



## PRESS RELEASE

# InnovationLab's battery management solution BaMoS uses printed sensors to capture cell-level data and extend EV range

## *Accurate temperature and pressure data gives new insight into battery behavior and performance for electric vehicles*

Heidelberg, Germany – January 31, 2022 – [InnovationLab](#), the expert in printed electronics "from lab to fab", announces BaMoS, its innovative battery monitoring solution for automotive applications. BaMoS uses ultra-thin printed pressure and temperature sensors to capture detailed battery data down to the individual cell level, which can be used to extend battery lifetime by up to 40%.

The battery is the most important component in an electric vehicle (EV). Despite extensive research, not much is known about how a battery system reacts to stress tests in terms of temperature and pressure, or exactly what happens during the charging cycle. This is because data from inside a battery system is usually not easily accessible.

With BaMoS, InnovationLab now provides a system that captures detailed, cell-level pressure and temperature data, obtained from ultra-thin printed sensor foils which can be placed between individual battery cells. As battery cells expand and contract during the charge-discharge cycle, a pressure-sensitive foil can monitor this 'breathing', to measure the state of charge, detect any irregular behavior, and prevent overcharging.

This cell-level information delivers valuable insights into state of health and performance, helping R&D teams to improve their battery designs and battery monitoring solutions – including extending range for electric vehicles. The data is spatially and temporally resolved to provide an accurate picture of battery behavior.

"Measurement is the first step, that leads to improved control and battery performance," said Luat Nguyen, Managing Director at InnovationLab. "Our flexible, ultra-thin printed sensors provide the detailed, accurate data that is necessary to improve the performance and lifetime of batteries for electric vehicles."

InnovationLab offers a complete battery monitoring solution, including the sensor foils, electronics to gather and process the captured data, and software for live visualization, storage and analysis of the data. Both the pressure and temperature sensors can be customized in terms of size, resolution and substrate material to meet the particular needs of a customer.

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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<sup>2</sup> of usable space for production, development and offices, including 700 m<sup>2</sup> state-of-the-art cleanrooms. For more information, see <https://www.innovationlab.de>