



# VASCO DA GAMA COLAB

## INNOVATION FOR A BETTER WORLD

### SCALABLE ENERGY STORAGE TECHNOLOGY INNOVATION



# VASCO DA GAMA COLAB — ENERGY STORAGE

Vasco da Gama CoLAB (VG CoLAB) was established in 2019 as a collaborative laboratory, recognised by FCT (Foundation for Science and Technology) and supported by ANI (National Innovation Agency) in Portugal.



VG CoLAB is positioned in the centre of the electrochemical energy storage value chain.

## OUR MISSION

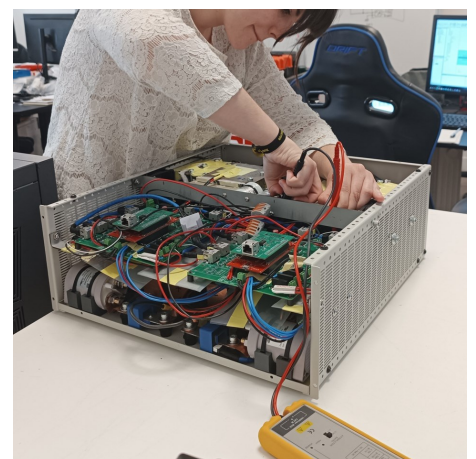
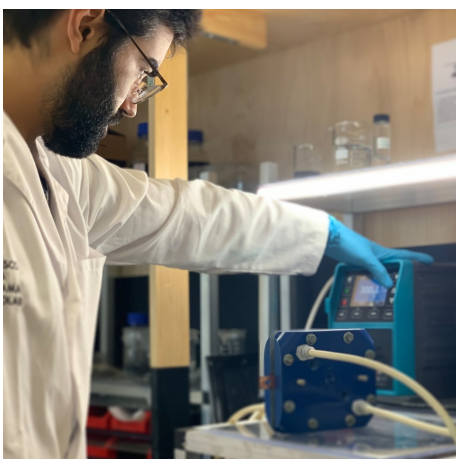
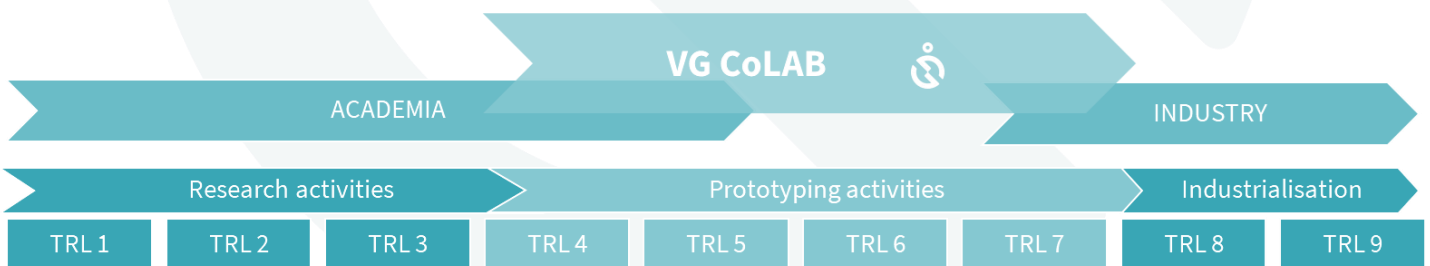
We develop value-adding innovative technologies, techniques, and prototypes in scalable energy storage, power conversion, and software (interfaces, configuration and sizing tools).

Integration

Hybridisation

Interface

We accelerate and derisk the technological **scale-up** and the **time-to-market** for our associates and ecosystem partners to foster the overall societal effort to **facilitate the energy transition**.



# VG CoLAB POSITIONING IN THE VALUE CHAIN



**Cell scale-up**

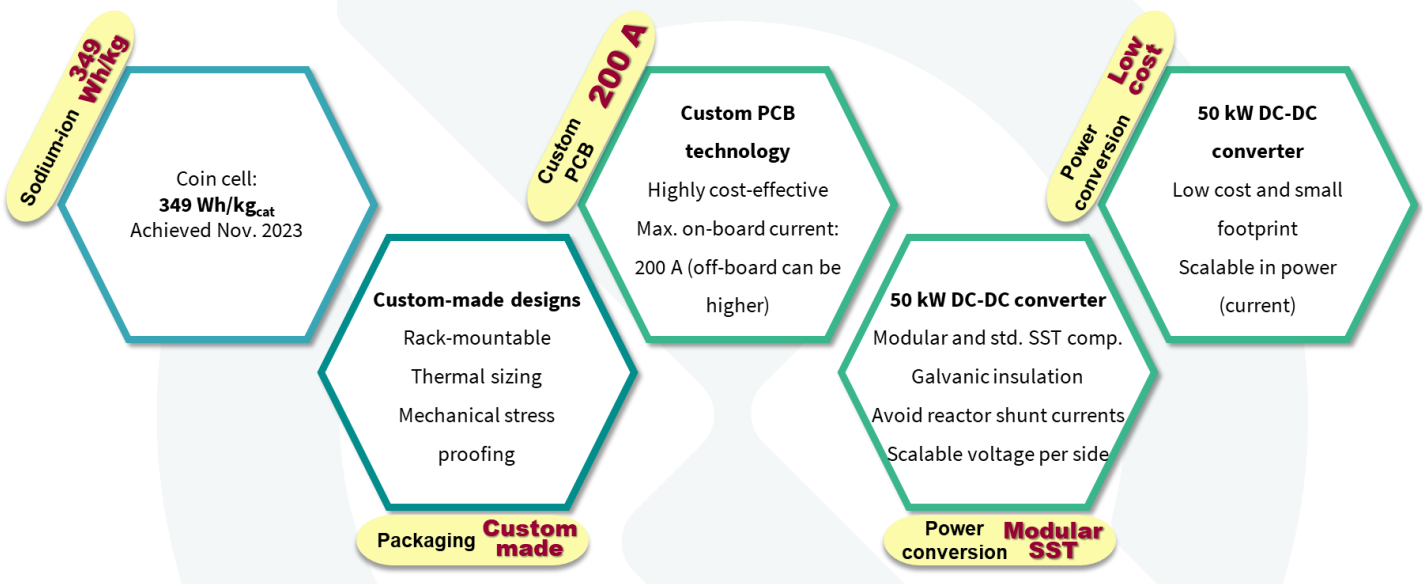
- Sodium-ion Batteries
- Supercapacitors
- Redox Flow Batteries

**Modules and Packs**

- Design & development of modules and packs
- Battery Management Systems

**Power Electronics and Grid Interface**

- Modular configurable converters
- Distributed & decentralised control in microgrids
- BESS sizing tools



## INNOVATIVE SOLUTIONS SHOWCASES

Automated Tools for Battery Testing

Battery Scale-up: Optimisation of Materials and Processes

Sizing Tools for BESS

INPUTS	Energy Storage System sizing tool	OUTPUTS
<ul style="list-style-type: none"> <li>Load Profiles</li> <li>Generation profiles</li> <li>Energy Cost</li> <li>Contracted power</li> <li>Goal (NZE, peak shaving, load shifting, etc.)</li> </ul>		<ul style="list-style-type: none"> <li>Battery optimal solution (power/energy)</li> <li>Financial metrics</li> <li>System performance metrics</li> </ul>

Hybrid Energy Storage Systems

Tailor-made Modular Converters for Advanced Applications

Cell-Agnostic Battery Management Systems

# COME AND NAVIGATE WITH US!

Join VG CoLAB to drive progress and innovation towards providing technical and business energy storage solutions for a sustainable energy transition.

## SPECIFIC COLLABORATION OPPORTUNITIES FOR ASSOCIATES AND PARTNERS

### R&D and Technology Transfer:

- Collaborative R&D projects
- Prototype incubation & dev.
- Market intelligence services

### Business Support and Networking:

- Scientific and supply chain partnerships
- Market access support
- Business networking events/workshops

### Training:

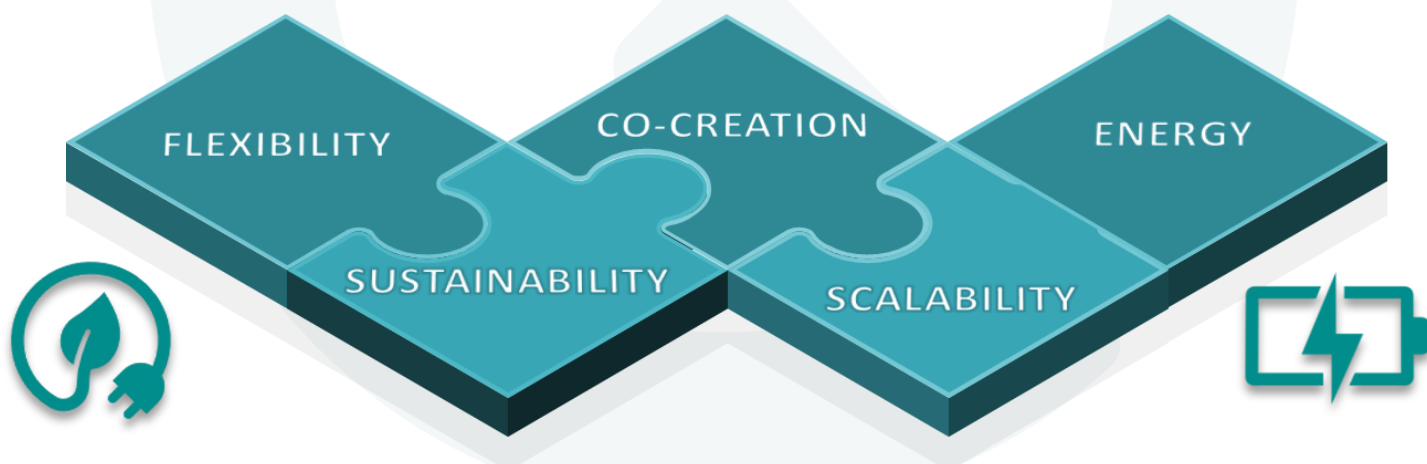
- On-the-job and off-the-job training.
- B2B hiring (hire, train, and transfer)

### Services:

- Electrochemical characterisation
- Solution testing and validation
- Pilot testing and pre-SAT support
- Support to innovative regulatory implementation (e.g., battery passport)
- Tailor-made system design

### International Collaboration and Regulation:

- Strategic proxy and soundboarding
- Interface to EU relevant stakeholders
- Regulatory compliance support



## CONTACT US

Vasco da Gama CoLAB — Energy Storage — Associação

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# Main NextGenerationEU / RRP Projects 2024

## NGS

### New Generation Storage



- Microgrids for **EV charging supported by stationary batteries**
- **Detachable/swapping** battery module solutions
- **Hybrid energy storage systems:** complete packaging, energy conversion and grid-tie solutions

## CVB

### Battery Value Chain – Portugal



- Scale-up of **sodium-ion batteries** without toxic or critical raw materials
- Designing and building of a pilot production line, to accelerate battery development in Portugal

# Prototypes and Demos 2024



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