

Press Release

New component for Industry 5.0

TECHiFAB presents electronic circuit for fully automated sensor data analysis

Scientists at Helmholtz-Zentrum Dresden-Rossendorf discovered the material for a pioneering memristor technology over ten years ago. The start-up TECHiFAB is now launching the first electronic circuit based on this invention.

Dresden, March 12, 2024 - TECHiFAB, a DeepTech start-up from Silicon Saxony, is developing electronic components and systems based on a groundbreaking memristor technology. The so-called TiF memristor processes and stores data within the same cell, thus enabling completely new data processing algorithms in electronic circuits.

On **March 12, 2024**, TECHiFAB launched its first fully operational product with TiF memristors on the Kickstarter crowdfunding platform. The COR-RiSTOR offered there is specifically designed for high-precision, real-time, pairwise correlation analysis of sensor data in the areas of predictive maintenance and infrastructure monitoring. It enables the identification of linear and non-linear correlations of data directly at the sensor with a strongly increased recognition rate when clustering the sensor data and a fundamental minimisation of hardware and energy requirements.

The COR-RiSTOR solves two of the biggest problems in sensor data evaluation:

- Firstly, in contrast to existing AI solutions based on regression analysis, with COR-RiSTOR® you can also monitor sensor data and detect unusual and drifting sensor data, thus enabling fully automatic sensor data processing for the first time.
- Secondly, unlike previous AI systems, with COR-RiSTOR® you create immediate transparency by making the pairwise correlation analysis of sensor data logically comprehensible.

"The COR-RiSTOR can become a crucial building block for Industry 5.0 thanks to its enormous potential for energy savings and high-precision data analysis in real time," says Stephan Krüger, co-founder and CEO of TECHiFAB GmbH. "Following the breakthrough in memristor technology, we made a conscious decision to launch on Kickstarter in order to gain experience with as many application and business models as possible together with international developers."

You can find out more about the COR-RiSTOR here: <https://corristor.com/nonlinear-correlation/>

About TECHiFAB

TECHiFAB was founded in 2021 by Professor Heidemarie Schmidt and Stephan Krüger and is based in Dresden, Germany, to develop innovative electronic products for real-time and resource-efficient data processing. Professor Heidemarie Schmidt and her team discovered the material for the TiF memristor at the Helmholtz-Zentrum Dresden-Rossendorf in 2011. In 2014, they showed that the TiF memristor can process and store data in real time in a cell without data transfer. In July 2021, Stephan Krüger, then Innovation Manager at the Helmholtz-Zentrum Dresden-Rossendorf, and Heidemarie Schmidt validated the functionality of the TiF memristor as part of a validation project of the Federal Agency for Disruptive Innovations Germany (SPRIN-D) and demonstrated that the TiF memristor not only meets the industrial requirements of a digital and analogue data storage device, but can also process digital and analogue data.

For more information, please visit the TECHiFAB website at <https://techifab.com/>.