



FOR IMMEDIATE RELEASE

## Yissum and Vaxan to Collaborate for the Development of a Novel Nanoparticle Ink for Printed Electronics

Jerusalem, Israel, January 31, 2011 – Yissum Research Development Company Ltd., the Technology Transfer Company of the Hebrew University of Jerusalem, and Vaxan Steel Co., Ltd., a leading Korean company in the field of innovative printing, signed a licensing and research agreement for the development of silver nanoparticles and silver-coated copper nanoparticles for conductive inks. These inks can be utilized in a variety of printing technologies, including inkjet printing. The novel conductive inks were invented by Professor Shlomo Magdassi, Dr. Alexander Kamyshny and Michael Grouchko from the Institute of Chemistry at the Hebrew University.

According to the terms of the agreement, Yissum grants Vaxan a license to commercialize the technology exclusively in Asia, excluding Israel and former Soviet Union countries, and will receive in return research fees and royalties from future sales.

One of the exciting fields of the present and near future is printed electronics – the ability to print electric circuits on almost any surface, including paper, plastic, silicon and ceramics. Printed electronics are in use, or are considered for use in multiple applications, including displays and thin-film photovoltaics, radio frequency identification (RFID) tags, OLED lighting and sensors.

Conducting printing for the electronics industry is traditionally achieved by lithography and screen printing technologies. However, these methods are usually time consuming and expensive. Therefore, during the recent years the printing electronics industry trends towards digital printing, with inkjet printing as the most appealing technology. In this printing technology, droplets of ink containing metallic nanoparticles are jetted from a micron size orifice, onto the substrate which can be a plastic sheet, a glass or a silicon wafer.

Silver nanoparticles are particularly appealing for inkjet printing, since silver is the most conductive of the metals, and in contrast to other metals, oxidation does not harm the conductivity of the final film. For this reason, silver was the first material used for inks and conductive printing on a wide scale. Copper, on the other hand, is much cheaper than silver (at about 1/100 the cost of silver), but is readily oxidized by air, thereby becoming non-conductive. Prof. Magdassi and his colleagues invented copper nanoparticles that are covered by a thin layer of silver, thereby producing cheap, conductive, air-stable particles that can be readily used as conductive ink for a variety of applications.

"We are proud that the Hebrew University has had the opportunity to take part in this collaboration, and hope to strengthen our ties with the Korean industry in the future," said Yaacov Michlin, CEO of Yisum. "We are confident that our new partners will help us in introducing this invention to the market."

Mr. Duek Chi Lee, the CEO of VAXAN said, "The nanoechnology application which we have licensed from Yisum will be applied to semiconductors, IT, LED, and OLED industries. We are certain that this technological innovation will be an international success in electronic markets of the future. Once again, I would like to thank Yisum, Prof. Magdassi and Global Tech Korea who helped promote this collaboration between Korea and Israel."

Mr Hyunsung Kim, from GlobalTech Korea said, "We are very excited with this agreement, which marks the first commercial collaboration between an Israeli university and a Korean company. We at GlobalTech Korea's Tel Aviv office will continue to do our best to advance future R&D collaboration between the two countries."

#### **About Yisum**

Yisum Research Development Company of the Hebrew University of Jerusalem Ltd. was founded in 1964 to protect and commercialize the Hebrew University's intellectual property. Ranked among the top technology transfer companies in the world, Yisum has registered over 7,000 patents covering 2,023 inventions; has licensed out 530 technologies and has spun-off 72 companies. Products that are based on Hebrew University technologies and were commercialized by Yisum generate today over \$2 Billion in annual sales. Yisum's business partners span the globe and include companies such as Novartis, Johnson & Johnson, Roche, Merck, Teva, Google, Adobe, Phillips, Syngenta, Vilmorin, Monsanto, Makhteshim Agan and many more. For further information please visit [www.yisum.co.il](http://www.yisum.co.il)

#### **About Vaxan**

Vaxan has contributed greatly to electronics, construction, heavy industry and automation fields as a distributor of steel materials with competitive prices and a high quality since 1989. Now, the company focuses on developing manufacturing system of solar cells, displays and nanomaterials, e-paper, OLEDs etc. VAXAN is striving for technological innovation and a successful enterprise through international technical cooperation. For further information please visit [www.vaxan.co.kr/new/english](http://www.vaxan.co.kr/new/english)

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