

## **MEDIA RELEASE**

### **A\*STAR INSTITUTE OF MICROELECTRONICS AND NANO-X IMAGING TO DEVELOP SENSITIVE X-RAY IMAGING DETECTOR FOR BETTER IMAGE QUALITY AT LOW RADIATION DOSE**

1. **Singapore, 16 September 2013** – A\*STAR’s Institute of Microelectronics (IME) and nanoX Imaging Ltd, a company with its R&D base in Japan, are collaborating to develop a highly sensitive X-ray imaging detector based on field emission detection. Leveraging on its 200mm MEMS process capabilities, IME will develop the process and integration technology to enable the realisation of nanoX Imaging’s device. The success of this project will result in a MEMS imaging detector that requires a small dose of radiation to achieve high quality images with a high gain and low noise.
2. Medical imaging plays an important role in healthcare and disease management. The most widely utilised medical imaging system is the radiography based X-ray imaging system. In the last two decades, developments in X-ray detector technology such as complementary metal oxide semiconductor (CMOS) imagers and thin-film-transistors (TFTs) have allowed healthcare professionals to better diagnose and assess a patient’s condition, leading to improved patient care.
3. One key criterion is to minimise patient’s exposure to radiation as this has adverse effects on the patient’s well-being. However, certain irregularities such as tumour masses are difficult to detect unless subjected to high levels of radiation. Hence, there is an increasing need for detection technology to acquire sharper and higher contrast images at low dosage of radiation.
4. “The progress of this semiconductor technology will lead to improved performance metrics in medical imaging systems, such as better image sensing and faster digital signal processing,” commented Professor Dim-Lee Kwong,

Executive Director of A\*STAR's IME. "This collaboration with nanoX Imaging is a strategic undertaking at an opportune timing where the medical X-ray devices market is experiencing a strong growth. Image quality will continue to be the paramount criterion, and overcoming the current limitation will benefit all stakeholders in this industry."

5. "We sought a good 200mm MEMS foundry over the world and finally came to IME, recognizing its capabilities best fit our requirements as we planned for the transition from development to commercialization. We appreciate the line-up of advanced facilities and professional expertise at IME," said Hitoshi Masuya, CEO of nanoX Imaging Ltd. "We are confident that that the partnership with IME will be long-standing. In this first collaboration, we look forward to present to the medical industry an ideal solution of an imaging system that will offer high performance at low radiation risks."

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**About A\*STAR's 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 <https://www.ime.a-star.edu.sg>.

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

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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 [www.a-star.edu.sg](http://www.a-star.edu.sg)

### **About nanoX Imaging Ltd.**

NanoX imaging Ltd. is a multi-national start-up established in 2012 with business development and management services from top of the line experts of the international medical industry, and technology development branching from a renowned electronic visual device project in the Far East. From the bases in Israel, Japan and the United States, the company is offering groundbreaking medical imaging solutions.