

Press Release

InnovationLab GmbH

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Save the Bees: How Printed Electronics supports the Rescue of Bees

- The internal SAP project "Save the Bees" is taking action against bee mortality with the support of InnovationLab GmbH
- With printed sensors, the activities of individual beehives are recorded and made available via a mobile app
- Automatic alerts inform beekeepers directly about any deviations

At first glance, internet of things, clouds, apps, and bees do not have much in common. But with the internal project "Save the Bees", SAP employees - with the support of InnovationLab - want to counteract the bee mortality with new technology.

Acting on behalf of the bees

For years, researchers worldwide have observed a decline in the bee population. Pesticides, monocultures, deteriorating food conditions and diseases are responsible for the fact that the honeybee population in Germany has declined by almost a third in recent years and continues to dwindle. Some SAP employees, as well as some amateur beekeepers among them, attended to the problem of bee mortality and initiated the internal project "Save the Bees". Many employees from different locations, such as Heidelberg, Berlin, Walldorf and St. Leon-Rot, are already part of this project and work on various ideas and solutions in their free time.

In cooperation with the local Beekeeping Association, the first beehives were positioned on the SAP company campus St. Ingbert in autumn 2018.

Contact:

InnovationLab GmbH
Speyerer Straße 4
69115 Heidelberg

Anne-Katherine Mang
T +49 (0) 6221 – 54 19 118
anne-katherine.mang@innovationlab.de

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In order to generate data on the bee populations, through which important information or warnings can be forwarded to beekeepers via app, the project participants are currently developing a system for monitoring bee populations. With the aid of sensors, it is planned to measure temperature, humidity, hive weight and the bee activity. These data should then provide information about the relationship between the various factors and the changes in the bee population.

In the next project phase, the beehives will be equipped with printed sensors. Thus, possible solutions can be developed to counteract the bee mortality. These sensors are supplied by InnovationLab GmbH in Heidelberg, which specializes among other aspects in flexible printed sensors in the field of printed electronics.

All data are transmitted to the cloud via LoRa WAN, a network protocol. LoRa WAN enables the networking of things with the Internet with low energy consumption even over longer ranges. The data are evaluated and can be obtained by the beekeepers later via a mobile app at any time. In case of deviations, the system automatically sends warning or danger messages to the beekeeper.

Other institutions and schools are to be involved in the project in a long-term planning to make the nature and species protection more vivid to children.

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About InnovationLab GmbH

InnovationLab GmbH (iL) is a joint, application-oriented platform for research, knowledge transfer, and commercialization of innovative technologies in Germany's Rhine-Neckar metropolitan region. Emphasis is put on future technologies in the field of Printed Organic Electronics. Key to iL's mission are cooperative research, training the next generation of researchers and finally transforming inventions into marketable products. iL operates with the support from Heidelberg University, Karlsruhe Institute of Technology (KIT), BASF SE, Heidelberger Druckmaschinen AG, and SAP SE. The combination of the own and specific expertise of different partners enables the InnovationLab GmbH to accompany the entire process of a product "from Lab to Fab". iL is a unique partner for the development and commercialization of processes and systems for printed electronic structures, circuits and devices, taking customers from small volume lab scale printing to pilot line volumes and beyond.

Further information on www.innovationlab.de

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