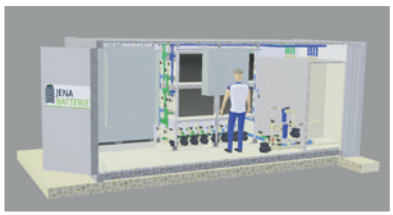

JenaBatteries: The battery of the future

We all know that we need to change some things if we want to preserve our planet. Unfortunately, the average stationary battery system is relying heavily on mining and refining in sensitive habitats and is anything but green. JenaBatteries creates revolutionary organic redox-flow-batteries based on metal-free energy storage materials, salt and water, which reduce the environmental impact and can be manufactured at a much lower cost.

TEXT: MARILENA STRACKE I PHOTOS: JENABATTERIES

JenaBatteries started as a spin-off of the Friedrich-Schiller University Jena, supported by the State of Thuringia and co-funded by the European Union. In 2015, JenaBatteries and a university research team developed an optimised economically significant version of the original redox-flow-battery.

Michael-Lothar Schmidt, business development director at JenaBatteries explains: "Our organic redox-flow-battery doesn't use heavy metals or dangerous acids such as sulphuric acid. We are completely independent of globally rising commodity prices. Our battery is also non-flammable and non-explosive, which is very important for our customers whose primary concern is the operational safety."

Large-scale energy storage solutions usually rely on one or more metals, for example lithium, cobalt or vanadium, which are economically and ecologically unsustainable for the world's energy storage needs. JenaBatteries' organic redox-flow-battery systems are based on metal-free storage materials that are produced in bulk already and require only common base chemicals as starting material. They are starting at a capacity of 40 kilowatt hours, but go up to several tens of megawatt hours. Power and capacity are scalable, independently of one another, which makes it possible to tailor the system to the customers' needs.

The battery's lifespan is above 10,000 cycles and impresses with no self-discharge. The battery is also operable without active cooling between zero to 60 degrees, which again saves costs, especially in warmer countries.

The organic redox-flow-batteries can be used in a wide range of sectors such as off-grid applications, micro-grid solutions, island grids, storage of renewable energy, load shifting and peak shaving, emergency and uninterrupted power supply, for e-mobility charging solutions and many more. It should come as no surprise that JenaBatteries was awarded the 'IQ Innovationspreis Mitteldeutschland 2015' in the category 'chemistry and polymers'.

"Currently we are setting up a highly automated production site in Germany. In parallel, Michael-Lothar is forming his sales team and growing our network of project developers and technical partners," explains managing director Dr. Olaf Conrad. "After a successful test phase in 2017 and 2018, we will manage our first large-scale projects in early 2019 and become the first choice for green energy storage solutions."

Schmidt adds: "We offer our customers a unique, future-proof and green sustainable battery. We are proud to significantly contribute to the energy transition and the efficient usage of renewable energy. "

Certainly a fantastic innovation everyone can get behind.

www.jenabatteries.com