

Press Release



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Covestro AG
Communications
51365 Leverkusen,
Germany

Contact
Dr. Frank Rothbarth
Telephone
+49 214 6009 2536
E-mail
frank.rothbarth
@covestro.com

Efficient and sustainable solution for wearable medical patches

Reusable smart patches in mini format

Covestro materials allow for functionality and comfort

Wearable smart patches offer a wide range of possibilities in medical diagnosis and are becoming increasingly popular. Current trends include even greater functionality, improved comfort, and the ongoing miniaturization of electronic patches. In collaboration with [accensors](#), a German specialist on the development and production of film-based sensors, actuators and emitters, [Covestro](#) has developed a [concept](#) which picks up on these trends and focuses on the durable use of electronics – a plus point in terms of resource conservation and sustainability. Covestro makes this progress possible with Baymedix® raw materials for adhesives and foams, as well as Platilon® thermoplastic polyurethane (TPU) films. accensors® has developed the sensor system and electronic modules.

Smart patches should be as small, flexible, and unnoticeable as possible in order to offer patients a high level of comfort. The newly developed solution consists of two elements: a non-reusable element (the Disposable Patch) including sensors that is applied to the skin with an adhesive and used only once, and a reusable element, the ReUse Patch, which houses all the electronics, for example the measurement technology, power supply, data processing, radio transmission and if desired an optical camera.

High comfort, ease of use, efficient manufacturing

Thanks to Covestro materials and to integrated film sensors, the wearable patches are very lightweight, thin and flexible, and fit well to the surface of your body – you can hardly feel them. Polyurethane adhesives made from Baymedix® raw materials are skin-friendly and offer low trauma when removed from the skin. Various sensors are integrated in the patch to determine vital



signs, for example pulse, pressure or temperature. Here, sensor integration is achieved by using special Platilon® films in combination with a thermoformable foam based on Baymedix®. All these materials are breathable and can be efficiently processed with roll-to-roll technology.

Removing and inserting the ReUse Patch into the Disposable Patch couldn't be easier – thanks to an ideal combination of materials and function. accensors particularly developed a film sensor that forms the interface between the smart patch and the patient and can be equipped with varied sensors.

Smart patches are already widely used for medical diagnosis, for example, to measure a patient's blood sugar levels, body temperature, or heart rate. The observation of disease patterns such as skin cancer or chronic wounds is also possible. Many other applications are emerging in sports and recreation. Covestro is contributing to the further dissemination of these innovative products through customer-oriented developments.

About Covestro:

With sales of EUR 12.4 billion in 2019, Covestro is among the world's largest polymer companies. Business activities are focused on the manufacture of high-tech polymer materials and the development of innovative solutions for products used in many areas of daily life. The main industries served are the automotive, construction, wood processing and furniture, and electrical and electronics industries. Other sectors include sports and leisure, cosmetics, healthcare and the chemical industry itself. Covestro has 30 production sites worldwide and employs approximately 17,200 people (calculated as full-time equivalents) as of the end of 2019.

About accensors:

Founded in 2015, the start-up innoME with its accensors business unit implements film-based sensors and actuators tailored to customer requirements, particularly for applications in the field of medical technology including wearables and biotechnology, and produces sensor systems in small, medium and high-volume quantities. accensors operates internationally and counts medical technology, pharmaceuticals, and biotechnology as well as industry among its customers. For accensors, 25 employees enable the development of innovative products at the two locations Espelkamp and Munich.

Forward-looking statements

This press release may contain forward-looking statements based on current assumptions and forecasts made by Covestro AG. Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the company and the estimates given here. These factors include those discussed in Covestro's public reports. These reports are available at www.covestro.com. The company assumes no liability whatsoever to update these forward-looking statements or to make them conform to future events or developments.