



PRESS RELEASE

InnovationLab and Evonik partner on first fully printed rechargeable batteries for flexible printed sensors

--InnovationLab to use metal-free TAeTTOOz® materials from Evonik for printed solid-state batteries that can be integrated with printed sensors

HEIDELBERG, Germany – March 19, 2021 – [InnovationLab](#), the expert in printed electronics “from lab to fab,” today announced a partnership with [Evonik](#), a world leader in speciality chemicals. This partnership will enable the first fully printed, flexible, rechargeable, solid-state, batteries for integration in printed sensor systems. Combining the benefits of [TAeTTOOz®](#), printable battery materials from Evonik, and InnovationLab’s field-proven capability for high-speed printed electronics, the two companies are opening new application areas to ultra-thin printed batteries that are more flexible, safer and more environmentally friendly than traditional metal-based batteries.

“Through our partnership with Evonik, we can now produce the first fully printable rechargeable battery using our volume-production printing process,” said Dr. Christoph Kaiser, head of Tech-2-Market department, InnovationLab. “This offers huge advantages to customers. Because the Evonik material isn’t charged during the production process, you can power up the battery after printing - which means you can produce them in standard production facilities instead of a specialized environment, saving considerable costs. We’ve also pioneered the easiest way to build up a rechargeable battery that’s not comprised of contaminants, making it the greenest of all battery platforms. It’s both easy to produce these new light and thin batteries, and it’s easy to dispose of them.”

“Unlike traditional batteries, TAeTTOOz® is a brand-new material technology that uses our patented redox polymers instead of metal or metal compounds,” said Dr. Michael Korell, head of New Growth Area Energy Storage at Creavis, the strategic innovation unit of Evonik. “That unique attribute delivers a host of benefits: Free from liquid electrolytes, batteries made with TAeTTOOz® cannot leak. Our set of materials allow you to print ultra-thin, metal-free, all solid-state batteries on flexible substrates. Our collaboration with InnovationLab shows the benefits of this approach—enabling high-speed production of safer, rechargeable batteries in the conformal shapes that fit naturally with fitness wearables, medical diagnostics, and smart labels for food packaging, supply-chain logistics, and other applications.”

Advantages of TAeTTOOz®

TAeTTOOz® is a new material technology for printable batteries pioneered by Evonik. Based on redox-active polymers, it can be processed by conventional printing methods into very thin, flexible battery cells, supporting the storage of electrical energy without the need for metals or metal compounds. Because battery cells based on it do not require liquid



electrolytes, they cannot leak, eliminating the possibility of fire. For more information, visit <https://www.taettoo.com/en/>

For More Information

InnovationLab is currently demonstrating its TAeTTOOZ-based printed rechargeable batteries for select customers. To schedule a demo, please contact Dr. Christoph Kaiser via info@innovationlab.de

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About InnovationLab

Founded in 2008, InnovationLab GmbH is a one-stop shop for printed electronics, with a focus on flexible pressure sensors, as well as temperature, moisture and gas sensors, and the capability to design and produce fully integrated hardware/software systems. The company offers highly customized solutions and supports high-volume production at two manufacturing sites in Germany, providing hands-on support to its customers throughout the entire product value chain, from concept to bulk production of printed functional products. InnovationLab provides state-of-the-art infrastructure along with comprehensive expertise in materials, processes and printing technologies to develop novel products. InnovationLab also supports numerous research and industrial partners at its lab and fabrication facility, an interdisciplinary environment featuring 6200 m² of usable space for production, development and offices, including 700 m² state-of-the-art cleanrooms. For more information, see <https://www.innovationlab.de>

About Evonik

Evonik is one of the world leaders in specialty chemicals. The company is active in more than 100 countries around the world and generated sales of €12.2 billion and an operating profit (adjusted EBITDA) of €1.91 billion in 2020. Evonik goes far beyond chemistry to create innovative, profitable and sustainable solutions for customers. More than 33,000 employees work together for a common purpose: We want to improve life today and tomorrow. Additional information on Evonik is available at <https://corporate.evonik.com/en>