

**Osram expands OLED research programme at Regensburg facility**



OSRAM

Osram: Targeting OLED technology.

Osram Opto Semiconductors has begun intensifying its research and development of organic LEDs (OLEDs), with an emphasis on developing white OLEDs for general lighting. Major research and development targets, in the company's facility in Regensburg, Germany, include developing devices with a lifespan of more than 10,000 hours, brightness of more than 1,000 cd m<sup>-2</sup>, and efficiency of about 50 lm W<sup>-1</sup> for white light. On the more traditional LED front, Osram has teamed up with Volkswagen America to redesign the 1960s era Microbus using LEDs for headlights, brake lights and dashboard lighting. The companies say this is the first vehicle to use LEDs for all major exterior lighting and signalling. Lastly, Osram Sylvania, the American lighting company, has licensed LED control technology from Color Kinetics, of Boston, Massachusetts, and will use it to design programmable, multicoloured architectural lighting systems.

**General Electric buys out Emcore, partners with Nichia of Japan**

General Electric (GE) has taken total ownership of its solid-state lighting joint venture, GELcore LLC, paying \$100 million to buy out the 49% stake owned by its partner in the venture, Emcore, of Somerset, New Jersey. GE has also announced a strategic alliance with Nichia Corporation, a leading Japanese maker of LEDs and phosphors. GE and Emcore formed GELcore in 1999 to develop LEDs for lighting applications. Nichia's chief

operating officer, Noboru Tazaki, said of the deal, "This is a historic agreement when you consider that GE, a world leader in traditional lighting technology and LED systems, and Nichia, a world leader in phosphor and optoelectronics technology are joining forces to advance LED technology and accelerate the penetration of LEDs into the general lighting industry."

**Philips to double capacity**

Philips Royal Electronics plans to double its high-power LED production capacity by the end of 2007, thanks to a new plant opening in Singapore. Production of the company's Luxeon range of LEDs is expected to start in the first quarter of the year. The plant will employ about 900 people at full capacity. The LEDs have brightness comparable to conventional light sources and can replace incandescent, fluorescent and halogen bulbs. Theo Van Dursen, CEO of Philips Lighting, said, "This investment will not only double the production capacity of our power LEDs in the next year and strengthen our number one position in this field, it will also significantly increase efficiency, supporting our aim for profitable growth." The company expects the high-power LED market to grow at an annual rate of 25% in coming years.

**Epistar expands through mergers**

Epistar Corporation, already the biggest manufacturer of LED chips in Taiwan, has further expanded by merging with both Epitech Technology Corporation and Highlink Technology Corporation. The mergers mean Epistar will consolidate its place as the world's largest maker of AlGaInP LEDs and put it among the top five suppliers of InGaN LEDs. Epistar Chairman Charles Chen said, "Through this merger, the new Epistar will be able to further enhance its international competitiveness." The mergers, which require shareholder approval and regulatory clearance, are expected to be completed by 1 March 2007. "The sales channels of Epistar and both Epitech and Highlink do not overlap with one another," said Highlink chairman Semi Wang. Targeted market areas will include fast-growing segments such as handsets, LCD backlighting, laptops, LCD televisions, automobiles and outdoor displays.

**Patent suits filed and settled**

North Carolina LED maker Cree has filed a lawsuit against BridgeLux of Sunnyvale, California. Cree claims that BridgeLux,

formerly eLite Optoelectronics, infringed two patents related to the manufacture of LEDs. One of those patents is owned by Boston University (a co-plaintiff in the suit) and licensed exclusively to Cree. BridgeLux says the suit is without merit and has filed a motion to dismiss, and CEO Robert C. Walker said, "We believe in the importance of respecting the intellectual property rights of others, just as we expect that others will respect our rights." Meanwhile, Nichia has settled a lawsuit it filed against British company Moeller Electric Ltd, claiming infringement of three Japanese patents. Nichia dropped the suit after Moeller agreed to stop using the LEDs that may be infringing existing patents and buy from Nichia.

**Department of Energy invests in solid state lighting**

The US Department of Energy is providing \$5 million in new funding for seven research projects to push the development of solid-state lighting. Four projects, and about half the funding, go to Sandia National Laboratories (Albuquerque, New Mexico), which will be home to the newly established National Laboratory Center for Solid-State Lighting Research and Development. In making the announcement, Energy Secretary Samuel Bodman said, "We believe a set of revolutionary new technologies called solid-state lighting offer excellent prospects for meeting our future lighting needs in a less costly, more efficient way than today's incandescent and even fluorescent fixtures. We at the Department of Energy want to see it fully developed as quickly as possible." He noted that a transition to LED-based lighting could reduce the nation's energy demands and make the country a leader in an emerging field.



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Jerry Simmons, senior manager of Sandia's Energy Sciences Department briefs US Department of Energy Secretary Samuel Bodman and other US government executives during a tour of Sandia Labs.