



busworld.

EUROPE 2025

CONGRESS

BRUSSELS, BELGIUM 6-9 OCT 2025

in collaboration with:



EUROPEAN ZERO EMISSION BUS CONFERENCE 7th - 9th Oct 2025 @ Busworld Europe Brussels

Organised by



BUSWORLD
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the global bus alliance

SESSION #10

11:00 – 12:30

Navigating Battery Degradation, Safety, and End-of-Life Management

PLENARY SESSION



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Optimising Battery Life and Operational Efficiency with Smart Systems

Dr. Wenjuan Mattis

Chief Technology Officer, Microvast



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The BatteReverse Project

Rose Gregorio

Communication, Dissemination and Exploitation Officer,
EIT Urban Mobility



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Facilitating sustainable and efficient battery reverse logistics

Rose Gregorio, EIT Urban Mobility

Zero Emission Bus Conference, 9 October 2025



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This project has received funding from European Union's Horizon Europe Programme under grant agreement n°101103706. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Commission. Neither the European Union nor the granting authority can be held responsible for them.

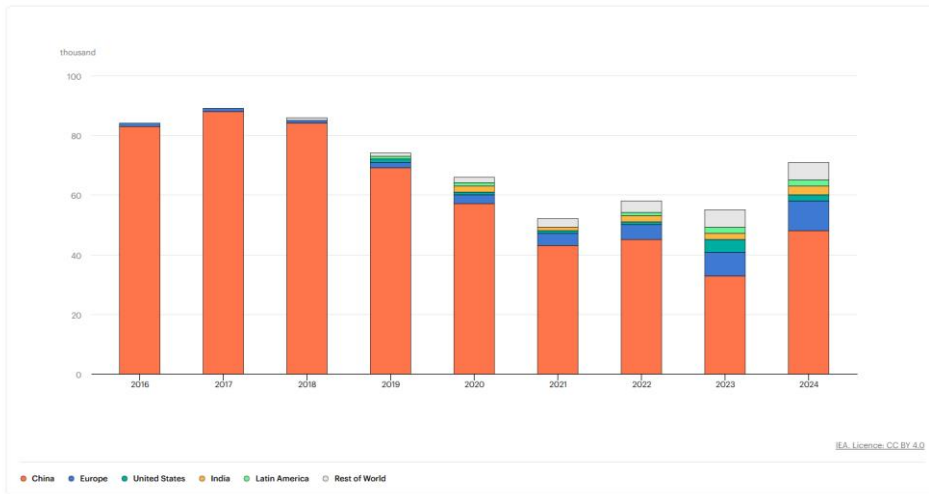
The importance of buses

- Most widely-used form of public transport in the EU
- Cost-efficient and flexible
- 327 billion passenger-kilometres
- 452 million metric tons of CO2 emissions



E-buses are on the rise in Europe

Electric bus sales by region, 2016-2024



IEA 2025; Electric bus sales by region, 2016-2024, <https://www.iea.org/data-and-statistics/charts/electric-bus-sales-by-region-2016-2024>, License: CC BY 4.0

What happens when e-bus batteries die?



About BatterieReverse

A background image showing a person's hands working on a large, rectangular Li-ion battery pack. The person is using a screwdriver to work on the internal components of the battery, which is held in a metal frame. The battery has many small, orange-colored cells visible on its surface.

Unlocking the full potential of Li-ion batteries

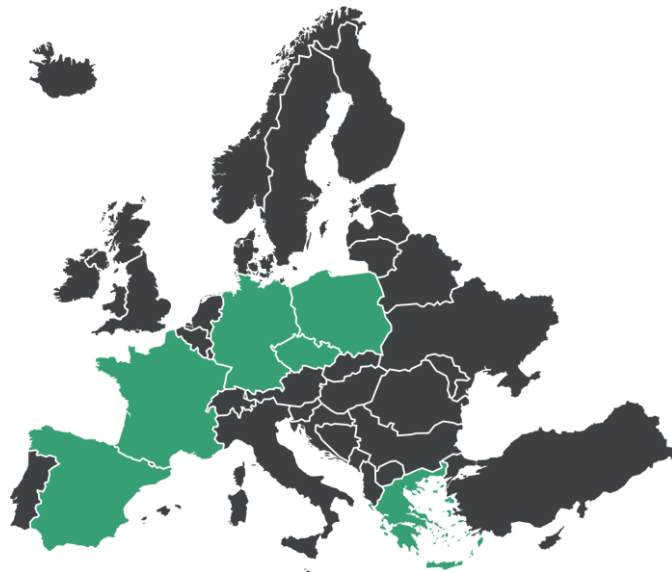
We're developing a next-generation process for increasing the safety, efficiency, and sustainability of Li-ion battery reverse logistics.



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The BatteReverse consortium



BatteReverse innovations



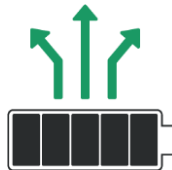
BATTERY ASSESSMENT

Acoustic testing and ML algorithms for faster and more precise battery discharge and 1st diagnosis



SAFETY PACKAGING

Safer packaging of Li-ion batteries to minimise thermal runaway risks



AUTOMATED DISMANTLING

Improved human-robot collaboration to dismantle and sort battery components



BATTERY DATA SPACE

Standardised labelling and battery passport to streamline battery identification and data sharing



BatteReverse Community

Join the **free** BatteReverse community for battery circularity.

We're deep diving into the issues, challenges, and benefits of various aspects of battery reverse logistics. With our community, you can:

-  Network with experts
-  Exchange best practices
-  Gain new insights
-  Access exclusive content and events



**Join
now!**



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BATTERED REVERSE

Get in touch and stay informed!



batterreverse.eu



[@batterreverse](https://www.linkedin.com/company/batterreverse)



[@batterreverse](https://twitter.com/batterreverse)



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Second-Life Opportunities for EV Batteries

Alexandre Charr

Chief Operating Officer, Connected Energy



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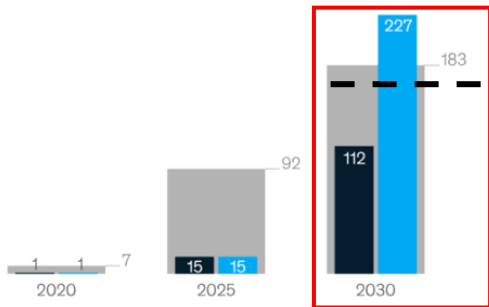
How to reduce the electric vehicle TCO, increase the battery pack residual value and create an additional revenue stream through battery second life opportunities in energy storage.

**Alex Charr, COO
Connected Energy**

Second-life lithium-ion battery supply could surpass 200 gigawatt-hours per year by 2030.

Utility-scale lithium-ion battery demand and second-life EV¹ battery supply,² gigawatt-hours/year (GWh/y)

- Second-life EV batteries supply (base case)
- Second-life EV batteries supply (breakthrough case)
- Utility-scale lithium-ion-battery-storage demand



~170 GWh/year

There will be enough second-life batteries - every year - to cover a significant portion of the global market size utility-scale BESS

¹Electric vehicle.

²Only for batteries from passenger cars.

2017

RD2

Beginning life
in a vehicle

500 kWh

Capacity

225 €/kWh

Cost

Source: [Bloomberg](#)



2025

End of vehicle
life

400 kWh

Capacity

???? €/kWh

Revenue

RD2

Battery swap
required

Option 1

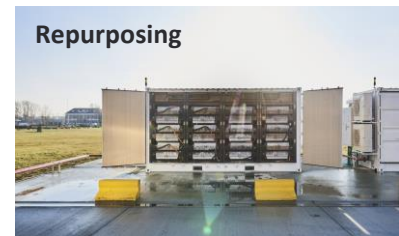
Recycling



Cost liability

Question: how do you value
the capacity left in the pack?

Repurposing



Financial opportunity

Value

+ Y €

- X €

Option 2

In the long term, the grid is the only market big enough to absorb **dozens of GWhs** per year, and more.

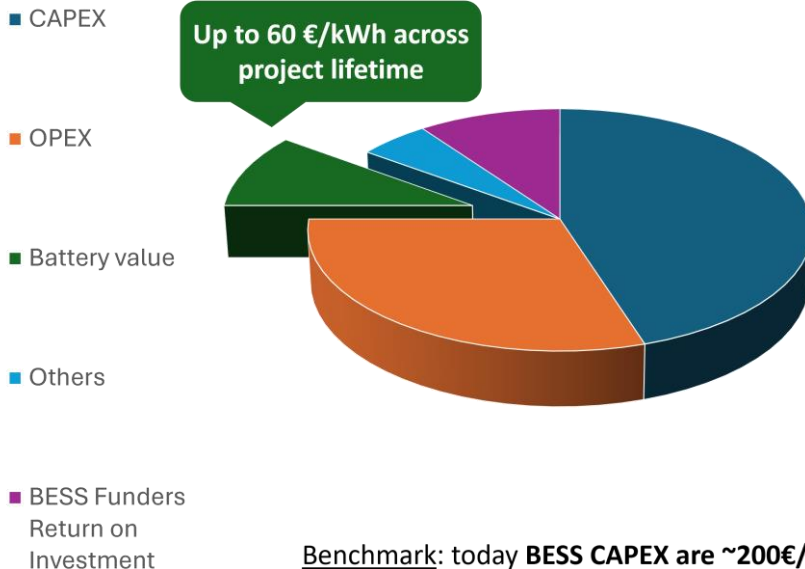


~55 €/kWh per
year

UK grid market
revenues, for a
2h BESS

Source: [Cornwall Insights](#)

Total revenue across project lifetime – The Pie



Benchmark: today **BESS CAPEX** are ~200€/kWh
for the full system

2025

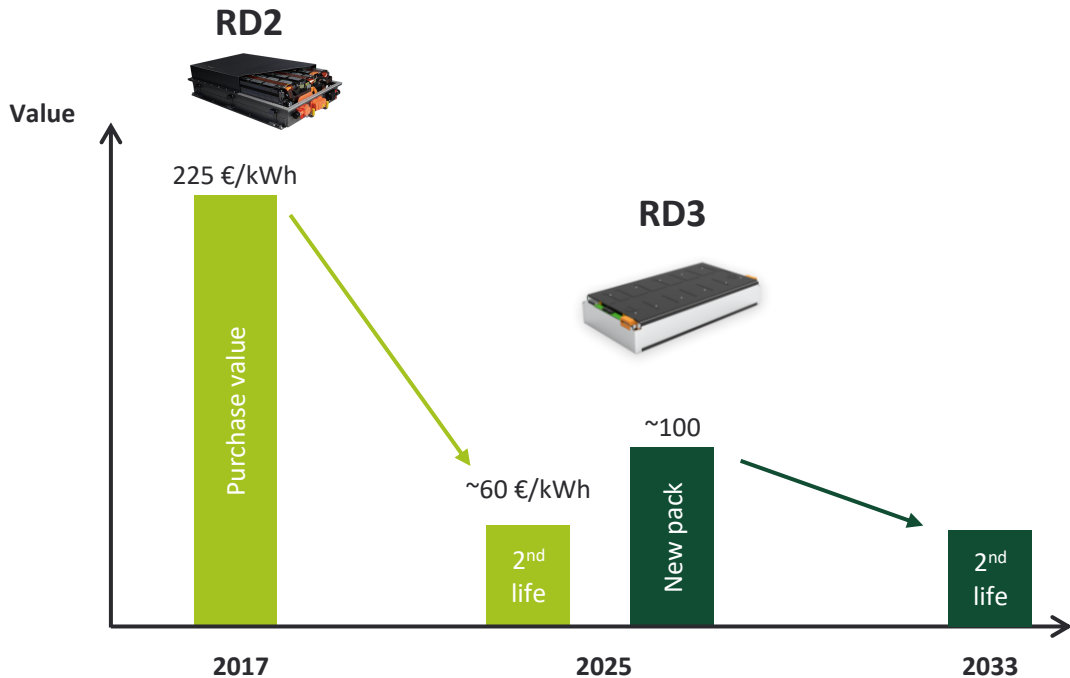
End of vehicle
life

400 kWh

Capacity

~60 €/kWh

Opportunity



Our expertise



Product design
& industrialisation



Project development & site
delivery



Operation, monitoring
& optimisation

Backed by:

V O L V O



Sumitomo Corporation

Enriching lives and the world



MACQUARIE



TURQUOISE

MERCURIA



Collaborating with:



V O L V O

FORSEE
POWER



FINANCIER
LA TRANSITION
ÉNERGÉTIQUE

neot

Solving a mounting challenge



15 years expertise in transforming **potential waste**
into **valuable energy storage assets**

PANEL DISCUSSION

Questions for the panel?
Ask them on mentimeter.com:



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**Daisy
Tyrer**

Moderator

ERM



**Finn
Coyle**

Panellist

Transport for London



**Bruno
Lapeyrie**

Panellist

Keolis



**Joris de
Hoog**

Panellist

Vrije Universiteit
Brussel

Introduction to ERM's expertise in Transport decarbonisation

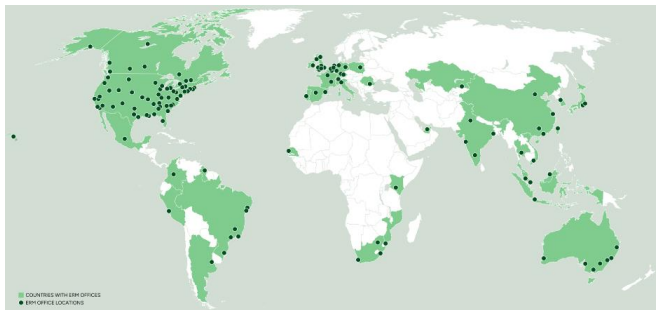
We've supported vehicle fleet operators, international organisations, infrastructure providers, Government bodies, and finance players in Europe, North America, and Australia



8000+
Professionals

40
Countries &
territories

**ESG & Sustainability
consulting leader**
Verdantix Green
Quadrant 2024



We cover all relevant transport modes and low carbon solutions



Electric



Fuel cells



Bio-methane



Liquid biofuels



We support our clients through our various expertise

Funding
acquisition

Charging
strategies

Supply chain
analysis

Due diligence

Decarbonisation
roadmaps

Project
implementation

Feasibility studies

Techno-economic
analysis

And more...

The London Bus System: Organisation



The Mayor
Strategy
Chair of TfL board
Fares

Transport for London

- Service planning & contracting
 - ~8500 (~2500 electric) buses
- Monitoring of output and quality
- Consultation & engagement
- Vehicle Specifications
- Stops, stands, stations
- Information
- Research & advice

Private sector contractors

- Tender for services
- Run services to TfL standards
- Employ drivers, controllers, engineers and other operating staff
- Own and maintain the assets
 - Most buses and garages



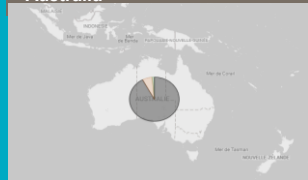
Batteries : a major stake for Keolis, global Public Transit Operator

2,000 electric busses operated by Keolis
55 subsidiaries operating electric bus

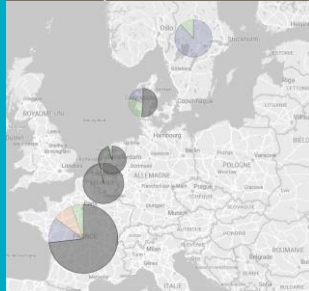
North America



Australia



France
Belgium, Netherlands
Denmark, Sweden

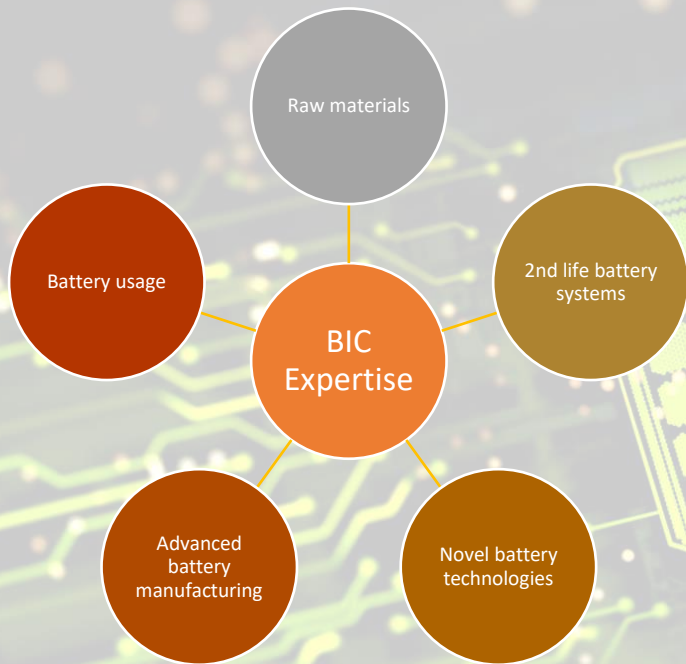


BIOCARB ELEC GAZOL GNV HYDROGEN

10,000+ battery packs

220 M€ asset value

400 MWh storage
capacity



Dr. Ing Joris de Hoog

Prof. Dr. Ir. Maitane Berecibar

Head Battery Innovation Centre

Maitane.Berecibar@vub.be

Battery Innovation Centre

Vrije Universiteit Brussel

Pleinlaan 2 - 1050 Brussels

Check BIC



<https://mobi.research.vub.be/battery-innovation-centre-homepage>



Lunch Break



Learn more at our sponsors' booths:

BetterFleet – Hall 7, Booth 770A

ABB - Hall 8, Booth 814B

E-GAP - Hall 11, Booth 1225

Next breakout sessions start at 13:30 – go to:



Room 1122 for

“Servicing and Maintaining Zero Emission
Bus Ecosystems”



Room 1123 for

“Financing the Transition To Zero Emission
Buses”



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