

The Clock is Ticking: Work on the Swiss “Battery Passport” in Full Swing

- BloqSens Ltd enters a partnership with innovation center CSEM.
- Together they are developing the Swiss battery passport.
- From February 2027, all industrial batteries in circulation in the EU must be identifiable and traceable via a digital passport.

Basel, 28 May 2024 – As the EU will introduce a “passport obligation” for industrial batteries in 2027, Swiss market players will also have to adapt. BloqSens Ltd. has therefore teamed up with the technology innovation center CSEM to launch an EU-compliant digital battery passport “Made in Switzerland”.

Anyone travelling abroad must show their biometric passport, depending on their destination. This important document not only provides detailed information about a person’s identity, but also shows where they have been in the past. “Our battery passport fulfills more or less the same function for batteries,” explains Peter Krummenacher, CEO of Basel-based BloqSens AG. The company, which specializes in the development of IoT (Internet of Things) solutions, is pushing ahead with the development of the battery passport. Time is of the essence: By 18 February 2027, all industrially used batteries circulating in or exported to the EU must be identifiable and traceable via a passport.

Major consequences for Switzerland

What does the EU hope to achieve with this step – and why is this legislation also important for Switzerland? Basically, the battery passport is intended to promote the circular economy for industrial batteries. For example, a car battery can be adapted for use in a residential building. The converted battery can then be used to store solar energy. This second life cycle for resource-intensive batteries is an important step towards a more sustainable future.

Theoretically, third and fourth life cycles are possible as well. In addition to this reuse, the focus is also on the recycling of the raw materials used in the construction of the batteries,

since they contain useful metals such as nickel and cobalt, as well as rare resources such as lithium.

The battery passport issue is important for Switzerland for a very specific reason, as Andreas Hutter, Head of the CSEM Battery Innovation Hub, explains: “We have a large second-life industry in this country, which is already giving many batteries a new function and thus promoting sustainability.” This sector depends on the ability to continue exporting batteries to the EU or to source batteries from the EU. From 2027, companies in this sector will therefore also have to prove the identity and previous use of their storage systems by means of a battery passport. “A Swiss battery passport solution is therefore an important economic factor and a future competitive advantage,” emphasises Hutter.

The benefits of cooperation

In order to launch the battery passport “Made in Switzerland” on time, BloqSens Ltd. has joined forces with the battery experts at the technology innovation center CSEM. This collaboration is based on a battery prototype that is currently being developed at the CSEM Battery Innovation Hub. The prototype will be able to better map the condition of its individual cells and thus optimize its service life. On this basis, BloqSens Ltd. is developing its battery passport application. This is a key advantage: Since the CSEM prototype already represents the “smart battery of the future”, BloqSens Ltd. can design its digital passport solution to meet future requirements. The company is therefore a significant step ahead at the start of the project.

For the Swiss battery passport, Peter Krummenacher and his team are relying on a decentralized storage solution that makes use of the advantages of blockchain technology. As a result, the stored data is tamper-proof, can be updated automatically, and can be used transparently by authorized parties at any time. In the future, each battery will be labeled with a QR code that provides pre-defined user groups with specific information about the storage.

For Krummenacher, the collaboration with CSEM is a major step forward: “The experts at the CSEM Battery Innovation Hub are contributing their first-class battery expertise to our joint project, and we can take care of all the IT and security aspects.” The result is a battery passport that fulfills European requirements, represents a new seal of quality as a Swiss product, and can also classify the smart batteries of the future.

Further information

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About BloqSens

BloqSens Ltd, a young company based in Basel, Switzerland, is distinguished by its expertise in the field of distributed ledger technology (DLT). The company specializes in the development of secure and efficient data storage systems for a wide range of applications. In addition to processing IoT data for Industry 4.0, BloqSens Ltd focuses on DLT solutions for digital product passports. The digital battery passport, which is regulated and clearly defined by the EU, is a first application example. www.bloqsens.com; LI: www.linkedin.com/company/bloqsens

About CSEM – Facing the challenges of our time

CSEM is a Swiss technology innovation center developing advanced technologies with a high societal impact, which it then transfers to industry to strengthen the economy. The non-profit orientated, public-private organization is internationally recognized, and works to support the disruptive activities of companies in Switzerland and abroad. CSEM operates in the domains of precision manufacturing, digitalization, and sustainable energy. To accomplish its mission as gateway between research and economy, CSEM's 600 employees from 46 countries collaborate with leading universities, scientific institutions, research institutes, and industrial partners. With its six sites in Allschwil, Alpnach, Bern, Landquart, Neuchâtel and Zurich, CSEM is active all over Switzerland. www.csem.ch

