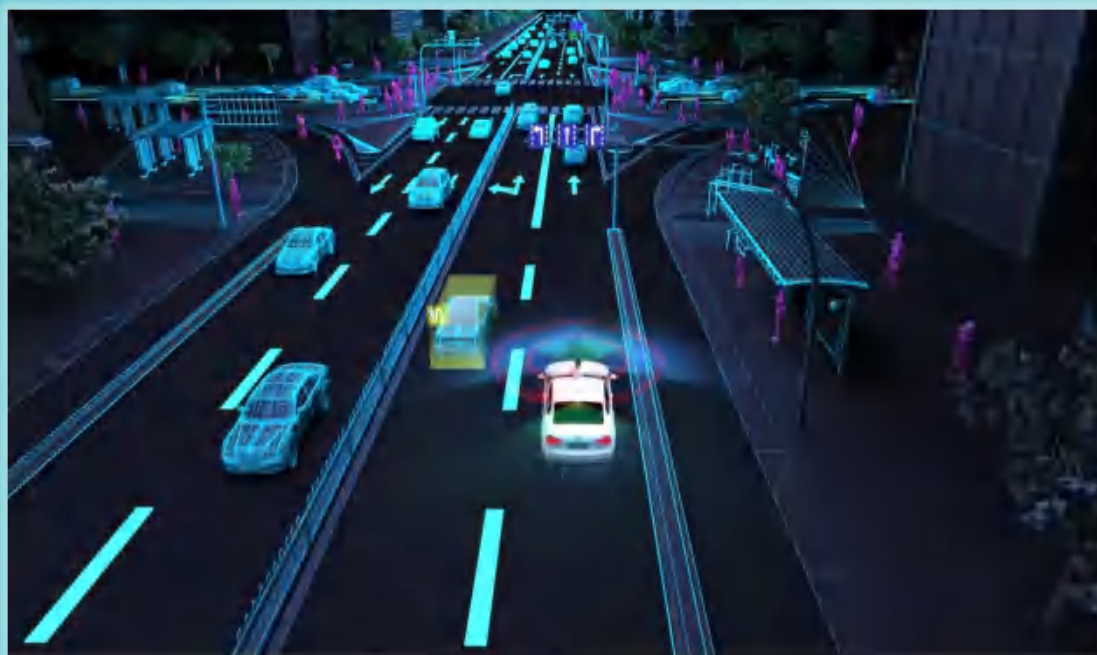


Intelligent Assessment for Subject III (Road Test)

The current 2017 Subject III assessment is highly manual and imposes heavy workloads on examiners. The new standard under review adds 19 computer-assisted scenarios (e.g., driving too slowly) to the general criteria.

In recent years, Duolun Technology has leveraged **LiDAR and visual perception** to recognize traffic signs and signals, combined with large-scale test data modeling, to achieve intelligent safety-awareness assessment based on the traffic environment—meeting all environmental perception requirements.



LiDAR-Based Road Perception

Vision-Assisted Analysis

Perceive vehicle surroundings
Identify object types
Recognize traffic signs
Recognize traffic signal lights

- Cutting in and obstructing normal traffic flow
- Failing to maintain safe distance and safe speed
- Disregarding traffic signals
- Failing to start within 10 seconds after green light when no obstacles or pedestrians ahead
- Failing to decelerate in potentially hazardous situations

Intelligent Supervision for Subject II (On-site Test)

Subject II tests have largely achieved automated assessment, but process supervision and on-site management still need improvement. Traditional methods rely on extensive monitoring and manual detection, which are inefficient and struggle to promptly identify issues such as **markers**, **personnel intrusion**, **AB car cheating**, **unauthorized practice**, and **camera obstruction**.

20+ Test Site
1,000+ Site Monitoring
100,000+hours of video

→

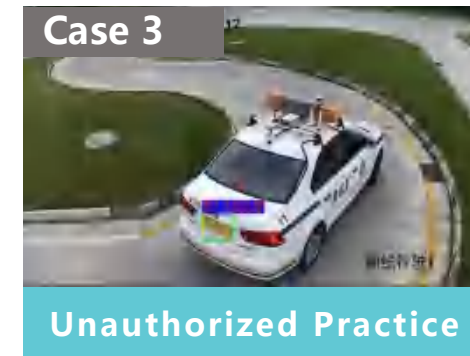
20+ Early
Warning
Recognition
Models

Proactive Violation Detection

Violations during tests: personnel intrusion, AB car cheating, suspected markers, unauthorized training, head out of window, etc.

Proactive Handling of Process Anomalies

In abnormal scenarios such as private training after failing, severe timeouts, delays, or vehicles leaving the geofence, the robot provides active voice guidance to remind examinees to follow required procedures.



Guidance & Navigation Robots

As government services become more accessible, expectations rise. Traditional human guidance suffers from understaffing, complex procedures, and poor service. Conventional robots and apps lack intelligence and ease of use, hurting efficiency and user experience.

Key issues:



Weak service mindset

Low offline efficiency

Complex & opaque processes

No digital guidance

Solution

Build an intelligent "**cloud brain**" for vehicle management with AI, large models, and big data.



Custom knowledge base

Semantic understanding

Proactive dialogue

Multi-turn conversation

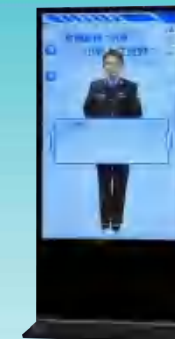
Multi-level reasoning

Professional knowledge base

Applications



Guidance robot



Intelligent digital human



Smart terminal



Mobile DMV

Traffic Command Robot - RoboCop

Heavy police demand at complex intersections leads to manpower gaps, workload, and safety risks.

Duolun's RoboCop deploys at key intersections to assist fixed posts. It captures signal status, reproduces standard gestures with high-precision joints, and autonomously directs traffic, provides safety education, patrols, manages congestion, and enforces laws — bridging police shortages, boosting visibility and efficiency, and supporting "technology-empowered police."

Intersection traffic guidance



Traffic violation capture



Intelligent vehicle interception and seizure



On-site safety guidance



Dynamic adaptive command



Large event support



Dec 2 – 14th National Traffic Safety Day, Shuanglong Ave, Jiangning, Nanjing.

Illegal parking detection & evidence



Real-time guidance for non-motor vehicle violations



Motor Vehicle Inspection Robot - RoboCheck

Vehicle ownership keeps rising. The workload of vehicle inspection—especially for new registration and second-hand transactions—has surged. Traditional manual inspection has clear drawbacks: examiners get fatigued from repetitive tasks, leading to missed or false detections; efficiency is low, causing long queues and wait times; and inconsistent examiner skills undermine accuracy and fairness.

To address these pain points, Duolun Technology has developed a fully intelligent inspection robot based on visual analysis, environmental perception, and mobile chassis technology. It autonomously identifies targets, plans paths, locates vehicles, ensures standardization, and reduces manpower.

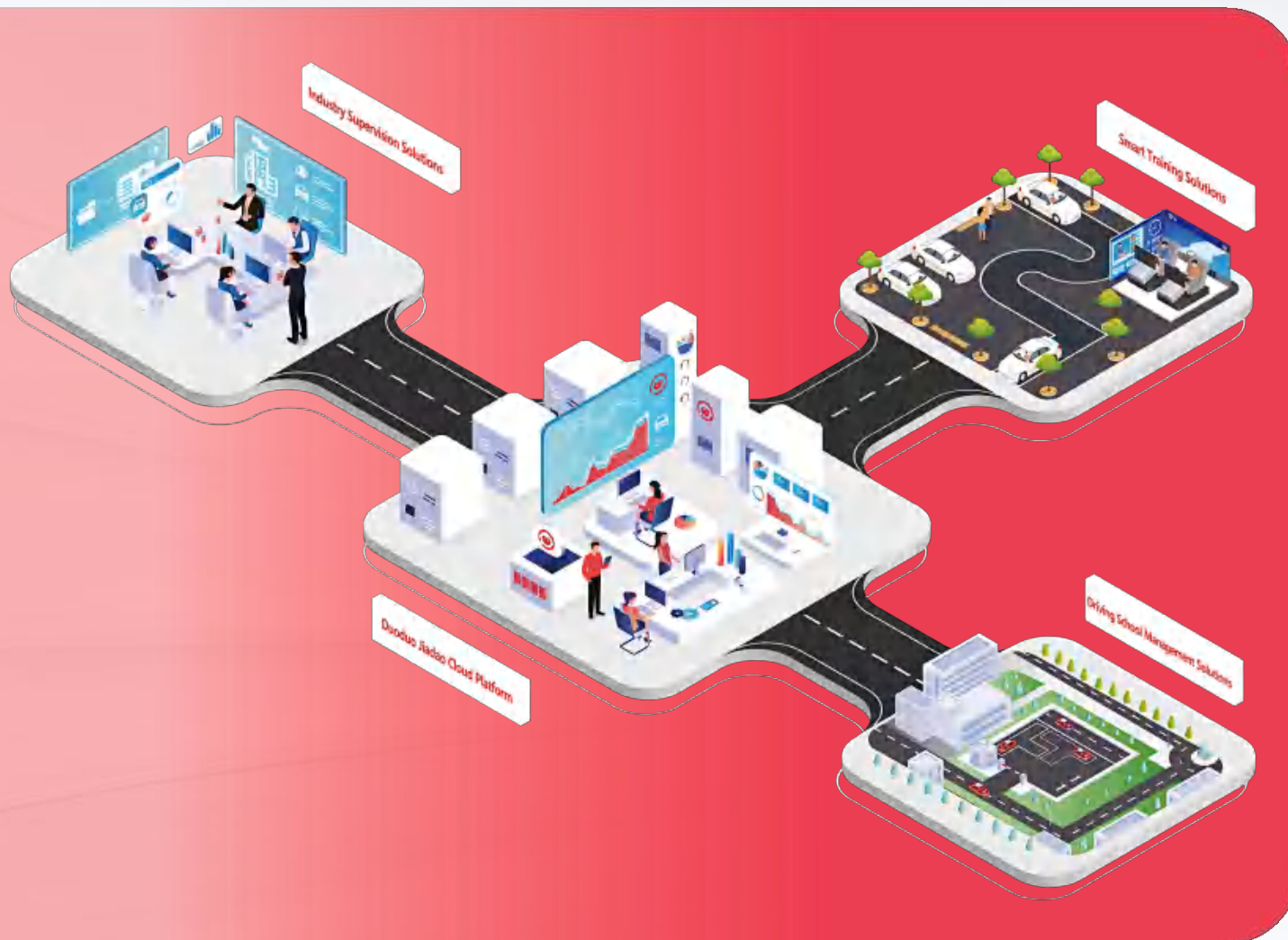


**Building a fully
autonomous inspection
robot**

Less human involvement

Higher inspection efficiency

Industry Supervision & Service System



Regulators

Implement industry policies and standards, build a visual data-driven indicator system, and foster a fair and just development environment.



Driving Schools

Deliver quality, personalized customer service, achieve efficient, low-carbon smart training, and establish information-based, technology-driven management.

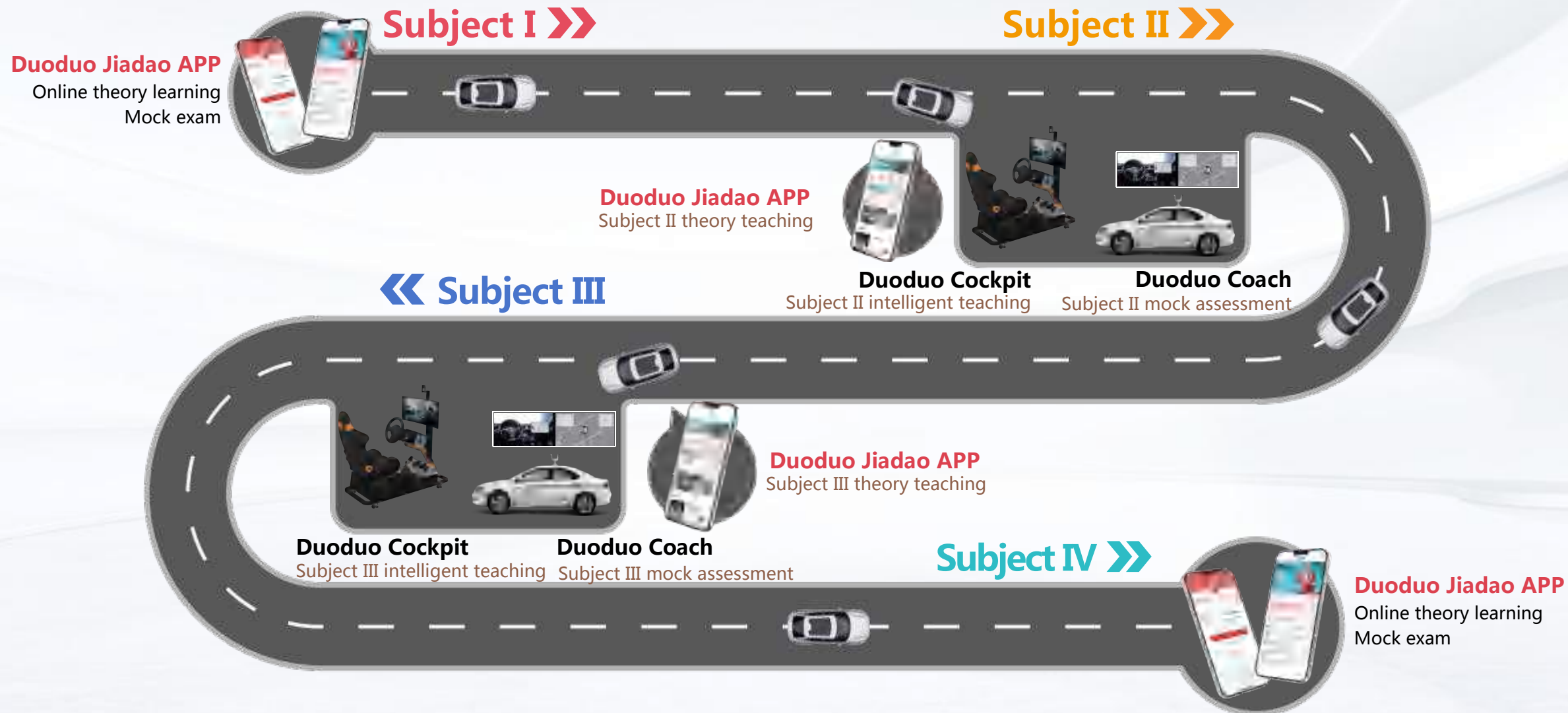


Learners

Empower every step of driver training, provide a safe and comfortable experience, and protect consumer rights.

AI Teaching System

AI teaching system covers the entire driving learning process



Smart Traffic Signal Control – Product System



Roadside Perception

Signal controller, dedicated remote control, traffic light, micro guidance screen, microwave detector, etc.



Central Signal Management & Control

Traffic signal control system, priority control system, traffic signal cloud control platform



Professional On-Site Services

Traffic engineer on-site services

Multi-timing control

Single-point optimization control

Single-point adaptive control

Dynamic green wave adaptive control

Intersection full holographic control

Police escort / special event control

Fault degradation control

Intersection overflow control

Dedicated lane protection control

Plan-based dynamic scheduling

Main road red wave control

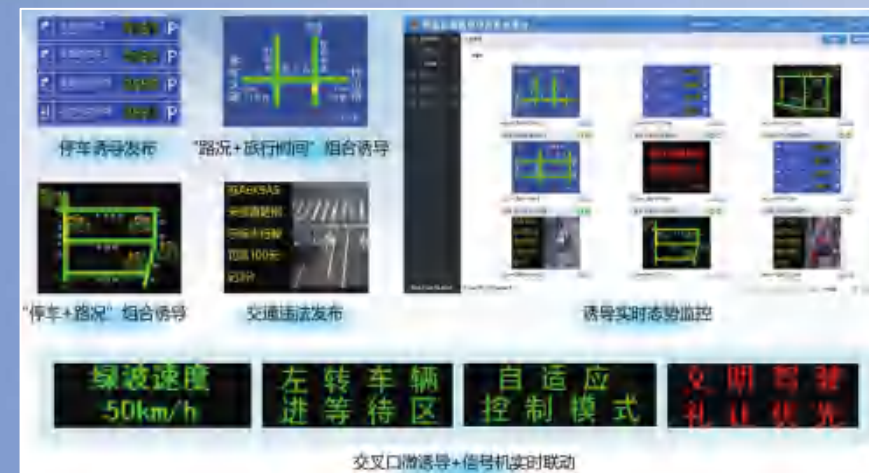
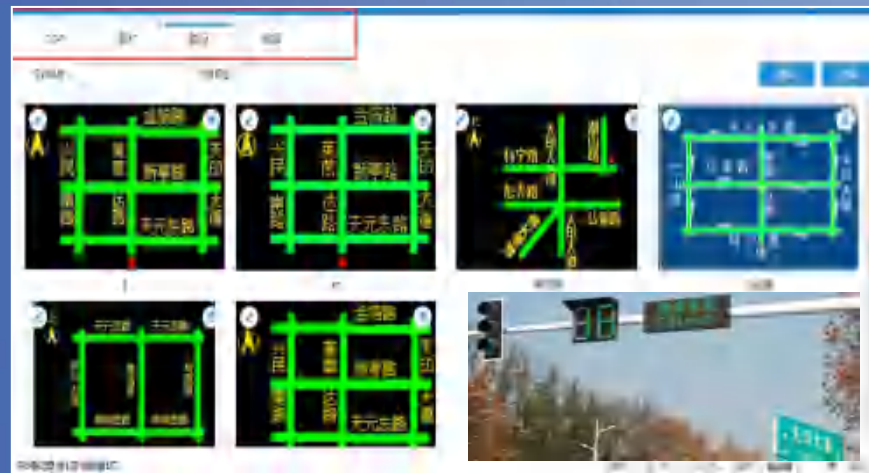
Bus signal priority control

Optimization simulation & evaluation

.....

Smart Services

The integrated traffic information publishing platform adopts a **"cloud-edge-end"** architecture, fusing multi-dimensional big data. It provides **real-time traffic conditions, incident alerts, violation warnings, parking guidance, green wave speed advice, signal status reminders, left-turn waiting zone alerts**, and other online real-time services through various dynamic message signs.



National Chain

As a smart vehicle inspection chain brand under Duolun Technology, Duolun Vehicle Inspection stations have a strong presence in Jiangsu and Shandong, and have now expanded across multiple provinces including Jiangsu, Shandong, Guangdong, Hebei, Hubei, and Zhejiang.

National
Layout

**Duolun Vehicle
Inspection
Chain Brand**



The circulation design follows ergonomic principles to provide customers with a pleasant waiting and inspection experience.

Product Ecosystem

Charging Products

7kW–400kW integrated / separate DC chargers (GB, EU, US standards)
240kW–1MW high-power charging stacks (fast charging, liquid-cooled ultra-fast, flash charging, V2G terminals)

Energy Storage Products

215–418 kWh, covering C&I, residential, marine, telecom. LiFePO₄ cells (local + cloud), optional perfluorohexanone/aerosol fire protection.

Inspection Products

Smart charging inspection terminal, EV battery health assessment, EV electrical & charging safety, power battery & vehicle operation safety, onboard OBD inspection.



Smart Management Platform

Charging management, energy management, O&M platform
Remote AI monitoring & diagnosis, intelligent data traceability, optimized O&M strategies

Solar-Storage-Charging-Inspection Integrated Solution

Integrating distributed photovoltaic power generation, "valley-in, peak-out" efficient energy storage, smart fast charging, and battery testing technologies.

Virtual power plant and microgrid solutions

Aggregation & coordination of distributed generation, storage, controllable loads (non-grid dispatched).

Charging Products



Supporting GB, EU, and US standards, the product line includes AC, DC, and split types, with core rectifier modules and control systems self-developed and manufactured. Output power ranges from 7 kW to megawatt-level flash charging, delivering constant power across a wide 200V–1000V range.

The chargers enable rapid battery assessment during charging, promptly alerting customers to safety risks to enhance vehicle safety. DC chargers also feature V2G technology, enabling bidirectional energy flow.

Energy Storage Products

Commercial & Industrial (C&I) Storage Cabinets

100KW215KWh
100KW233KWh
125KW261KWh



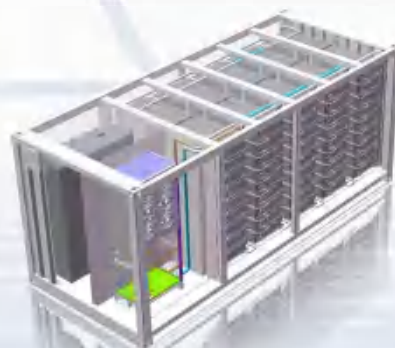
Commercial & Industrial (C&I) Storage Cabinets

215KW418KWh



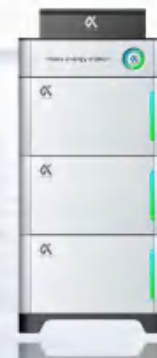
Containerized Storage

AEX3354
AEX5015



Home Storage

5kWh/10kWh/15kWh



Mobile Storage- Charging Integrated Unit



Products cover grid-scale, C&I, and residential storage, offering manufacturing, sales, operation, and system integration services for industrial, residential, marine, telecom, and other users.

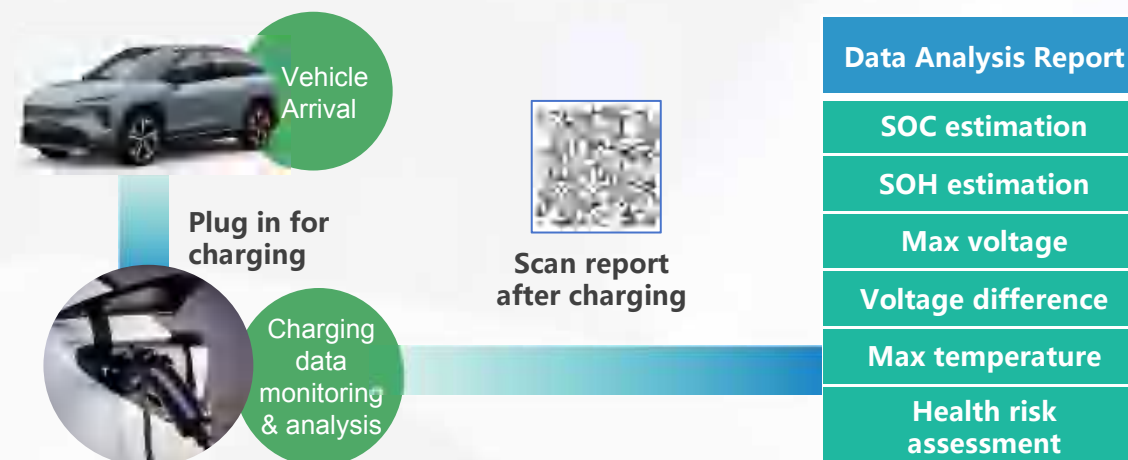
Inspection Products

The charging battery inspection terminal integrates multiple battery safety detection algorithms. Installed inside the charger, it provides real-time safety monitoring and anomaly alerts during charging, ensuring EV charging safety and generating battery health reports for owners. Data can be integrated into the management platform to support charger operations.

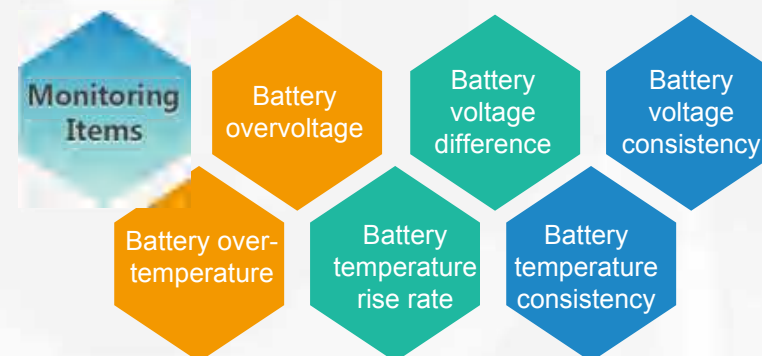
The terminal offers high compatibility, easy installation, and online upgrades, with extended management features such as customizable risk levels, various operation prompts, and status reporting.



The battery inspection terminal is suitable for both new and existing chargers from various manufacturers.



Charging Safety Monitoring : The battery inspection terminal uses built-in algorithms to alert on various safety issues. When a preset risk level is exceeded (e.g., battery voltage, temperature), the terminal can send a stop command to the charger and vehicle BMS, and supports reporting to third-party operation platforms.





Case Studies

Nanjing Jiangning "Solar-Storage-Charging-Inspection" Smart Energy Demo Station



AXEnergy liquid-cooled energy storage system



The smart energy demonstration station adopts a "solar-storage-charging-inspection" concept, integrating distributed PV, valley-in/peak-out efficient storage, and smart fast charging. By combining wind, solar, storage, and energy management control, it achieves multi-energy complementarity, stable efficiency, and green energy utilization.



Ekingpow flexible rectifier stack



Case Studies

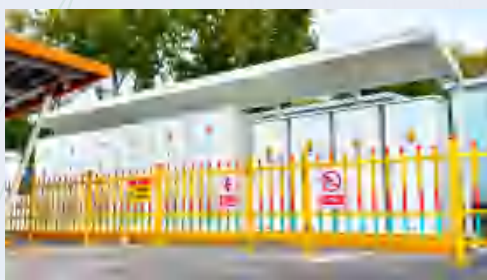
Nanjing Jianye First “Solar-Storage-Charging-Inspection-V2G” Station



600A liquid-cooled ultra-fast terminal



120KWP PV canopy



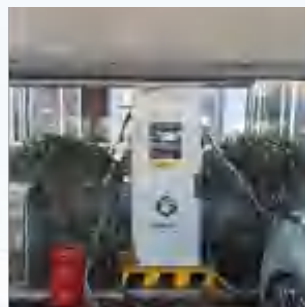
100kW/233kWh storage cabinet



Nanhu Duoduo Ultra Charging Station is a smart facility integrating PV, storage, liquid-cooled ultra-fast charging, battery testing, and V2G. Managed by a smart energy platform, it automatically optimizes energy distribution among PV, storage, and chargers for efficient, low-carbon operation.

Global Cases

Hubei Yichang



Changsha



Korea (Seoul)



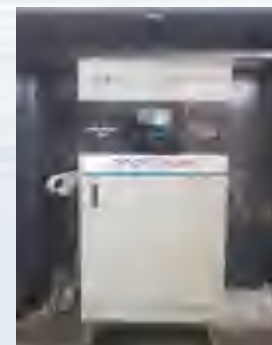
Suzhou



Thailand



Brazil



Qatar



Uruguay



INTERNATIONAL