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Mapping the Future of Flexible and Printed Electronics

The new edition of the OE-A Roadmap is out now. The key market focus includes: Automotive, Consumer Electronics, Healthcare, Printing and Packaging, Smart Building, and Internet of Things. The Roadmap analyses the status and forecasts where flexible, organic, and printed electronics is heading.

Frankfurt, Germany, March 1st, 2023 – “The last couple of years since the release of the previous Roadmap have seen continued innovation regarding the adoption of printed, flexible, and hybrid electronics in a wide range of products and markets”, states Stan Farnsworth, Chair of the OE-A Board and Chief Marketing Officer at PulseForge. This 9th edition of the Roadmap published by the OE-A (Organic and Printed Electronics Association), a working group within VDMA, is presented today at LOPEC 2023 and outlines the present status, current and future opportunities for the industry.

Major trends in key markets

The “OE-A Roadmap for Flexible, Organic and Printed Electronics” white paper provides a close look into the advancing maturity of the industry. In addition to updates on key technologies and capabilities, more than 100 industry experts have contributed detailed short, medium, and long-term forecasts for markets including Automotive, Consumer Electronics, Healthcare, Printing and Packaging, Smart Building, and Internet of Things.

In the **automotive** sector, where the use of the technology has already been widely adopted for rear lights, OLED lighting has now reached the car interior. Use of OLED displays for curved displays, lighting concepts and touch sensors inside the car are anticipated to see continuing growth. When considering trends in **consumer electronics** the roadmap focuses

on HMI, as increasingly touch sensors are replacing mechanical knobs and buttons. Smart phones with foldable displays are growing in popularity. The use of printed electronics in the **healthcare industry** and **packaging market** was accelerated by Covid. Smart patches for monitoring body functions are more widespread, and tracking of environmental parameters such as temperature and shock is of growing importance. The seamless integration of printed electronics into objects is of special relevance for the **Internet of Things**. RFID and NFC labels, smart tags, which can now also include integrated GPS, are working as a strong driver. For the **Smart Building** industry, the increasing need of improved sustainability has led to significant innovations. Organic and large area printed photovoltaic installations on roofs are becoming more widely used, while the need for advanced sensors is opening opportunities for printed electronics in building monitoring and control.

Printed electronics drives Sustainability

“Printed electronics technologies have a lot to offer when it comes to sustainable production processes and materials. Printing, as an additive process, consumes less material and energy, and reduces the amount of waste. Printing plus related advanced processing enables broader use of recycled or eco-friendly materials to support product lifecycle circularity”, explains Stan Farnsworth.

What is afoot?

The trend is towards more stretchable materials which fit for applications in medical, sports and for clothing. The mobility sector, via electric cars and autonomous driving, offers new possibilities such as printed sensors, integrated control and interface systems, and evolved battery-related technologies. "Product development must think printed electronics by design. Printed and hybrid electronics do present opportunities for incremental product improvements, but even more so the opportunities are deeper. In our experience, manufacturers are ready”, explains Farnsworth.

The new OE-A Roadmap summary will be available soon on the [OE-A website](#).

For more information on flexible, organic and printed electronics visit the OE-A booth, Hall B0, 405 at LOPEC 2023

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If you have any questions, please do not hesitate to contact Dr. Klaus Hecker, OE-A Managing Director, phone: +49 69 66 03-13 36, e-mail: klaus.hecker@oe-a.org



**New OE-A Roadmap:
Flexible, organic, and printed
electronics solutions in
important industry sectors.**
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Figure 1: Flexible, Organic and Printed Electronics solutions in important industry sectors.

**OE-A Roadmap for market entry
in various fields of application.**
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Organic and Printed Electronics Association

The OE-A (Organic and Printed Electronics Association) is the leading international industry association for flexible, organic, and printed electronics. The OE-A represents the entire value chain of this emerging industry. Our members are world-class global companies and institutions, ranging from R&D institutes, mechanical engineering companies and material suppliers to producers and end-users. Well over 200 companies from Europe, Asia, North America, and Africa are working together to promote the establishment of a competitive production infrastructure for organic and printed electronics.

The vision of the OE-A is to build a bridge between science, technology, and application. The OE-A is a working group within VDMA. More than 3,500 member companies from the machinery and equipment manufacturing industry make VDMA the largest industry association in Europe. oe-a.org

Flexible, organic, and printed electronics

Organic and printed electronics stands for a revolutionary new type of electronics: they are thin, lightweight, flexible, robust, and produced at low cost. It enables new applications, including single-use devices enabling ubiquitous electronics.

LOPEC

The OE-A and Messe München are the hosts of LOPEC, the premier international exhibition and conference for the printed electronics industry. It addresses end-users, engineers, scientists, manufacturers, and investors. LOPEC 2023 will be held February 28 to March 02, 2023, at Messe München, Germany. LOPEC 2024 will be held March 05- 07, 2024.

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