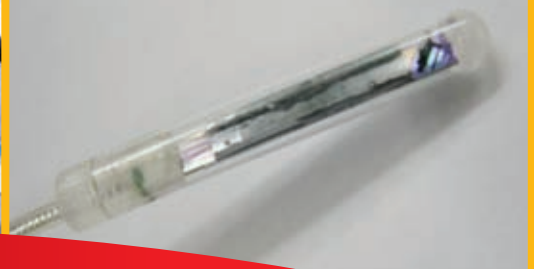




NEW Exploits

Exploit Technologies is the marketing and commercialisation arm of A*STAR

Exploit Technologies
A*STAR

Q1-2008 * MICA (P) 274/05/2007

TechLicensing Fair 2008 InfoCommunications & Media Pushing New Frontiers

The Exploit-IP Programme was launched on 27 March 2008 to help Singapore enterprises gain a global competitive edge through access to an international pool of Intellectual Property and technologies.

In conjunction with the Programme launch, the inaugural TechLicensing Fair on InfoComm and Media was also held. A panel of renowned speakers and licensing professionals presented topics including emerging InfoComm & Media technologies available for licensing, intellectual asset management, valuation of IP, deal structuring and licensing best practices. The whole event was well attended by over 350 participants. The industry players, particularly the SMEs, showed much excitement as they saw tangible value in the programme.

The TechLicensing Fair was supported by 12 Technology Partners, including A*STAR, Fraunhofer-Gesellschaft, Hebrew University of Jerusalem, Honeywell, IBM, OrbisIP, Nanyang Technological University, Stanford University, VTT Technical Research Center of Finland, Tohoku University, University of California at Los Angeles and University of Illinois at Urbana Champaign.

Continued on page 2

AT A GLANCE

Greetings to all!

The last couple of months have been a fruitful and eventful period for Exploit Technologies and our partners.

We have witnessed a number of exciting developments in the commercialisation space, and received a stream of good news from our spin-offs that have taken flight with A*STAR's technologies.

In the flagship space, we are happy to see A*STAR's RFID technologies successfully deployed by our spin-off company, FeRmi, at the recent Singapore Airshow, which saw some 40,000 trade visitors. The same RFID chip, developed by the Institute of Microelectronics (IME), will soon be deployed in intelligent shopping trolleys - known as MediaCart - at Cold Storage when its new store opens at Fusionopolis. Further, in early April this year, the National Library Board (NLB), together with Exploit Technologies and the Institute for Infocomm Research launched the trial run to test the RFID SmartShelf system at the Lee Kong Chian Reference Library in the National Library building. A*STAR's RFID technology is deployed to track 46,000 books on 275 shelves in the Social Sciences and Applied Sciences sections, making this the world's largest deployment of its kind.

Our spin-off companies have also done very well. Singular ID was acquired by Bilcare Limited for S$19.58 million; Curiox Biosystems attracted Nanostart AG, the world's leading nanotechnology investment company based in Germany, to take an investment position in the company; and D-SIMLAB Technologies secured fresh investment from global technology investor Imprimatur Capital, and inked a 10-year contract with OEMService for the optimisation of spare part support services provided by OEMServices to airlines operating Airbus A380 aircraft.

The year 2008 has started off on robust grounds. We have launched two new initiatives, namely, the Technology Transfer Network (TTN) and the Exploit-IP Program. Our newsletter too has acquired a new look to celebrate these achievements.

We will continue to work closely with our industry partners and A*STAR research institutes to bring A*STAR's technologies from mind to market.

Boon Swan Foo
Executive Chairman, Exploit Technologies

A Network to Facilitate Technology Transfer

The Technology Transfer Network (TTN) was launched on 12 Feb 2008 to accelerate the transfer of intellectual property or IP assets to the industry. Companies will benefit by gaining better access to IP assets from the network ecosystem players to gain global competitive advantage.

The founding members of the TTN are the Agency for Science, Technology and Research's (A*STAR) Exploit Technologies Pte Ltd, Nanyang Polytechnic, Nanyang Technopreneurship Centre of NTU, Ngee Ann Polytechnic, Republic Polytechnic, Singapore Polytechnic and Temasek Polytechnic, who signed the memorandum of understanding at the launch event.

The MOU will help expand local market reach and penetration through market collaboration activities to small and medium enterprises. As Singapore intensifies its research and development capability, effective IP management is critical. The scope of the MOU covers areas such as providing a platform for shared expertise, maximising the commercialisation potential of IP assets through the creation of an eco-system of world class market players, and enhancing the branding of technology transfer capabilities. "With the formation of TTN, the stage is set for sharing of expertise and experience between research institutes here and beyond," said A*STAR chairman Lim Chuan Poh.

Mr Boon Swan Foo, Executive Chairman of Exploit Technologies and the Chairman of the Technology Transfer network added, "Exploit Technologies is excited to be part of the TTN. We foresee great potential in this alliance of TTOs in both the local and international scenes."

The TTN hopes to expand its member base to include SMEs, MNCs, and partner international technology transfer bodies in the imminent future. This will be carried out through five work groups that include industry partnerships, training and certification, technology advisory services, IP cluster mapping as well as marketing and events.

As of April 2008, SMU has joined as Founding Member. The TTN has gone international with CONNECT (formerly of University of California, San Diego) and The Office of Technology Alliances of the University of California, Irvine joining as Affiliate Members of the TTN. *

MOU Signing Ceremony at the launch of the Technology Transfer Network on 12 Feb 2008.

Extreme left: Mr S Iswaran, Senior Minister of State for Trade and Industry presents Dr Tapio Koivu of VTT Ventures with a token of appreciation.

*Left: Interested participants discussing with Exploit Technologies' Commercialisation officers at the A*STAR booth.*

Continued from front page

The next TechLicensing Fair on Materials, Chemicals and Food Processing will be held on 25 June 2008. This event will showcase an exciting list of emerging technologies available for licensing, in categories relating to microelectronic materials, biomaterials, building materials, petrochemical and maritime materials and processing, coatings for consumer & domestic appliances and food packaging & storage. *

Launch of the Exploit-IP Programme on 27 March 2008
(L-R: Mr Yap Chew Loong, Exploit Technologies
Dr Christian Schamper, Fraunhofer Insititute
Ms Loria B. Yeadon, Honeywell
Mr Yehuda Yarmut, Hebrew University
Mr S Iswaran, Senior MOS
Mr Kris V. Srikrishnan, IBM
Mr Peter Jaco, OrbisIP limited
*Ms Yena Lim, A*STAR*
Mr Benson Ang, NTU
Ms Kristen Leute, Stanford University
Dr. Kentaro Totsu, Tohoku University
Ms Emily Loughran, UCLA
Mr John McEntire, UIUC
Dr Tapio Koivu, VTT Ventures)

Our Technology Partners and SMEs say …

"I have received interest from a variety of players about the technologies that I presented/made available through this venue. The Singapore businesses seem truly interested in potential licensing opportunities from this event"
– John McEntire, Assistant. Director, UIUC

"Thanks for inviting me to the TechLicensing Fair 2008 : InfoCommunications & Media on 27th March 2008. It is an eye-opener for me and I have found it a perfect platform for SMEs to embrace and adopt technology. It is a beneficial springboard into available technology for me especially meeting international technology providers and I rate it a triple A event"
– Robin Low, MD/CEO, ARB Technologies

"Thank you very much for last week's event! In my opinion, all arrangements were very professionally handled, especially the posters and stands were built really well! The program matched my expectations to the full and I do look forward to seeing you again in June! My special thanks for liaising with us and keeping us in track with all the necessary preparations. I do hope we can also find mutual interests and ways to work together in finding opportunities for our IP!"
– Mr Tapio Koivu, EVP, VTT Finland

Up close and personal with Professor Dim-Lee Kwong

The Executive Director of Institute of Microelectronics (IME), shares his expertise and experience in a face-to-face interview.

Q: What are the significant changes observed over the past 3 years ever since you took over the helm at IME in 2005?

Dim-Lee: When I came on board IME in 2005, the mission then was to put IME on the global landscape and build a premier world class research institute for advancing microelectronic technology. The strategy was to develop and implement strategic research programmes, build new core capabilities and establish a strong technology portfolio. That meant we had to streamline our research areas, make impactful contributions, engage and collaborate with strategic industry partners. More importantly, we needed to create an organisation structure that would enable us to achieve our mission.

Presently, IME is organised in a matrix organisation interlacing 3 core labs in Circuit Design, CMOS Fabrication and Advanced Packaging, and 3 newly implemented programmes such as Bioelectronics, Nanoelectronics & Photonics and Sensors & Actuators Microsystems (application driven Nano- and Micro-Electro Mechanical System) involving vertically integrated, multi-disciplinary competencies to drive application R&D activities to help build up new core capabilities. In addition, we expect much will take place in the Bio-Electronics convergence, and therefore are pro-actively exploring collaborations with R&D organisations/institutes in the field of medicine and molecular biology to complement our own competencies in micro- and nanoelectronics.

To date, we are already seeing very positive results and, in some instances, reaping the fruits of our labour in recent accolades and announcements. For example, IME ended the 2007 financial year with a strong set of performance results. We inked 29 research collaboration agreements, more than 600 advanced services, 181 publications in prestigious journals and conferences (up two-folds year-on-year), 45 invention disclosures, 16 patent grants and 15 trained Ph.D. students. We are very encouraged by the progress we have made and the direction in which we are heading.

Q: What are the challenges and gratifications working in Singapore?

Dim-Lee: The challenges you face can also be opportunities for us. In IME, there are about 130 research scientists and engineers from more than 12 countries. It is like a "United Nation" research community of sorts and a knowledge-culture casserole. To realise the vision of IME, we need a critical talent pool size, comprising local and international research scientists and engineers, to continually propel us forward. Firstly, we recognise that attracting and retaining talent are essential ingredients for our success and, to a larger extent, Singapore. More could be done in competing with the rest of the world to meet the insatiable demands for this pool of talent. Secondly, when talents from diverse cultures converge by the language of science to create magic, it requires creativity to position the organisation and its people to embrace cultural diversity.

Singapore is the place to be in for such exciting research. It offers a conducive environment, outstanding resources and a national commitment towards leading-edge research. I am very fortunate and privileged to be part of this exciting era in positioning IME to be a renowned research institute for microelectronic technology. My team in IME, SERC and A*STAR have been very supportive and I am very grateful for this opportunity.

Q: Over the past 3 years, how do you think Exploit Technologies has played a role in the commercialisation process of IME technologies?

Dim-Lee: Exploit has been a good partner for IME in commercialising our technology portfolios. Just to name a few: Fermi, an IME spin-off, has developed a UHF RFID chip with potentials for multiple applications. Exploit played an active role in the start-up such as fund raising, industry engagement, business plan preparation as well as mentorship and training of the founder. The flagship programme in Silicon Photonics has benefited us significantly to further refine our technologies for a stronger business focus and more impactful commercial outcomes.

Q: How do you think Exploit Technologies TICI can continue to play a role in helping IME to commercialise your research?

Dim-Lee: To be successful in translating research into commercial exploitations, the TICI team and the research institutes must work together as an integral team both at the senior management and project team levels. The key is early engagement and understanding of the technology and business impact. Our experience with the TICI team in the last few projects such as the Silicon Photonics and Biosensors (water chip) programmes has been positive. As we continue to evolve, IME can leverage on Exploits' expertise and resources in TICI, IP management, commercialisation and ISM to maximise the value-add of our technology portfolios.

Q: Any concluding remarks on how Exploit Technologies and IME can work together to harness the strengths of IME's technologies?

Dim-Lee: My view is that Exploit has been and will continue to play an important role in IME's success. We should continue to build upon on our strong partnership, by working synergistically to explore new opportunities and create values for A*STAR. This will form the cornerstone of our partnership and success.

Thank you, Professor Kwong, for your valuable inputs!

LOOKING BACK...

- **4 Jan | ETPL Industry Forum: Human Language Technology**
- **15 Jan | ETPL Workplan Seminar**
- **16 Jan | 1st IP Awareness Talk 2008**
- **17 Jan | ETPL Industry Forum: Present and next generation of photovoltaic cells**
- **24 Jan | ETPL-MIT Club of Singapore Dinner Talk and Networking Evening: Institute of Soldier Nanotechnologies – Moving Technology from the Lab to the Field**
- **30 Jan | COT Forum 2008**
- **1 Feb | Launch of RFID Innovation Platform**
- **1 Feb | ETPL Industry Forum: Phase-change memory - A memory technology for all applications**
- **12 Feb | Launch of Technology Transfer Network (TTN)**
- **15 Feb | Launch of Founders Club**
- **19 to 24 Feb | Exhibition at Singapore Airshow 2008**
- **27 Feb | MOU Signing Ceremony between Media Cart Asia and Cold Storage for the deployment of RFID enabled shopping carts at Cold Storage @ Fusionopolis**
- **28 Feb | ETPL Industry Forum: Printed Electronics**
- **28 Feb | 2nd IP Awareness Talk 2008**
- **27 Mar | Launch of Exploit-IP Program**
- **31 Mar | 3rd IP Awareness Talk**
- **2 Apr | Venture Capital Forum 2008**
- **9 to 11 Apr | Exhibition at RFID World Asia & Summit 2008**
- **15 to 17 Apr | Exhibition at BioAsia 2008 - Executive Chairman's Keynote Address at BioLicensing Track**
- **16 to 18 Apr | Exhibition at MotorTech Japan 2008**
- **18 Apr | ETPL Industry Forum: Bio-energy**
- **18 Apr | ETPL Industry Forum: BMS**
- **23 Apr | Industry Forum and Call for Proposal on Mobile Media Technologies**
- **26 Feb - 1 Mar | AUTM 2008 & Technology Marketing Trip to San Diego & Irvine**

IME's RFID IC Chip deployed at the Singapore Airshow

A typical RFID tag embedded in between a show pass. The UHF RFID reader module used was the size of a namecard, and saved hundreds of thousands of dollars in hardware costs!

IME's UHF RFID chip was put through its pace at the recent Singapore Airshow held in February 2008 for visitor tracking. The statistics of 40,000 delegates were captured through an efficient and non-intrusive method of data collection, which provided important business intelligence to the show organisers for use in their next event. An MOU was also signed between MediaCart Asia and Cold Storage to deploy intelligent shopping carts in A*STAR's new home at Fusionopolis. The roll-out and implementations using the IC chip have aided in hardware cost saving of hundreds of thousands dollars! *

New Flagship Projects for Printed Electronics and OLED

Two new Flagship Projects from the Institute of Materials Research and Engineering on Printed Electronics and Organic Light Emitting Diodes (OLED) with a total budget of S$3.3 million have been approved.

Printed Electronics is an emerging technology which promises extremely low cost, potentially flexible and disposable electronics. The market for printed electronics is expected to grow to US$300 billion by 2027. Under the printed electronics project, the team will develop new semiconducting materials for printable TFTs and Photovoltaics. The OLED project will demonstrate the full feature of IMRE's blue emitting material. Due to its superior colour coordinate, it has already attracted interest from the polymer-OLED industry. The market for OLED display is expected to grow to US$6.6 billion by 2012. *

NRC Launches RFID Innovation Platform

The National RFID Centre has recently secured $4.5 million from the Ministry of Trade & Industry to initiate the RFID Innovation Platform. The aim of this five-year programme is to promote wider applications of RFID. Companies with innovative RFID projects can apply for funding support of up to $150K. The RFID Innovation Platform was launched by Minister of State, Mr S Iswaran on 1 February 2008. Invitations for proposals are now open, and details can be found at www.exploit-RFID.com. *

MOU Signing Ceremony to deploy IME's UHF RFID chip at the Singapore Airshow 2008 (L-R: Mr Yap Chew Loong, General Manager ETPL; Mr Boon Swan Foo, Executive Chairman, ETPL; Mr S Iswaran, Senior Minister of State for Trade and Industry; Mr Jimmy Lau, Managing Director, Singapore Airshow)

Commercialisation of Technology (COT) Forum 2008

Keen audience at the first COT Forum 2008 held on 30 Jan 2008

The first Commercialisation of Technology (COT) Forum was held on 30 Jan 2008.

COT is a grant from Exploit Technologies aimed to provide up to $1 million in pre-seed funding for up to 12 months to support the further development of A*STAR and A*STAR funded technologies which could lead to the formation of new start-ups or licensing deals with companies. The technologies must originate from A*STAR's Research Institutes or Science and Engineering Research Council (SERC) / Biomedical Sciences Research Council (BMRC) Extramural Grant recipients.

At the event, Exploit Technologies made a call for COT proposals from both the Science and Engineering and Biomedical Science sectors. Three COT success stories were also showcased by A*STAR's scientists and researchers. These included "Drug Loaded Contact Lens" by Dr Edwin Chow of Institute of Bioengineering and Nanotechnology (IBN), "Language e-Learning SDK" by Dr Li Haizhou of Institute for Infocomm Research (I^2R), and "Scale-up of TiO_2 Self-cleaning Coating" by Dr Chris Cai of Singapore Institute of Manufacturing Technology (SIMTech).

About 80 attendees from A*STAR's various Research Institutes as well as recipients of the Extramural Grant attended the event, which was a roaring success. *

2008 IP Awareness talks: Back to Basics

Since January 2005, over 800 A*STAR researchers and grant recipients have benefited from Exploit Technologies' series of IP awareness talks, covering a range of intellectual property topics. In 2008, the theme for IP talks is Back to Basics, to tie in with the first animal in the Chinese Zodiac, the 2008 year of the rat.

Mr Ho Cheng Huat, EVP of IP Management Division of Exploit Technologies, shares his expertise at the IP Awareness Talk

The first talk on 16 January 2008 was kick started by Ho Cheng Huat, Executive Vice President of IP Management at Exploit Technologies. Topics covered included reasons behind IP protection, available IP mechanisms to protect IP, and informed the audience of IP resources internally available to A*STAR staff, including the e-learning portal and the "Inventions that $ell" handbook.

The second talk on 20 February 2008 was given by Dr Alex Yu, Director of NTU's Innovation and Technology Transfer Office (ITTO), and covered topics such as the means to secure and commercialise research IP, and the motivations of a technology transfer office from a University's perspective.

The third talk was held on 31 March 2008, and covered topics for researchers who develop IP, describing the difference between being named as an author of a scientific paper and as an inventor in a patent application. Staff are encouraged to look out for talks in the upcoming months. *

A*STAR's successful spin-off Singular ID acquired by Bilcare Limited for S$19.58 m

Singapore based Singular ID has been acquired by Bilcare Limited for S$19.58 million, making the transaction one of the biggest buyouts of an Agency for Science, Technology and Research (A*STAR) spin-off by a corporate entity.

*A*STAR licenses core technology to Singular ID in May 2005. L-R: Dr Cathy R. Park, Managing Director, Bioventure Centre, Dr Adrian Burden, CEO, Dr Peter Moran, CTO, Singular ID, and Mr Sachi Suresh, Director - Legal, A*STAR".*

Singular ID, a micro and nanotechnology spin-off from the A*STAR IMRE was founded in 2005. Its founders Dr Adrian Burden and Dr Peter Moran developed and patented methods to embed composite materials into products to prevent counterfeiting, known as 'fingerprinting'. In May 2005, an agreement between Singular ID and Exploit Technologies Pte Ltd was signed to develop and market this fingerprinting technology.

To optimise this technology, Singular ID has introduced enxure™, an exclusive range of products and services to cover the whole supply chain. Consumers ultimately benefit as authenticity of goods, particularly pharmaceutical products, can easily be identified.

Singular ID's tagging technology can be used against counterfeit products, subcontractor product overruns (unauthorised manufacturing of genuine products), and grey products diversion (genuine products resold in unauthorised locations). With its products being applied to fashion labels, pharmaceutical packaging and automotive parts, Singular ID has become the recipient of Nanochallenge 2005, 2006 Red Herring's Asia 100 Winner, and ZDNet Asia's TOPTECH Breakthrough Award 2006.

Based in India, Bilcare Limited is the only global company that value-adds the life science industry through focus on pharmaceutical packaging solutions to facilitate the value chain from drug discovery to market. Bilcare Limited's purchase of Singular ID has provided both organisations with a springboard to success. *

Launch of Founders Club: "The Technopreneurship Journey"

Exploit Technologies launched its Founders Club on 15 February 2008, a networking resource for both A*STAR technopreneurs and researchers. It was created to acknowledge those with both the vision and the courage to pursue their dreams of building a business out of their research. By facilitating fellowship between technopreneurs and researchers, aspiring researchers can seek guidance from those who have walked the path before them.

26 A*STAR technologies spin-off founders gathered for this inaugural event. Mr Boon Swan Foo, Executive Chairman, Exploit Technologies, gave the welcome address. Dr Peter Moran, CTO and Co-founder of Singular ID, our guest speaker, shared his and his partner's - Dr Adrian Burden - experiences, challenges and success in taking Singular ID from a research project from IMRE to an acquisition by listed company Bilcare Limited.

Both spin-off founders and researchers welcomed the launch of the Founders Club. The evening ended with a traditional Chinese New Year "Lohei" dinner to bring good luck and fortune to all in the year of the rat! *

*Exploit Technologies launched Founders Club with A*STAR Technologies Start-up Companies (L-R: Mr Terence Swee, CEO, Muvee Technologies, Mr Boon Swan Foo, Executive Chairman, Exploit Technologies, Dr Roberto Mariani, CTO, XID Technologies, Dr Peter Lendermann, CEO, D-SIMLAB Technologies and Dr Ivan Lee, CEO, BLC Solutions)*

*Dr Peter Moran, CTO, Singular ID, sharing with A*STAR researchers*

Founders Club's "Lohei" networking dinner, brought together entrepreneurs and researchers

Founders Club Membership is FREE!

We currently have 100 members. We welcome A*STAR researchers to join us as Associate Members.
For membership enquiry, email: **founderssclub@exploit-tech.com**
Founders Club has launched its website, **www.exploit-tech.com/foundersclub**
Check it out!!

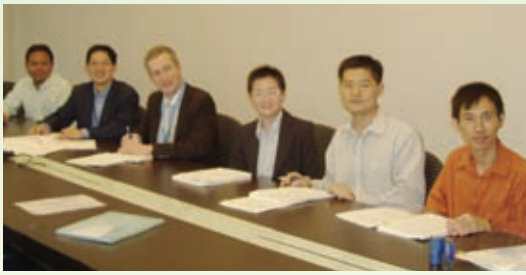
Nanostart AG, in partnership with Exploit Technologies, invests in Singapore's Biomed Start-up Curiox Biosystems

For the first time in Asia, Nanostart AG, the world's top nanotechnology investment company based in Germany, has partnered with Singapore-based Curiox Biosystems and Exploit Technologies, the marketing and commercialisation arm of A*STAR, by taking the lead start-up investment position of 16.5% in Curiox Biosystems.

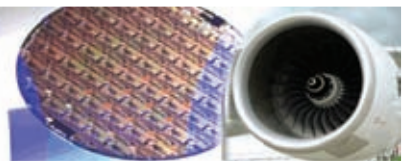
Curiox, a spin-off from Singapore's Institute of Bioengineering and Nanotechnology (IBN), a member of A*STAR, holds the patented *DropArray*™ Technology, the world's first simple, convenient and inexpensive solution for miniaturisation of heterogeneous assays. The new assay slashes the time needed to run certain lab tests by over 60% and reduces consumable costs by nearly 90%, while maintaining the same level of flexibility and convenience as conventional platforms.

Target customer groups include research labs and high-throughput screening facilities in life sciences and drug discovery. The U.S., with $14.3 billion spending for its 12,000 academic and government labs, and $37.4 billion spending for its 14,000 industrial pharma and biotech labs, represents Curiox's largest potential market. Customers will benefit from cost reductions for reagents and significant time savings.

Said Marco Beckmann, CEO of Nanostart AG, "We aim to participate in the dynamic growth of this region and live up to our claim of global leadership. Further investments in Asia will follow." Mr Boon Swan Foo, Executive Chairman of Exploit Technologies said, "We are very excited that the technologies from A*STAR have received such strong interest from Europe, and more so to have Nanostart as a partner to help Exploit Technologies realise the full commercial potential of Curiox." *



L-R: Dr Muhammad Tani bin Tabiin (VP, Exploit Technologies), Mr Tam Hock Chuan (Executive VP, Exploit Technologies), Mr Reinhard Edelmann (Head, Venture Financing, Nanostart AG), Prof Jacky Yi-Ru Ying (Executive Director, Institute of Bioengineering and Nanotechnology), Dr Namyong Kim (CEO, Curiox Biosystems), Dr Kwong-Joo Leck (CSO, Curiox Biosytems)



Optimisation of Airbus A380 Spare Parts Support Long term partnership between OEMServices and D-SIMLAB Technologies

L-R: Dr Peter Lendermann, CEO, D-SIMLAB Technologies, Jean-Noel Barrere, President, OEMServices

A 10-year contract between OEMServices, a joint venture between Diehl Aerospace, Liebherr-Aerospace, Thales and Zodiac, based in Toulouse, France, and D-SIMLAB Technologies, a spin-off company from A*STAR, has been signed to optimise spare part support services provided by OEMServices to airlines operating Airbus A380 aircraft.

Using a novel simulation-based, grid-enabled decision-support software, D-SIMLAB will regularly re-optimise the spare parts inventory allocation and logistics policies within the continuously evolving network of destination airports served by OEMServices' A380 customers comprising Singapore Airlines and Emirates. This will help OEMServices guarantee just-in-time availability of spares not only at the airlines' home airports but also at all their overseas destinations.

Exploit Technologies, the marketing and commercialisation arm of A*STAR, will catalyse the commercialisation of these new technologies through effective business partnerships. *

Global Technology Investor Imprimatur Capital invests in D-SIMLAB Technologies

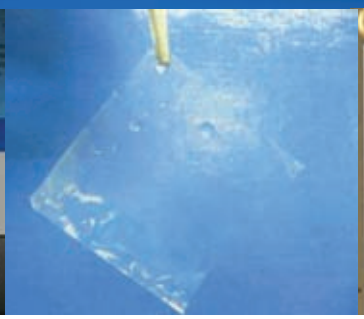
Imprimatur Capital, a UK headquartered technology investor has made a significant investment in home grown technology start-up D-SIMLAB Technologies Pte Ltd, and taken substantial shareholding alongside Exploit Technologies. D-SIMLAB provides simulation based software solutions and services for manufacturing systems, logistics network enhancement and operations management in asset-intensive industries to help clients achieve sustainable savings.

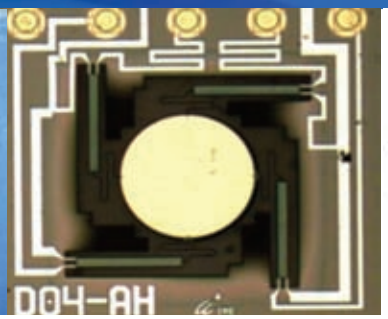
D-SIMLAB licenses core technology from A*STAR's Singapore Institute of Manufacturing Technology ("SIMTech") to tap on the team's extensive research track record. Exploit Technologies has also actively supported D-SIMLAB in business development and fund raising. D-SIMLAB's current flagship product, D-SIMSPAIR, targets the aerospace sector, enabling multi-million dollar savings for MRO companies, component service providers and airlines. The technology will soon be launched in other domains such as semiconductor manufacturing and seaport container terminal operations.

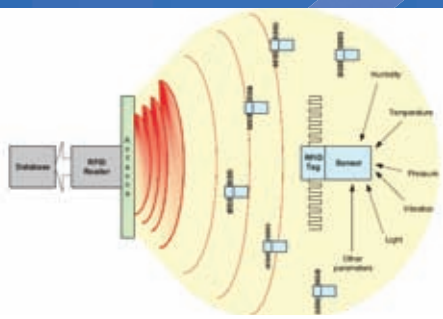
The investment in D-SIMLAB represents an important milestone for Imprimatur Capital's local operations in Singapore and its international business model. Said Mr Boon Swan Foo, Executive Chairman of Exploit Technologies, "We are very excited that the technologies from A*STAR have received such strong interest internationally. Given that simulation software can be deployed in many industries, the likely economic impact is very substantial." *

Co-founders of D-SIMLAB Technologies, L-R: Mr Gan Boon Ping, CTO, Dr Peter Lendermann, CEO, and Mr Nirupam Julka, VP Aerospace

NEW TECH OFFERS







High Performance Membrane for PEM and DM Fuel Cells (Patent pending)

Sulfonated perfluoro-polymer, also known as SPFP or NafionTM, is widely used as a proton conductor for proton exchange membrane (PEM) fuel cells due to its excellent thermal and mechanical stability. Some drawbacks, however, include low proton conductivity at low humidity as well as high temperature (>100°C), relatively low mechanical stability at high temperature, and high methanol permeability in direct methanol fuel cells (DMFC).

To counter this problem, a novel ionmer-grafter silica nano-particle, constructed through the growth of short ionmer (anionic polymer electrolyte) densely on silica particles (~7nm) was developed. By incorporating the resultant nano-particles into a SPFP matrix to form a hybrid composite membrane, an improvement on proton conductivity above 80°C was achieved, and also addressed the problem of high methanol permeability in DMFC.

Magnetic Separator and Concentrator

The new system of magnetic separation and concentration of target analytes from liquid matrices was designed with design-for-manufacturability as a main priority. Of equal importance was the delivery of platform technology for automated apparatus for sample concentration and purification with disposable cartridges. This product, based on highly efficient proprietary technology, allows magnetic separation of specific targets in a continuous fluid flow.

A disposable injection-moulded cartridge capable of handling large volumes is used to concentrate and purify targets. No operator intervention is required throughout the entire target concentration and purification process. A 90% rate of cell recovery efficiency for separation for protozoan cells from water matrices was demonstrated.

RFID Sensor Module

As conventional RF transceiver transponder designs used in the sensors network are relatively expensive, it is desirable to eliminate wiring complexity by using a wireless device of low cost to communicate with sensors/ actuators. Our patent pending technology uses a commercial RFID sensor module that boasts low costs and an extremely long battery life. Standard RFID protocol is employed. The tag is configured as a Battery Assist Passive Tag to extend the range, and the output of a transducer is connected to the module input where the signal is measured. Various transducers such as temperature and humidity transducers can be interfaced to this module. These values can then be read remotely and wirelessly through an RFID reader.

MEMS Micro Mirror based Miniaturised Probe

The new technique of Optical Coherence Tomography (OCT) has emerged to diagnose in-vivo tissue malignancies, providing cross-sectional tissue imaging up to a depth of 2-3mm. The MEMS based probe size is then made smaller (<3mm diameter) through the method of silicon micro mirror and micro optics. The probe includes miniature optics in the form of a single mode one optical fiber, GRIN lens, silicon optical bench components and a scanning mechanism from MEMS 3D micro mirror. The mirror can rotate to scan 360° without an external actuation mechanism.

Ultra-Wideband (UWB) based Indoor Localisation System

UWB has provided a solution to determine the precise location of objects and also communicate with them in cluttered indoor environments. The UWB localisation system which makes use of pulsed-based UWB technology allows fast update rates, centimetre level accuracy and minimal infrastructural dependence.

The area of localisation is sub-divided into individual cells that are each monitored by a set of cooperating Readers. The active tag on every tracked object sends a pulse which is received by the Readers and sent to a Central Processing and Control Unit (CPU). Using the Time-Difference-of-Arrival (TDOA) method, the mobile object's position is then tracked and displayed on a screen. *

Design & Production by Future Print Pte Ltd (future@pacific.net.sg)

ON THE WAY

* **7 May | ETPL Industry Forum : Nanoimprint lithography**
* **12 May | ETPL-MIT Club of Singapore Dinner Talk and Networking Evening with Ms. Luda Kopeikina: Start-up success – What fuels it at MIT and around Boston, Massachusetts?**
* **28 to 29 May | Participation in Nanostart's NanoEquity Asia 2008**
* **29 May | 5th IP Awareness Talk**
* **17 to 20 Jun | Exhibition at CommunicAsia 2008**
* **25 Jun | TechLicensing Fair - Materials, Chemical & Food Processing**