

Value-add engineering in the battery circular economy

Dickson Leow, GM Infinitev
31 August 2023

Welcome

We're proud to be the title sponsor of the Australian Battery Manufacturing & Recycling Summit

We believe that a truly sustainable future demands we change our relationship with waste—and embrace a reimagined cycle of utility. We're ready to drive that change.

Are you with us?



Dickson Leow
GM Infinitev



infinitev
SUSTAINABLE ENERGY STORAGE

About us

www.infinitev.au

Who we are

Backed by ANZ’s largest automotive wholesaler, GUD Holdings (ASX:GUD)

Committed to becoming a leader in the EV Aftermarket in Asia Pacific

Leading Tier 1 and aftermarket sister brands like Hayman Reese, Ryco and Narva

Four decades of automotive electronic remanufacturing experience

Currently operate 4 sites across ANZ, soon 5

Our footprint (Infinitev/IM Group)



Our group (ASX:GUD)¹



1. As at 30 June 2023 (source: GUD Holdings Limited Annual Report)

Why we exist

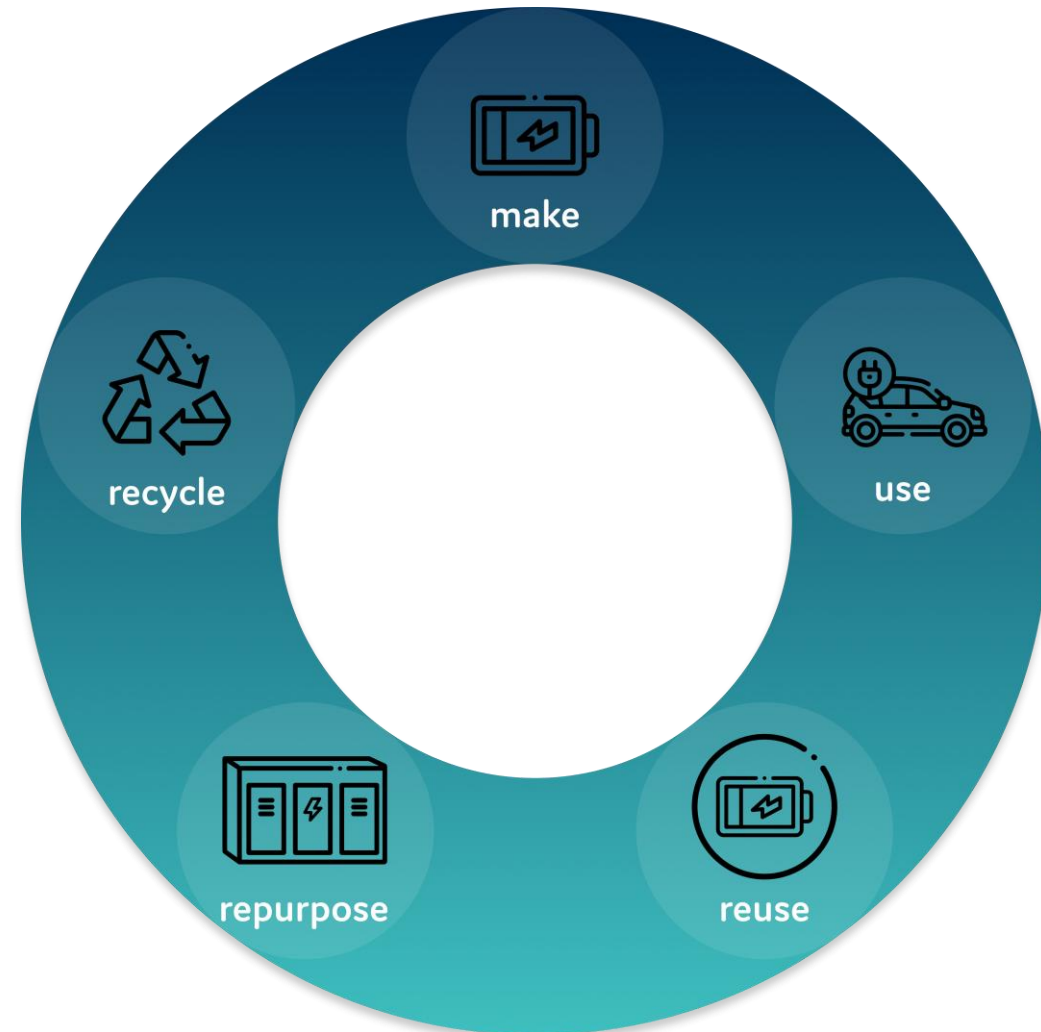
A world without waste

We envision a world where an EV battery is borrowed by multiple users along its life.

Reused, repurposed, and recycled infinitely.

Circular economy

Replace the linear take-make-waste system with a circular one →



What we do

Reuse

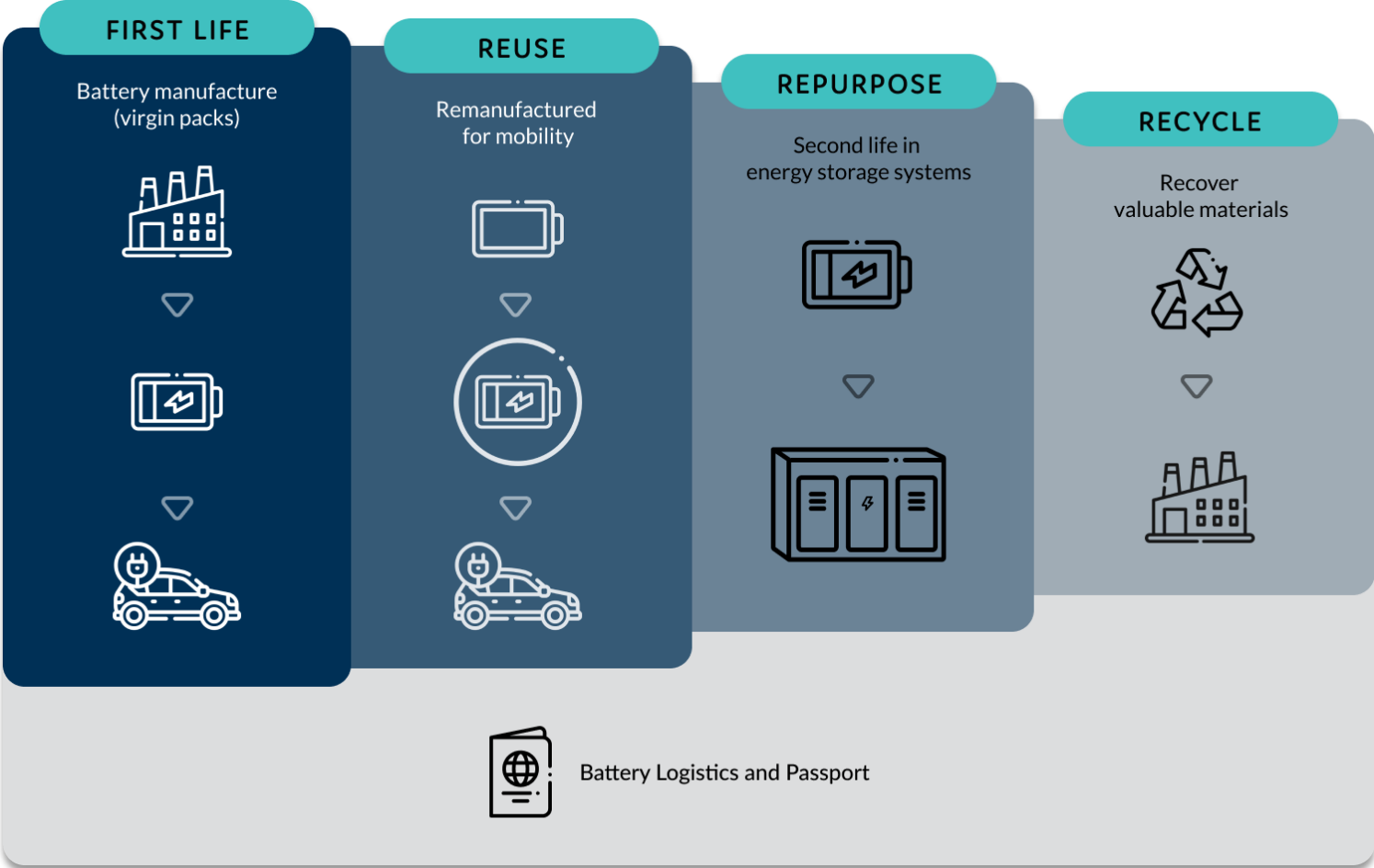
Remanufacturing hybrid and electric vehicle traction batteries

Repurpose

Giving high-quality batteries a second life in battery energy storage systems

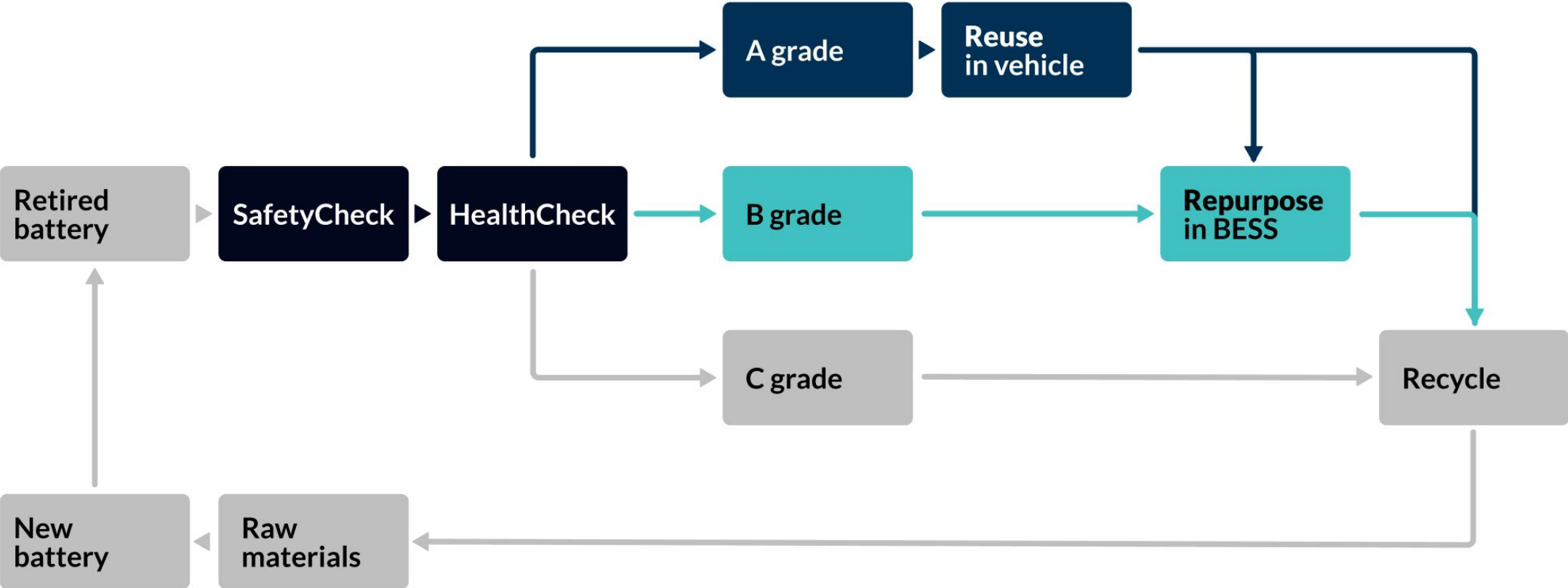
Recycle

Preparation for responsible end of life processing to recover valuable materials



How it works

Circular by design





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Towards a circular economy

Why we're here today



CREATE VALUE

Novel ways to extract more value from high-quality EV batteries

Infinitev focus on value-add engineering



AVOID LOSS

Protect humans and the environment from potential dangers of batteries



Why we're here today



EDUCATE:
**THE IMPORTANCE OF
EDUCATING THE PUBLIC**

We all have a role to play



EMPOWER:
**CIRCULARITY ISN'T JUST A
NICE MARKETING SPIEL**

We all have a choice to make



ENGAGE:
**SHAPING THE FUTURE
TOGETHER**

We all need to invest in the
future, today

Educate the public, industry, government

Facts, not fiction

We all have a role to play to

The benefits of EV batteries are immense—but we need to acknowledge potential concerns

Providing accessible and accurate information about the lifecycle of EV batteries, we can cultivate a well-rounded understanding that extends beyond the allure of emission-free driving

For example, second-life applications allow us to stretch production emissions further, and we can reduce our environmental footprint by deferring the manufacture of a new battery



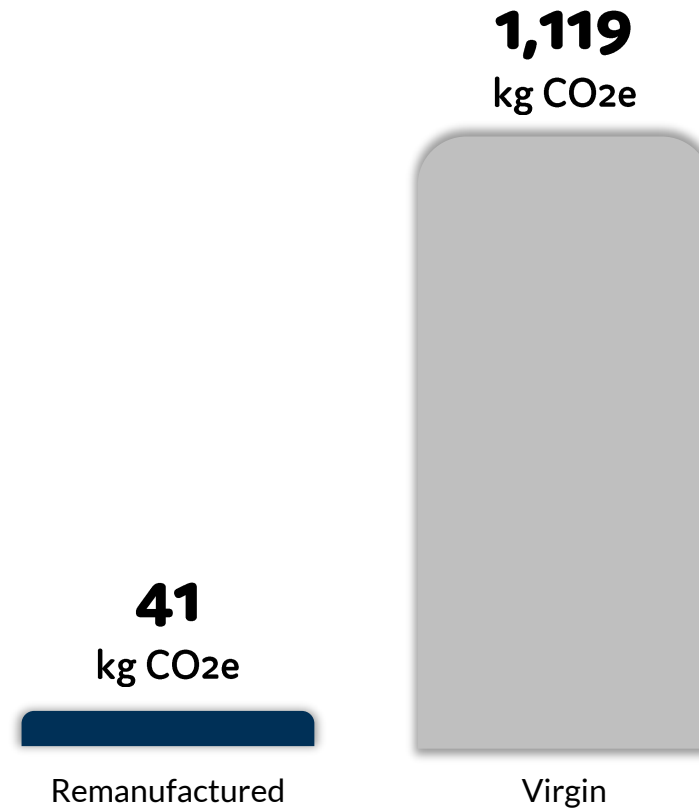
Empower better decisions with data

Not just a marketing spiel, but a choice
Remanufacturing a hybrid battery saves 96% of CO2e compared to replacing with new

Lifecycle analysis conducted by The University of Melbourne¹ shows remanufacturing NiMH batteries saves 96.3 % of CO2 equivalent emissions compared to buying virgin packs

Our site uses solar PV + BESS, and is backed by 100% certified renewable GreenPower

We use this data to make better decisions—such as where to locate our facilities to reduce the CO2e impact of road transport



Engage others to shape the future together

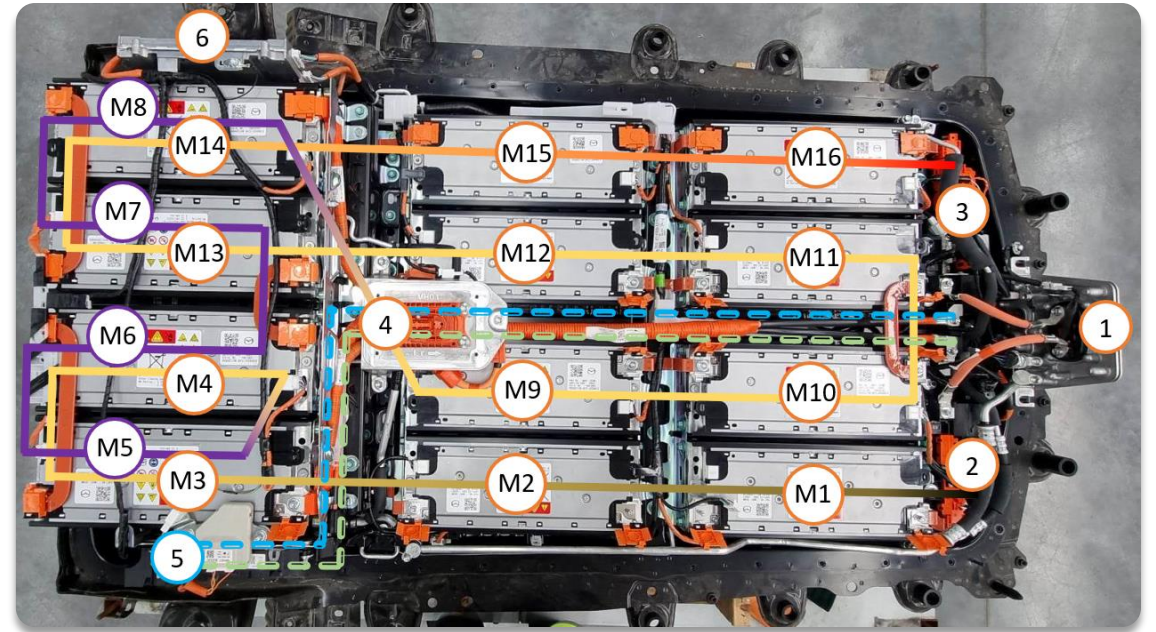
Invest in the future, today

Harnessing innovation to redefine the life of EV batteries, to redefine the value chain

Collaboration with vehicle makers, battery manufacturers and end-of-life processors is key: we all bring crucial knowledge and skills to the table, and we need each other to complete the circle

We're investing in value-add engineering capability—through specialised equipment, process know how, and team capability—to make reuse and repurpose possible

That's our contribution. What's yours?



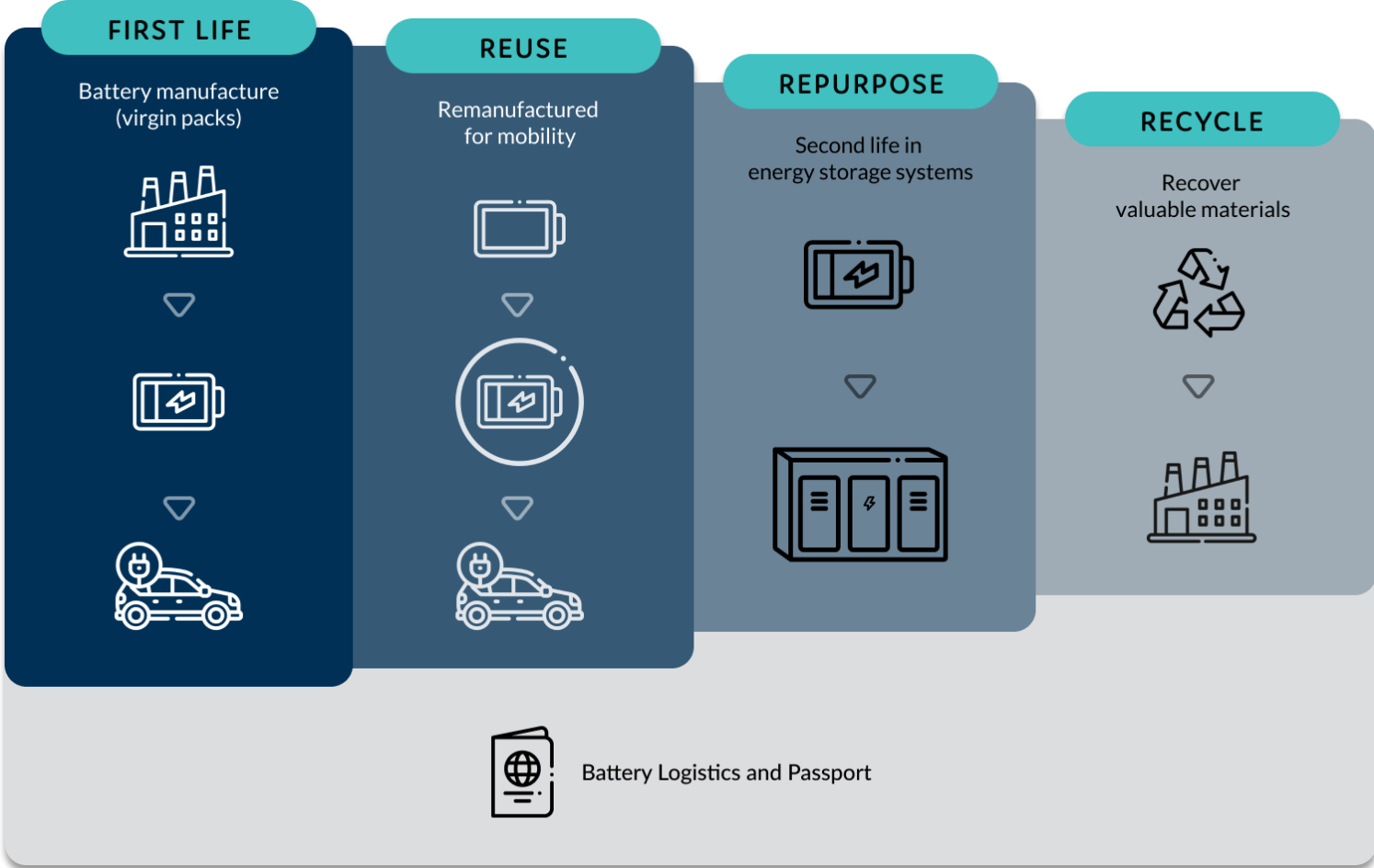
It takes a village

In the room we have ...

- Battery manufacturers
- Battery engineers
- Battery recyclers
- Battery advocates

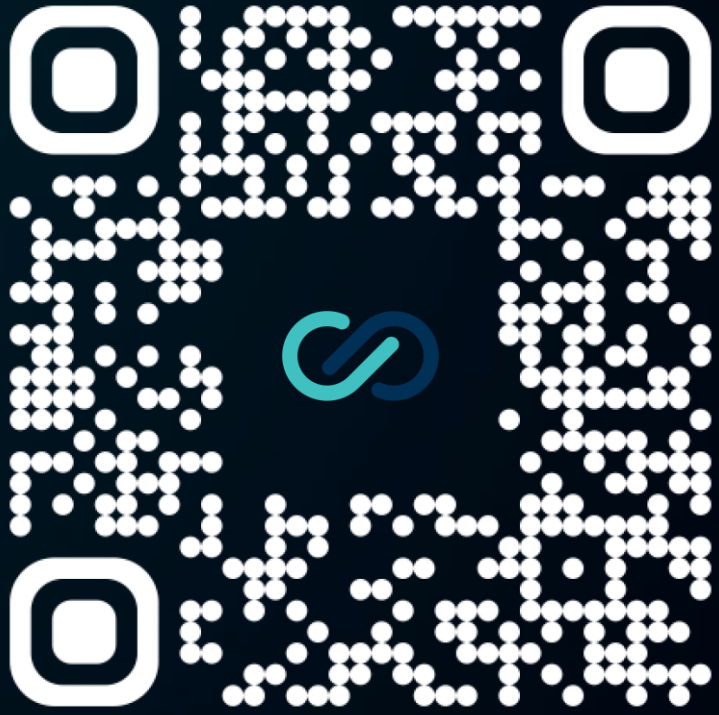
... everyone we need to make this a reality

- Educate
- Empower
- Engage





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Thank you!