

**The OLLA project delivers its final milestone:
*Europe's most efficient OLED lighting tile demonstrated***

18th June 2008, Aachen, Germany

At the end of the project period, the OLLA project* consortium presents its final milestone: the basic technology for a white OLED (Organic Light-Emitting Diode) light source, with an efficacy of 50.7 lumens per watt at an initial brightness of 1.000 cd/m² based on the Novald PIN OLED technology. The OLLA project is a joint basic research consortium, headed by Philips Lighting.

The OLED technology is generating a novel and very attractive class of solid-state light sources, which are flat, thin, and very lightweight. Due to its freedom of design, OLED lighting technology offers many possibilities for new lighting applications achieving substantial energy savings. Within OLLA 24 partners of 8 European countries have been working closely together developing OLED technology for lighting purposes with the goal to reach an efficacy of 50 lumens per watt combined with a lifetime of over 10.000 hours at 1.000 cd/m² initial brightness.

Philips Research and Novald, together with the partners reached the project targets in efficacy, color rendering and brightness. The lifetime of the Novald device even exceeded the promised value by one order of magnitude.

"The high efficiency combined with the extrapolated lifetime values prove that OLED is a serious technology for lighting applications, allowing innovative design capabilities and energy savings for future lighting products. It is a very important step towards the introduction of OLED technology in the lighting market," says Peter Visser, Project Manager OLLA project, Philips Lighting.

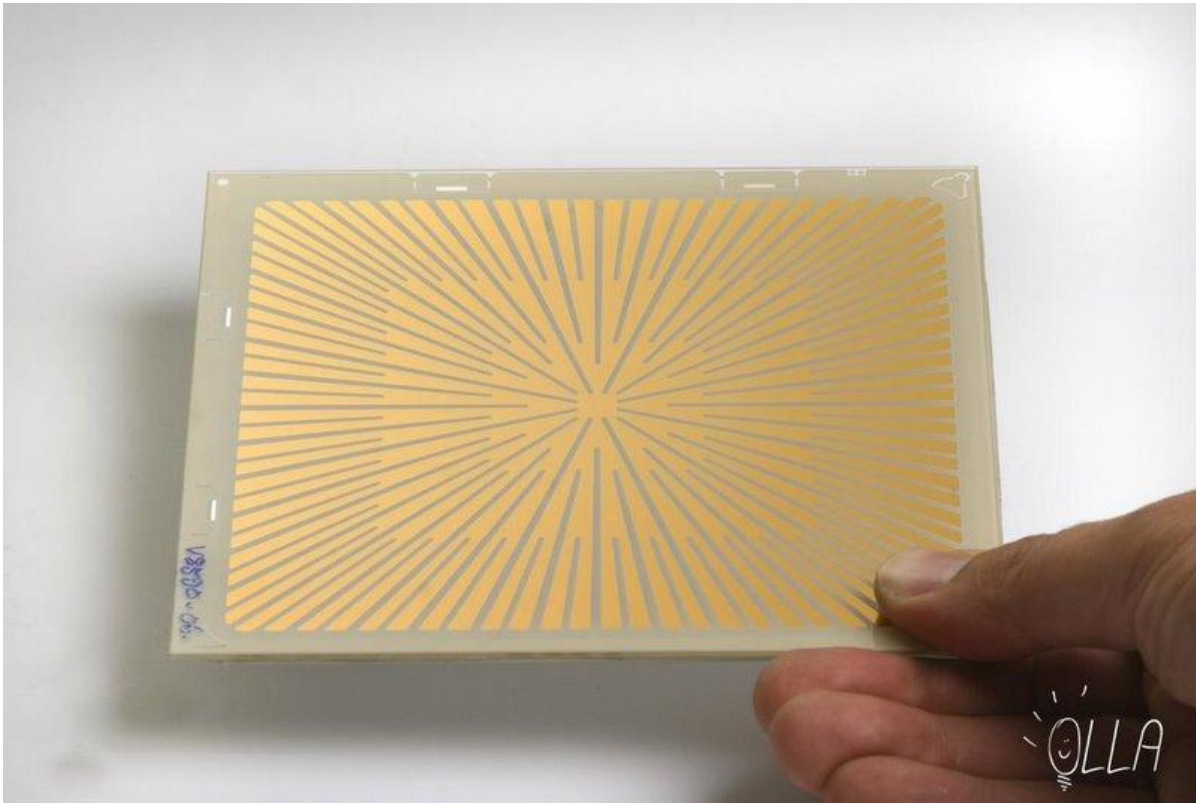
"The Novald PIN technology has the potential to further improve the power efficiency. It's in line with the technology roadmap that in the near future some 100 lm/W OLEDs will be achievable", adds Dr. Martin Vehse from Novald.

"Collecting all light of the device in a laboratory set-up with a macro extractor, we measure even more than 80 lumens per Watt", comments Dr. Volker van Elsbergen, Philips Research, the achievement. *"This shows that one of the keys to higher efficiencies will be better light outcoupling technologies."*

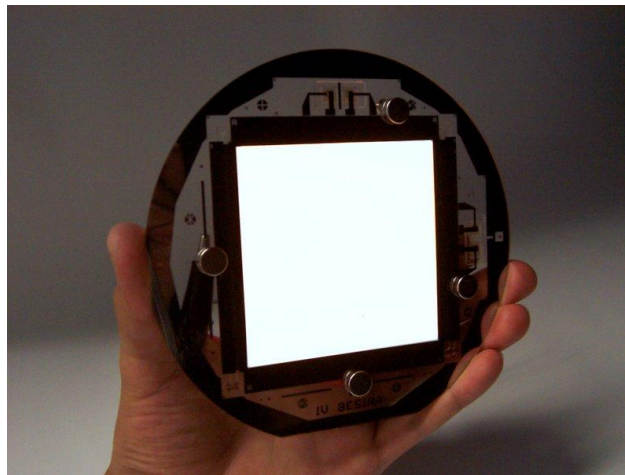
Besides the record values listed above, the OLLA project delivered the first large sized ITO-free OLEDs, the first large-area printed OLEDs and several ICT demonstrators. All demonstrators were on show last Thursday on a public event in Eindhoven.

Philips, Osram Opto Semiconductors, Siemens, Novald and Fraunhofer IPMS will continue the development of OLED lighting technology in a follow-up project. Within this new OLED100.eu project, the efficiency, lifetime and size of OLEDs will further increased.

Novel press pictures released in conjunction to this text:



Caption: OLED is a revolutionary novel and efficient lighting technology. The device shown here is less than 2mm thick. A metal line grid is used to make a homogeneous light output all over the plate. (Picture source: the OLLA project / M.Klop)



Caption: Example of a 10x10 cm² white OLED on a HC Starck CleviosTM PH510 PEDOT layer. (Picture source: Fraunhofer IPMS)

Additional project information is available on: www.olla-project.org



Caption: The OLLA project showed it's results last Thursday on a public event in Eindhoven, the Netherlands. (Picture source The OLLA projects / M.Klop)

Note: High-resolution version images can be downloaded from: www.olla-project.org
Pictures may only be used in conjunction with this press release.

Links related to this press release

- OLLA project website: <http://www.olla-project.org>
- The FP-IST programme: <http://cordis.europa.eu/ist/>

About the OLLA project:

OLLA is a joint research project dedicated to the development of white OLEDs for general lighting applications. The consortium consists of 24 entities in 8 European countries. OLLA is partially funded under the IST priority (Information Society Technologies) of the European Union's 6th Framework Programme (FP6).

Goal of the OLLA project was to demonstrate a long-life and highly efficient white OLED light with the following specifications: efficacy of 50 lm/W, lifetime of 10.000 hours from an initial brightness of 1.000 cd/m², with a tile size of 15x15 cm².

About OLEDs

OLEDs are a novel and very attractive class of solid-state light sources, which are flat, thin, and very lightweight. OLEDs generate a diffuse, non-glaring illumination with high color rendering. Due to its freedom of design, OLED lighting technology offers many possibilities for new lighting applications. OLEDs could also be used in lighting systems with controllable color, allowing users to customize their light atmosphere. Furthermore, as a highly efficient light source, the technology has the potential of achieving substantial energy and CO₂ savings, without compromising color rendering or switching speed.

About the lighting measurements in this press release:

The OLEDs mentioned were measured with special outcoupling enhancement foils on top of the substrate. Side emission is omitted. Lifetime predictions are done via accelerated lifetime tests on higher brightness levels.

OLLA highly recommends the OLED lighting community to publish OLED lighting measurement data on 1000 cd/m² brightness levels with corresponding efficiency and lifetime data, in order to make research results world-wide comparable.

<p>For more information, previous press releases, High-resolution versions of the enclosed pictures please go to: www.olla-project.org , section download or contact pressrelease@olla-project.org</p>

Key data of the OLLA project:

- Project goal: demonstration of OLEDs technology for Lighting Applications
- Project website: www.olla-project.org
- Duration: 45 months, started on 1 October 2004.
- Project budget: € 20 Million
- EU contribution: € 12 Million funding
- EU contract number: IST-2002-004607.

The project has the following 24 consortium partners out of 8 EU countries:

Industrial Partners:

- Aixtron AG, Aachen, Germany
- Merck KGaA, Frankfurt, Germany
- H.C. Starck GmbH, Germany
- Novalde AG, Dresden, Germany
- Osram Opto Semiconductors GmbH, Regensburg, Germany
- Philips Electronics Nederland BV, Eindhoven, the Netherlands
- Philips Lighting GmbH, Aachen, Germany
- Philips GmbH Forschungslaboratorien, Aachen, Germany
- Sensient Imaging Technologies GmbH, Wolfen, Germany
- Siemens AG, Erlangen, Germany

Universities:

- Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland
- Katholieke Universiteit Leuven (KUL), Belgium
- Rijksuniversiteit Groningen (RUG), the Netherlands
- Institut für Angewandte Photophysik (IAPP), Technische Universität Dresden, Germany
- Universität Kassel, Germany
- Universiteit Gent, Belgium

Research Institutes:

- Centre National de la Recherche Scientifique - Institut des Matériaux Jean Rouxel de Nantes (CNRS-IMN), France
- Centre National de la Recherche Scientifique - Laboratoire de Chimie de Coordination du CNR (CNRS-LCC), France
- Consiglio Nazionale delle Ricerche Bologna (CNR-ISOF), Italy
- Consiglio Nazionale delle Ricerche Lecce (CNR-IFNM), Italy
- Fraunhofer Institute for Photonic Microsystems (IPMS), Germany
- Institute of Physical Chemistry of the Polish Academy of Science, Poland
- Inter-universitair Micro-Electronica Centrum (IMEC), Belgium
- VTT Technical Research Centre, Finland

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Additional project information is available on: www.olla-project.org