Partnerships Landscape

Announcement Date	Partner 1	Partner 2	Deal Type	Deal Status	Notes
August 29, 2011	Universal Display Corporation	Panasonic Idemitsu OLED Lighting Co., Ltd.	Partnership (Licensing Agreement)	Completed	Universal Display Corporation, a US-based developer of organic light emitting device (OLED) technology, has entered into a technology license agreement with Panasonic Idemitsu OLED Lighting Co., Ltd. (PIOL), a Japan-based joint venture between Panasonic Electric Works Co., Ltd. and Idemitsu Kosan Co., Ltd. PIOL was formed for developing, manufacturing and marketing organic light-emitting diode lighting panels. Under the new agreement, PIOL will be licensed to integrate Universal Display?s proprietary UniversalPHOLED phosphorescent and other OLED technologies and materials into OLED lighting products. Under the license agreement, Universal Display has granted license rights under various patents and associated know-how owned or controlled by Universal Display for PIOL to manufacture and sell OLED products for lighting applications. PIOL will pay Universal Display running royalties on its sales of these products under the agreement, with a portion of the royalties prepaid. Concurrently, Universal Display and PIOL have also entered into a separate material supply agreement. The terms of both agreements run through July 31, 2014.
August 23, 2011	Universal Display Corporation	Samsung Mobile Display Co., Ltd.	Partnership (Licensing Agreement)	Completed	Universal Display Corporation and Samsung Mobile Display Co., Ltd. (SMD) have entered into an agreement under which Universal Display will license its technologies and sell its proprietary materials to SMD for use in its line of OLED display products. Universal Display is a US-based developer of organic light emitting device (OLED) technology, while SMD is a Korea-based manufacturer and seller of active-matrix OLED display products. Under the license agreement, Universal Display has granted SMD license rights under various patents owned or controlled by Universal Display to manufacture and sell certain phosphorescent OLED display products. In consideration of the license grant, SMD has agreed to pay Universal Display a license fee over the term of the license agreement. Concurrently, Universal Display and SMD have entered into supplemental OLED material purchase agreement. The terms of both agreements run through December 31, 2017.
July 11, 2011	eMagin Corporation	University of Rochester	Partnership (Development)	Completed	eMagin Corporation, a manufacturer of organic light-emitting diodes (OLED) micro displays and virtual imaging technologies, has partnered with University of Rochester, an academic and research university, to develop next-generation OLED for high-efficiency and solid-state lighting systems. Both the partners are based in the US. The US Department of Energy is providing $1.3 million funding for three years to more than triple the light output of the current generation of OLEDs. eMagin will receive a portion of the award amount for its work on the project.

					The partnership will seek to drastically improve the amount of useful light emitted from the device by developing technologies that use nano-particle based plasmonic scattering of light. The partnership will allow eMagin to make its microdisplays even more efficient and further improving its competitive position in the military, commercial and industrial markets.
July 5, 2011	Yunnan Chihong Zinc & Germanium Co., Ltd.	The North Night Vision Technology Group Co., Ltd.	Partnership (Joint Venture)	Announced	Yunnan Chihong Zinc & Germanium Co., Ltd., a company engaged in processing, extracting, prospecting and trading of zinc, lead, germanium and sulphuric acid products, is planning to form a joint venture, Yunnan North Chihong Optics, with The North Night Vision Technology Group Co., Ltd. Both Yunnan Chihong and North Night Vision are based in China. The registered capital of Yunnan North Chihong will be CNY230 million ($35.50 million) and Yunnan Chihong will invest CNY112.7 million ($17.40 million).
June 8, 2011	United States Department of Energy	Moser Baer Technologies, Inc.	Partnership (Other)	Completed	Moser Baer Technologies, Inc. (MBT), a US-based subsidiary of Moser Baer India, Ltd., has secured $2.9 million funding from US Department of Energy, a department of the US Government. Both the entities are based in the US. Moser Baer received the funding for reducing the cost of manufacturing high-efficiency Organic Light Emitting Diode (OLED) lighting panels through the development and deployment of improved processing techniques. MBT? pilot manufacturing line in Canandaigua, US, will be used to demonstrate these manufacturing improvements.
March 29, 2011	Panasonic Electric Works Co., Ltd. (formerly Matsushita Electric Works, Ltd.)	Idemitsu Kosan Co., Ltd.	Partnership (Joint Venture)	Announced	Panasonic Electric Works Co., Ltd., a manufacturer of lighting products and home appliances, has entered into a joint venture agreement with Idemitsu Kosan Co., Ltd. to form Panasonic Idemitsu OLED Lighting Co., Ltd. for developing, manufacturing and marketing organic light-emitting diode lighting panels in Japan. Both the companies are based in Japan. Idemitsu Kosan is engaged in the exploration, development and production of petroleum and other mineral resources. Panasonic Idemitsu will develop and manufacture the lighting panels, core components of OLED lighting by combining design and manufacturing technologies accumulated in Panasonic Electric Works with organic electroluminescent materials of Idemitsu. Under the terms of the agreement, Panasonic Electric Works will hold a 51% stake in Panasonic Idemitsu, while Idemitsu will hold the remaining 49% stake.
November 11, 2010	Tokyo Electron Limited	Seiko Epson Corporation	Partnership (Co-development)	Announced	Tokyo Electron Limited (TEL), a supplier of semiconductor production equipment, has entered into a joint development agreement with Seiko Epson Corporation, a developer and manufacturer of information equipment, electronic devices and precision equipment, for the development of organic light-emitting diode (OLED) display manufacturing technology. Both the partners are based in Japan. Under the agreement, the joint development project will integrate OLED display manufacturing technologies using Epson?s inkjet method with TEL?s production equipment technology
November 10, 2010	Cambrios Technologies Corp.	Plextronics, Inc.	Partnership (Co-development)	Announced	Cambrios Technologies Corp., a developer of electronic materials, has entered into an agreement with Plextronics, Inc., a

					technology company that specializes in printed solar, lighting, and other electronics, to develop a cost-effective, high performance material that could improve the manufacturing process and quality of lighting products based on organic light emitting diodes (OLEDs). Both the partners are based in the US. The partnership is funded, in part, through an assistance agreement with the Department of Energy (DOE) Solid State Lighting (SSL) program.
August 4, 2010	Solvay S.A.	Nepes Corporation	Partnership (Joint Venture)	Completed	Solvay S.A., a Belgium-based chemical and pharmaceutical company, and Nepes Corporation, a South Korea-based manufacturer of semiconductor and electronic materials, have formed a 50-50 joint venture, Iridos. Iridos is specialized in the marketing and sales of pastes used in thin film transistor liquid crystal displays (TFT-LCD) and organic light emitting diodes (OLED) in South Korea.
May 4, 2010	Young Fast Optoelectronics Co., Ltd.	AimCore Technology Co., Ltd. RiTdisplay Corporation	Partnership (Joint Venture)	Announced	Young Fast Optoelectronics Co., Ltd., a manufacturer of touch panels used in mobile devices, has received approval from its Board to set up a joint venture with AimCore Technology Co, Ltd. and RiTdisplay Corp. All the entities involved in the transaction are based in Taiwan. AimCore is a supplier of indium-tin oxide glass substrates, while RiTdisplay is a manufacturer of flat panels. Both AimCore and RiTdisplay are subsidiaries of Ritek Corporation, a manufacturer of optical products. Young Fast and AimCore will hold a 40% stake each in the new firm, while RiTdisplay will hold the remaining 20% stake. The joint venture will enable Young Fast to increase the output of capacitive touch glass panels to satisfy customer demand.
October 9, 2009	The Zumtobel Group	Fraunhofer-Gesellschaft	Partnership (Joint Venture)	Announced	Zumtobel is an Austria-based provider of a range of integral lighting solutions. Fraunhofer-Gesellschaft undertakes applied research of direct utility to private and public enterprises in Germany. Zumtobel is planning to form a joint venture with Fraunhofer-Gesellschaft and several employees of the Fraunhofer Institute for Photonic Microsystems for the development and production of organic light-emitting diode (OLED) light modules. The joint venture, Ledon OLED Lighting GmbH & Co. KG, will be based in Dresden, Germany, aims to set up a team of 10-15 highly qualified specialists in its initial year.
January 23, 2009	Samsung Electronics Co., Ltd.	Samsung SDI Co., Ltd.	Partnership (Joint Venture)	Completed	Samsung Electronics Co., Ltd., a consumer electronics company, has formed a joint venture with Samsung SDI Co., Ltd., a manufacturer of digital display devices. Samsung Mobile Display Co., Ltd. is the new joint venture company. Samsung Electronics has agreed to form a joint venture with Samsung SDI to improve competitiveness of its AMOLED and small to mid-size LCD businesses. Samsung Electronics will invest KRW9,38,500 million ($932.87 million) in the joint venture. Samsung Electronics and Samsung SDI will own 50% stake each in the joint venture company.
June 23, 2008	Anwell Technologies Limited	Undisclosed Company - China	Partnership (Joint Venture)	Completed	Anwell Technologies Limited, a supplier of manufacturing equipment and process technologies for the optical disc, OLED (Organic Light Emitting Diode), and solar industries, has formed a joint venture with a Chinese partner for thin-film solar module business. The Chinese partner will invest $7 million for a 10% stake in the joint venture with 40 megawatt (MW) initial production capacity per annum and will provide strategic local support for the solar module

					plant. The development of joint venture marks a step forward in Anwell?s solar business as it demonstrates its intention to be a major player in the solar industry.
June 16, 2008	Robert Bosch GmbH	Samsung SDI Co., Ltd.	Partnership (Joint Venture)	Announced	Robert Bosch and Samsung SDI have planned to set up a joint venture company SB LiMotive Co., Ltd., to develop, manufacture, and sell lithium-ion batteries. Robert Bosch and Samsung would each hold a 50% stake in the joint venture company.
December 15, 2007	Chengdu Hi-Tech Investment Group	Changhong Electric Co., Ltd.	Partnership (Joint Venture)	Announced	Changhong Electric Co., Ltd., a provider of consumer electronic goods, is planning to set up an OLED joint venture with Chengdu Hi-Tech Investment Group. Changhong will hold a 60% stake in the joint venture while Chengdu Hi-Tech will hold the remaining 40% stake.