CASE STUDY

Pinflow significantly improves their redox-flow batteries using multichannel MegaEIS System

Pinflow develops Energy storage systems with redox-flow technology and needs to test and improve the efficiency of the complete stack. They chose the **MegaEIS System** to measure Electrochemical Impedance Spectroscopy (EIS) of **each individual cell of the battery stack simultaneously** to enhance the performance and efficiency.

Pinflow Energy Storage is developing and producing redox-flow batteries, ranging from very small laboratory batteries to pilot-scale batteries for other scientists and companies involved in redox-flow battery research. Their largest batteries demonstrate the advantages of redox-flow technology in pilot industrial installations, such as non-flammability, high cycle load up to 15,000 cycles, and full recyclability of electrolytes in new systems. For this purpose, they need to perform numerous electrochemical measurements of their batteries at different scale levels.

„The MegaEIS system developed by Kolibrik is a real revolution in electrochemical analysis of redox-flow batteries. It allows us to measure all individual cells simultaneously, giving us a precise overview of what is happening with each cell during charging, discharging, and even at zero current. This capability was always essential for our lab-scale research but now in collaboration with Kolibrik.net we have tools that allow the complex testing of large systems, including each individual cell in our battery stack," comments Jiri Vrána, Co-founder & management, Battery integration and sales.

pinflow energy storage

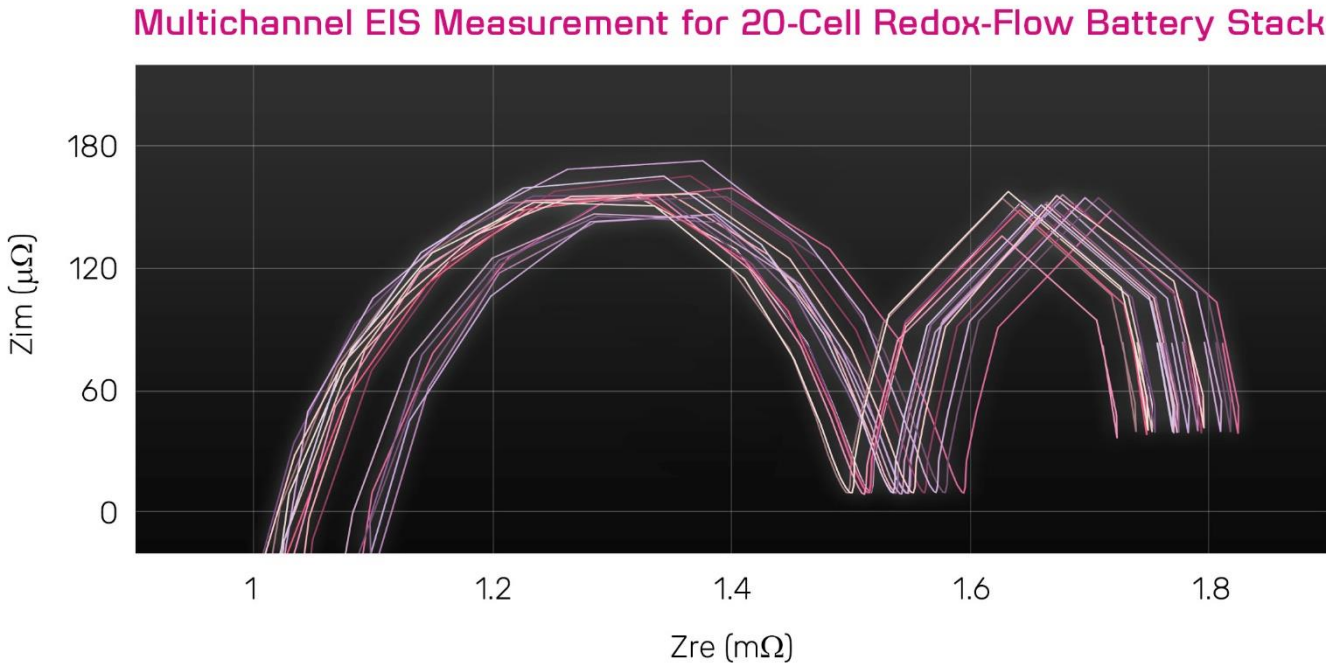
Pinflow energy storage is developing new highly efficient batteries based on redox-flow technology. Stacks with low internal resistance are built on know-how from New Technologies Research Centre at University of West Bohemia and are hearts of our batteries. With our laboratory products we also make research of redox-flow batteries easier.

About Kolibrik

Kolibrik.net offers a complete range of electronic solutions and testing equipment for the hydrogen industry, specializing in H2 technology design, optimization, high-power fuel cell stack and electrolyzer testing, stack control system development, cell voltage monitoring, power conversion, and more.

www.kolibrik.net

The MegaEIS system revolutionizes battery pack testing with the ability to gather data from all individual cells of the whole battery stack in a single measurement cycle. This state-of-the-art technology enables simultaneous EIS measurements across an impressive 300 channels, offering unmatched insights and exceptional time efficiency of the measurements. EIS analysis provides detailed characterization that allows for the optimization and improvement of the system's performance and efficiency, both at zero DC current and during charging or discharging.



"I really appreciate Kolibrik flexibility and customer focus that was clear during our last project. They helped us deliver a Multi-channel EIS analyzer within a three-week timeline and even added custom functions that our customer asked for, taking in account available time that was nothing short of incredible" adds Jaromír Pocedič, Co-founder & management, Product development.