GROO

(주) 그루온

Energy Operations Driven by AI Demand Forecasting

Energy operations with GROO⚡DR and GROO⚡EV

From product deployment to integration tailored to your site

AI Forecasting · Demand Response · EV Charging

https://groo.im

Connecting Fragmented Energy Operations in One Workflow

GROON develops software for demand response and EV charging operations.

Our technical foundation

Engineering Experience, Applied to Products

Connecting Devices and Data

Experience building large-scale network monitoring systems informs device connectivity, status collection and incident histories.

Turning Workflows into Software

DR management and OCPP charging-system expertise supports customer, resource, session and settlement workflows.

Applying AI to Operational Needs

We apply model training, inference and prediction processing to power demand forecasting and operational analytics.

Incorporated	August 3, 2026 · GROON Co., Ltd.
Business Model	Proprietary products with tailored integration and deployment
Current Stage	Core features built; validating site-specific integrations Defining deployment conditions and validation scope with partners

GROON Integrated Solutions



2026.03

Letter of intent with MANAGEON, a DR aggregator

Pre-incorporation discussions on DR resources and participation

2026.08

Incorporation · MOU with technology partner MomentCube

Agreement on business and technology cooperation

2026.10

DR and EV product development and validation

Preparing for field deployment

Energy Operations Start with Forecasting

GROO DR supports demand-response workflows; GROO EV supports charging operations.
Both build on data collection, monitoring and analytics, with customer-system integration.

Site electricity consumption | Charging history & fleet schedules | Weather, weekday & holiday data

SHARED FOUNDATION · GROON DATA ENGINE

AI Demand Forecasting

Identify demand concentration and peak risks
Support decisions on operating schedules and load adjustments

FORECAST APPLICATIONS BY PRODUCT

Demand Reduction & Performance

Prepare demand response using forecast insights
Manage reduction requests, delivery, performance and settlement

Manage DR participation revenue and settlement workflows

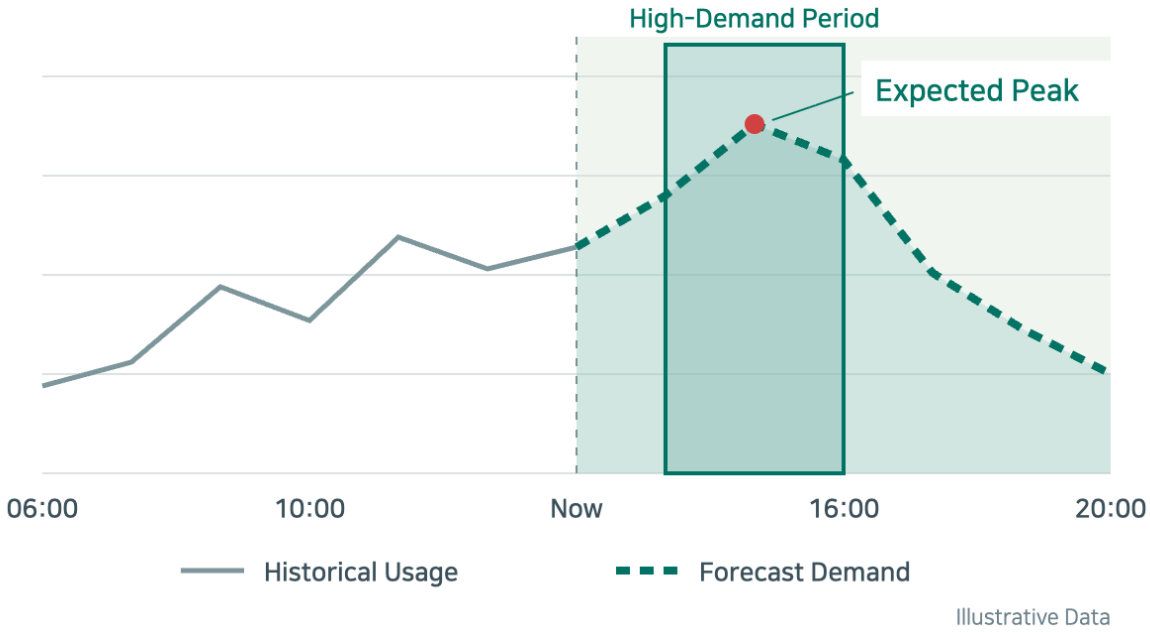
Charging & Power Management

Align charging with fleet schedules
Dynamic power allocation and contracted-capacity protection (Peak Guard)

Spread charging demand to reduce electricity costs

Forecast Power Demand. Inform Operations.

Forecast demand and peaks using power usage, weather and calendar data.
Forecasting models have been developed; operational validation and product integration are underway.



01 · Data Collection

Identify time-of-day patterns in meter data
Include weather, weekdays and holidays
Align timestamps for model training

02 · Demand Forecasting

Learn usage patterns to forecast demand
Identify busy periods and expected peaks
Validate forecasts against actual usage

03 · Operational Decisions

DR · Load analysis for response planning
EV · Link forecasts to fleet and power constraints
Validate and develop control integration

Validation focus Check forecast accuracy across sites and seasons, then validate use in operational workflows.

Adjust Electricity Use When the Grid Needs Flexibility

Demand management adjusts how much electricity is used and when.
Demand response (DR) links grid-requested usage adjustments to verified performance and compensation.

01

Korea Power Exchange

Based on grid supply and demand: reduction requests, verification and settlement

Requests · Payments

Results · Meter Data

02

DR Aggregators

Recruit and operate participating resources;
manage event response and settlement

Requests · Payments

Results · Meter Data

03

Participating Businesses

Reduce electricity use when requested;
receive compensation based on verified results and contract terms

GROON's role

GROO DR · Software connecting DR workflows

Meter data → Customer baseline load (CBL) and reduction analysis → Settlement and reports
Aggregators manage operations; their participating business customers review their own usage and results.

Illustrative load-reduction DR workflow. Compensation depends on market rules, verified results and contracts. GROON supplies software and is not a DR aggregator.

End-to-End Demand Response Operations

A workflow system for DR aggregators: customers, resources, metering, dispatch and settlement.
Connect participant usage and reduction records to reduce repetitive work.



Customers & Resources

Set up customers and resources



Data Collection

Collect time-series usage data



Monitoring & Analysis

Analyze usage and reduction results



Events & Performance

Track requests and delivery



Settlement

Finalize settlements and reports

DR Aggregators

Unified Management

Manage customer usage, reduction performance, settlement and reports

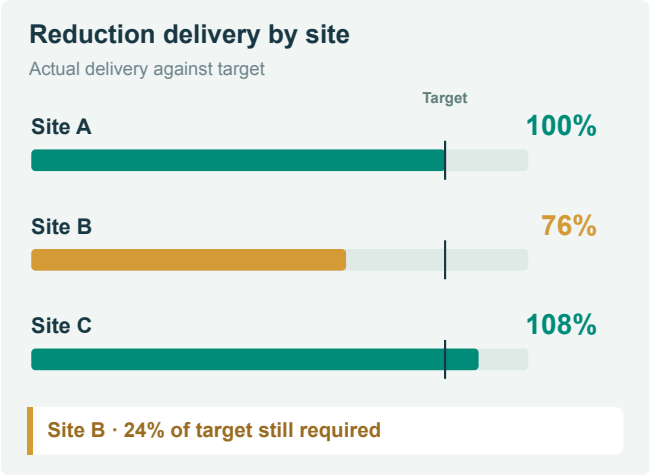
Participating Businesses

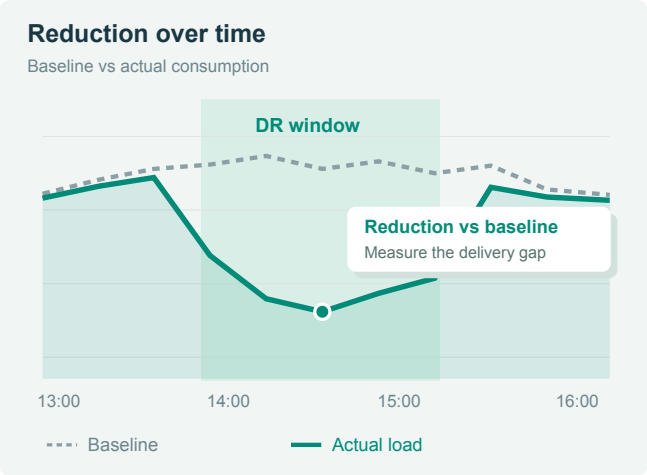
Customer Portal

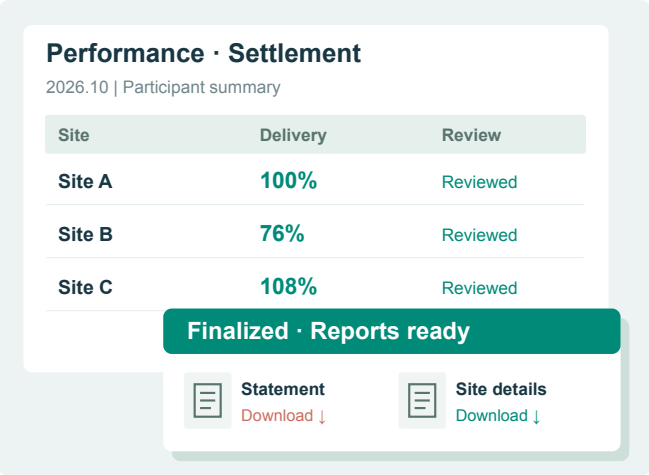
View customer-specific electricity use and operational status

From Reduction Performance to Settlement

Monitor participant reduction delivery and performance, then finalize settlements and generate reports.







Reduction Monitoring

- Monitor site-level usage and reduction progress
- Track progress against targets and flag resources needing attention

Reduction Performance

- Analyze event-level usage and reduction performance
- Aggregate results by customer and resource; compare with targets

Finalization & Reporting

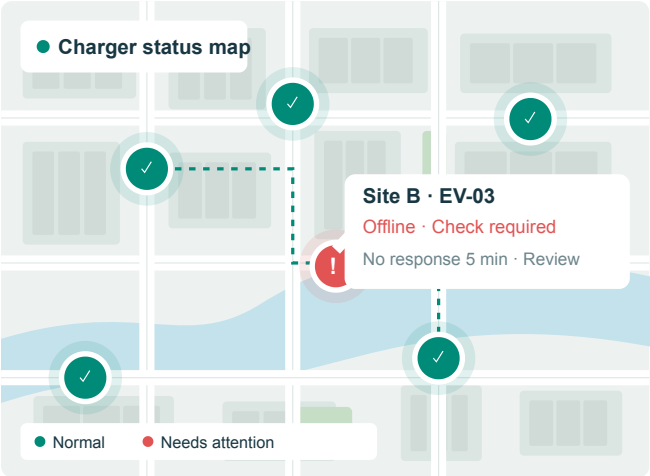
- Finalize reviewed settlement records
- Automatically generate settlement reports in multiple formats

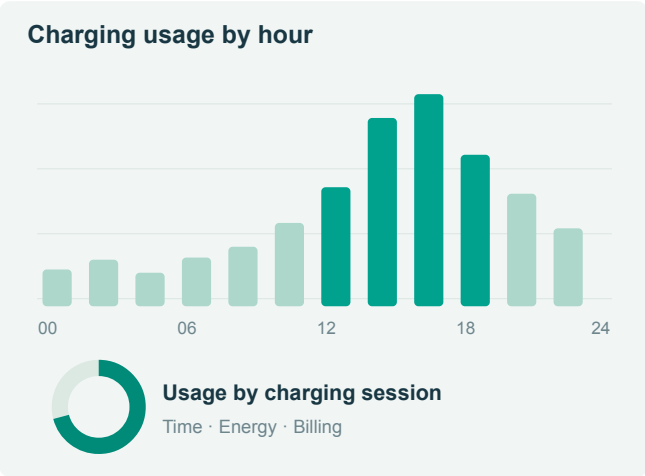
Illustrative layout · Sample data

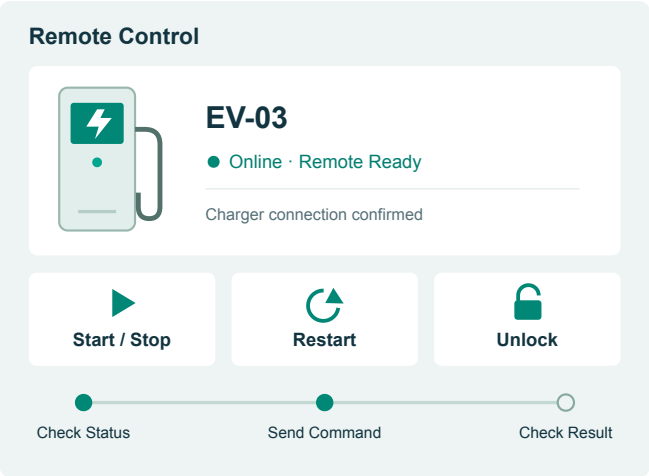
Next · AI Performance Reports AI-assisted summaries explaining drivers and key results of reduction performance

From Charging Monitoring to Billing and Settlement

Charge point operators (CPOs) and site operators manage charger status, remote response, tariffs and settlement in one place.







Monitoring & Fault Analysis

- Review charger status, sessions and communication logs
- Review incident histories and support operational response

Tariffs, Billing & Settlement

- Manage tariffs by time, charging speed and user group
- Connect charging sessions, billing and settlement records

Remote Operations

- Start and stop charging sessions, restart chargers and unlock connectors
- Respond using command history and diagnostic logs

Illustrative layout · Schematic map and sample data

AI Operations Agent · Demo Available

Charging failure analysis · Driver guidance · Operator support

Status and communication logs inform follow-up actions for drivers and operators.

AI Analysis and Power Control for Real Operations

Resolve charging issues, manage power and connect workflows to each site's needs.

01 · Operational response

AI Cause Analysis and Driver Guidance

Analyze charger status and communication logs to identify likely causes and guide the next action.



In Practice

Connect driver retry guidance with operator response.

02 · Power management

Charging Monitoring and Power Control

Monitor charging while dynamic power allocation and Peak Guard adjust output within site power limits.



In Practice

Align charging with available capacity and fleet schedules.

03 · Site-specific operations

Charging Management Tailored to Each Site

Configure monitoring, tariffs and power management for CPOs, businesses, fleets and public institutions.



In Practice

Support multi-site operations, depot charging and service requests.

One Operational Foundation Sites & chargers → Status & sessions → AI & remote response → Power control → Billing & settlement

From Charging Failure to the Next Action

AI analyzes charging status and communication logs to guide drivers and operators through the next steps.

Charger Status | Sessions & Failure History | OCPP Communication Logs

Collect Records

AI Operations Agent

Analyze Causes · Assess Actions · Generate Guidance

Analyze charger status, connectivity and failure patterns

Deliver Insights

Driver

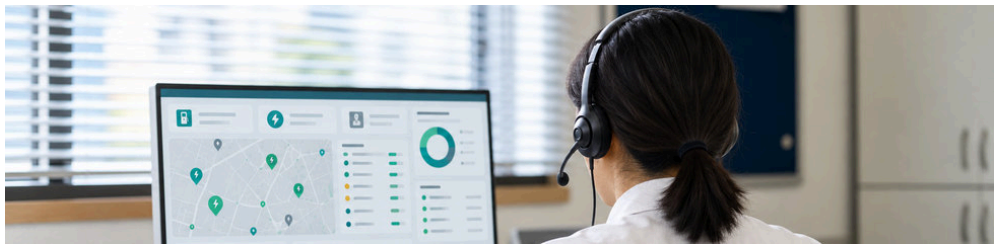
Driver Troubleshooting Guidance



View real-time troubleshooting guidance

Operator

AI Findings and Remote Actions



Review AI findings, guide drivers and take remote action

Assessment & Response Vehicle-side causes are presented as possibilities inferred from failure patterns, not confirmed diagnoses.

Forecast-Driven Charging and Power Control

Distribute charging time and power around fleet schedules and forecast demand to reduce peaks.

INPUT

Charging & Power Data

Charging history · Site electricity load · Fleet schedules

PREDICT

AI Demand Forecasting

Forecast charging demand and peak timing

CONTROL

Dynamic Power Allocation & Peak Guard

Charging schedule and power adjustments

Charging Schedules

Spread charging across time using demand forecasts and fleet schedules

Dynamic Power Allocation

Allocate charger power and priority within available site capacity

Peak Guard

Adjusts charging power to stay within the contracted power limit.

Who We Serve

Public Institutions

Charging in public parking and civic facilities

Fleet Operators

Depot charging and power management aligned with fleet schedules

Charge Point Operators

Unified operations across charging sites and chargers

Current Stage · Integration Validation

Validating dynamic power allocation and control integration

Next · Forecast-driven charging schedule enhancement

Technology That Connects Data to Operations

Engineering across device communication, data processing, AI analytics and operational workflows

INPUT

Data Sources

Meter & site data

KEPCO load profiles (LP) · Meters · Gateways

Charger & operations data

Open Charge Point Protocol (OCPP) · Status · Sessions · Logs

External platforms

APIs · Customers · Schedules

ENGINE

GROON Data Engine

Collection & validation

Time alignment · Data checks

Analytics & forecasting

Patterns · Baselines · Forecasts

Rules & processing

Constraints · Control · Settlement

OUTPUT

Operations

Monitoring & operations

Status · Incidents · Commands

Performance & settlement

Reduction results · Rules · Reports

Power operations integration

Dynamic power allocation · Forecast integration

Core Technical Capabilities Protocol integration · Time-series processing · Model training & inference · Operator interfaces · APIs

OCPP 1.6 / 2.0.1 · Charger communications / CSMS development

OpenADR 2.0b · DR communications / Demand response management system (DRMS) development

Product Deployment and Tailored Integration

Integrate GRID-DR and GRID-EV with existing systems and tailored business functions.



Product Fees

DR and EV platform access



Deployment & Integration

Setup · Device and system integration



Support & Enhancement

Maintenance · Feature improvements

01

Analysis & Design

Review operating needs and required features

02

Data & System Integration

Connect devices and configure data collection

03

Platform Deployment

Configure and validate for the customer environment

04

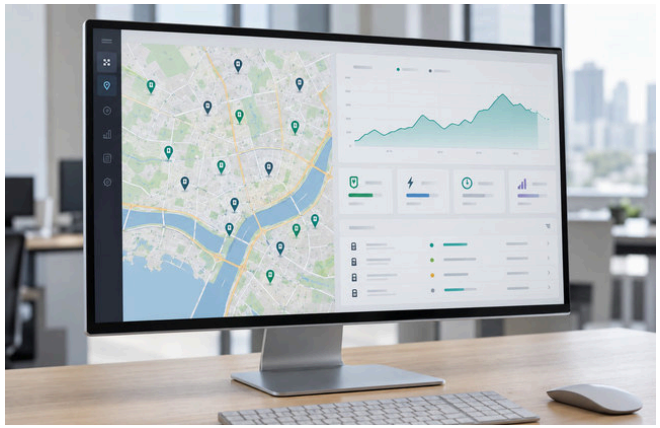
Operational Improvement

Provide support and improve features

From Charging and Demand Response to Virtual Power Plants

GROO DR & GROO EV → V2G & International Markets → VPP (Virtual Power Plant) Expansion

01 Now — 02 Next — 03 Expansion



GROO DR GROO EV

Demand-response and EV charging platforms



V2G & International Markets

Vehicle-to-grid (V2G) · International expansion



VPP (Virtual Power Plant) Expansion

Virtual power plants (VPP) connecting distributed resources

Efficient Energy. Reliable Operations.

Forecasting and operational data for better power utilization, reliable charging services and responsible operations







E Energy Optimization

Shift charging times using demand forecasts
Reduce peaks through dynamic power allocation and DR

Metrics · Peak demand and time-of-day consumption

S Reliable Charging Services

Enhance fault detection and remote response
Reduce charging interruptions and field-service workload

Metrics · Charger uptime and recovery time

G Traceable Operations

Maintain control, fault and settlement histories
Manage access rights and protect personal data

Metrics · Record coverage and access reviews

Expected Environmental Benefits

Lower peak demand → More efficient power use → Support emissions reduction

Environmental effects will be assessed using actual operating data and applicable electricity emission factors.

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From product deployment
to integration tailored to your site

Product & deployment inquiries

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