

aeonus

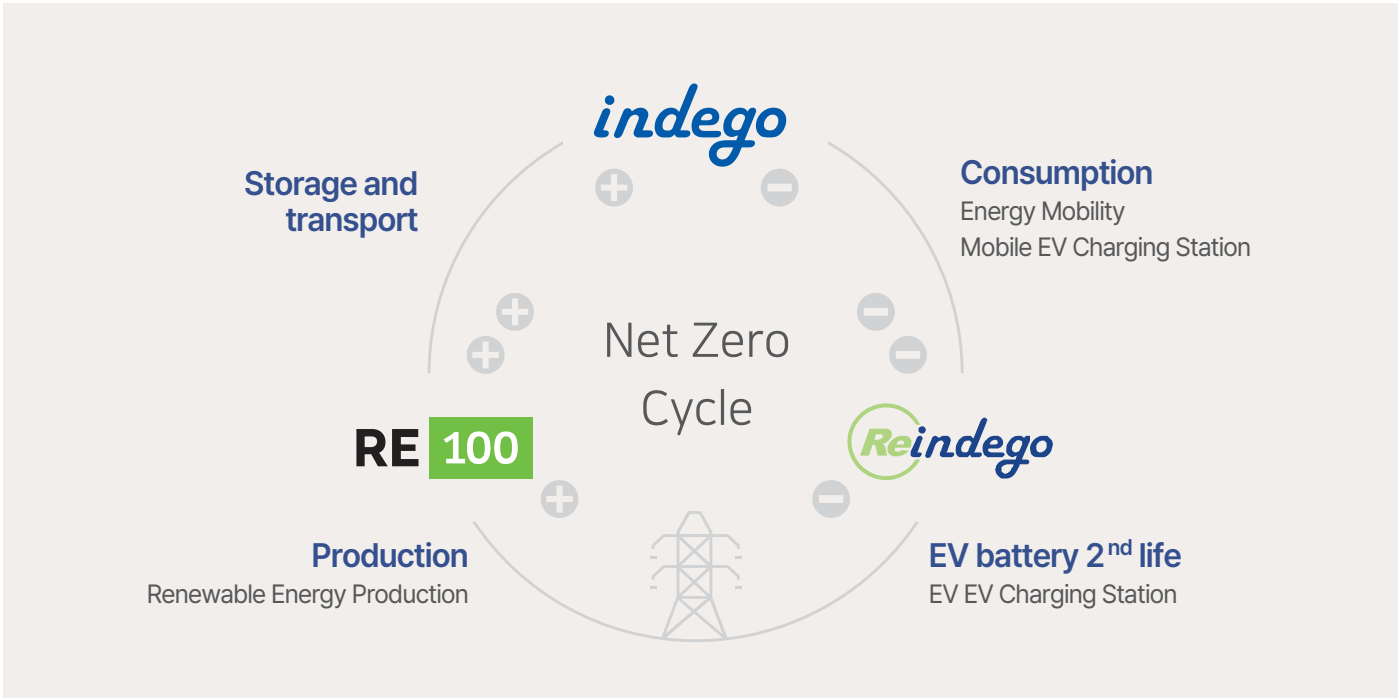
Redesigning energy on earth

Independent Energy, Infinite Possibilities



Innovative Energy Mobility Presented by aeonus

Our carbon-neutral technology and products will transform the market, change the world, and complete a sustainable net-zero cycle, enriching both humanity and the environment.



Leader of Energy Mobility

As the problems caused by climate change are emerging worldwide, the demand for decarbonization is gradually increasing. The internal combustion engine is slowly losing its place, and the unstable supply of fossil fuels is driving up costs. In addition to the rapid increase in the collection of electric vehicles, the problem of insufficient charging stations is added. Changes in the energy and service markets have become irresistible demands of the times. To lead this change, aeonus launched the mobile ESS 'indego' and is leading the transition to powerful and economical electric mobility by providing self-developed and manufactured battery packs to the new mobile power market.



VISION

• GLOBAL LEADER

Foundational technology for the use of new batteries, as well as for the reuse of spent batteries emerging in the future. A global leader in energy mobility, based on battery technology

- Battery Pack development & production
- EV battery reuse technology & Battery AI
- Energy Mobility(Generator, Mobile Charger)



MISSION

• CREATION OF A "NEW MARKET"

Replacing conventional products with carbon-neutral technology-based products, leading the market by addressing environmental issues while ensuring economic feasibility.

- Expansion of electrification-based & NWA-based applications
- Decarbonization through battery solutions



PHILOSOPHY

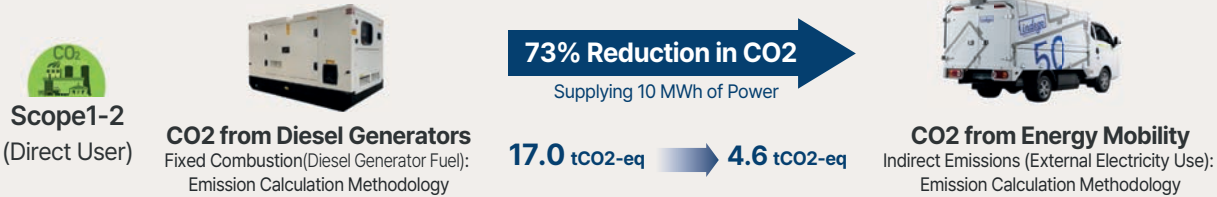
• SUSTAINING OUR PLANET

Foundational technology for the use of new batteries, as well as for the reuse of spent batteries emerging in the future.

- Sustainable world we make

Impact

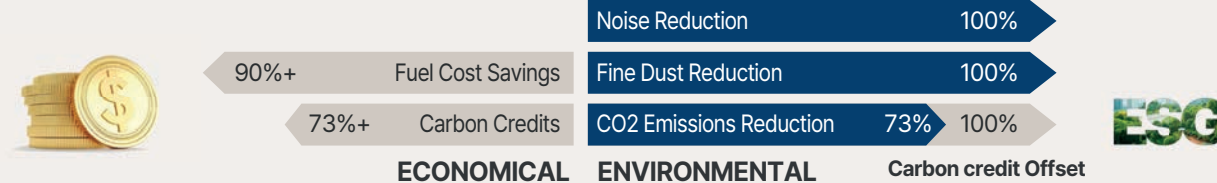
Contribution to greenhouse gas reduction



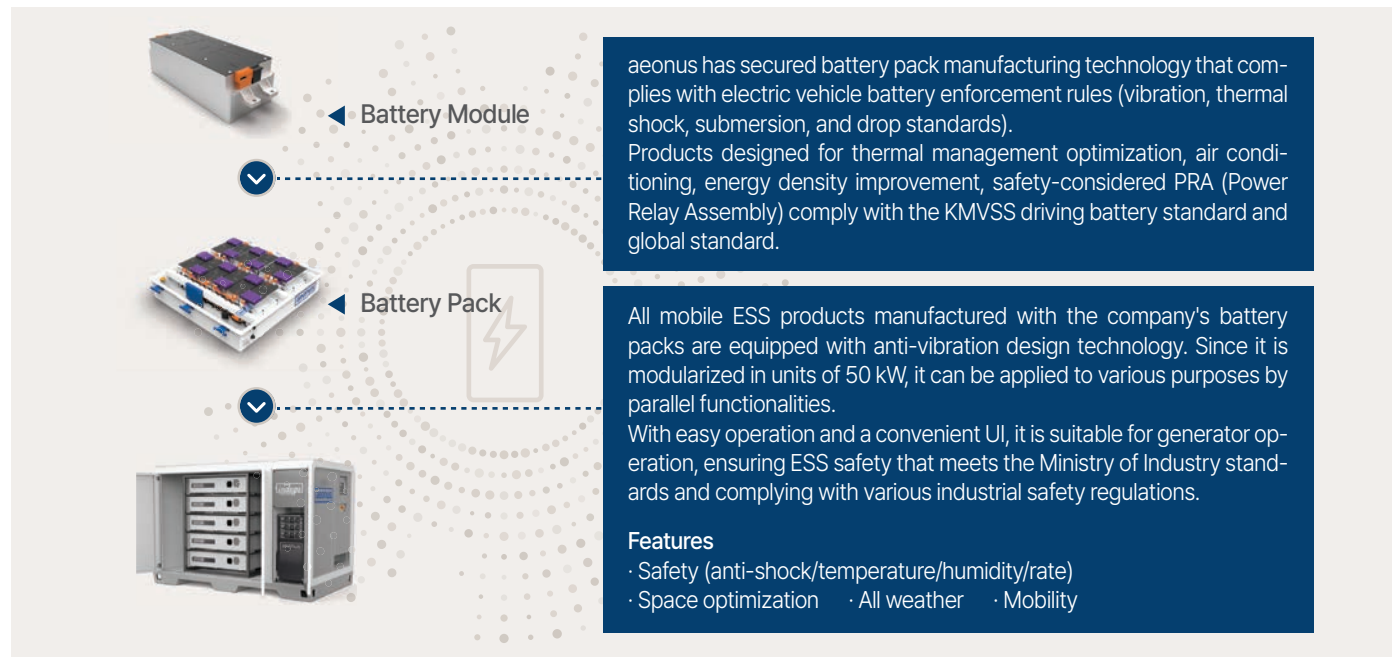
Creating a new business model

Scope3 (Service User) Breaking down the boundaries of the business of the power grid business by shifting from the existing diesel generator rental business to noise-free clean power and expanding electric vehicle charging services and seasonal load (DR, etc.).

Contribution to greenhouse gas reduction



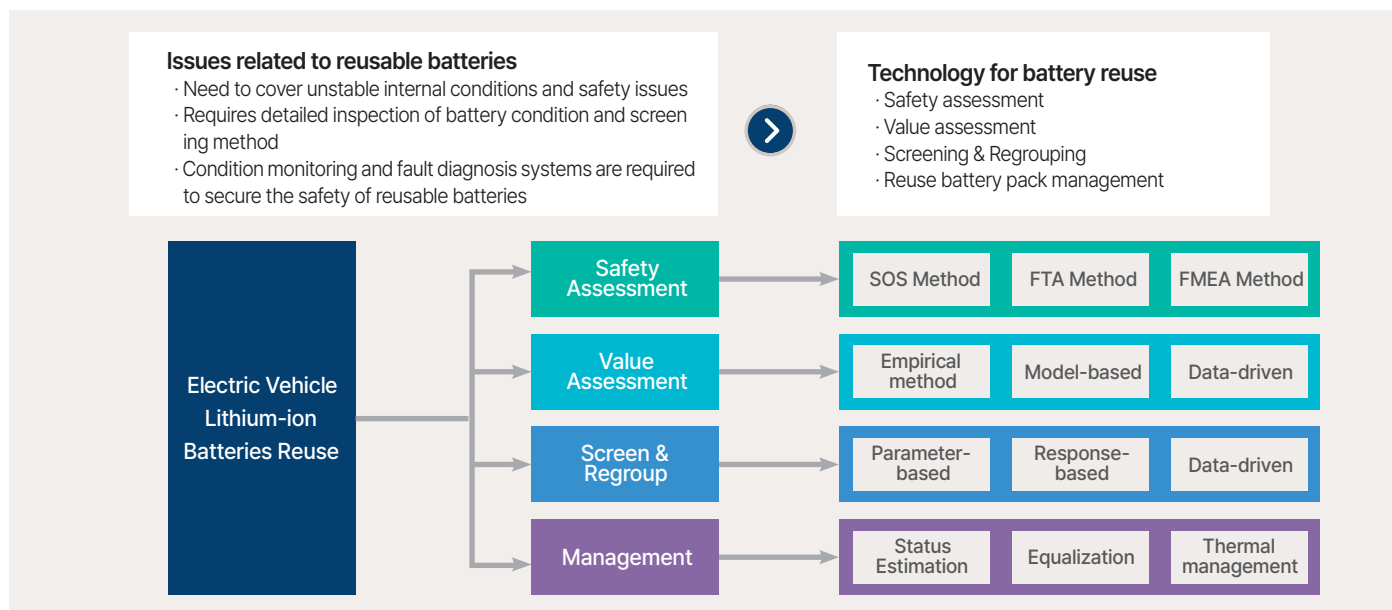
Battery Pack Optimization



- By focusing on the development of battery packs based on electric vehicle batteries and energy mobility, aeonus leads the ESS in the NWA era.
- The combination of a dedicated BDU, S-BMS, and specialized roll cage system enables the safe construction of large-scale systems with multiple battery packs in both series and parallel configurations.
- Accumulated experience in the reuse of spent batteries enables aeonus to drive the electric vehicle battery eco-cycle with indego products.

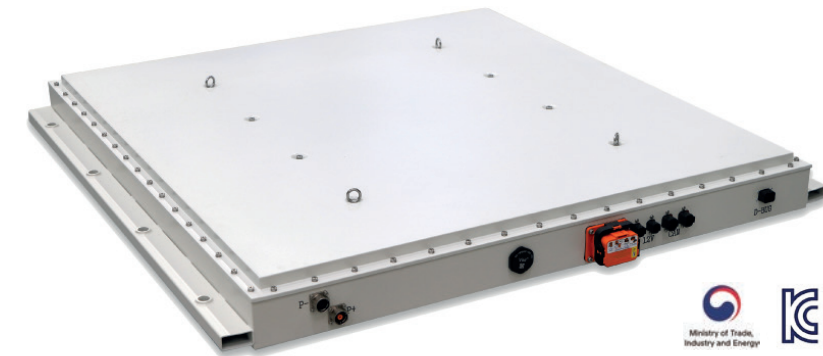
Electric Vehicle Battery Reuse

The reuse of batteries is becoming an alternative to prevent environmental pollution caused by battery disposal and reduce carbon dioxide emissions generated during the manufacturing of new batteries. aeonus has developed and have differentiated technologies, including a non-destructive battery diagnostic system that can accurately assess the safety of used batteries, as well as technologies to efficiently manage and repurpose used batteries for ESS applications.



The First Mobile-Exclusive Battery Pack :

- For Use in Electric Vehicle Retrofits & ESS Safety and Reliability in Diverse Environments and Purposes
- Based on automotive batteries to create robust and powerful battery packs Safe and reliable battery packs suitable for both ESS and EV



Automotive Battery Cell

- ① New cells identical to those used in commercial EV
- ② Mechanical, thermal, and electrical durability quality certification
- ③ High energy density and performance



Automotive Battery Cell

High-reliable BMS

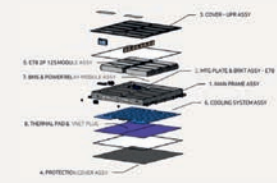
- ① Sensors for early detection of thermal runaway
- ② Diagnosis and control function for voltage imbalance between cells
- ③ Diagnosis and control function for SOC (State of Charge) imbalance between cells
- ④ Sleep monitoring control function at key-off (for vehicle)



High-reliable BMS

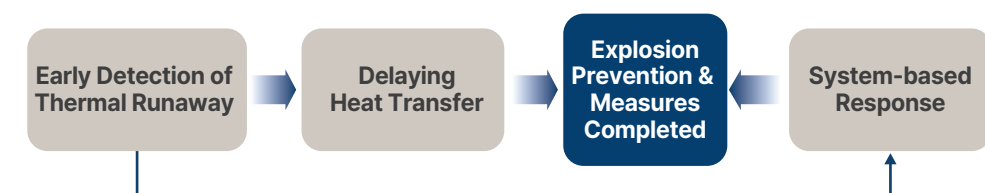
Robust Structure Design

- ① Pack rigidity structural design that meets EV testing standards
- ② Optimal design based on digital verification of structure, rigidity, thermal transfer, and more.
- ③ Module pack structural design to prevent thermal runaway propagation



Robust structure design

Safety system for thermal runaway in aeonus battery packs



Modular ESS Platform

- Modular ESS platform integrating battery systems, power conversion systems, and chassis technology

Modular ESS can be utilized for various purposes in a world of free energy powered by eco-friendly renewable energy. A modular ESS that goes beyond a simple ESS and can be used for all the purposes we imagine and expect. Through a robust ESS internal structure designed like that of an automobile, it safely and sturdily supplies power in various environments.



ESS Section



Chassis



Application Section



Small-sized high current BDU (400A@800VDC)



Body Control Unit



BDU Controller



System BMS



DC-DC / EV Charger



DC-DC / DC-AC

Rack System for 400VDC / 800VDC

Inspired by the roll cage structure of race cars, the battery rack system, along with the mobile-specific battery pack design, ensures safe operation on rough roads and in all-weather environments

From a single pack to six packs, it can be freely expanded and replaced immediately on-site.

Zoning System Controller

All controllers of indego are modular, like in automobiles, allowing for flexible configuration based on different capacities and purposes. From a single pack to six packs, it can be freely expanded and replaced immediately on-site.

Power Converter

Besides the bidirectional power converter developed specifically for indego, various suppliers' PCS and EVC can also be easily configured

Clean, Silent, Perfect Power Supply for Any Kind of Service



With a compact size smaller than a parking space, it holds a battery capacity of up to 330 kWh, and through stacking, the system can be expanded up to 500kW/3.3MWh.



Replacing ESS and Generators

- ESS for seasonal load and zero-energy buildings temporarily supplementing insufficient power
- Replacing off-grid power and emergency generators for events, construction sites, and more.

Exterior Features

- Elegant appearance and customizable design wrapping
- Compact size that fits within a single parking space

Easy-to-Move, Stackable Modular ESS

Multiple units can be combined in a modular form to instantly supply large power and energy (e.g. 1 unit 100kW x 5 units = 500kW)

* Dedicated mobile integrated distribution panel provided separately

Specification

Items		Specification
Output	Power	50kW /100kW
	Voltage	380VAC / 220VAC
	Phase	3p4w / 1p2w
	Frequency	50/60Hz
	THD	<5%
Off-Grid Output	Frequency	50Hz/60Hz
	Voltage accuracy / Distortion	<3%
	Power Factor	>0.7
	Dynamic voltage stability & recovery	20ms
Input	AC	3p4W 380VAC
	DC	EV Charger (CCS)
Noise		50dB(A) at 1meter. Max
Dimension		1.6 X 2.8 X 1.9 Meter
Enclosure		Mobile
Weight		3,500kg incl. MoBatt x 6packs
Energy capacity		330kWh
EVC Model	Output	50kW / 100kW (CCS)
	Input	EV Charger (CCS)



EV charging stations in areas with limited power supply



Mobile charging for construction equipment

Indego MOBILE, a vehicle-mounted solution, for faster and immdiate mobile power supply

The largest capacity of 110 kWh can be equipped on 1-ton commercial vehicle. With a maximum 50 kW, it supports fast charging for EV and emergency power supply.

One indigo MOBILE can continuously supply a large amount of power for more than six hours to a 20-unit apartment building. However, if more renewable energy is needed, additional energy can be added by connecting with a trailer or rail vehicle
* Based on an average usage of 800W per household

aeonus is the best global expert for energy mobility.

Only one company that designs and manufactures the entire process, from mobile-specific battery packs to systems and transport vehicles



Mobile fast-charging vehicle based on ST-1 scheduled for release in June 2025.

Solving the issue of charging stations unable to cover the growing number of EVs and achieving RE100 by replacing diesel generators



Pre-safety

Pack and electrical systems in response to thermal runaway and thermal transfer. Partitioning the battery room and providing physical battery protection

Operational safety

Early detection of thermal runaway, along with BMS, environmental data collection, and AI integration, enables predictive maintenance
Designing both initial fire suppression and final flood prevention



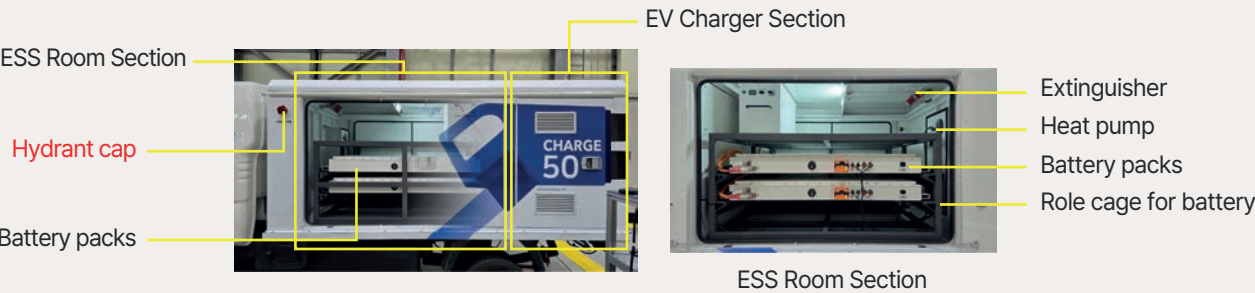
Specification

Items		Specification
Output	Power	50kW
	Voltage	380VAC / 220VAC
	Phase	3p4w / 1p2w
	Frequency	50/60Hz
	THD	<5%
Off-Grid Output	Frequency	50Hz/60Hz
	Voltage accuracy / Distortion	<3%
	Power Factor	>0.7
	Dynamic voltage stability & recovery	20ms
Input	AC	3p4W 380VAC
	DC	EV Charger (CCS)
Noise		50dB(A) at 1meter. Max
Dimension		Vehicle Format
Enclosure		Mobile
Weight		1,000kg incl. MoBatt x 2packs
Energy capacity		110kWh
EVC Model	Output	50kW
	Input	EV Charger (CCS)

Energy mobility structural design and digital validation



Completion of regulatory sandbox demonstration exception for mobile ESS and establishment of standards



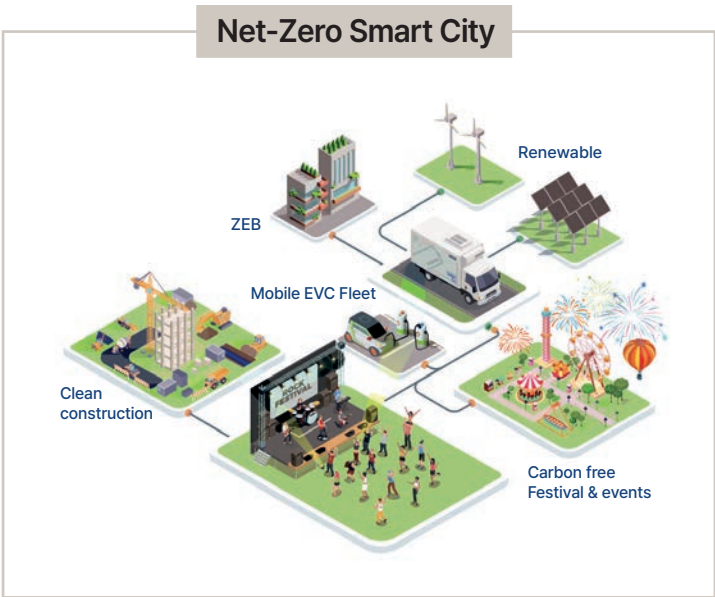
EV charging stations at highway rest areas



Gyeonggi RE100 Vision Declaration for carbon zero

The Future Beyond ENERGY

Our lives are filled with energy every moment, from the roads filled with cars, spectacular stages everyone is excited about, skyscrapers that symbolize the city, and parks full of fun. This is why we keep thinking about cleaner, more convenient, and economical energy. The energy innovation that aeonus hopes for is a process toward a better future and a new value. aeonus will provide the best value and the highest satisfaction to more customers through valuable technology that completes the Net-Zero cycle and will lead to fundamental changes



Awards

- Green New Deal Promising Companies 100
- Innovative Technology National Representative 1000
- Gyeonggi-do Promising Small and Medium Business
- KEPCO Innovative Startup
- KEPCO KDN Energy ICT Startup
- KEPCO International Investment Fair 2021 (BRONZE)
- Award from Ministry of SMEs and Startups



2024 Technical Credit Evaluation TI-2



30 registered patents / 4 application

1 US registered patents / 3 application

9 Registered trademarks

1 Design registration (based on Dec 2024)





Energy Mobility for Our Sustainable Planet



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