

## JOINT NEWS RELEASE

### **A\*STAR Exploit[s] IME to Provide Multi-Dimensional Support to Microelectronics and Bio-electronics Industry**

- *Launch of IME R&D foundry services*
- *MOU between IME and Chartered to bring R&D to production*
- *MOU for licensing of IME technology to Instron*
- *Research Collaboration between IME and Veredus in medical diagnostics*
- *Venture capital investment in SiMEMS and extension of licensing agreement*

**Singapore, 18 August 2006** – Singapore’s Agency for Science, Technology and Research (A\*STAR) aims to provide multi-dimensional support to both local and international semiconductor industries through forging research collaborations with technology partners, partnerships with industry players, offering of R&D foundry services and facilities, as well as incubation and licensing activities.

A\*STAR’s Exploit Technologies and Institute of Microelectronics (IME) held a networking event today for their customers and industry partners to understand how they can benefit from the support rendered to them.

The Guest-of-Honour, Mr S Iswaran, Minister of State for Trade and Industry, launched the services of IME’s research foundry, believed to be the first of its kind in the region. The R&D foundry is designed for IME and the industry to do prototyping and low volume production of new generation products. With the success of a few companies that have used the facility for pilot runs, the IME research foundry is now ready to take on more industry partners wanting to prototype and test produce their newly developed products.

Mr. Iswaran also witnessed five industry partnerships linked to IME technologies and facilitated by Exploit Technologies being sealed.

#### **IME-Chartered MOU**

IME and Chartered Semiconductor Manufacturing Ltd (Chartered), one of the world’s top dedicated semiconductor foundries, signed a Memorandum of Understanding (MOU) today to broaden their partnership in providing competitive solutions for the global silicon electronics industry.

With the MOU, IME’s research partners can turn to Chartered to manufacture on a large scale products that they jointly developed with IME in alignment with Chartered. At the same time, IME and Chartered will collaborate in research projects that will fine-tune technologies that will be used to support Chartered’s customers.

Professor Dim-Lee Kwong, Executive Director of IME, said, “The MOU signed with Chartered is an extension of our close partnership over the years and it’s a win-win for both our customers. Increasingly we are seeing customers, especially those from the US, who require a R&D partner with manufacturing support from a commercial foundry. This seamless transfer of technology from R&D directly to manufacturing is a compelling business model. Working with Chartered, we can help to attract multinational companies to Singapore and jointly contribute to the growth of the semiconductor industry in Singapore.”

IME and Chartered have recently signed three-way MOUs with customers like US-based technology company SiOptical, and a MEMS-based media-related device company, for cost-effective mass production of their devices jointly developed with IME.

“Our latest agreement with IME reflects Chartered’s continuing approach of working with enabling partners to better serve our customers. Giving our customers the ability to leverage on IME’s facilities and resources provides a greater breadth of solutions and can lead to cost and time-to-market advantages for all involved,” said Mr Chia Song Hwee, President and CEO of Chartered.

### **IME-Veredus Research Collaboration**

IME today signed a research collaboration agreement with Veredus Laboratories Pte Ltd, a Singapore medical diagnostics research company, to jointly develop a prototype cartridge to prepare RNA sample that will enable health practitioners to quickly detect strains of Avian Flu and other infectious viruses.

The disposable cartridge to be developed by IME offers a cost effective and convenient way to prepare viral RNA sample from swab. The self-contained cartridge includes all the reagents and runs on a compact system. The cartridge is also fully enclosed, which means that any potential infectious viral RNA will not be exposed to the environment.

The prototype cartridge is expected to be ready for clinical validation at hospitals by the end of the year.

“We are pleased to collaborate with a premier research institute such as IME to develop a sample preparation device that is applicable to the Point-of-Care diagnostic setting. This will greatly enhance our capabilities to diagnose diseases very quickly and accurately,” said Dr Rosemary Tan, CEO of Veredus Laboratories.

Mr Boon Swan Foo, Managing Director of A\*STAR and Executive Chairman of Exploit Technologies, expressed, “We are delighted to work with Veredus for a third time. Veredus has previously licensed technology from the Institute of Molecular and Cell Biology to develop a malaria test kit, and more recently, had worked with the Genome Institute of Singapore in the development of the Avian Flu Diagnostic Kit. The continuous collaborations are a solid endorsement of the relevance and value of the research undertaken at A\*STAR’s research institutes and how they can benefit the man in the street in the face of potential pandemics currently threatening the world.”

## **MOU for Technology Licensing with Instron**

Exploit Technologies, the commercialisation arm of A\*STAR, also announced today the signing of a MOU for technology licensing with Instron Singapore Pte Ltd.

Under the MOU, Exploit Technologies will license IME's technologies in high-speed cyclic bend tester to Instron for a five-year period. Instron, headquartered in Massachusetts, USA, is the leader in providing testing solutions to R&D and QC markets. Besides making Singapore its regional headquarters, Instron has also set up an engineering design & technical centre focusing on providing product solutions to microelectronics applications and market.

The high speed cyclic bend tester developed by IME is used to test for drop impact reliability of electrical components in portable devices such as mobile phones. IME has established an improved board level test methodology and prototype tester which is five times smaller in size, 100 times faster in testing time, and better in repeatability compared to what is available in the market.

With the MOU, Instron will further develop and commercialise IME's prototype tester locally, which will in turn strengthen Instron's local operation in terms of visibility and capability, as well as anchor Instron's investment in Singapore.

This will be the second technology from IME that Instron will license. Instron and IME have jointly developed a micro-impact tester for high-speed impact testing of solder joint in 2005. A patent has also been filed on the design of the micro-impact tester.

Commented Mr KC Goh, Managing Director of Instron Singapore, "The high-speed cyclic bend tester is poised to take off with good returns, backed by the ever rising demand for portable devices, for which low-cost yet accurate drop impact test during product development and qualification is always desirable."

## **Licensing Agreement and Investment in SiMEMS**

Besides Instron, Exploit Technologies also signed an extended licensing agreement with SiMEMS Pte Ltd, a local biotechnology start-up specialising in chip-based DNA extraction technologies<sup>1</sup>. In the agreement, the terms granted to SiMEMS will be broadened in terms of duration, geography and applications.

SiMEMS has developed world-leading technology to enable high-tech lab tests to be performed rapidly and on-the-spot. The company's hand-held testing device will be a vital tool for the applications where on-the-spot test results are critical. The tests being offered include infectious diseases and genetic disorders like Thalassemia, where results currently take days to obtain in a laboratory.

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<sup>1</sup> IME and the National University of Singapore have jointly developed the silicon based micro-PCR (polymerase chain reaction) and DNA micro extraction chip technologies through A\*STAR's Biosensor Focused Interest Group (BFIG) Programme started in 1999. The technologies were licensed to SiMEMS by Exploit Technologies in January 2004.

SiMEMS, which was incubated at IME, also announced that ATP Investments Ltd, a Singapore biotech fund, will be investing some S\$5 million in the company.

CEO of SiMEMS, Mr Uppili Raghavan, said, “Our technology cuts turnaround time from days to 35 minutes. For users in time critical situations, like bird flu, this can mean thousands of dollars in savings by being able to screen viral pathogens more efficiently and accurately. The investment from ATP is just the infusion we need. ATP will contribute to our growth in many ways – not just through capital but also its connections with global market places in the biotech world.”

Added Mr Raghavan, “We are encouraged by the support from IME and Exploit. With IME’s R&D Foundry, we are able to rapidly customise our devices for different diagnostic markets at low cost and high yield. The enlarged scope of the licensing agreement with Exploit also opens a huge window of opportunity for SiMEMS to become a global player in the field of molecular diagnostics.”

ATP’s Managing Partner, Mr Patrick Gan said, “We believe SiMEMS has a valuable technology and are delighted to support the company. Singapore is trying to develop its biotechnology industry and our modest investment into SiMEMS is our way of showing our support for the government’s effort.”

Commented Mr Boon Swan Foo, “We are proud to be have incubated SiMEMS as a startup and pleased that it has been successful in securing several customers. SiMEMS is a promising local company. With the results it has been demonstrating and continued research support from IME, we are confident it can take our technologies to greater heights.

“We are also extremely glad that Exploit Technologies’ links with venture capitalists have benefited SiMEMS and that term sheet has been provided to it. The progress that we have achieved together so far bodes well for startups and venture capitalists. We are heartened to see that the startups are attracting funding to themselves very well, and that there exist plenty of technologies to capture the imagination of the venture capitalists.”

## **BACKGROUND INFORMATION**

### **About A\*STAR, Exploit Technologies and IME**

The **Agency for Science, Technology and Research (A\*STAR)** is Singapore's national agency for science and technology, supporting the development of industry clusters. Its mission is to foster world-class scientific research and talent for a vibrant knowledge-based Singapore. The Agency comprises the Biomedical Research Council, the Science and Engineering Research Council, A\*STAR Graduate Academy, Policy and Personnel, and Corporate Planning and Administration Divisions, and a commercialization arm, Exploit Technologies Pte Ltd. The two research councils fund and oversee 12 public research institutes engaged in cutting edge research in the physical sciences, engineering and biomedical sciences. Our institutes build up intellectual capital and trains research talent to deepen Singapore's scientific capabilities.

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

**Exploit Technologies Pte Ltd (ETPL)**, the commercialisation arm of A\*STAR, manages the intellectual property portfolio of A\*STAR's research institutes and centres. ETPL facilitates the efficient transfer of A\*STAR's technologies to industry, ensuring that new intellectual property generated by our researchers is exploited to produce tangible products and services.

(website: [www.exploit-tech.com](http://www.exploit-tech.com))

The **Institute of Microelectronics (IME)** is a research institute of A\*STAR. Positioned to bridge the R&D between academia and industry, IME's mission is to increase value-add to the electronics industry in Singapore by engaging in relevant R&D in strategic fields of microelectronics; supporting and partnering the electronics industry; and developing skilled R&D personnel. Its key research areas are in integrated circuits and systems; semiconductor process technologies and microsystems, modules and components.

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

### **About Veredus Laboratories Pte Ltd**

Veredus Laboratories Pte Ltd is a privately held, medical diagnostics company engaged in the development, commercialisation and manufacture of diagnostic assays for diseases. As a successful enabler for innovative technologies, products and services, Veredus is the partner of choice for industrial research in Life Sciences, Diagnostics and Pharma.

(website: [www.vereduslabs.com](http://www.vereduslabs.com))

### **About Instron**

Instron<sup>®</sup>'s products are used to evaluate the mechanical and physical properties and performance of materials, structures and components. Instron's mission is to lead in advancing material and components testing techniques by supplying instrumentation, support services and expertise for testing materials, products and structures. Instron has over 1,200 dedicated, highly skilled employees in facilities located around the world. From engineering, service, training, and front-line support, our commitment to customer satisfaction is the driving force behind everything we do. Instron Corporation headquarter is in Norwood, Massachusetts, USA.

(website: [www.Instron.com](http://www.Instron.com))

### **About SiMEMS Pte Ltd**

SiMEMS Pte Ltd is a Singapore-based lab-on-a-chip company, developing cutting edge solutions for molecular diagnostics. In particular SiMEMS biochips are extremely important to point-of-care markets where speed, accuracy and sensitivity are important. Located in the Science Park of Singapore, SiMEMS is currently selling its lab chips to a host of diagnostic companies in Europe. SiMEMS projects to grow into a S\$180 million company five years from now and to become a leading player in vitro diagnostics.

(website: [www.simemsbio.com](http://www.simemsbio.com))

**About ATP Investment Ltd**

ATP is a \$50 million Singapore based life science fund established in 2006. It is the fourth fund to be set up by a group of highly successful entrepreneurs whose capabilities ranges from corporate financing to turning around failed businesses. The first three funds invest mainly into pre-IPO and high tech companies. ATP invests globally but with a preference for deals that has an Asian presence.

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