



## JOINT MEDIA RELEASE | FOR IMMEDIATE RELEASE

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### **TERA-BARRIER FILMS RECEIVES FURTHER ENDORSEMENT VIA AN INVESTMENT AND EXCLUSIVE DISTRIBUTION AGREEMENT FROM KISCO LTD.**

*KISCO LTD. and KISCO (ASIA) PTE. LTD., a Global Specialist in Advanced Materials Distribution, demonstrate their confidence in Tera-Barrier Films Pte. Ltd. by becoming an Investor and Exclusive Distributor of Tera-Barrier Films Pte. Ltd.*

**Singapore & Tokyo, 21 January 2011** - Tera-Barrier Films Pte. Ltd. (Tera-Barrier Films) today announced that KISCO LTD. has made a strategic investment in the company's Series "A" Investment round and became the company's Exclusive Distributor for Asia Pacific. Tera-Barrier Films is a portfolio company of Exploit Technologies Pte. Ltd. (ETPL), the commercialisation arm of Singapore's Agency for Science, Technology and Research (A\*STAR) and Applied Ventures, LLC, the venture capital arm of Applied Materials, Inc.

"We have been working with Tera-Barrier Films since before it spun-off from A\*STAR, and continued to monitor its progress in bringing its barrier technology to the market. We are very impressed by the achievements that Tera-Barrier Films has made in such a short time, and believe that it is a good time for us to invest in the company and be part of its growth," said Koichi Takeda, Director of KISCO LTD.'s Electronic Materials Division.

The funds will allow the company to continue its efforts to commercialise its proprietary, moisture resistant films for extending the lifetime of devices such as organic solar cells and flexible displays.

“This investment and distribution agreement with KISCO is a testament of the confidence KISCO has in Tera-Barrier,” commented Dr. Mark Auch, CEO of Tera-Barrier Films. “Our immediate goal is to deliver our products to customers so they can begin extensive testing and validation and eventually incorporate them in their production lines. We also expect to initiate large scale manufacturing in the near future as we project market demand to grow extensively in the next 3 to 5 years”.

“We have evaluated Tera-Barrier’s products and we know they have a very interesting technology,” noted Mr Masayuki Nakazawa, Managing Director of KISCO (ASIA) PTE. LTD. “Based on our preliminary feedback from potential customers, there is keen interest in these products from high tech manufacturers in the Asia Pacific region, so the distribution agreement is a win-win for both KISCO and Tera-Barrier.”

“This is indeed an important milestone for Tera-Barrier Films. This investment from KISCO is significant and we are pleased in KISCO’s participation as not only a financial but also a strategic partner in Tera-Barrier Films. This will no doubt propel the young company to the next stage of growth. This is yet another testimony of the quality of A\*STAR spin-offs,” said Philip Lim, CEO of Exploit Technologies Pte. Ltd.

“Since its launch from IMRE in 2009, Tera-Barrier Films has grown steadily, with additional partners coming on board to endorse its unique technology. This is a testament to the exceptional research and entrepreneurial spirit of Singapore scientists,” added Prof Andy Hor, Executive Director of A\*STAR’s Institute of Materials Research and Engineering (IMRE) from where Tera-Barrier Films spun-off. The company is currently located in IMRE under a special lab-in-a-research institute arrangement, enabling Tera-Barrier Film’s R&D work to continue unabated.

J. Christopher Moran, Vice President and General Manager of Applied Ventures, additionally commented, “We are pleased to have KISCO join us as investors in Tera-Barrier Films and look forward to the commercialisation of Tera-Barrier’s high performance barrier films. As OLED displays, solar photovoltaics, and other flexible electronics gain in popularity, we believe that barrier and encapsulation technology will become increasingly critical. Applied Ventures is committed to investing in and furthering the development of breakthrough technologies that will enable these industries to improve device performance while reducing costs.”

Tera-Barrier Film’s barrier technology, which was developed by one of the founders, Senthil Ramadas, protects the easily-degraded, moisture-sensitive, organic materials of plastic devices and targets the burgeoning flexible electronics industry. Applications of the film include the manufacturing of flexible, lightweight and inexpensive electronics such as disposable or wrap-around displays, identification tags, flexible solar cells and chemical- and optical sensors.

The company was incubated by Exploit-Technologies Pte. Ltd. as a Flagship programme for two years prior to spin-off, and had received investment from Applied Ventures in August of 2009.

Interested customers may contact Tera-Barrier Films who is currently providing small volume sampling.

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### **About Tera-Barrier Films Pte Ltd**

TERA-BARRIER FILMS is jointly founded by Senthil Ramadas and Mark Auch along with Exploit Technologies Pte. Ltd. TBF is a spin-off company from the Institute of Materials Research and Engineering/A\*STAR. The strong patent portfolio (29 patents) on transparent gas barrier technology, encapsulation and gas permeation measurement system has been transferred to the company. The technology know-how and expertise could provide a total barrier solution for flexible solar cell and flexible electronics device manufacturers. Tera-Barrier is working in nexus with solar, display and printed electronics customers and has received several product validation reports.

For more information, please visit [www.tera-barrier.com](http://www.tera-barrier.com)

**About KISCO LTD. and KISCO (ASIA) PTE. LTD.**

KISCO LTD., as an advanced materials specialist, has been proposing and offering solutions to customers in the fields of chemicals, plastics, packaging and electronics since 1921. KISCO (ASIA) PTE. LTD., incorporated in Singapore, is one of KISCO's overseas subsidiaries functioning as a hub of South-East Asia region since 1980. Though the extensive global network, KISCO and its group companies collaborate, develop and refine leading-edge technologies, products and services such as Quantum dot, diX (Polyparaxylene) coating, super-critical CO<sub>2</sub> system that drive markets in response to customers' needs.

For more information, please visit: [www.kisco-net.com](http://www.kisco-net.com) and [www.kisco-net.com.sg](http://www.kisco-net.com.sg)

**About Exploit Technologies Pte. Ltd.**

Exploit Technologies is the strategic marketing and commercialisation arm of the Agency for Science, Technology and Research (A\*STAR). Its mission is to support A\*STAR in transforming the economy through commercialising R&D. Exploit Technologies enhances the research output of A\*STAR scientists by translating their inventions into marketable products or processes. Through licensing deals and spinoffs with industry partners, Exploit Technologies is a key driver of technology transfer in Singapore. It actively engages industry leaders and players to commercialise A\*STAR's technologies and capabilities, bridging the gap from Mind to Market. Exploit Technologies' charter is to identify, protect and exploit promising intellectual property (IP) created by A\*STAR's research institutes.

For more information, please visit [www.exploit-tech.com](http://www.exploit-tech.com).

**About the Institute of Materials Research and Engineering (IMRE)**

Established in September 1997, IMRE has built strong capabilities in materials analysis, characterisation, materials growth, patterning, fabrication, synthesis and integration. IMRE is an institute of talented researchers equipped with state-of-the-art facilities such as the SERC Nanofabrication and Characterisation Facility to conduct world-class materials science research. Leveraging on these capabilities, R&D programmes have been established in collaboration with industry partners. These include research on organic solar cells, nanocomposites, flexible organic light-emitting diodes (OLEDs), solid-state lighting, nanoimprinting, microfluidics and next generation atomic scale interconnect technology.

For more information about IMRE, please visit [www.imre.a-star.edu.sg](http://www.imre.a-star.edu.sg)

**About Applied Ventures, LLC**

Applied Ventures, LLC ([www.appliedventures.com](http://www.appliedventures.com)), a subsidiary of Applied Materials, Inc. invests in early stage technology companies with high growth potential that provide a window on technologies that advance or complement Applied Materials' core expertise. Applied Ventures' investments help develop technologies and markets that provide natural extensions of Applied Materials' businesses and can stimulate the growth of applications for its products and services. Applied Materials, Inc. (Nasdaq:AMAT) is the global leader in Nanomanufacturing Technology™ solutions with a broad portfolio of innovative equipment, service and software products for the fabrication of semiconductor chips, flat panel displays, solar photovoltaic cells, flexible electronics and energy efficient glass.

For more information, please visit: [www.appliedventures.com](http://www.appliedventures.com) and [www.appliedmaterials.com](http://www.appliedmaterials.com).



Photo-Op After the Signing Ceremony

From Left: Mr Russell Tham (Applied Materials), Mr Koichi Takeda (KISCO LTD.), Dr Mark Auch (Tera-Barrier Films), Mr Masayuki Nakazawa (KISCO (ASIA) PTE. LTD.), and Mr Phillip Lim (Exploit Technologies)