PRESS RELEASE

InnovationLab acquires flexible printed battery technology from Evonik

Metal-free TAeTTOOz® polymeric materials for printed rechargeable solid-state batteries

Heidelberg, Germany – May 24, 2022 – InnovationLab, the expert in printed electronics "from lab to fab", announces that it has acquired the TAeTTOOz® printable battery technology from Evonik. InnovationLab and Evonik have been close partners in this field for many years and have jointly driven the technological development of TAeTTOOz to the present threshold of industrial scale production.

TAeTTOOz is the first technology of its kind that enables flexible, rechargeable solid-state batteries to be printed at industrial scale. These ultra-thin, printed batteries are far more flexible, safer and more environmentally friendly than traditional metal-based batteries. Typical applications are set to include low-cost IoT sensor labels for packaging and stock management, wireless industrial sensor technologies, and self-powered signage solutions.

Dr. Janusz Schinke, Head of Printed Electronics at InnovationLab, said, "We are very excited to now be offering our customers printed, polymer-based, rechargeable batteries as the next game-changing component in the field of printed electronics. Our material and printing experts have worked closely with Evonik on developing this technology for several years. And with Heidelberg Printed Electronics as our manufacturing partner, we are now looking forward to bringing printed rechargeable batteries into mass production. We have an existing portfolio of active customer projects that, thanks to TAeTTOOz, will continue to expand both in scope and number."

Dr. Michael Korrell, Head of New Growth Area Energy Storage at Evonik, said: "This industrialization phase will see Evonik providing TAeTTOOz technology to our long-term partner InnovationLab. InnovationLab's strong industry-leading position and its 'one-stop shop' philosophy, combined with TAeTTOOz and printed electronics capability, will enable it to offer an impressive array of unique, customized solutions."

TAeTTOOz technology can also be used with energy harvesting components to create self-powered signage, packaging and other innovative devices. For example, the technology has already been successfully applied in conjunction with printed organic photovoltaic (OPV) solar cells.

TAeTTOOz is based on redox-active polymers and can be processed using conventional printing methods to produce thin, flexible battery cells, which enable electrical energy to be stored without the need for metals or metallic compounds. Furthermore, battery cells based

on TAeTTOOz technology do not require liquid electrolyte to function, which inherently eliminates the risk of leakage and any resultant hazards.

The battery is not charged during production, so no extra handling precautions are needed, and it can be produced on standard printing presses. As the battery does not hold any voltage before its first charge, follow-up processes like picking and placing of components are possible, without the risk of damaging the components by overvoltage.

If you are interested in using TAeTTOOz in your application, please contact InnovationLab's Head of Business Development, Dr. Florian Ullrich: florian.ullrich@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 m^2 of usable space for production, development and offices, including 700 m^2 state-of-the-art cleanrooms. For more information, see https://www.innovationlab.de

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