FLEXIBEL
MODULAR
INTEGRATED

SMART ENERGY and POWERSOLUTIONS

research-project >>> **series production**

Stationary battery systems

Outdoor applications

Decentralized power-distribution for mobile offices

Mobility

THE COMPANY

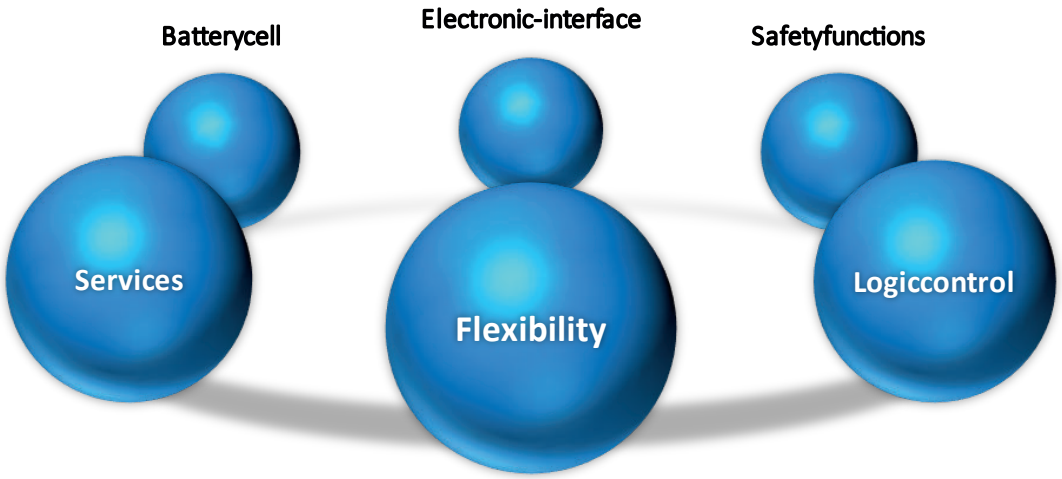
Ceus was founded in 2017 as a spin-off of the Fraunhofer Institute for Integrated Systems and Device Technology (IISB) in 2017. We work for you worldwide and offer you a comprehensive product program for an innovative battery system, services and advice.

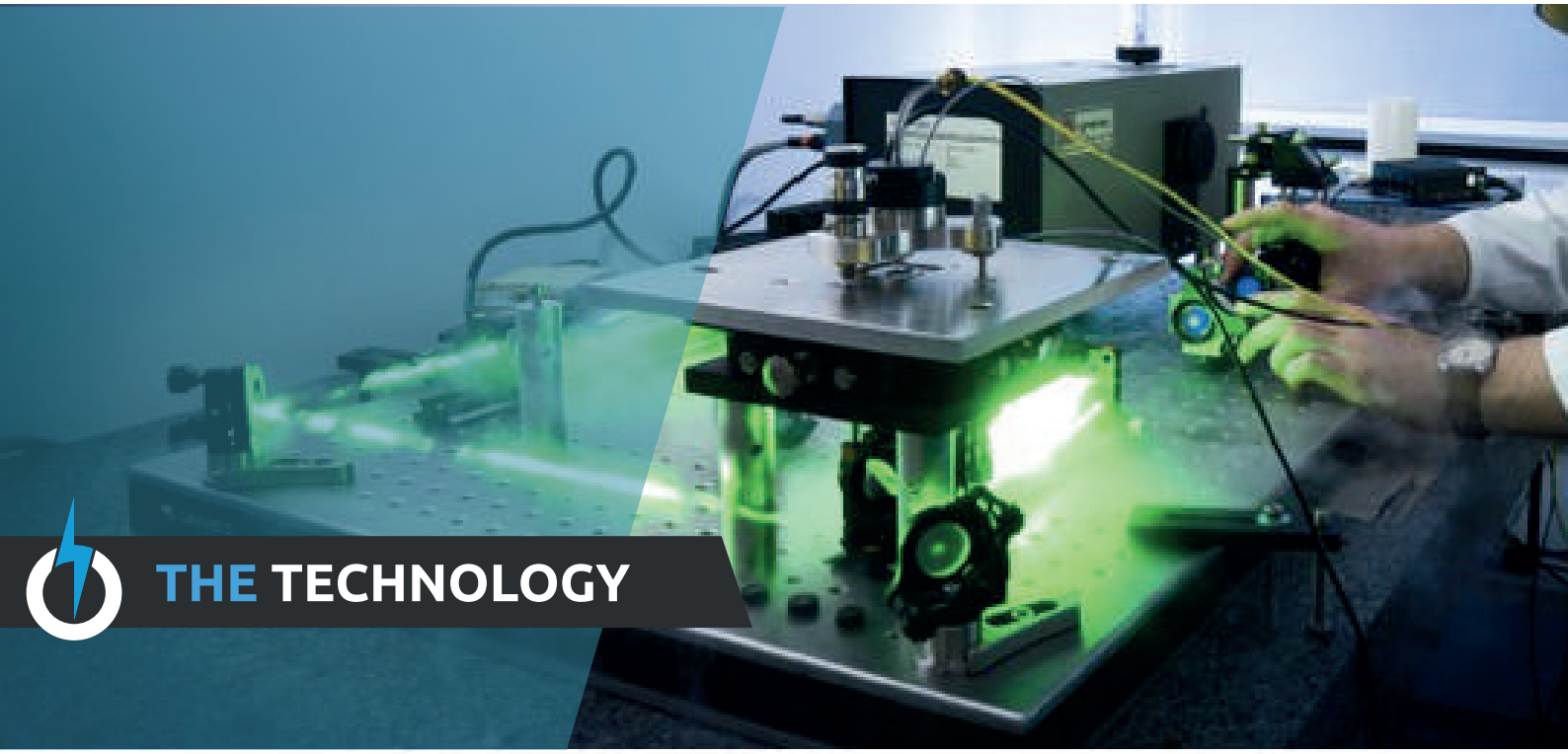
From the beginning to the end
As a reliable partner and producing service provider, we provide advice and planning for your individual battery system in all project phases. In this holistic care we see the basis for a successful, long-term cooperation.

Our main pillars:

Quality
Partnership
Service

Competence, technical know-how and a state-of-the-art production site guarantee you the fulfillment of these three promises. A network of distributors for the best service due to the close connection with the Fraunhofer IISB, we guarantee you always to follow the current state of research for consideration and future trends. The production status at Sasse Elektronik GmbH is certified according to DIN ISO 9001.





THE TECHNOLOGY

Battery cell Ceus selects the appropriate cell chemistry based on the required application. Only cells of well-known manufacturers are used. We have many years of in-house experience in the qualification of cells, as well as many years of experience in the field of lithium-ion technology (maximum energy density with minimum weight).

Electronic-interface All products have an integrated charge controller with a wide input voltage range and standard interfaces (USB type C / A). The charging interfaces can be freely selected. The load interfaces are hardware or software encoded. Battery can only be charged with a permitted charger.

Logiccontrol There is a steady development in the fields of SoC (state of charge) and SoH (state of health). All devices are equipped with common communication interfaces such as CAN bus. The installation of various software updates via bootloader is possible. In addition, serial numbers can be implemented.

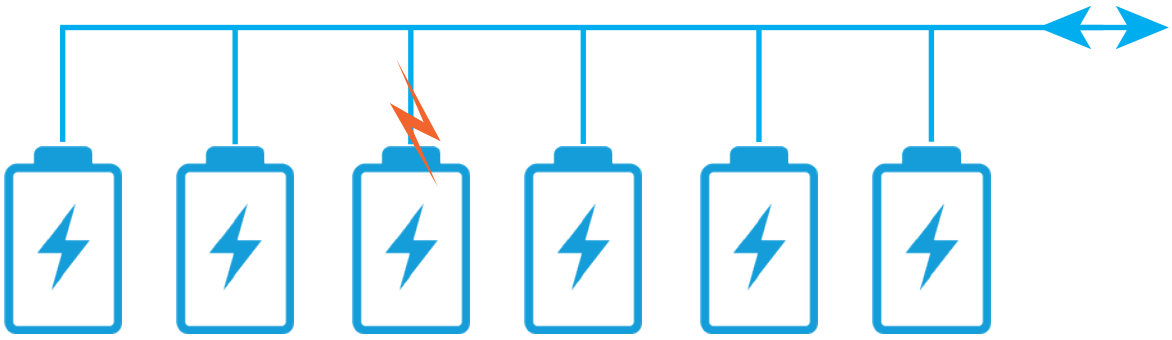
Safetyfunctions All applications offer a multi-level security system (hardware and software-based). Various protection mechanisms are incorporated, such as overcharge voltage detection, underdischarge voltage detection, current detection, short circuit detection and temperature detection. Furthermore, user-defined security functions can be taken into account. Another security measure is the redundant system structure, which will be explained in detail later.

Service We offer a qualified return process as part of its quality management. Um Sie bei allen Stufen des Produktlebenszyklus best möglich begleiten zu können besitzen wir ein strategischesPartnerschaftsnetzwerk, wie beispielsweise bei Logistic und Transport.

Flexibility All modules are modular networkable and applicable to different scenarios. This can be looked at more closely on page X below.

Systemdesign with multible redundancy

Possible errors will not cause a whole system shutdown, just a local area where the error exists. The products have an emergency operation mode if an error occures.

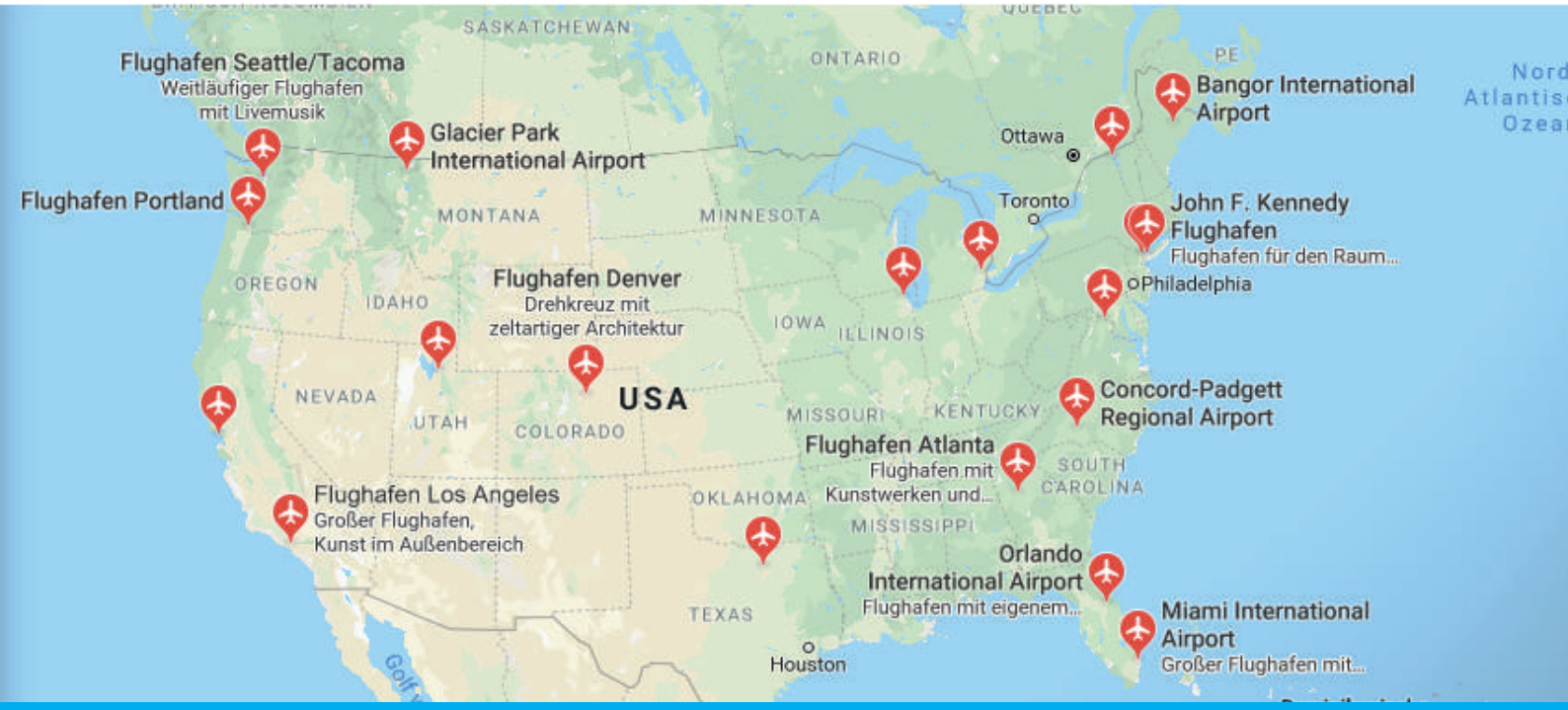


Possibility for aircraft transportation

We increase the flexibility for the transportationways by deviding the batterysystem in smaller units, below the IATA limits for Li-Ion units. As a result of the new flexibility we can reduce time and cost in case of an error.

IATA Limits for batteries with or in system packaged and energyvolume over 100 Wh:
passanger aircraft - 5 kg per unit
cargo aircraft - 35 kg per unit

Both facts are the main part of your maintenace concept



THE PRODUCTION

Production Service Provider

The produktion will take place at the experienced medium-sized company Sasse Elektronik GmbH, as member of our company organisation. We stay in close contact and monitor the processes at any time on-site. They manufacture to high quality standards, which are verifiable and demonstrably at any time .

Development according to IEC 60601 for medical devices
Risk management according to DIN EN ISO 14971
Software life cycle according to IEC 62304
Usability according to IEC 62366
CE- and FDA-compliant development documentation
Device Master Record / Device History File
Verification
cGMP
Quality management system according to DIN EN ISO 13485

Our production volume can be increased without any problems, from small pieces up to large series, and Just-in-Time. You are welcome to look at the modern production plant in Schwabach (close to Nuremberg, based in the metropolitan area).
For more information:
https://www.sasse-elektronik.de/en/manufacturing/quality-management/

USAGE OF OLD BATTERIES

Active environmental protection

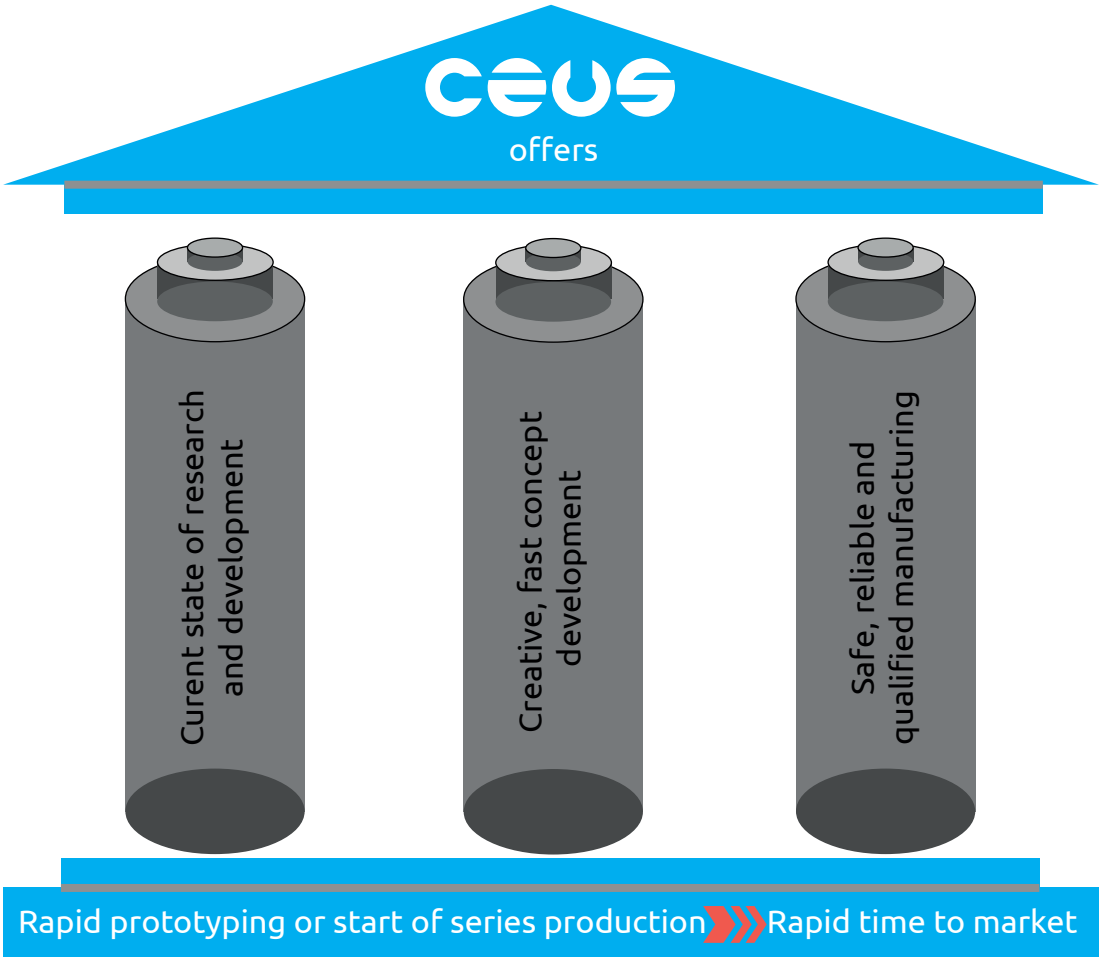
Ceus has specialized in the reuse of used batteries in addition to the distribution of high-quality battery systems. Thus, we contribute significantly to waste prevention in the sense of the circular economy law.

Used batteries of different cell chemistries can be used in combination for large stationary storage. As you can see, your used industrial batteries are in best hands. We work exclusively according to the legal requirements and strive for a clean environment in which our future generations can still feel comfortable.

ESSENTIAL BENEFITS

We can offer a whole product-life-cycle

We want to be the perfect partner for you in the development and delivery of a perfectly fitting battery. For the following reasons you should choose Ceus.



CEUS
Clevere Energie und Speicherlösungen

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