

Silicon Quest



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INSTITUTE OF MICROELECTRONICS AND SILICON QUEST, INC. PARTNER TO DEVELOP THE WORLD'S SMALLEST PIXEL MICROMIRROR ARRAY DEVICE FOR HIGH DEFINITION DISPLAY

Singapore, 18 February 2010 - The Institute of Microelectronics (IME), a research institute of the Agency for Science, Technology and Research (A*STAR), and Silicon Quest, Inc., a US-based fab-less company, today announced their partnership in the development of a CMOS compatible high density array MEMS micro-mirror device for the next generation high definition display applications.

IME had previously collaborated with Silicon Quest on the development of a 1-megapixel MEMS micromirror array device integrated on CMOS substrate. During this collaboration, IME developed the technology platform for the vertical silicon-based hinges that support the micromirrors. These micromirrors form the image on a display screen by reflecting the incident light in a controlled manner with an applied voltage. These devices are intended for the use in digital projectors, viewfinders and exposure systems. The current collaboration aims to develop a 2-megapixel micromirror array device.

Professor Dim-Lee Kwong, Executive Director of IME, said "This project will take advantage of IME's vast experience and capabilities in MEMS processing and integration as well as advanced packaging to address the inherent challenges of monolithic integration of MEMS and CMOS." He continued, "Manufacturing of these devices are driven by cost concerns and IME will be developing 8" foundry compatible MEMS process for the devices designed by Silicon Quest to significantly reduce time-to-market."

Mr. Fred Ishii, President and CEO of Silicon Quest, said "The development team is able to develop a best performing micromirror using the simplest structure with a single vertical hinge and a mirror plate. The idea of a micromirror device with vertical hinge originated over half a century ago and the team was able to revive it with today's technology. Silicon Quest and IME have developed an excellent partnership. The effort and commitment put in by IME staff has been remarkable. The device is designed for cost-effective manufacturing and IME offers a very flexible and cost-effective approach with their expertise and state-of-the-art facility. Silicon Quest plans to commercialize the technology in the near future."

IME and Silicon Quest plan to embark on the development of the next generation world's smallest pixel micromirror arrays and partner with local semiconductor foundry and packaging company for technology transfer.

About the 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.

For more information about A*STAR, please visit www.a-star.edu.sg.

About the 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 Silicon photonics. For more information, visit IME on the Internet: <http://www.ime.a-star.edu.sg>.

About Silicon Quest, Incorporation

Silicon Quest, Incorporated is founded and solely owned by Fred Ishii, former Sony executive, and located in Pittsburgh, Pennsylvania, USA. Silicon Quest, Inc. has been developing micro-display devices since 2004. Silicon Quest has crew to design CMOS backplane and MEMS structure at Silicon Valley in the US and at Shanghai in China.

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