

LOPE-C 2011, June 28 to 30, 2011, Forum Messe Frankfurt, Germany

## **OLED Lighting: From Spotlights to Walls of Light**

**Stuttgart, Frankfurt, March 30, 2011:** *OLEDs – organic light emitting diodes – are capturing the creative fantasies of progressive light designers. Lightweight panels or "light tiles" composed of extremely thin functional layers on plastic or glass substrates make exclusive, futuristic looking OLED luminaires for home or office use. They are offered as commercial products by large vendors like Osram and Philips. OLEDs give off a pleasant warm-white light; they can be tuned to individual color temperatures and dimmed. And they are "instant-on": at their full brightness right after flicking the switch.*

### **A New Type of Light Source**

With these basic properties, today's OLED lighting offers an outlook on an absolutely new type of light source: OLEDs are no spotlights; they need no reflectors or lenses to bundle and direct light beams onto the objects to be illuminated. Instead, they are large-area luminous surfaces flooding a room with diffuse, non-glare light. OLED panels are extremely thin - they will be easily embedded in walls, ceilings, windows, room dividers, car cockpits – turning them into luminous objects of their own.

Consequently, large-area OLEDs panels made from organic functional materials are triggering a second revolution in lighting technology: After the - ecologically mandated - end of incandescent light bulbs, which radiated more heat than light, and the subsequent transition to gas discharge and energy saving fluorescent lamps, the time has come for LEDs and OLEDs to shine. They port the principles and achievements of solid-state technology and its famed learning curve of exponential innovation and cost degression to a new generation of energy-efficient and eye-friendly lighting systems.

For display purposes, OLEDs are already widely present: in millions of mobile phones they serve as bright and color intensive screens, and TV sets equipped with OLED displays or OLED backlights for LCD-screens are on their way to the markets. Next in line is OLED lighting.

Hosted by

## **Luminous Efficacy and Lifetime on the Rise**

OLEDs are superbly qualified as efficient sources of light. Already today, in commercially available products, they realize a luminous efficacy of 23 lumens per watt, at a development goal of 100 lm/W. Lifetime is up to 5,000 hours; three years from now it will be three times as much. Large, transparent OLED modules having an active light area of 1 square meter are expected to evolve within a year though the German BMBF (Federal Ministry of Education and Research) public/private partnership project TOPAS 2012.

OLED light sources are manufactured without the use of mercury. Thus they fulfill the European RoHS regulation of eliminating toxic ingredients. OLED lighting needs no encasing or cooling devices. Currently they are measuring less than 2 millimeters thick when fully encapsulated. Next step is thin flexible films, which can be formed and bent into any shape to form luminous objects of their own.

## **Technology Roadmap for OLEDs**

The official roadmap of OE-A (Organic and Printed Electronics Association) sees the current uses of OLED lighting primarily in the high-end segments of exclusively designed luminaries as a market entry strategy. Over the next five years according to OE-A, OLED light tiles and large-area architectural lighting panels will further develop to enter the building material and industrial markets. From 2018 onwards OE-A expects low-priced standard OLED light fixtures to be available in various configurations and specifications as a universal illumination technology.

"The first solid-state lighting products are reaching the market," says Andy Hannah, CEO of Plextronics, a U.S. vendor leading the industry in providing key materials technology, such as functional inks used as efficiency increasing hole injection layers, for the mass printing of OLEDs. "That is clearly an indication of imminent widespread commercialization. Serving this enormous market will require large-scale production, which is only attainable through solution processing. Our new materials will enable our customers to manufacture high-quality lighting devices at the lowest cost."

Hosted by

Osram, through its LED subsidiary Osram Opto Semiconductors will be the first large European lamp manufacturer to invest more than Euro 50 m in an OLED pilot manufacturing line in Regensburg, Germany, and further development of commercial OLED lighting. Already in 2008, Osram showed their first designer-style OLED luminaires. "For mass market applications," says Karsten Heuser, General Manager OLED at Osram, "light designers, besides a fascinating technology, need reliability and stable specifications. Our OLED lighting product families offer exactly that." Last month, Osram introduced two new OLED lighting panels, one round, the other square, mirrored or transparent, resp., in the off-state. With these panels, OLED designers will gain further creative dimensions to realize the light of the future.

## **OLEDs at LOPE-C 2011**

At LOPE-C 2011, the worldwide get-together of the organic and printed electronics industry, taking place June 28 to 30, at the Messe Frankfurt fairgrounds in Frankfurt, Germany, OLED lighting will have a prominent place, with a special conference session dedicated to discussing the latest developments and market trends. At the collocated LOPE-C 2011 exhibition, OLED lighting will be shown and demonstrated as commercial products.

Hosted by



[www.lope-c.com](http://www.lope-c.com)



## Presse / Press

---

The latest OE-A Video 'Printed Electronics - Ready to Go!' gives an insight into the fascinating world of organic and printed electronics:

<http://www.vdma-webbox.tv/english/filmdatabase/printed-electronics-ready-to-go.html>

---

### **About LOPE-C**

LOPE-C (Large-area, Organic & Printed Electronics Convention) is the leading, fully industry-sponsored annual conferences and exhibition of organic and printed electronics. LOPE-C presents the economic trends and the scope of scientific achievements in the field. The convention focuses on the production and application of organic and printed electronics. LOPE-C is jointly organized by the Organic and Printed Electronics Association (OE-A) and Mesago Messe Frankfurt GmbH. [www.lope-c.com](http://www.lope-c.com)

### **About OE-A**

Formed in 2004 as a Working Group within VDMA (German Engineering Federation), the OE-A (Organic and Printed Electronics Association) is the foremost professional body representing the worldwide organic and printed electronics industry. With more than 140 members throughout Europe, North America, Asia and Australia, OE-A represents the entire industrial value chain. [www.oe-a.org](http://www.oe-a.org)

### **About Mesago Messe Frankfurt**

Mesago, founded in 1982 and based in Stuttgart, is one of the world's leading organisers of special interest exhibitions, conferences and seminars. The company belongs to the Messe Frankfurt international network, employs 60 staff and annually organises exhibitions and conferences all over the world attracting over 2,500 exhibitors and 100,000 trade visitors [www.mesago.de](http://www.mesago.de).

### **Press Information:**

Mesago Messe Frankfurt GmbH  
Contact: Mrs Astrid Wille  
Tel.: +49 711 61946-26  
Fax: +49 711 61946-93  
Email: [astrid.wille@mesago.com](mailto:astrid.wille@mesago.com)  
Internet: [www.mesago.de](http://www.mesago.de)

For queries regarding **OE-A** please contact:  
Dr. Klaus Hecker, Managing Director  
OE-A (Organic and Printed Electronics Association)  
A working group within VDMA  
Tel.: +49 69 66 03-13 36  
Email: [klaus.hecker@vdma.org](mailto:klaus.hecker@vdma.org)

Author:

Werner Schulz  
Tel.: +49 (0) 30 81 05 89 59  
[press@lope-c.com](mailto:press@lope-c.com)

Hosted by

# Presse / Press

Caption:



OSRAM's PirOLED Luminaire

Source: Osram Opto Semiconductors

Hosted by