore and Abu Dhabi,” said Mr K. C. Ang, Senior Vice President and General Manager of GLOBALFOUNDRIES Singapore. “This joint partnership will enable us to harness their R&D capabilities to create innovative technologies and products that will further solidify and strengthen our foundation in MEMS manufacturing.”
5. IME is a research leader in semiconductor research and development, under Singapore’s Agency of Science, Technology and Research (A*STAR), with an established track record in MEMS design and technologies. IME’s extensive experience in sensors and transducers technologies, MEMS process design and integration, as well as state-of-the-art research facilities will help to advance the joint research initiative and further develop innovative technologies for industry.
6. Professor Dim-Lee Kwong, Executive Director of IME, said: “This is a momentous milestone in the field of MEMS research and development for IME and for the parties involved in bringing this initiative to fruition. Each of us plays a key role in the semiconductor eco-system, namely government, industry, academia and research institute, with each bringing valuable opportunities and diverse knowledge. As such, we are confident that this partnership will enable us to successfully push our MEMS research capabilities to greater heights, and contribute to the advancement of the semiconductor industry in both Abu Dhabi and Singapore.”
7. MI is the world’s first graduate-level university, focusing on providing real-world solutions in advanced energy and sustainable technologies. The collaboration will open up opportunities for MI to leverage the industry intelligence of GLOBALFOUNDRIES Singapore and IME’s MEMS technology development capabilities to develop and grow MEMS scientific research programmes and initiatives.

8. Dr Fred Moavenzadeh, President of Masdar Institute, said: “The agreement with GLOBALFOUNDRIES Singapore and the Institute of Microelectronics illustrates our commitment to develop strong relationships with internationally renowned research-oriented institutions in advanced technology areas. With the support of the UAE’s leadership, we strive to develop expertise in leading edge areas recognized and pursued by other renowned institutions. We offer our expertise in fabless and fab-lite semiconductor technology and seek to achieve innovative solutions through our collaboration with the Singapore-based entities in MEMS-related research and development projects.”

9. The Memorandum of Understanding was signed today in conjunction with the Abu Dhabi-Singapore Joint Forum at Marina Bay Sands, and was attended by Mr Lee Yi Shyan, Senior Minister of State for Trade & Industry and National Development in Singapore, and His Excellency Khaldoon Al Mubarak, Chairman of the Executive Affairs Authority of the Emirate of Abu Dhabi (EAA).

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About A*STAR 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 about IME, please visit <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 Singapore's lead public sector agency that fosters world-class scientific research and talent to drive economic growth and transform Singapore into a vibrant knowledge-based and innovation driven economy.

In line with its mission-oriented mandate, A*STAR spearheads research and development in fields that are essential to growing Singapore's manufacturing sector and catalysing new growth industries. A*STAR supports these economic clusters by providing intellectual, human and industrial capital to its partners in industry.

A*STAR oversees 20 biomedical sciences and physical sciences and engineering research entities, located in Biopolis and Fusionopolis as well as their vicinity. These two R&D hubs house a bustling and diverse community of local and international research scientists and engineers from A*STAR's research entities as well as a growing number of corporate laboratories.

Please visit <http://www.a-star.edu.sg>

About GLOBALFOUNDRIES

GLOBALFOUNDRIES is the world's first full-service semiconductor foundry with a truly global footprint. Launched in March 2009, the company has quickly achieved scale as the second largest foundry in the world, providing a unique combination of advanced technology and manufacturing to more than 160 customers. With operations in Singapore, Germany and the United States, GLOBALFOUNDRIES is the only foundry that offers the flexibility and security of manufacturing centers spanning three continents. The company's three 300mm fabs and five 200mm fabs provide the full range of process technologies from mainstream to the leading edge. This global manufacturing footprint is supported by major facilities for research, development and design enablement located near hubs of semiconductor activity in the United States, Europe and Asia. GLOBALFOUNDRIES is owned by the Advanced Technology Investment Company (ATIC). For more information, visit <http://www.globalfoundries.com>.

About Masdar Institute of Science and Technology

Masdar Institute of Science and Technology (Masdar Institute) was established by the government of Abu Dhabi as a not-for-profit, private graduate university to develop indigenous R&D capacity in Abu Dhabi addressing issues of importance to the region.

In collaboration with the Massachusetts Institute of Technology (MIT), Masdar Institute has developed an academic and research platform that articulates its mission and vision according to critical energy and sustainability challenges.

An important characteristic of Masdar Institute is its focus on complex real-world problems that require a multidisciplinary approach for the development of solutions from an integrated technology, systems and policy perspective. This multi-interdisciplinary and integrated approach is supported by the structure of its academic programs and by the emphasis placed on engaging external partners from industry, government, and other academic institutions in collaborative activities.

Masdar Institute offers degrees in:

- MSc Engineering Systems and Management
- MSc Computing and Information Science
- MSc Materials Science and Engineering
- MSc Mechanical Engineering
- MSc Water and Environmental Engineering
- MSc Microsystems Engineering
- MSc Electrical Power Engineering
- MSc Chemical Engineering

And

- PhD in Interdisciplinary Engineering

Please visit our website: <http://www.masdar.ac.ae/>

About the Abu Dhabi-Singapore Joint Forum

The ADSJF was established in 2007 as part of a joint commitment by the Executive Affairs Authority of Abu Dhabi and International Enterprise (IE) Singapore to deepen and broaden bilateral cooperation between Abu Dhabi and Singapore.

The ADSJF is recognised as the premier platform connecting government and business leaders from both markets. Organised by IE Singapore, the forum is co-chaired by H.E. Khaldoon Al Mubarak, Chairman of the Executive Affairs Authority of the Emirate of Abu Dhabi (EAA) and Mr Lee Yi Shyan, Senior Minister of State for Trade & Industry and National Development in Singapore.