

## **A\*STAR INSTITUTE OF MICROELECTRONICS TO CO-DEVELOP HIGH PRECISION TEMPERATURE SENSOR ASIC WITH LEADING AUTOMOTIVE SOLUTIONS MNC**

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A\*STAR Institute of Microelectronics (IME) has forged a partnership with a leading multi-national company in automotive solutions to develop a high accuracy temperature sensor integrated circuit block for automotive and industrial applications. The temperature sensor will be part of a tyre pressure monitoring system (TPMS) which maintains the correct tyre pressure for comfortable driving, fuel efficiency, longer tyre-life and higher safety for the driver. The employment of a TPMS can reduce road accidents, fuel consumption and CO<sub>2</sub> emissions.

The accuracy of TPMS is affected by the change of temperature. Current temperature sensor accuracy is on the order of  $\pm 3^{\circ}\text{C}$ , which limits the performance and safety feature of TPMS. Using 0.13 $\mu\text{m}$  CMOS technology, IME and the industry partner will work together on the design of a new temperature sensor IC for TPMS to dramatically improve the accuracy down to  $\pm 0.5^{\circ}\text{C}$ . With the substantial improvement in temperature sensor accuracy, the TPMS will have greater capacity to pre-empt and react to enhance safety for the driver.

“This collaboration is an endorsement of our expertise in integrated circuits and systems design, and validates the pertinence of our technology in sustainable automotive application,” commented Professor Dim-Lee Kwong, Executive Director of IME. “Partnering with an industry leader to bring automotive IC design capabilities to Singapore adds immense value to the local semiconductor ecosystem.”

This project is facilitated through the A\*STAR Capabilities for Automotive Research (A\*CAR), an A\*STAR initiative to bring together automotive OEMs, suppliers and the R&D community to work hand in hand in addressing key research areas in automotive technologies. The A\*CAR Consortium was launched on 30 September 2008 with the partnership of Bosch, Dou Yee and Infineon. The Consortium draws on the collective expertises from the 7 research institutes under Science and Engineering Research Council (SERC). There are currently 14 companies on-board collaborating on 16 multi-disciplinary projects.

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### **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 at <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.

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