

# CMBlue Energy

Energy Storage  
Inspired by Nature

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Linz, 19 March 2024



# Management Board

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**Dr. Peter Geigle**

Founder & CEO

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25 years of experience in biotech  
Founder of the biotech company  
'CellMed'

Multi entrepreneur with  
successful exits



**Dr. Nastaran Krawczyk**

CTO

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PhD in Physical Chemistry,  
University of Giessen  
With CMBlu since 2015



**Gabriele Schallegger**

CFO

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Master Degree in Economics  
20 years experience as CFO and  
Managing Director  
Various successful capital  
markets transactions



Energy storage will be critical to the world's decarbonization goals, but...

...existing energy storage technologies won't be enough due to their reliance on increasingly expensive scarce material.



# The Future of Energy Storage is Organic



## Safe

No Fire Risk  
No Explosion Risk  
No Toxic Fumes  
Moderate pH



## Sustainable

Environmentally Friendly<sup>(1)</sup>  
> 90% Sourcing and Value Creation Locally<sup>(2)</sup>  
No Rare or Conflicted Materials  
Fully Recyclable Components  
Small Footprint



## Scalable

Power and Capacity Independently Scalable  
No Limitation in Size  
Modular Design  
Modular Production

Source: TÜV SÜD, CMBlu Energy, company presentations and publicly available information.

<sup>(1)</sup> CMBlu's batteries have a much smaller CO2 footprint in manufacturing than existing batteries and maximize the potential of renewable energies.

<sup>(2)</sup> CMBlu's batteries are designed in such a way that over 90% of materials required for the manufacturing process can be sourced locally; this fact applies to the finished product in 2025.

# Company Profile and Overview

## OWNERSHIP STRUCTURE

The company is privately owned by five very experienced shareholders.

The company has the structure to go public:

- Fully audited, IFRS, simple structure, no legal cases, qualifies as FPI
- Incorporated in 2014
- HQ: Alzenau, Frankfurt area, Germany
- CMBlu, Inc.: Petaluma, California
- Employees: 180+
- Equity: USD > 200m
- No debt



To be continued...

# Development of the Technology

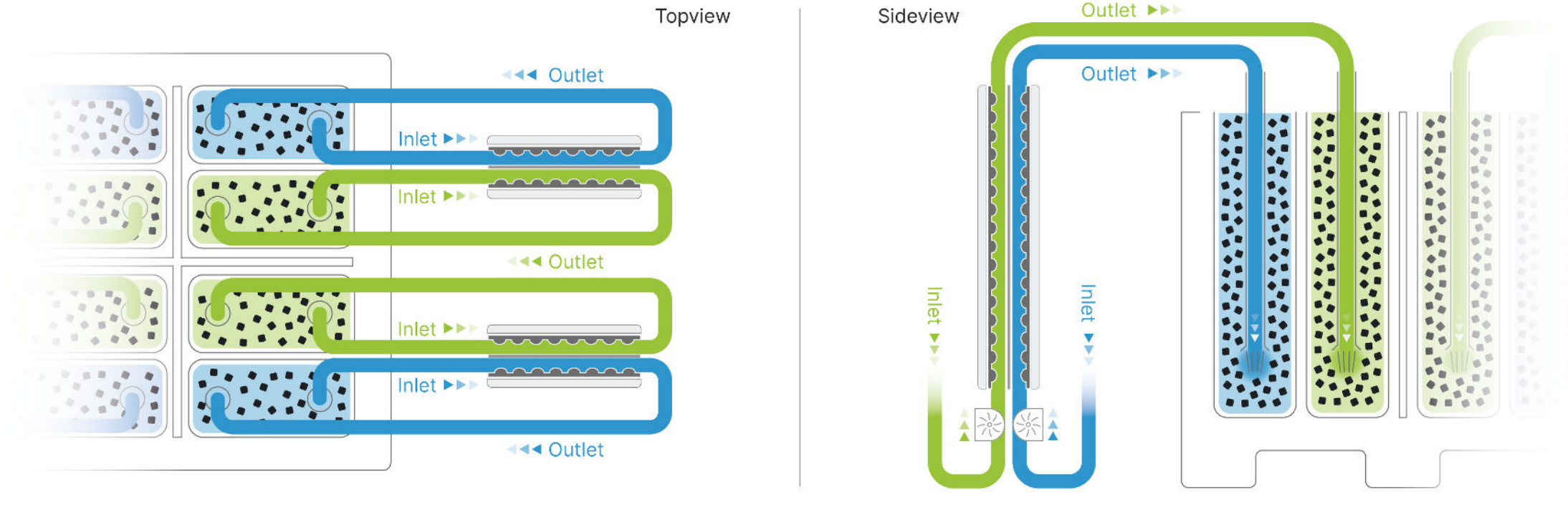
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- We have started on a white sheet of paper
- CMBlu Energy runs one of the largest non-lithium battery labs worldwide with more than 100 scientists
- We continuously test 80+ batteries of all sizes in-house
- We have collected data from >1.5 million hours battery life in hundreds of thousands of cycles
- We have a state-of-the-art pilot production line since 12/2020
- We are audited according to ISO 9001 – ISO 14001 – ISO 45001



# The Organic SolidFlow Battery

CMBlu's Revolutionary, Proprietary Technology



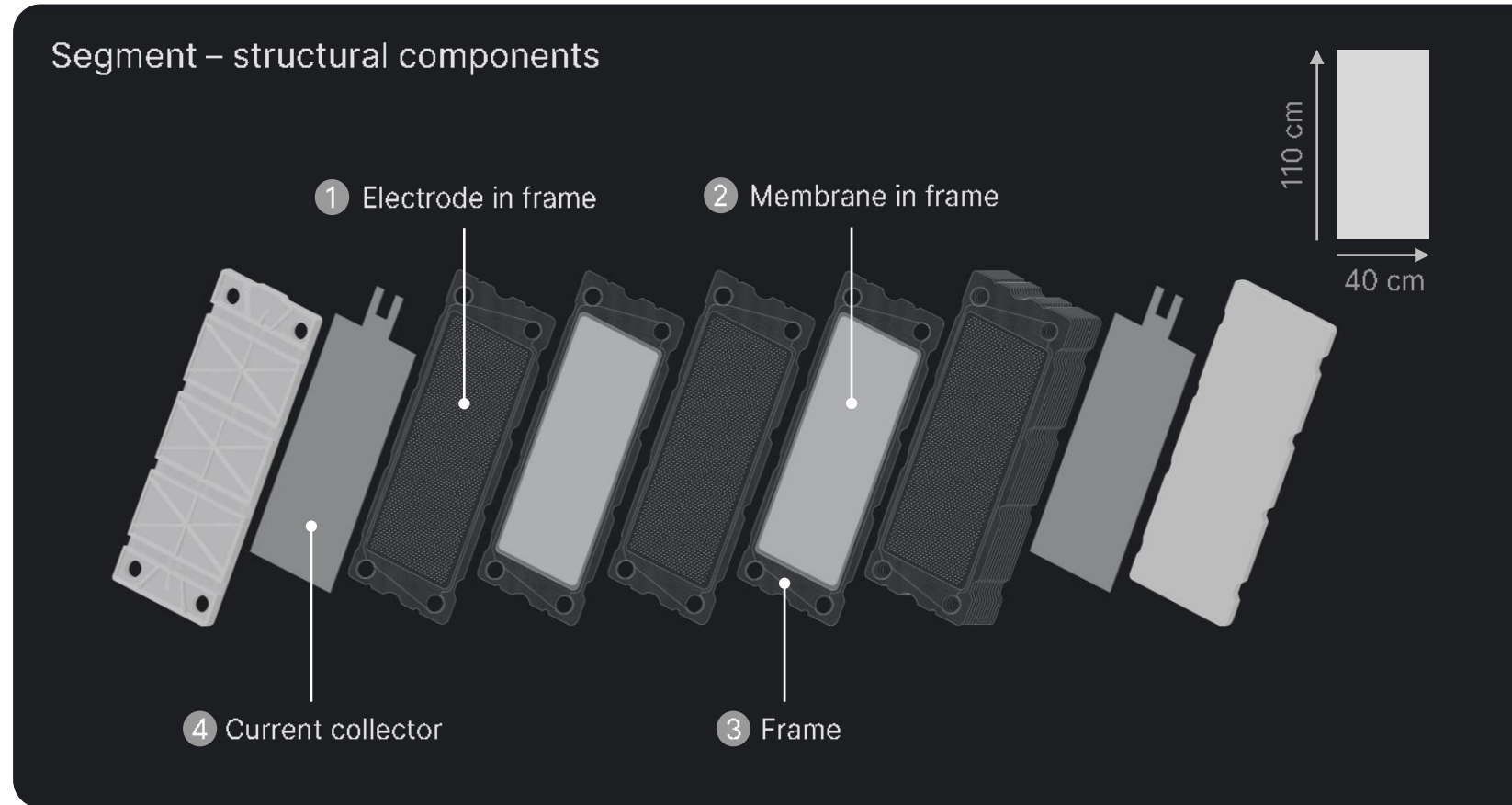
# Innovative Carbon-Based Organic SolidFlow Battery Design

Designed to be modular and easy to source locally at best cost

A battery segment consists of serially connected half cells with the following components:

- 1 Electrodes (carbon-based)
- 2 Membranes (carbon-based)
- 3 Frames (polypropylene)
- 4 Current collector

- Simple & stable
- Cost-efficient material
- Recyclable
- Regional sourcing
- No rare or conflicted materials
- Longer service life due to welding





# High Density Storage Using Organic Polymers

CMBlu Technology Combines “Solid State” and “Flow Battery” Technology

## High-performance Flow System

- Aqueous system
- Safe, non-flammable
- Low concentration

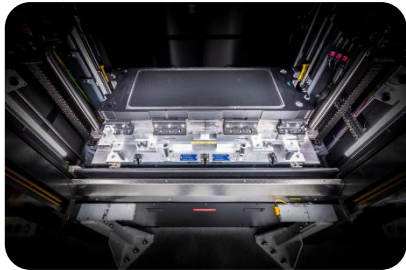
## High-capacity Solid Storage System

- We use carbon-based polymers
- Very high capacity > 200 Wh/kg
- Up to 98% of the energy is stored in the solid
- Solid electrolyte is decoupled from the segment
- Powerful, stable, low-cost



# Highly Scalable Manufacturing

CMBlu designed a highly efficient, scalable and automated automotive-like production process



## Automated

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Highly **automated, cost-efficient** production in **low labor-intensive** production cells



## Scalable

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“Copy Exact” production blueprint, enabling **the same** manufacturing dynamics and modular scalability



## Efficient

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**Improving production process** continuously leading to higher power output of next generation segments



## Safe

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Significantly **lower safety and environmental requirements** compared to lithium battery production



## Independent

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**Supply chain security** due to local sourcing of materials, **independence from rare or conflicted materials**

# CMBlu Energy

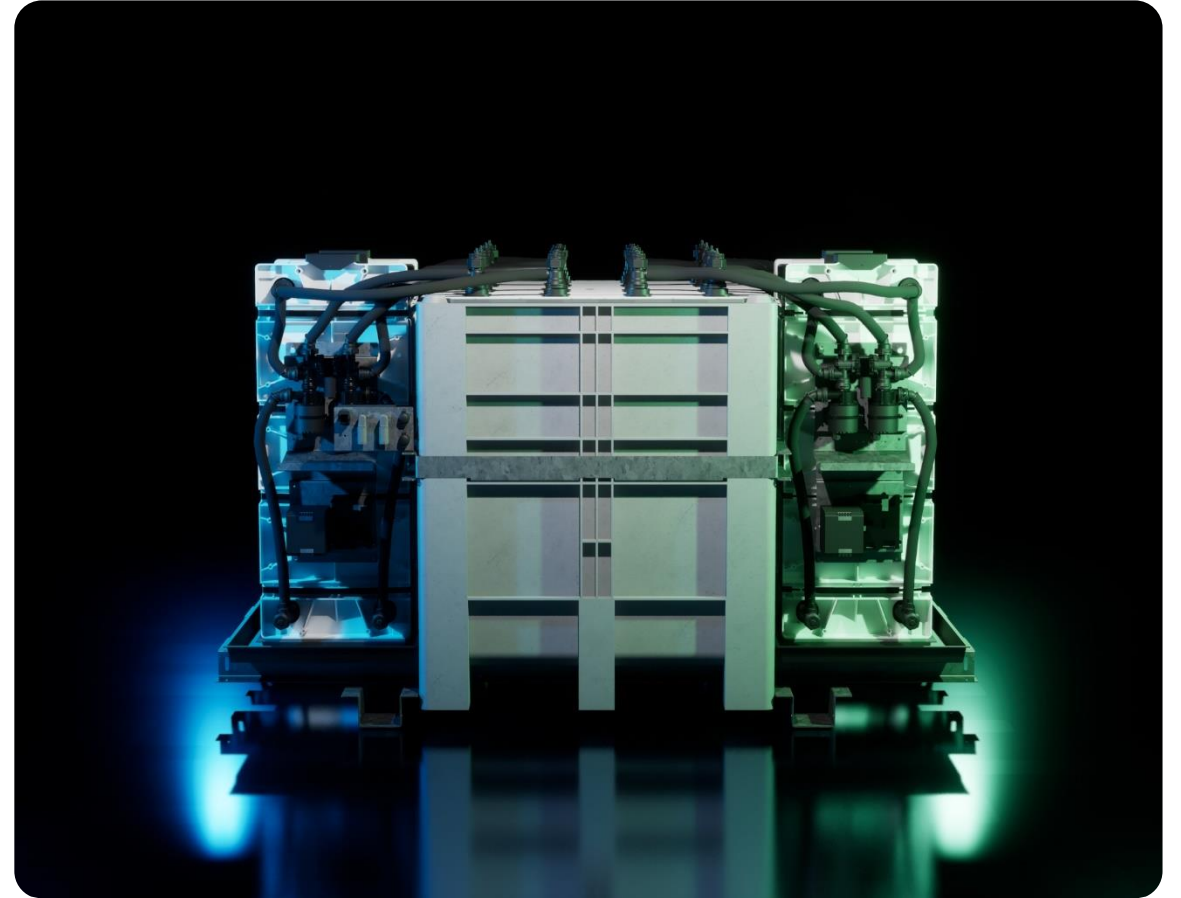
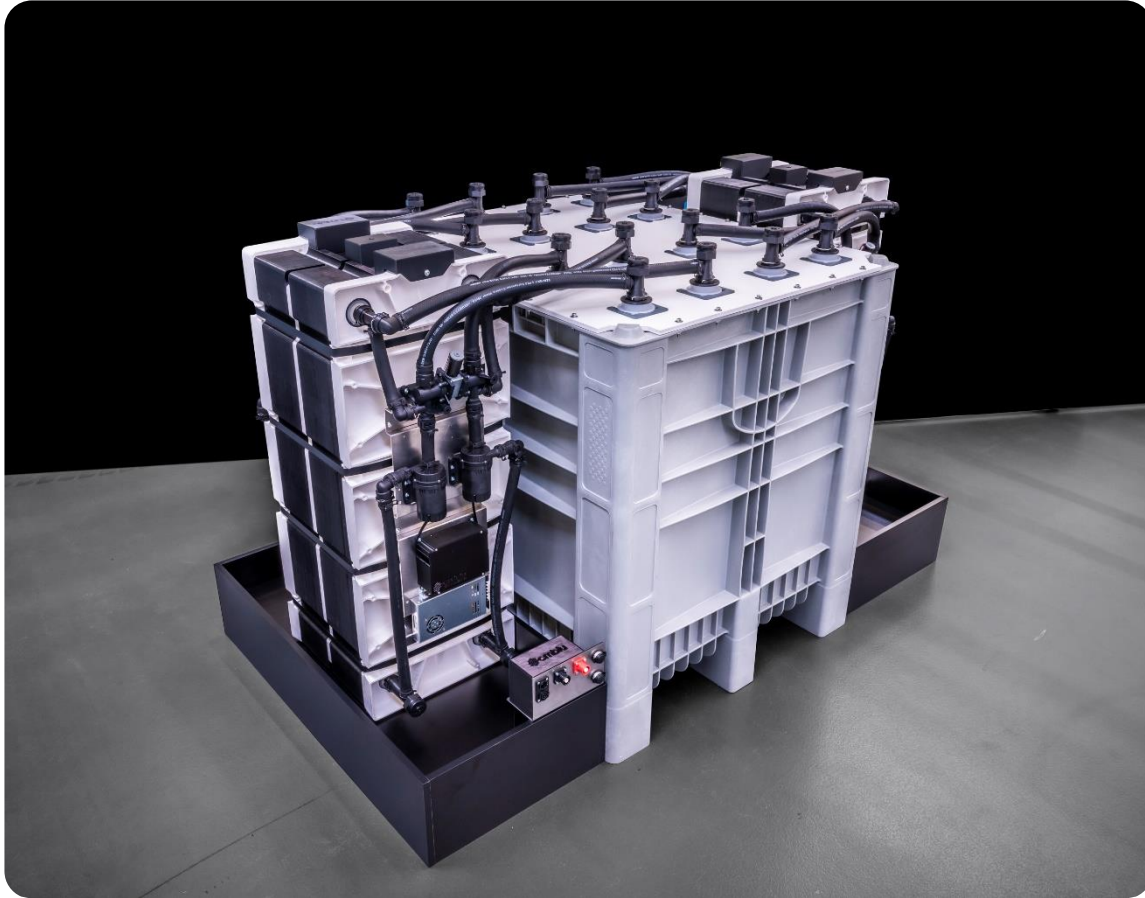
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Produktimpressionen

2024

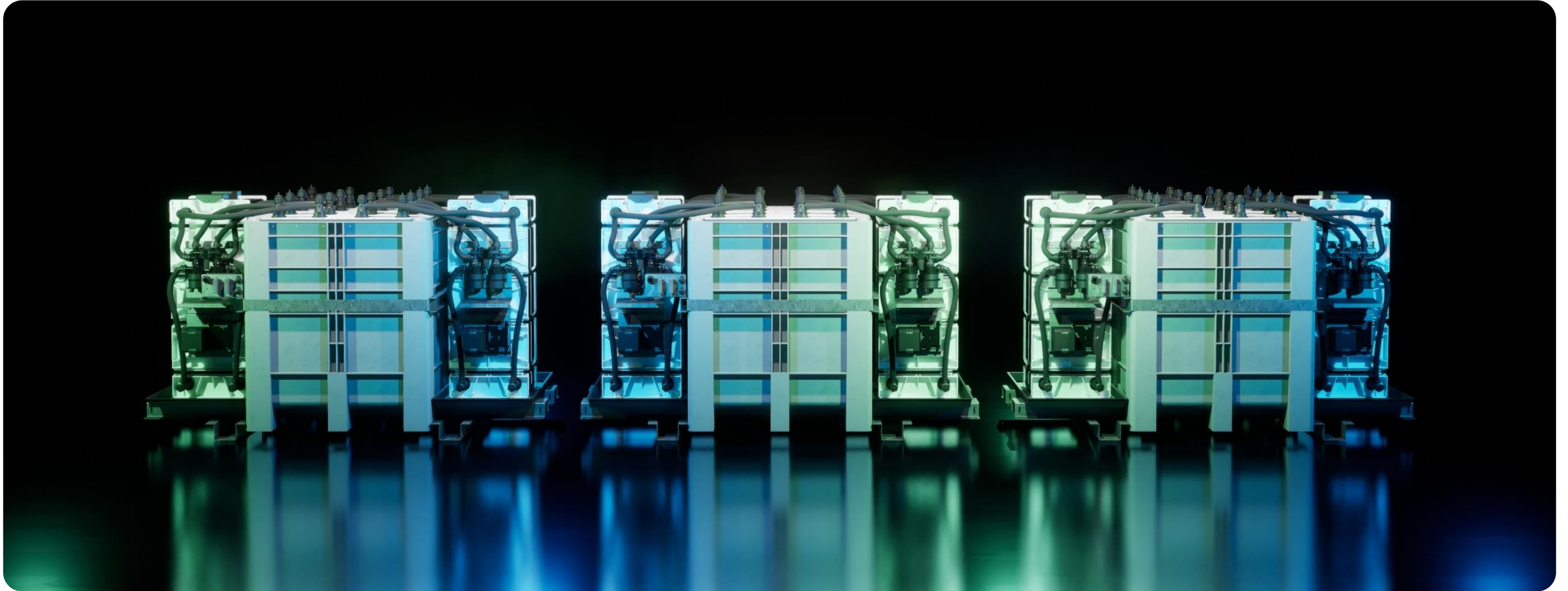
# The Module

40 kW / 5 h storage / 200 kWh



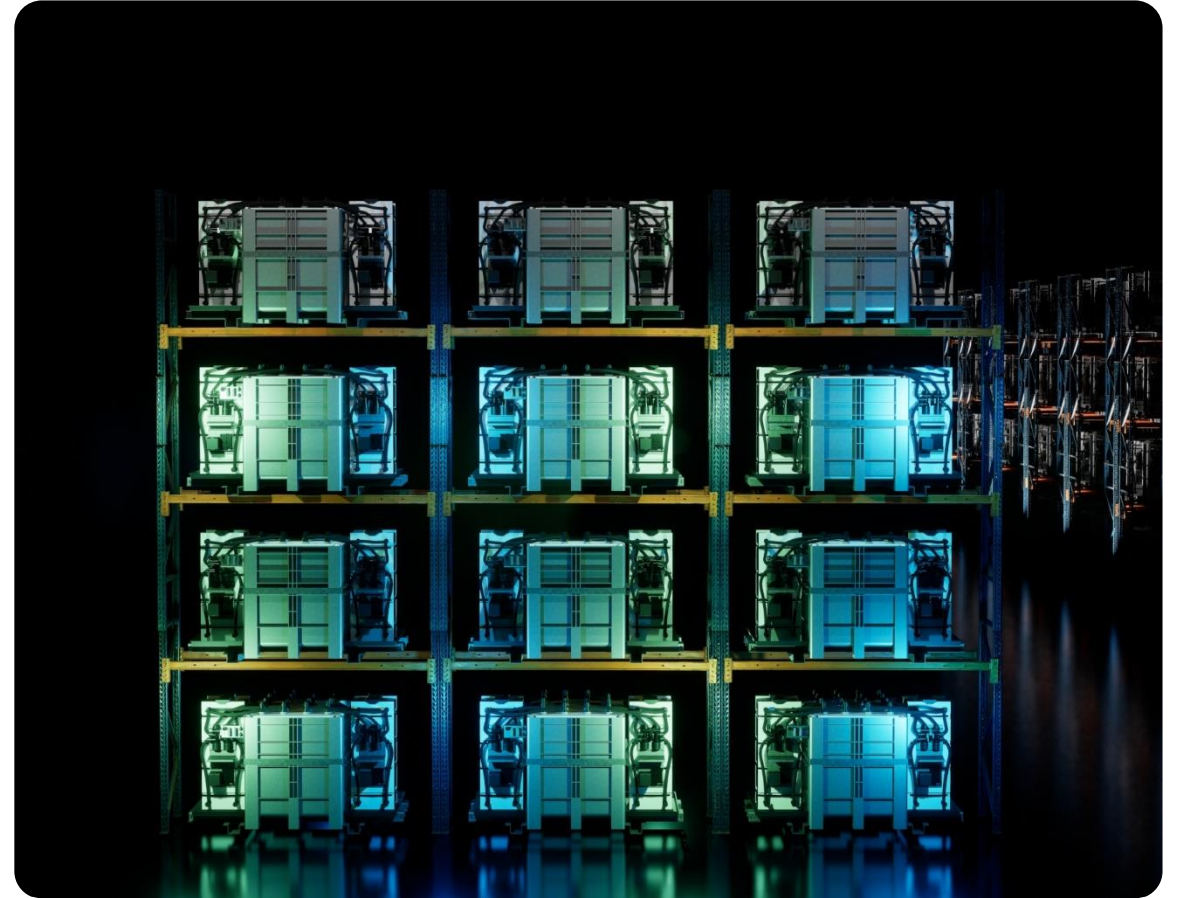
# The String

3 connected Modules: 120 kW / 600 kWh



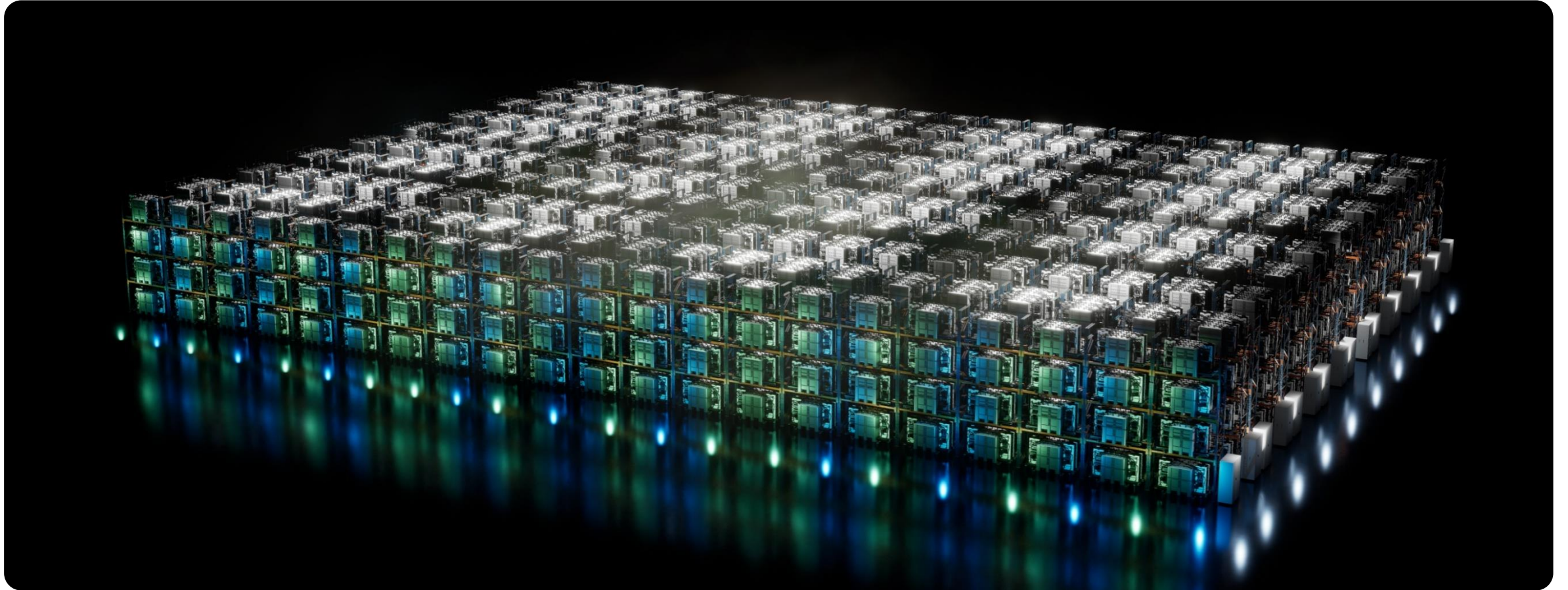
# The Storage

4 Strings: 2,4 MWh



# The Powerhouse

60 MW / 300 MWh



# CMBlu Modularity

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## **A warehouse for electricity**

50 MW – 250 MWh

- Compact
- Safe
- Sustainable
- Ultra-redundant
- Intermediate storage of very large amounts of energy





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Thank You