

Munich, December 14, 2022

Press release

LOPEC 2023

Printed Electronics for greater safety and sustainability in traffic

- **Focus topic Mobility: innovations in vehicle construction**
- **Accident avoidance thanks to integrated sensor technology**
- **Smart tires for the Internet of Things**

LOPEC will be opening its doors at the Messe München ICM from February 28 to March 2, 2023. The focus topic Mobility will be the common thread running through the world's leading exhibition and conference for flexible, organic, and printed electronics.

Whether it is a seat belt reminder, seat heating or a driver assistance system, cars have increasingly more extra electronic features. Vehicle construction therefore counts on printed electronics, since only they are lightweight and thin enough to fit seamlessly into any designs and lightweight constructions. "Under the focus topic of mobility, LOPEC will showcase numerous applications for the transport sector," says Armin Wittmann, Exhibition Director LOPEC at Messe München. They range from curved touch displays, innovative sensors systems and lighting concepts to smart tires.

Greater safety for autonomous driving

The printed sensors from LOPEC exhibitor IEE have already been installed in 400 million vehicles worldwide. Among the latest products from the Luxembourg-based automotive supplier is a multizone sensor for hands off detection (HOD) in the steering wheel. The HOD detects whether the driver is firmly gripping the steering wheel or only touching it lightly or not at all. That ensures greater safety, for example, when switching from autonomous to partially assisted or manual

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driving since the sensor checks before leaving the autonomous mode whether the driver has the car under control.

The driver monitoring system of the Dutch research institute Holst Centre also helps to avoid accidents. It is based on printed sensors in the car seat, which measure the heart and breathing rate. If the driver is tired or in some other worrying condition, the system will raise an alarm. Ton van Mol, Managing Director at the Holst Centre, will give a plenary talk at the LOPEC Conference. The Holst Centre will also be presenting itself in the exhibition.

Smart tires as a data source

One of the highlights at the LOPEC Conference will also be the plenary talk by Corrado Rocca, Head of Research & Development at Pirelli's Cyber Unit. The Italian manufacturer wants to use tires as a data source. Built-in sensors can register a wide variety of parameters, from tire pressure and wear to road conditions. Rocca will describe how smart tires like these contribute to greater safety, sustainability, and new services in the transport sector.

Printed electronics also make tires fit for the Internet of Things. Built-in RFID chips transmit the recorded data to the vehicle owner and auto repair shops, allowing better planning of maintenance processes and tire changes. Information about material and manufacturer stored on the chips also helps with recycling.

Resilient materials and innovative processes

Electronics installed in vehicles must work reliably – also when subject to heavy mechanical stress, heat, freezing cold and damp. Robust materials provide the basis for that. Leading international manufacturers offering conductive inks and pastes, carrier materials, as well as insulating and protective materials for printed electronics will be represented at LOPEC with big names in the industry like Covestro, DuPont Teijin Films, Elantas, Henkel and Heraeus Epurio.

LOPEC will also provide information about new production processes and facilities. The high-pressure molding technology from LOPEC exhibitor Niebling, for example, is used to produce 3D plastic elements with integrated electronics,

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including touch modules with illuminated symbols for door panels, steering wheel and center console. Bayflex Solutions from the United States company, in turn, will be presenting endurance testing equipment in Munich. The equipment folds, stretches or bends components millions of times under adjustable environmental conditions.

Wittmann stresses: “We can see in more and more applications at LOPEC that printed electronics meet the high demands of vehicle construction, and the potential is still far from being exhausted. With LOPEC, we bring together players from along the entire value chain, thus driving developments that are essential for tomorrow’s mobility.”

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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 28 to March 2, 2023, at the ICM – Internationales Congress Center München.

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Messe München

Messe München is one of the leading exhibition organizers worldwide with more than 50 of its own trade shows for capital goods, consumer goods and new technologies.

Every year, about 50,000 exhibitors and around 3 million visitors take part in more than 200 events at the exhibition center in Munich, at the ICM – Internationales Congress Center München, the Conference Center Nord and the MOC Veranstaltungszentrum München, and also abroad.

Together with its subsidiary companies, Messe München organizes trade fairs in China, India, Brazil, Russia, South Africa, Turkey and Vietnam. With a network of associated companies in Europe, Asia and South America, and with around 70 representations abroad for more than 100 countries, Messe München has a global presence.

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. Many 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.

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