



PowerShare--Leading Energy & Battery AI, Drive The Low Carbon Future

Company <ul style="list-style-type: none"> Est. in July 2015. 2 office, main office at Shanghai and R&D center at Suzhou. 2 co-labs at Shanghai and Nanjing. 50 employees 	Business <ul style="list-style-type: none"> eMobility Battery New Energy Grid 	Core Tech <ul style="list-style-type: none"> Battery AI and Energy AI Cloud incl: Virtual Power Plant, Energy Mgmt. System, Charging Platform, Etc. 	Key Customers <ul style="list-style-type: none"> Volvo, Daimler, BMW, Renault, Nissan, FAW and BJEV CATL, State Grid, State Power, Shanghai Energy and bp
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Core Data

- 60 Patents
- 18GWh Battery Data
- 15.3 bil Trading Data
- 227 K ESS & Chargers

Certifications & Awards

- KPMG China Leading AutoTech TOP50 2019, 2020, 2021
- Best Battery Storage Technology Award
- advancing low carbon bp "Advancing Low Carbon" Award
- APAC 25 Cleantech APAC 25 Y2020

Co-lab

- Co-R&D lab on Battery & BaaS Shanghai (Renault Nissan Mitsubishi)
- Co-R&D lab on Battery & Energy Storage Nanjing (CQC)

Strategy Investors

- bp
- RENAULT NISSAN MITSUBISHI

Future: Grid revolution driven by carbon neutrality lifts demand for VPP

Production **Transmission and distribution** **Consumer**

Fossil fuels
Stable and controllable
Gradually phased out

Zero carbon clean energy
Significant fluctuations
Increasingly adopted

Challenge of intermittent shocks to grid

Rapid expansion of EVs
Unpredictability of charging patterns
Large power shocks to grid
A super network of ES nodes is the best way to modulate and balance power

PowerShare View: ES is the key to building up renewable energy, with an expected 10TWh¹ demand by 2050 creating a \$1.2b+ market

PowerShare Offering: Calculating the return of battery investments is the biggest challenge in the industry. PowerShare is able to predict demand cycles, assess multiple, ES lifespan, etc., and optimise to extend investment lifecycles.

Our Virtual Power Plant for the digital energy world

Electricity Market (Trading Spot Price) ↔ Bid offer, RT data, Command, RT data

TSO/DSO (Ancillary, Dispatch) ↔ Dispatch, RT data, RT data

Software as a Service (Monitor, Trading, Ancillary, Arbitrage, Forecasting, Demand Response)

Producer / Consumer (Solar, Wind, Oil, Bio, Battery, EV Charger, Factory, Building)

External Data (Market Data, Demand Data, Transmission, Weather)

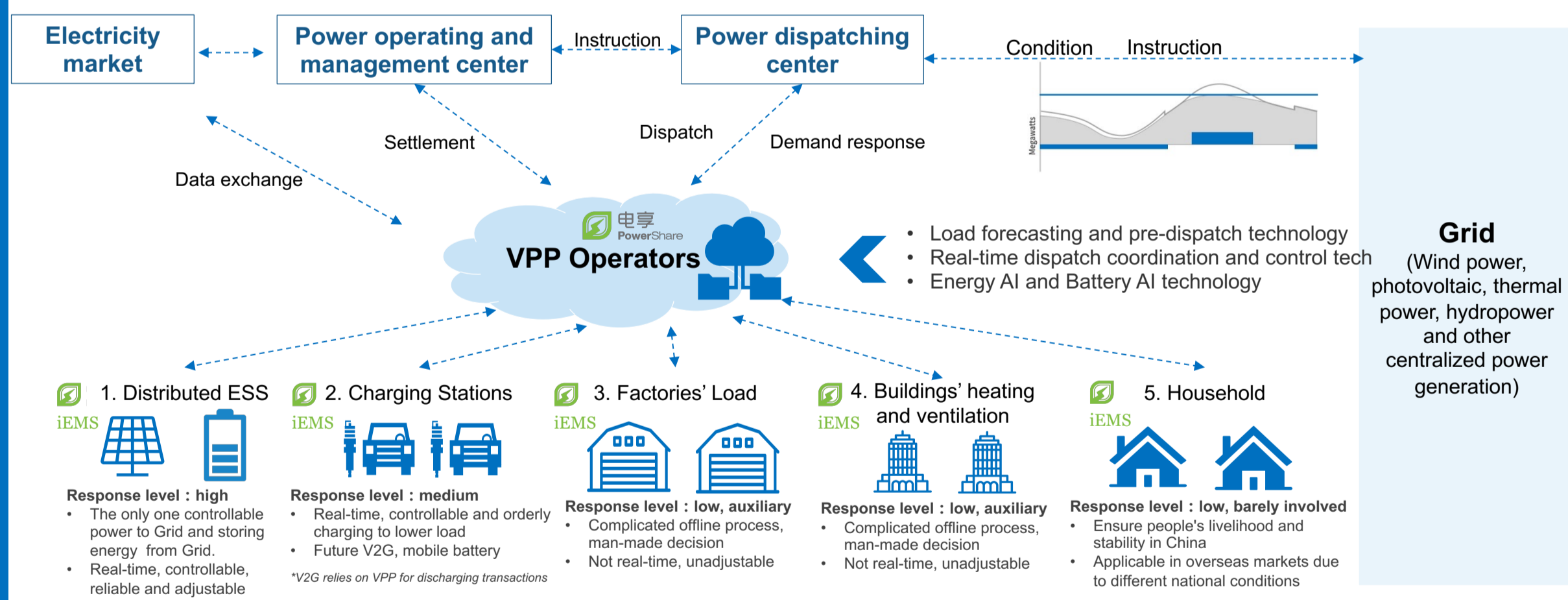
Energy Retailer (API, Control Portal, ESG investor, CPO)

Our VPP Includes :

- Two business buildings
- The building should contain PV, battery energy storage system and charging stations.
- We would like to connect to the local electricity market if applicable.

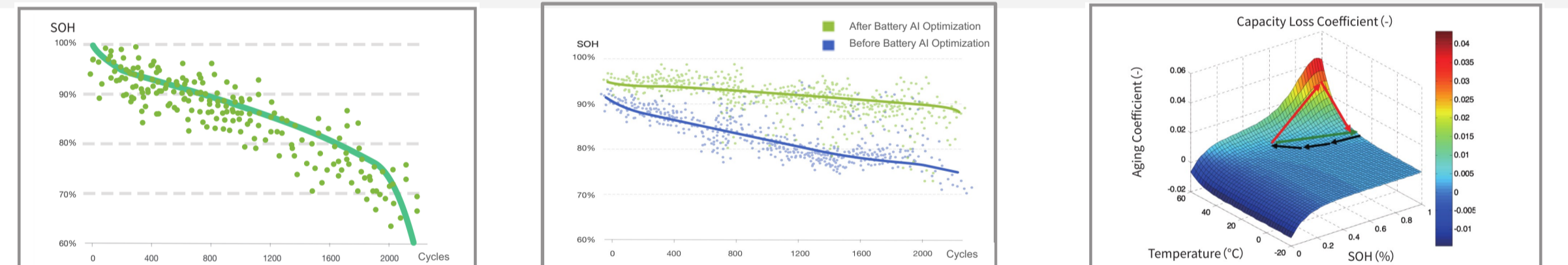
Solution : VPP

Virtual Power Plant ("VPP") is an IoT technology that integrates distributed power generation, demand response and energy storage resources into coordinated control and responds to grid dispatching instructions. VPP utilises advanced ICT and software system, to achieve the convergence and coordination of distributed power supply, energy storage system ("ESS"), controllable load, electric vehicles and other DER¹, as a special power plant to participate in the power market and power grid operation, external equivalent to a controllable power management system. The system can be used externally as either a "positive power plant" to supply power to the grid or a "negative power plant" to consume power from the grid.



Technical Requirements: Battery AI focusing on Health, Safety and Lifecycle

AI mining value, Leading big data AI technology in domestic energy storage battery industry



Battery Health Assessment & Prediction

- Based on the hybrid model of electrochemistry and AI, it is a unique patent algorithm generated by multiple iterations of massive data ;
- Accurate assessment and prediction of battery health ;
- Supporting various scenarios such as battery health management, safety warning, financial leasing, asset evaluation, charging & discharging cloud regulation,

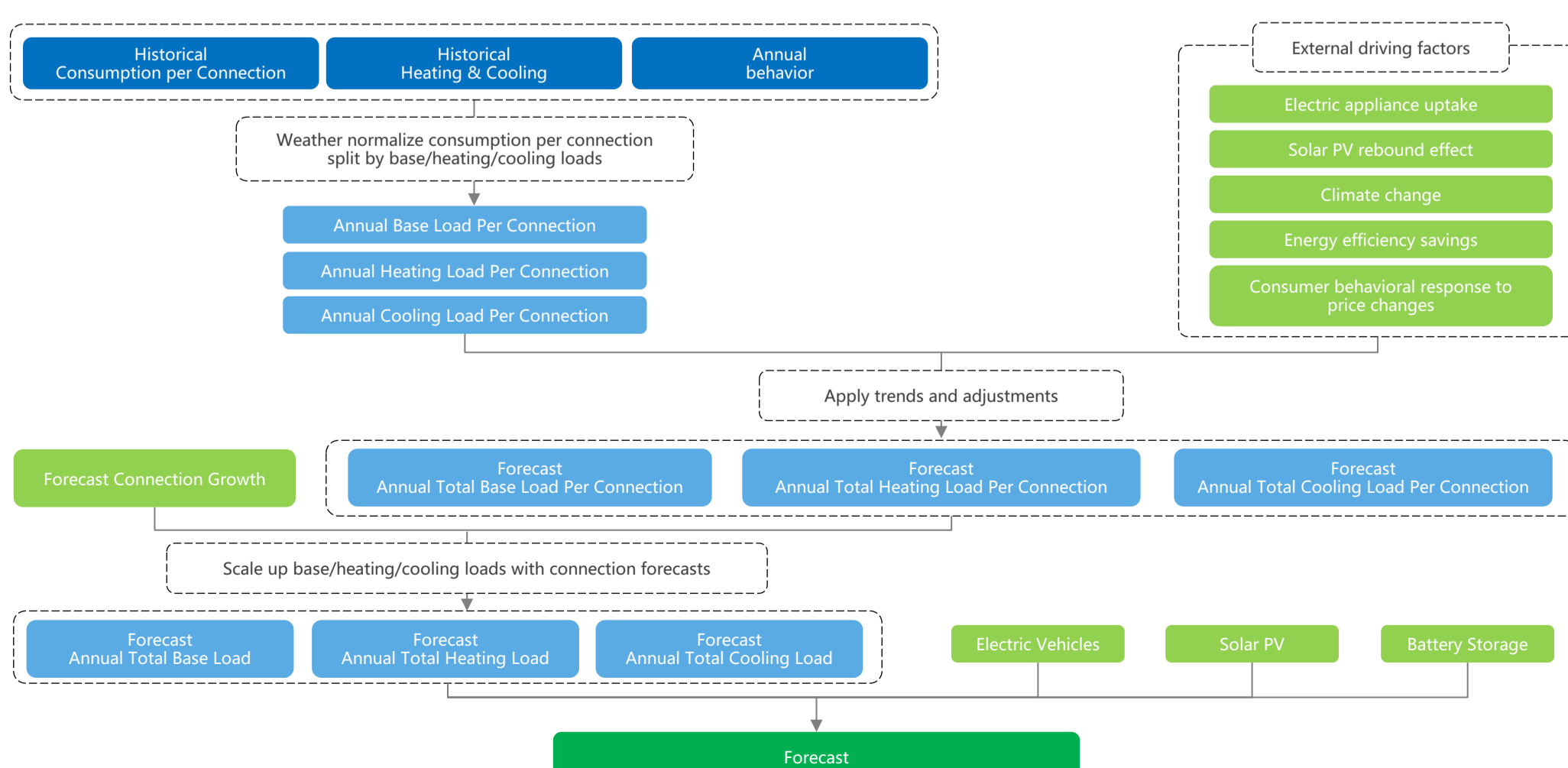
Battery Lifecycle Extension Algorithm

- The parameter optimization and charging/discharge model is implemented in combination with battery health, scenario strategy, etc ;
- Improve energy storage battery performance and prolong energy storage battery lifetime ;
- VPP cloud multi-site flexible scheduling, with the cluster site long-life balance ;

Battery Safety & Fault Warning

- Combined with electrochemistry and massive battery data to evaluate the key factors that cause failures such as lithium battery analysis and thermal loss ;
- Active abnormal monitoring of cell and module failure ;
- AI enabled battery fault warning, fault tracking, fault root cause analysis ;

Technical Requirements: PowerShare's Energy AI training the residential consumption forecasts



Technical Requirements: PowerShare's Forecasting System in NEM Market

