

SAFE FLEXIBLE TAILORED

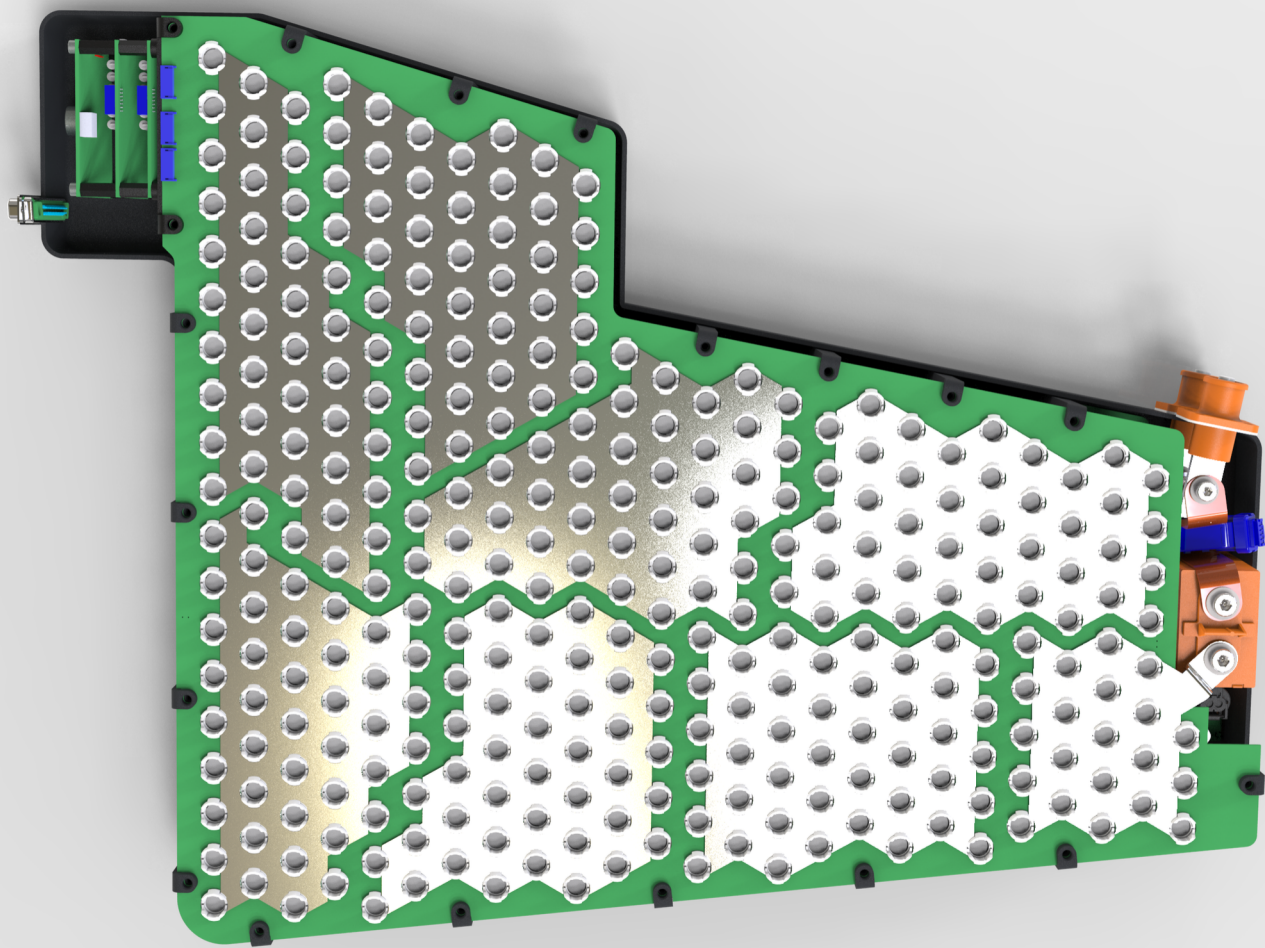
BATTERY SYSTEMS BY



EMECTRIC

tailored → batteries

www.emetric.com



ABOUT US

FROM AN IDEA INTO THE AIR

The EMECTRIC battery system was designed during the development of an electric propulsion system for gliders. Therefore, our battery system is characterized by the highest demands of performance, weight and safety standards. It was particularly important to us to be able to assemble geometrically different battery modules as flexibly as possible in order to make drive systems for different aircraft types possible. The final result? A lithium-ion battery system was created, which can be completely tailored to each customer's unique requirements.

So whether you need a solution for aerospace applications, e-mobility or other electrification projects, we have the solution for you.

We design the battery while you stay in control of the space – without having to invest in molds. The battery grows easily with your project - so you remain flexible throughout the project, until the final space is fixed.

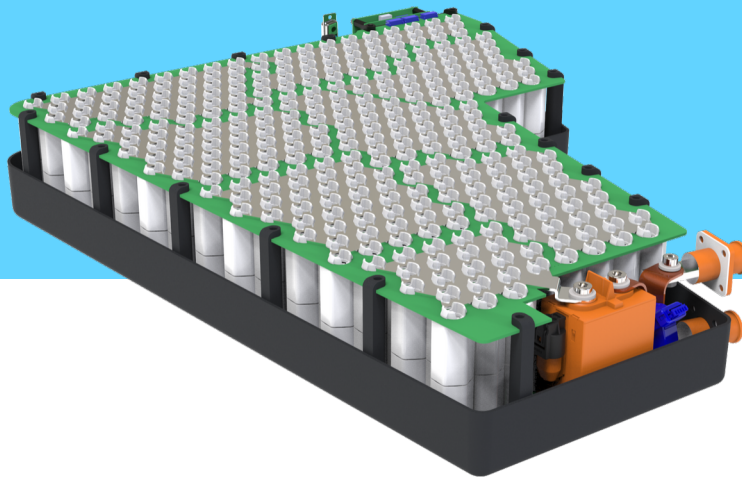
At the same time, you benefit from the lowest possible investment costs.

SAFE

- Stable and solid structure
- Single cell fuses
- High protection against TR cascading
- Battery Management System

FLEXIBLE

- Modules are individually separable from the overall system
- Perfect space Adaptation through round cells
- Modular design allows individual system topology
- Ideal system from prototype to series



POWERFUL

- Gravimetric energy density: 200 Wh / kg (high current) up to 233 Wh / kg (high energy) at system level
- Volumetric energy density: 350 Wh / l (at system level)
- Global standard of lithium-ion round cells - so you can upgrade to new cell chemistries as soon as they are available

OPTIMAL INTEGRATION AND COST

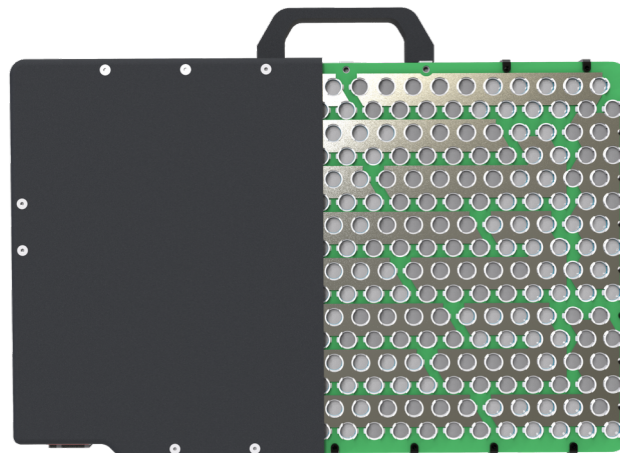
- CAN bus freely configurable
- Optional cockpit instrument for visualization of the battery data
- Minimal initial investment for prototypes

DATA SHEET

CUSTOMIZED BATTERY



Nominal capacity	tailored to customer needs
Voltage (nom.)	24 bis 1000+ V
Module configuration	Individual
gravimetric energy density	200 - 230 Wh/kg
Cell technology	Lithium-Ion (NCA/NMC)
Cell type	Round cells 18650; 21700
Weight	according to space requirement
Measurements	according to space requirement
Battery management system	Cell voltage monitoring Temperature monitoring SOC estimation SOH estimation Shock monitoring (also with BMS disabled) Galvanically isolated CAN Interface Overcurrent protection of the battery BMS prevents overcharging, overdischarging, charging after overdischarging For cell symmetry we apply passive balancing
Safety characteristics	Single-cell fuse, fire protection matrix, safety enclosure, main contactor, high-end connector
max. continuous discharge	until 3C
max. continious charge	until 1C
Charge voltage	4,2-1000+V
Temperature management	passive or active
Lifetime (up to 80% capacity)	up to 3000 Zyklen
Operating temperature	- 5°C - +50°C
Conformity	accoring to customer requirements (e.g. EASA CS-22)



WE ACCOMPANY YOU THROUGH THE
WHOLE PROJECTE

ENGINEERING



**RAPID
PROTOTYPING**



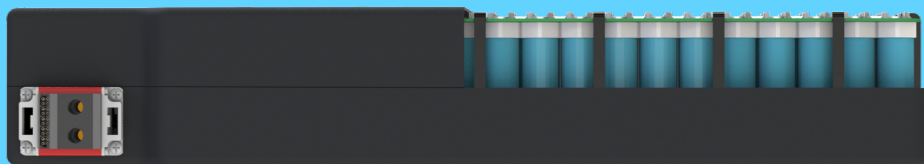
CERTIFICATION



**SERIES
PRODUCTION**



SERVICE



EMECTRIC

CONTACT US

TTI - TECHNOLOGIE-TRANSFER-INITIATIVE GMBH AT THE UNIVERSITY OF
STUTTGART

TGU EMECTRIC

NOBELSTRASSE 15

70569 STUTTGART

TEL.: +49 151-74385393

E-MAIL: INFO@EMECTRIC.COM

WWW.EMECTRIC.COM