

Press Release

Babenhhausen,
Dresden,
Potsdam-Golm,
November 28th, 2007

German OLED consortium develops new OLED signage device

The German research consortium CARO which is developing OLEDs for automotive applications, has demonstrated new high- and non-transparent signage devices based on organic light-emitting diodes, in short OLEDs.

In close cooperation with the Fraunhofer Institutes for Photonic Microsystems and for Applied Polymer Research the Optrex Europe GmbH has developed transparent small molecule OLEDs as well as non-transparent polymeric OLEDs, within a project funded by the German Federal Ministry of Education and Research (BMBF).

With a new manufacturing technology based on a highly efficient PIN-OLED™ stack from the CARO project partner Novald AG, an orange-emitting OLED signage device was developed. It has a transparency of around 65 percent – one of the highest values achieved so far. With conventional technologies, only 50 percent transparency was obtained.

Highly transparent devices can be applied in automobile industry or medicine in form of double displays, 3D-displays or transparent displays. Due to their variability in shape and size they can be used as design elements in a broad range of applications.

Two of the newest OLED devices were demonstrated on the 3. Global Plastic Electronics Conference and Showcase, during the Organic Electronics Conference and Exhibition (OEC-07) Frankfurt/Main and during the SID exhibition in Long Beach, California (USA).

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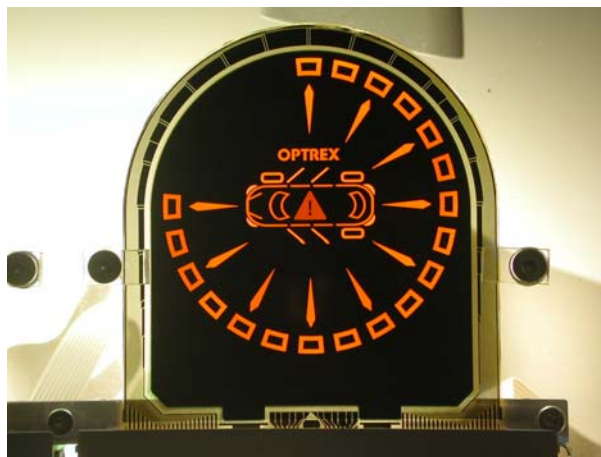


*Transparent OLED signage device.
Photo: Optrex Europe GmbH, Babenhausen, Germany*

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*Non-transparent polymeric OLED signage device.
Photo: Optrex Europe GmbH, Babenhausen, Germany*

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CARO Project:

The acronym "CARO" stands for "car OLED", which points out the focus of this R&D project with the target to develop highly efficient and reliable OLED devices for customer specific automotive applications (displays as well as signage devices). The CARO consortium involves 7 partners, among which 2 from industry, 2 universities and 3 research institutes: Optrex Europe GmbH, Novaled AG, Technical University of Braunschweig, Saarland University, Fraunhofer Institute for Reliability and Microintegration (Branch Lab Polymeric Materials and Composites), Fraunhofer Institute for Applied Polymer Research, and Fraunhofer Institute for Photonic Microsystems. The CARO consortium is one of the research associations within the BMBF initiative "OLED 2015". The project officially started on March 1st 2006 and will end on February 28th 2009. It has a total R&D budget of around 10.2 million Euros.

Optrex Europe GmbH:

Optrex Europe GmbH based in Babenhausen, near Frankfurt/Main, Germany, is the leading manufacturer and supplier of high performance, customised passive matrix type LCD panels and modules for automotive applications, as well as for industrial and telecommunication markets. In 2002 the product portfolio was extended to active matrix driven LCDs (TFT displays). Parallel to the continuous improvement and new development of LCD technologies Optrex Europe GmbH is also working in the R&D area of OLED technologies since 2000, and is currently the leader of the CARO consortium. Learn more about Optrex Europe GmbH at www.optrex.de.

Fraunhofer Institute for Photonic Microsystems:

The Fraunhofer IPMS ranks among the leading addresses for research and development of photonic microsystems worldwide. In five business fields, "Spatial Light Modulators, Micro Scanner Devices, Sensor- and Actuator Systems, Lifetronics as well as Organic Materials and Systems", about 200 scientists currently work on processes and products including the generating of ideas, feasibility tests, the development of prototypes and the pilot manufacturing of chips and systems using in-house clean room and laboratory facilities.

Under the brand "Centre for Organic Materials and Electronic Devices Dresden (COMEDD)" the last-mentioned business unit "Organic Materials and Systems" currently sets the stage for a European wide leading centre for organic semiconductors. COMEDD is supposed to pave the way for applied research and the transfer of research results into pilot production.

Fraunhofer Institute for Applied Polymer Research:

The Fraunhofer IAP is specialized on the targeted development of sustainable processes and materials based on natural and synthetic polymers. They are the basis for the development of new, efficient and sustainable materials, functional materials and additives. Key activities include biopolymers, synthesis and polymer technique, functional polymer systems for electronic and optical applications as well as water-born polymer systems. In the Pilot Plant Center Schkopau (PAZ) we develop synthesis and processing operations in order to optimize the supply chain from monomer to polymer components.

The business division "Functional Polymers" is working actively in the fields of OLEDs, polytronic and organic photovoltaic (OPV). In these fields the Fraunhofer IAP has multidisciplinary experiences, resulting from the polymer synthesis, the characterization, the processing and the physics of the devices. Displays based on electro-luminescent and liquid-crystalline materials are being developed. Additionally, displays which are based on flexible substrates with barrier layers can be processed and produced.

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