

Munich, December 12, 2024

Press release

LOPEC 2025: Printed electronics for the automotive industry

- **More sustainability in mobility thanks to printed sensors**
- **Personalized vehicle design with OLED technology and switchable films**
- **New: “Mobility” Application Session at the LOPEC Conference**

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Printed electronics, with its lightweight, flexible and cost-effective solutions, has become a key technology for the automotive sector. At LOPEC in Munich (February 25 to 27, 2025), exhibitors from all over the world will demonstrate how printed electronics can enable sustainable and safer mobility concepts, thus paving the way for the transport transition.

In times of change, printed electronics offers the mobility sector new solutions. “The lightweight electronic components support sustainable vehicle concepts, and ensure greater safety and lower energy consumption,” says Dr. Klaus Hecker, Managing Director of the LOPEC co-organizer OE-A (Organic and Printed Electronics Association), an international working group within the VDMA. Printed electronic elements can be used to implement various additional functions, says Hecker: “Printed electronics is thin and flexible, allowing it to be seamlessly integrated into a wide variety of products. Its use can significantly reduce the vehicle weight.”

LOPEC 2025 will showcase numerous applications for the automotive industry that are already on the market or about to be commercialized. Among the exhibitors at LOPEC are industry giants such as Covestro, Henkel, Heraeus, IEE, and tesa, as well as start-ups, medium-sized companies and research institutions from all over the world.

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Printed sensors: the key to greater sustainability

One focus of LOPEC 2025 is on e-mobility. In Munich, exhibitor Flexoo will present the ultra-thin MiniMoS sensor unit, which accurately measures the pressure and temperature of batteries and other energy storage devices. With the help of real-time monitoring, the battery life of an electric car can be extended by up to 40 percent. The risk of fire is also reduced as critical conditions are detected in time. MiniMoS transmits the data to existing battery management systems via Bluetooth.

Printed electronics also contributes to the safety of hydrogen mobility, as Arkema Piezotech will demonstrate in Munich. The French company specializes in piezoelectric plastics. Sensor arrays printed from these and mounted on high-pressure hydrogen tanks register the acoustic waves generated by impacts or other mechanical influences and convert them into electrical signals. The severity and location of the damage can thus be determined as well as the premature aging of a tank. The sensor solution for car tires developed by the Finnish research center VTT in turn helps save fuel by setting the optimum tire pressure. A life cycle analysis carried out as part of the EU project UNICORN highlights the positive environmental effect.

Electronic components that can be dismantled non-destructively at the end of their service life, making them easier to sort for recycling, are also ready for the circular economy. LOPEC exhibitor tesa offers a debonding-on-demand technology for that purpose, which ensures permanent yet easily removable bonds.

Customized design of lights and interior

Flexible, organic and printed electronics is, however, not only convincing in terms of sustainability and safety, explains OE-A Managing Director Hecker: “The easy-to-integrate electronic components offer designers undreamt-of possibilities and pave the way for individualization in vehicle construction.” Audi, for example, already offers individually configurable OLED rear lights consisting of individually controllable segments. In the future, the technology will

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increasingly be used to communicate with other road users, as Dr. Werner Thomas, OLED Lighting Project Manager at Audi, will explain in his plenary lecture at the LOPEC Conference (February 26, 9:45 a.m.).

The subsequent Mobility Application Session will provide further inspiration. A presentation by Antolin, a leading innovator in automotive interior solutions, will highlight its smart surface technologies that integrate color changing films by LOPEC exhibitor E Ink into vehicle interiors to create dynamic user experiences. The half-day Application Session will be followed by a guided tour of the trade fair. With this combination, LOPEC invites all interested parties to find out about the status and potential of printed electronics in the mobility sector in one compact day.

You can find this press release including images for download [here](#).

LOPEC

LOPEC (Large-area, Organic & Printed Electronics Convention) is the world's leading event for printed electronics. The combination of exhibition and conference covers the complexity and dynamism of this young industry perfectly. LOPEC is organized jointly by the OE-A (Organic and Printed Electronics Association) and Messe München GmbH. The next event will take place from February 25-27, 2025, at the ICM – Internationales Congress Center München. www.lopec.com

Messe München

As one of the world's leading trade fair organizers, Messe München presents the world of tomorrow at its about 90 trade fairs worldwide. These include twelve of the world's leading trade fairs such as bauma, BAU, IFAT and electronica. Messe München's portfolio comprises trade fairs for capital and consumer goods, as well as for new technologies. Together with its subsidiaries, it organizes trade fairs in China, India, Brazil, South Africa, Turkey, Singapore, Vietnam, Hong Kong, Thailand, and the U.S. With a network of more than 15 affiliated companies and almost 70 representations worldwide, Messe München is active in more than 130 countries. The more than 150 events held annually attract around 50,000 exhibitors and around three million visitors in Germany and abroad.

OE-A

The OE-A (Organic and Printed Electronics Association) is the world's leading industrial association for flexible, organic and printed electronics. It represents the entire value chain of this industry. Its members are world-leading companies and institutions, from research and development institutes to, mechanical engineers and material manufacturers to producers and end users. More than 200 companies from Europe, Asia, North America, and Africa work together in the OE-A to further advance the development of a competitive infrastructure for the production of flexible and printed electronics. OE-A is an international working group within VDMA.

www.oe-a.org