



Press Release

November 11, 2024

Demonstration of electronic skin patch for advanced micro heating technology at MEDICA

Henkel and Linxens join forces to enhance patient comfort in medical wearables enabled by printed electronics

Düsseldorf – Henkel and Linxens today have announced a collaboration to drive the integration of advanced technologies for medical wearables based on printed electronics. As part of the collaboration the companies have developed a proof of concept to integrate self-regulating heating elements into medical wearable devices which significantly enhance the wear comfort for patients. The partners aim to launch this innovative proof of concept in the healthcare market and will showcase demonstrations at the upcoming MEDICA trade show in Düsseldorf, Germany, from November 11-14 at the Henkel booth (C59) in hall 13.

Henkel is an industry-leading supplier of printed electronics materials and services. The broad Loctite portfolio of functional inks includes conductive inks and paints as well as resistive and dielectric inks. These materials combined with four decades of formulation expertise enable the company's ecosystem partners to develop printed electronics applications tailored to the specific properties demanded by industrial customers – with a growing focus on the medical and healthcare industry.

Linxens is a global leader in the electronics industry, providing innovative, customized component-based solutions to meet the most demanding technical specifications for connectivity, traceability and authentication. Within the collaboration the company is leveraging its Roll-to-Roll (R2R) screen printing technology for the development of highly complex and precise printed electronic designs. Printed electronics allows the production of flexible circuits screen printed on flexible foils such as PET, and with the converting onto a self-adhesive tape, it can be cut into the shape of a skin patch. These have the advantage of being integrated into skin patches, which are thin, comfortable, and optimized for medical applications. As a result, the heating skin patch can be used in various healthcare and wellness contexts, such as for pain relief or temperature-controlled drug delivery.

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Henkel is providing its expertise in the development of Positive Temperature Coefficient (PTC) inks ensuring optimal electrical performance of the self-regulating heating elements while maintaining the flexibility and adhesion required for skin-contact medical patches. The company's silver conductive inks and carbon resistive inks for creating micro-heaters are essential to the patch's self-regulative heating capabilities. In addition, Henkel also leverages its broad expertise from supplying more than 800 industry segments globally.

"At Henkel, we strongly believe in the value of close collaborations to further unlock the enormous potential of printed electronics across industries," explained Pia Schmiedel, Business Development Manager for Printed Electronics at Henkel. "Our collaboration with Linxens enables innovative approaches for the printed electronics technology in healthcare that help to significantly enhance the comfort for patients. We are convinced that our demonstrations at this year's MEDICA trade show will be a great opportunity to accelerate the adoption in the market."

"Through our collaboration with Henkel, we have developed an innovative proof of concept that incorporates heating elements into medical wearable devices, aimed at greatly enhancing patient comfort," shared Minh Lê, Vice President at Linxens Healthcare. "This solution represents a significant step forward in wearable technology, enabling designing of devices that positively impact patients' quality of life by enhancing comfort during use. We're excited to demonstrate this advancement at MEDICA to show its real-world benefits for the healthcare sector and look forward to collaborating with Henkel on future solutions".

About Henkel

With its brands, innovations and technologies, Henkel holds leading market positions worldwide in the industrial and consumer businesses. The business unit Adhesive Technologies is the global leader in the market for adhesives, sealants and functional coatings. With Consumer Brands, the company holds leading positions especially in laundry & home care and hair in many markets and categories around the world. The company's three strongest brands are Loctite, Persil and Schwarzkopf. In fiscal 2023, Henkel reported sales of more than 21.5 billion euros and adjusted operating profit of around 2.6 billion euros. Henkel's preferred shares are listed in the German stock index DAX. Sustainability has a long tradition at Henkel, and the company has a clear sustainability strategy with specific targets. Henkel was founded in 1876 and today employs a diverse team of about 48,000 people worldwide – united by a strong corporate culture, shared values and a common purpose: "Pioneers at heart for the good of generations." More information at www.henkel.com

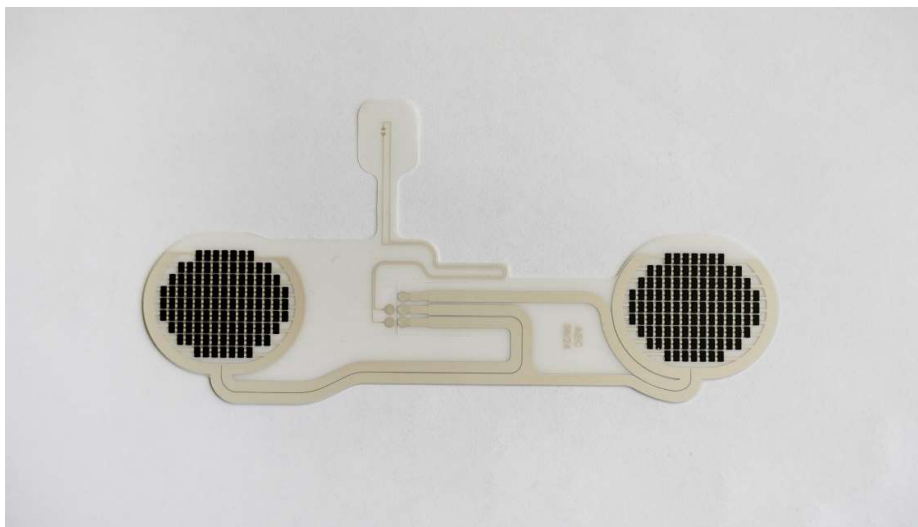
About Linxens

For over 40 years, Linxens has been a global leader in the electronics industry, providing innovative, customized component-based solutions to meet the most demanding technical specifications for connectivity, traceability and authentication. Linxens is the supplier of choice for many of the world's pioneers in technology-driven markets such as payment, mobility, telecommunications, access control, e-Government, healthcare and the IoT. Linxens has a unique infrastructure to meet the specific needs of its customers, from prototyping to mass production, supported by roll-to-roll manufacturing capabilities. To better offer its solutions and expertise to the healthcare market, the Group has developed a dedicated offering under the Linxens Healthcare brand, which includes solutions in electronic skin patches, biosensor manufacturing and connected solutions. Linxens has 7 R&D centers and 8 factories worldwide and employs over 3,000 people. For more information, visit: <https://healthcare.linxens.com/>

Photo material is available at www.henkel.com/press

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