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OLED100 Summer School on „Lighting the way with OLEDs“

The OLED100 Summer School 2011 will be held from 23-29 May 2011 in Krögis, near Dresden, Germany

The 33x33 cm² panel of OLED100.eu project

ICT Event

OLED Glossary for the Lighting Community:

download available at www.oled100.eu

OLED100.eu OBJECTIVES

100 lumens per watt efficacy
more than 100,000 'lifetime hours'
a unit area of 100cm by 100cm
cost of 100€ per square metre or less



OLED100.EU SUMMER SCHOOL 2011

“Lighting the way with OLEDs”

Gut Froberg Seminarhotel

Schönnewitz 9, 01665 Käbschütztal / Krögis (near Dresden), Germany

23-29 May 2011

<http://www.oledsummerschool2011.eu>



The OLED100.eu Summer School 2011 is organized by the FP7 Collaborative Project OLED100.eu (<http://www.oled100.eu>), in association with the Institut für Angewandte Photophysik of the Technische Universität Dresden.

The School is conceived as a high-level and highly intensive scientific event focusing on cutting-edge knowhow on OLEDs (ranging from device stacks, light out-coupling, and organic materials for OLEDs to industrial requirements involving experimental and theoretical considerations), but also covering organic photovoltaics, organic FETs, and OLED displays.

This Summer School aims at the state-of-the-art training in the form of lectures and consulting sessions designed for Ph.D. students and young researchers seeking to reinforce their knowledge and skills in the field of OLEDs. Top experts in this area will deliver lectures and consulting sessions. The school is intended both for people already active in this R&D field, as well as for those new to the field. Except for the scientific part (lectures and consulting sessions), there will be a parallel evening “soft skills” programme for personal development .

The programme will include following topics: Simulations on OLEDs, Materials, OLED devices , OLED technology, Organic Photovoltaics, Light Out-coupling, Organic Electronics, Exciton physics, OLED displays, OLED applications.

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OLED100.eu receives funding from the European Community's Seventh Framework Programme under grant agreement n° FP7-224122



The 33x33 cm² panel of OLED100.eu project

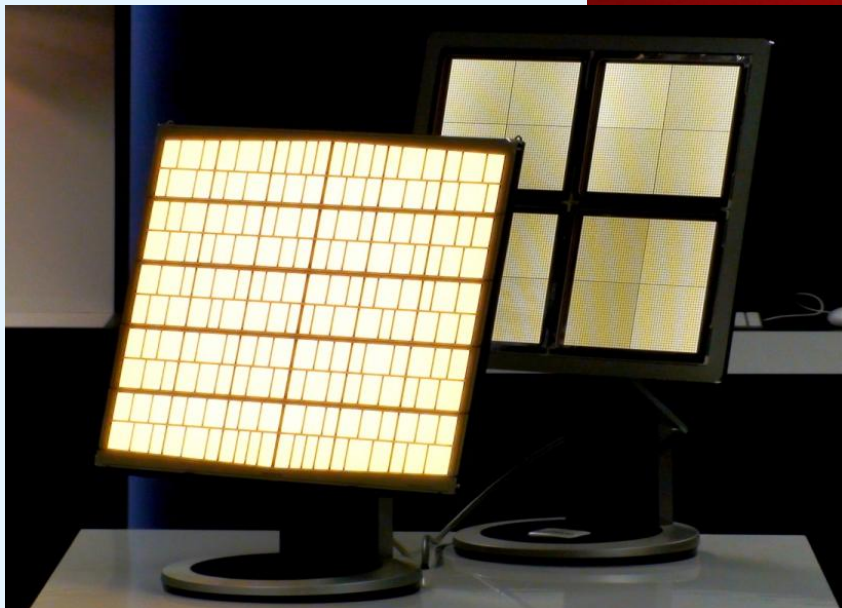
Beside conventional inorganic LEDs, OLEDs are considered as the second solid-state-lighting technology for new flat, large-area, and efficient lighting solutions. Within the integrated European research project OLED100.eu all major challenges for commercialisation of large area OLED lighting are addressed. Up-scaling is one of the project's R&D topics that aims at tiling of large-area lighting consisting of seamless panels of 33x33 cm².

Fraunhofer IPMS developed a screen printing technology for substrate patterning of large area OLED-substrates, a cost-effective alternative to lithography. Starting from the design rules given by the screen printing processes we successfully worked on the design, optimisation and realisation of 33x33 cm² OLED-panels with respect to OLED-stack and homogeneity requirements. The panels are based on the on-substrate tiling concept with 5 segments connected in series. Furthermore they use busbar structures, a metallization layer that helps spreading the current evenly over the substrate to ensure homogenous light emission. Last but not least we applied short-tolerant busbar structures within the anode layer and laser repair technique for eliminating latent electrical shorts. The total active area of the 33x33 cm² panels is 828 cm² on a 33x33 cm² substrate obtaining an aperture ratio of 76%.

The panels shown in the pictures have been fabricated on the GEN2-line at Fraunhofer IPMS. Using a high performance 3-unit-RGB-white OLED-stack and outcoupling enhancement we obtained a luminous efficacy exceeding 25 lm/W at 1000 cd/m². First tests of long term reliability indicate a L₇₀ well beyond 1000h without any shortage. This is a major step towards square-meter-wide lighting walls or ceilings, one of the main goals of OLED100.eu.

Parameter of the large area lighting tile:

Size:	33 x 33 cm ²
Active area:	828 cm ²
Voltage:	42 V
Current:	250 mA
Luminance:	1000 cd/m ²
Lum. efficacy:	>25 lm/W (with out-coupling)





OLED100.eu at ICT-exhibition in Brussels

At the ICT-Event „ICT2010: Digitally Driven“ that was organized by the European Commission in fall last year in Brussels, OLED100.eu along with the FP7-projects Fast2Light, CombOLED (both on OLEDs), CSSL (Consumerizing Solid State Lighting), and SSL4EU (both on LEDs) had an exhibition booth together under the name „Solid State Lighting“. There we presented current OLED and LED products as well as research prototypes to demonstrate the exciting properties of LEDs and OLEDs and their potential to create substantial energy savings in Lighting. At the event, we showed for the first time our 33×33 cm² OLED panel to the public. Our exhibition booth was well received and visited by many conference participants, among them Prince Philippe of Belgium, Commissioner for the Digital Agenda Neelie Kroes, and the Belgian Minister Benoît Cerexhe.



OLED Glossary still available

A collection of terms and definitions supports standards and takes the first step toward an OLED dictionary.

Before introducing standards a common use of terms and definitions is an important boundary condition. OLED100.eu has created a glossary on OLED lighting terms. This document reflects the need for a standardized language and a common understanding when it comes to an interdisciplinary communication about OLEDs.

Originating from displays, now emerging to higher demanding lighting applications, the technology attracts several groups of technical experts ranging from basic researchers to application engineers and lighting designers. The glossary is a first attempt on the road to standardized language.

The document is created and updated continuously. It has been made available to OLED players world-wide and their feedback should be used for improvement of this document. OLED and lighting experts from every discipline are invited to download the document from www.oled100.eu and feedback their comments back to the project.