CircuBAT
% Bern University of Applied Sciences
School of Engineering and Computer Science
Media service

2501 Biel/Bienne

Telephone +41 32 321 63 79

mediendienst.ti@bfh.ch
circubat.ch

PRESS RELEASE

Biel/Bienne, 10 november 2025

A second life for electric vehicle batteries

Successful completion of CircuBAT: the research project aims to close the loop between the production, use and recycling of automotive lithium-ion batteries. Seven Swiss research institutions and 24 companies joined forces to develop solutions that enhance sustainability at all stages of the batteries' life cycle. The project is part of the Flagship Initiative of Innosuisse, the Swiss Innovation Agency. The closing conference CircuBAT2025 takes place on 13 and 14 November in the BERNEXPO Foyer and will address the subject through the lens of science, politics and society.

Electric vehicles are key to making mobility more environmentally friendly. In particular, their core, the lithium-ion battery, offers significant potential to further improve their ecological footprint over the entire life cycle. This is where CircuBAT comes in. The creation of a circular economy model for automotive lithium-ion batteries was successfully implemented over a period of four years. "We have developed innovative solutions that are attracting worldwide attention. These solutions represent a first step on the way to closing the battery loop with stations distributed around the globe," says project manager Andrea Vezzini of Bern University of Applied Sciences BFH.

Collaboration between research and the economy

BFH is the Leading House in the CircuBAT project. On the science side, six other Swiss research institutions are involved in the project: Empa, the Swiss Center for Electronics and Microtechnology (CSEM), the University of St. Gallen (HSG), the Eastern Switzerland University of Applied Sciences (OST), the Switzerland Innovation Park Biel/Bienne (SIPBB) and EPFL (Swiss Federal Institute of Technology) in Lausanne. These institutions are joined by 24 companies from the economy and industry, ranging from material specialists and manufacturing companies to users and providers of electric vehicles. The collaboration between science and the economy ensured that the project covered all phases of a battery's life cycle and that the solutions developed could be tested in practice. Several of these solutions are about to be launched on the market or are being pursued in follow-up projects and start-ups.

Optimisation in all areas

The CircuBAT project focuses on identifying solutions that enhance sustainability in all phases of a lithium-ion battery's life cycle. This includes extending the lifespan of batteries during their first use. This is achieved with the implementation of an interactive 'Battery Expert System', which allows a comparison in an intuitive form of the ageing process of a large number of batteries, and with new concepts for battery construction that make repairs easy. In addition, the project aims to put batteries to use as stationary energy storage systems after they have retired from their first mobility-related use.
In the course of the project, optimisation strategies for the safe and efficient operation of several battery packs with uneven degradation were implemented in a control system. Finally, the researchers developed automated solutions for demanufacturing sub-steps and new processes for direct material recovery. This aims to facilitate the incorporation of secondary raw materials into the production of new batteries and other applications. In addition to these technical aspects, the project also developed the Swiss circular economy model for lithium-ion batteries, which will enable future volumes to be estimated, for example for the Swiss second-life battery market. CircuBAT will therefore play a key role in decarbonising mobility in Switzerland and promoting the use of renewable energy.

Two-day closing conference

The two-day CircuBAT2025 event on 13 and 14 November 2025 will mark the end of one of the first projects approved by the Swiss Innovation Agency Innosuisse as part of the Flagship Initiative. The initiative supports systematic innovations in areas of relevance for a large part of the economy or society, and focuses on solutions

CircuBAT:
% Bern University of Applied Sciences
School of Engineering and Computer Science
Media service

2501 Biel/Bienne

Telephone +41 32 321 63 79

mediendienst.ti@bfh.ch
circubat.ch

for current or future challenges affecting multiple stakeholders who need to come together to overcome these challenges.
The public closing conference on Thursday afternoon, 13 November 2025, will provide a comprehensive overview of the Swiss circular economy model developed for automotive lithium-ion batteries. In addition, speakers from politics and science will provide an overview of the current status of the circular economy in Switzerland and in a global context.
The scientific part of the conference will take place on Friday, offering valuable insights into the recently developed Swiss circular economy model for lithium-ion batteries and other international projects in this field. The event will focus on the implementation of the scientific findings, with exclusive insights into the project results and personal perspectives from the experts involved.

CircuBAT closing conference:

Where: BERNEXPO, Festhalle, Bern

When: Thursday and Friday, 13-14 November 2025
- Thursday, 1.30pm to 5.30pm: open to the public; participation free or charge
- Friday: 9am to 4.50pm: open to professionals; participation subject to a fee

Programme and registration: https://circubat.ch/circubat-2025-conference/
Registration is compulsory.

For media professionals:
Thursday afternoon free of charge: Registration

Interview questions:
To bettina.huber@bfh.ch, please mention the name of the specific contact requested.

More information:
circubat.ch
Innosuisse Flagship Initiative

Contact persons

Project manager:

Prof. Dr. Andrea Vezzini, Head of project CIRCUBAT and Head of the Electrical Machines and Drives Laboratory, Bern University of Applied Sciences BFH, Engineering and Computer Science, andrea.vezzini@bfh.ch, +41 32 321 63 72

Viktor Hangartner, Project Management Officer CircuBAT, Bern University of Applied Sciences BFH, Engineering and Computer Science, viktor.hangartner@bfh.ch, +41 31 848 58 11

Material Recovery:

Dr Nora Bartolomé, Research Scientist, Critical Materials and Resource Efficiency Group (CARE), Empa, nora.bartolome@empa.ch, +41 58 765 73 25

CircuBAT:
% Bern University of Applied Sciences
School of Engineering and Computer Science
Media service

2501 Biel/Bienne

Telephone +41 32 321 63 79

mediendienst.ti@bfh.ch
circubat.ch

Cell Manufacturing:

Prof. Dr Corsin Battaglia, Head of the Materials for Energy Conversion Laboratory, Empa, corsin.battaglia@empa.ch, +41 58 765 41 31

1st Life Use:

Prof. Dr Priscilla Caliandro, Head of Energy Storage Research Centre (ESReC), Bern University of Applied Sciences BFH, Engineering and Computer Science, priscilla.caliandro@bfh.ch, +41 31 848 31 80

2nd Life Use System:

Prof. Simon Nigsch, Head of Elektrische Energiesysteme IES, OST – Ostschweizer Fachhochschule, simon.nigsch@ost.ch, +41 58 257 31 78

2nd Life Operation:

Prof. Dr Mario Paolone, Distributed Electrical Systems Laboratory, EPFL (Swiss Federal Institute of Technology Lausanne), mario.paolone@epfl.ch, +41 21 693 26 62

Andreas Hutter, Head of Energy Systems, Swiss Center for Electronics and Microtechnology (CSEM), andreas.hutter@csem.ch, +41 32 720 51 56

Module Disassembly and Components Recovery:

Christian Ochsenbein, Head of the Swiss Battery Technology Center, Switzerland Innovation Park Biel/Bienne, christian.ochsenbein@sipbb.ch, +41 32 530 88 88

Sustainable Business Model:

Dr Roland Hischier, Head of Advancing Life Cycle Assessment (ALCA) group, Empa, roland.hischier@empa.ch, +41 58 765 78 47

Prof. Dr Rolf Wüstenhagen, Co-Director Institute for Economy and Environment IWÖ, University of St. Gallen (HSG), rolf.wuestenhagen@unisg.ch, +41 71 224 25 84

Contact for media professionals:

Bettina Huber, Media Officer, Bern University of Applied Sciences BFH, Engineering and Computer Science, bettina.huber@bfh.ch, +41 32 321 63 79

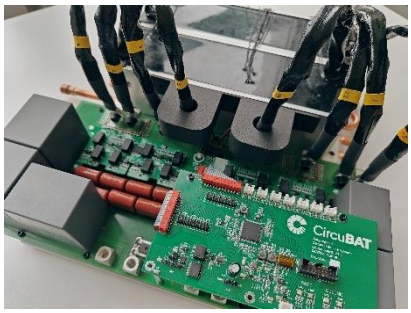
CircuBAT:
% Bern University of Applied Sciences
School of Engineering and Computer Science
Media service

2501 Biel/Bienne

Telephone +41 32 321 63 79

mediendienst.ti@bfh.ch
circubat.ch

Images



DC-DC-Converter_Simon-Nigsch-Ost_IMG20240603154159

Highly efficient DC/DC converter for second-life battery storage systems and other applications. Manufactured and sold by https://www.indrivetec.com/contact-us
©Simon Nigsch, OST.

Rueckgewinnung-Rohstoffe-Lithium-Ionen-Batterien_Innosuisse_229A2623

Nora Bartolomé (Empa) and Olivier Groux (Kyburz Schweiz AG) are working together on recovering high-quality raw materials from lithium-ion batteries. ©Innosuisse.

Technologieentwicklung-SBTC-SIPBB_Innosuisse_229A2359

In future, robots will assist in the upcycling of lithium-ion batteries. Technology development at the Swiss Battery Technology Centre (SBTC) at Switzerland Innovation Park Biel/Bienne. ©Innosuisse.

CircuBAT:
% Bern University of Applied Sciences
School of Engineering and Computer Science
Media service

2501 Biel/Bienne

Telephone +41 32 321 63 79

mediendienst.ti@bfh.ch
circubat.ch

SP2_openextruder_credit Gianfranco Guidati

Bühler AG and Empa developed a new solvent-free manufacturing process that reduces the environmental footprint and cost of battery electrode production. ©Gianfranco Guidati.