



PRODUCTS & SOLUTIONS

SICHUAN JIUZHOU INVESTMENT HOLDING GROUP CO.,LTD.

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ABOUT US

Public companies

Main Board

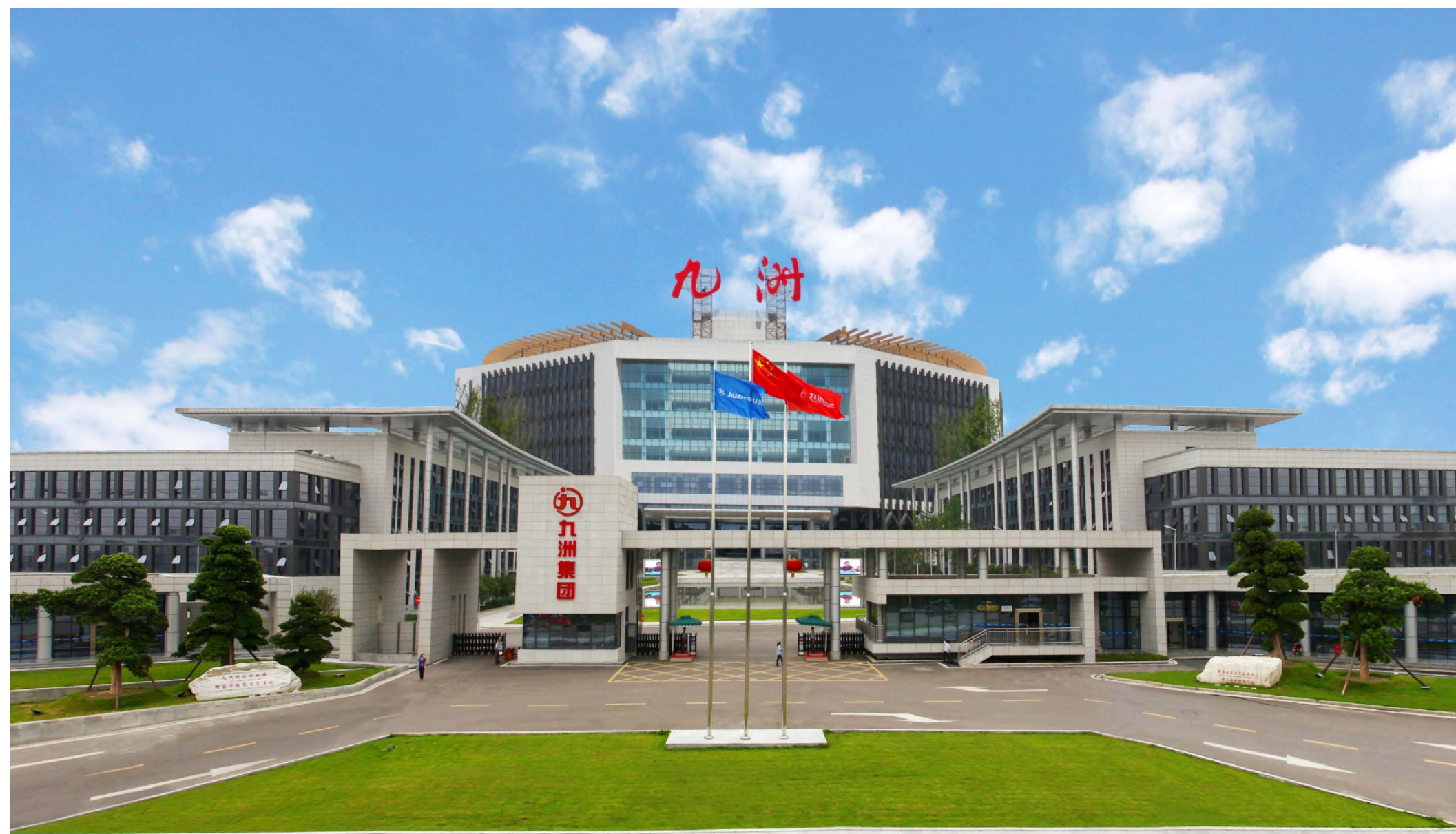
Sichuan Jiuzhou, Stock code 000801

Ellington Electronic, Stock code 603328

NEEQ (National Equities Exchange & Quotations)

Jiuzhou Opto-electronics, Stock code 830995

Anhe Precision, Stock code 873004




Sichuan Jiuzhou Investment Holding Group Co., Ltd., located in Mianyang City (China's Science and Technology City), Sichuan Province, was formerly the state-owned Fujiang Machine Factory. Founded in 1958, after more than 60 years of development, it has developed into a large high-tech enterprise group with coordinated development of electric system equipment, communication and intelligent terminals, software and data intelligence, high-end components, as well as automobile electronics and equipment. Jiuzhou is a leading domestic enterprise in R&D of radar system, a R&D and production base of ATC system, and a leading domestic manufacturer of digital TV equipment and communication terminals. Jiuzhou has built scientific and technological innovation systems centered by Mianyang and supported by

Chengdu, Shenzhen, Beijing and Chongqing, national-level enterprise technology centers, post-doctoral scientific research stations, and national-level innovation platforms such as National ATC Surveillance and Communication System Engineering Research Center and Beidou Engineering Laboratory.

With the assets of USD6.3 billion and more than 21,000 employees, Jiuzhou ranks the 29th among the top 100 enterprises in electronic information competitiveness in China and the 275th among the top 500 manufacturing enterprises in China. As the only state-owned enterprise in Sichuan, it is listed as a world-class professional leading model enterprise around the country. In 2023, it achieved an operating revenue of USD6 billion, a year-on-year increase of 8%.


BUSINESS SEGMENTS

REGIONAL LAYOUT




Electronic Equipment System

Aviation safety, Low-altitude economy, Photoelectric detection, Microwave radio frequency




Communication and Intelligent Terminal

Optical communication, Intelligent terminal, audio-visual & lighting




Software and Data Intelligence

Smart battlefield, Smart government affairs, Intellectualized reconstruction and digital transformation



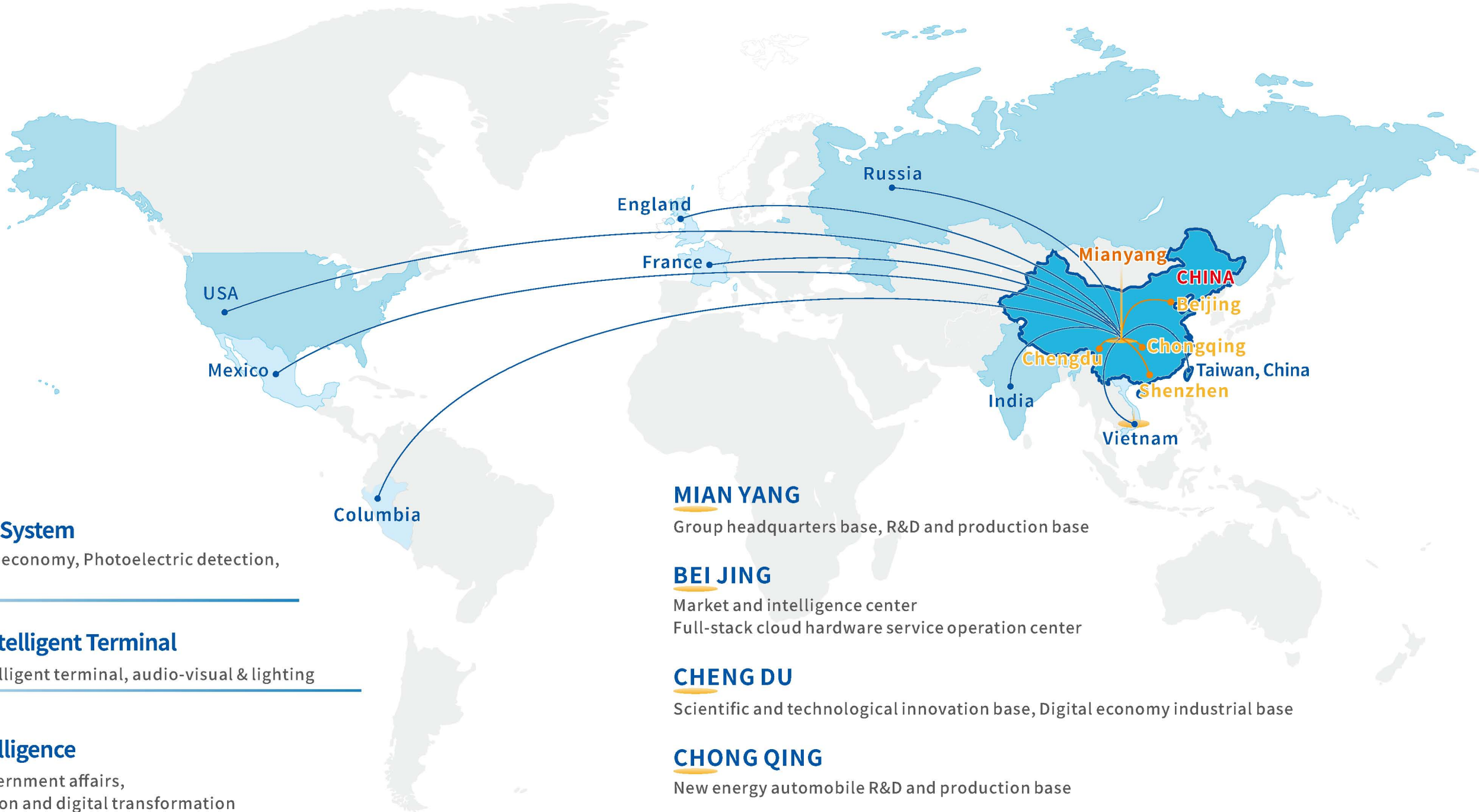
High-end Components

Micro vibration motor & precision transmission module, Micro and special motor PCB, Wire and cable & electrical interconnection



Automobile Electronics and Equipment

Intelligent driving, Intelligent electric powertrain, Intelligent cabin



MIAN YANG

Group headquarters base, R&D and production base

BEI JING

Market and intelligence center
Full-stack cloud hardware service operation center

CHENG DU

Scientific and technological innovation base, Digital economy industrial base

CHONG QING

New energy automobile R&D and production base

SHEN ZHEN

Scientific and technological innovation and achievement transformation base,
Financial investment center, New industry incubation base, International market bridgehead

Offices (overseas agencies):

Noida, India	Moscow, Russia	Bogota, Columbia	Paris, France
Taipei, Taiwan Province, China	London, England	Huntington Beach, USA	Guadalajara, Mexico

INNOVATION

68

68 national and provincial ministerial level experts

8500

More than 8,500 professional technicians, 1,200 Masters and Doctors

2700

More than 2,700 valid patents, including over 1,100 invention patents

133

Presided over and participated in the formulation of 133 national, industrial and group standards

Innovation Platforms:
Established total 67 innovation platform, includitg 6 at national level and 40 at provincial level



National Enterprise Technology Center



National Atc Surveillance and Communication System Engineering Research Center



Civil Aviation Surveillance and Traffic Collision Avoidance Engineering Technology Research Center



National-Local Joint Engineering Laboratory of Research and Application of Multi-mode Intelligent Information Technology Based on BeiDou

National Projects & Awards:
Has undertaken more than 180 national major projects and won more than 130 national, provincial and ministerial level scientific & technological progress awards



State scientific & technological progress awards



Provincial and ministerial scientific and technological progress awards

QUALIFICATION & CERTIFICATION

National high-tech enterprise	National technological innovation model enterprise
National model unit in intellectual properties of enterprises and institutions	Aviation quality management system certification AS9100D
Energy management system certificate ISO50001	Quality management system certification ISO9001
Intellectual property management system certification	Information technology service management system certification ISO20000:2018
Automobile industry quality management system certification IATF16949	Environmental management system certification ISO14001
Occupational health and safety management system certification ISO45001	Beidou navigation civil service qualification
CMMI software capacity maturity integration model certification (Level 4)	Certificate of information system construction and service level (Level CS4)

EXPERIMENTAL TESTING CAPABILITY

Laboratory accredited by CNAS
Comprehensive capabilities encompassing environmental testing, electromagnetic compatibility testing, electrical safety evaluation, software testing, component analysis, and metrological calibration across various domains such as radio, time & frequency, electricity, and geometric quantities,etc.



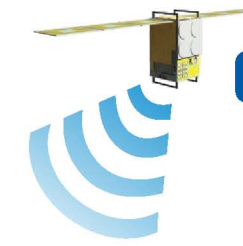
China National Accreditation Service for Conformity Assessment Laboratory Accreditation Certificate

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Intelligent ATC system solution

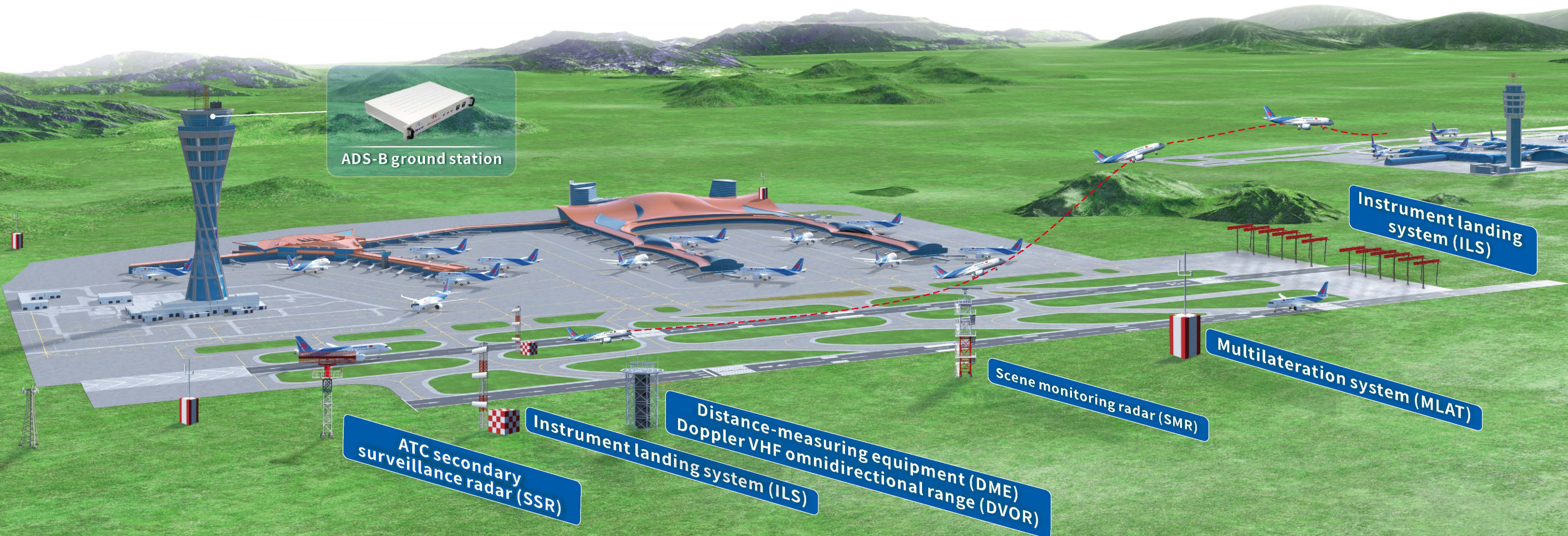
Provide flight navigation, radar monitoring and information services for ATC, and build a systematic network of navigation surveillance and sensing facilities, form the “nerve endings” of intelligent ATC and provide ATC users with the functions of wide-area coverage perception, deep network interconnection, intelligent collaborative interaction, and intelligent and steady operation.

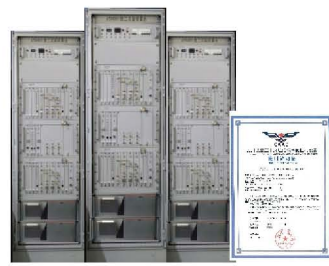


Satellite-based ADS-B



ADS-B ground station





●● ATC secondary surveillance radar (SSR)

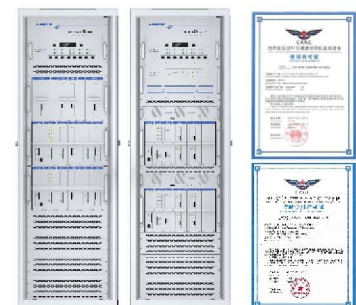
Through the inquiry and detection of aircraft equipped with ATC transponder, accurately obtain the situation information such as MA code, altitude, position, MS address, call sign, speed and heading of the target aircraft, continuously and accurately monitor the accuracy of the aircraft in real time, which is the most important means of aviation surveillance at present.

●● ADS-B ground station



Ground-air surveillance: ADS-B ground station can not only provide surveillance services in non-radar area alone, but also carry out detection improvement in blind spots or double/multiple coverage in radar coverage area.

Surface surveillance: ATC center can obtain the traffic conditions of the whole surface through ADS-B ground station, to reasonably dispatch the traffic on the surface and effectively improve the traffic safety on the surface.



●● Distance-measuring equipment (DME) Doppler VHF omni-directional range (DVOR)

The distance-measuring equipment and the Doppler VHF omni-directional range are combined to construct a polar coordinate navigation and positioning system, which provides reliable navigation guarantee for the flight safety when departing, approaching and landing.

The distance-measuring equipment cooperates with the instrument landing system to guide the aircraft to slide down and land. It can also be separately configured on the air routes to provide navigation and positioning services for the aircraft.

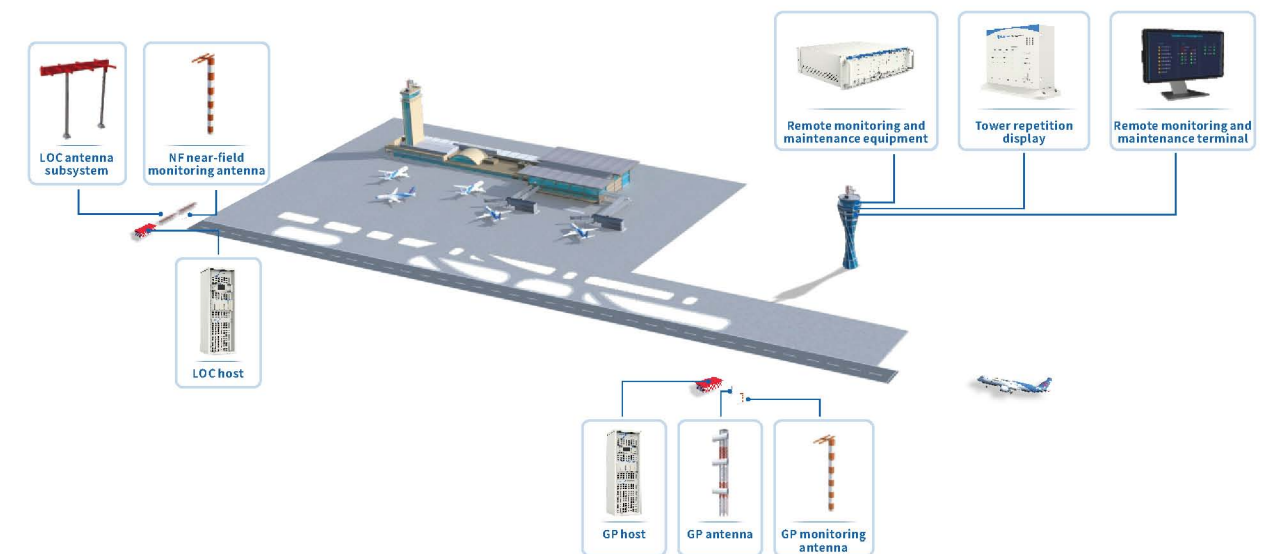


●● Surface movement radar (SMR)

It offers round-the-clock real-time awareness of the intricate and dynamic traffic scenarios at airports, which is conducive to better surveilling and tracking the aircraft on the surface, thereby providing a robust information backbone for airport surface surveillance and security measures.

●● Instrument landing system (ILS)

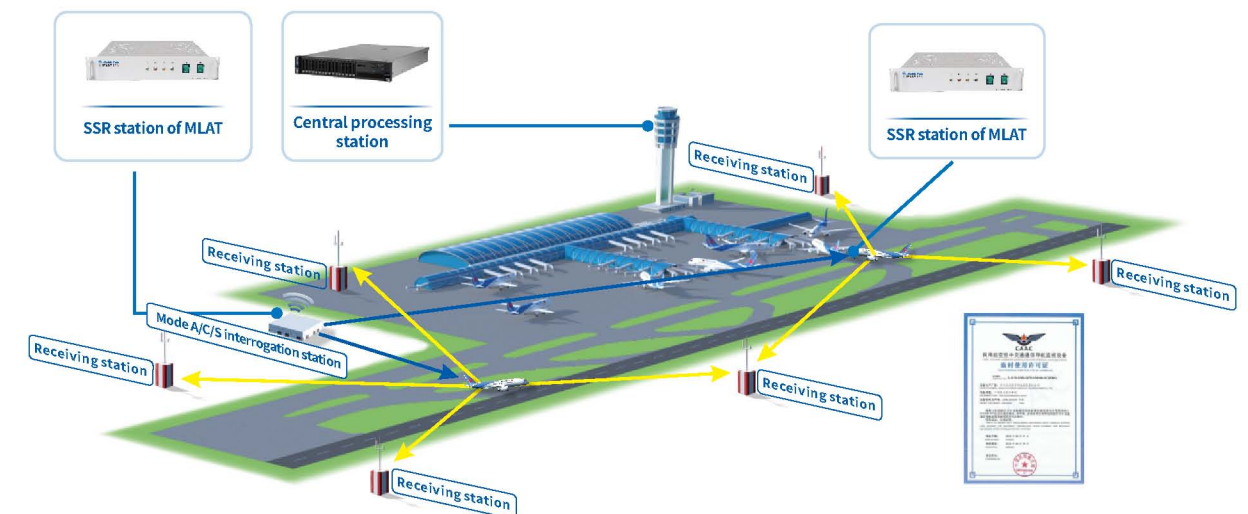
As a navigation system to guide the aircraft to approach and land accurately, it provides heading signal aiming at the runways and glide signals guiding the aircraft to descend, as well as appropriate distance indication signals, so that the aircraft can land safely with the help of the signals provided by the instrument under low visibility and bad weather conditions.

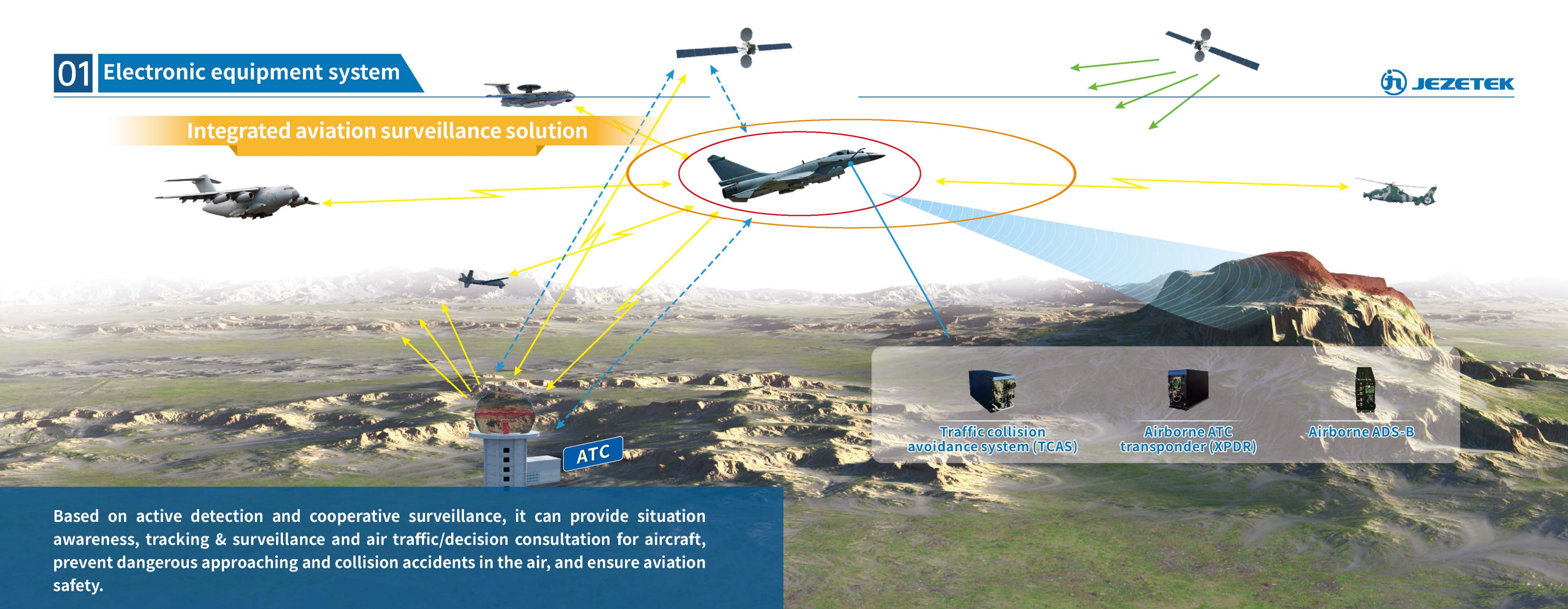


●● Multilateration system (MLAT)

Used in the airports with complex transportation environment, it provides more more comprehensive and sophisticated surveillance guidance and control on the airport surface to improve the positioning accuracy of dynamic targets on the surface and realize the surveillance of the movement areas on the airport surfaces.

Deploying the MLAT ground infrastructure enhances surveillance coverage and performance. It also offers an alternative solution to meet the surveillance requirements of special terminal (approach) areas, and provides surveillance and conflict alerting for operations on closely spaced parallel runways.





● Traffic collision avoidance system (TCAS)

Through tracking, surveillance, track generation and threat assessment of aircraft in airspace, it solves the collision of aircraft in the air, and enhance pilots' situation awareness of aircraft in airspace.



● Airborne ATC transponder (XPDR)

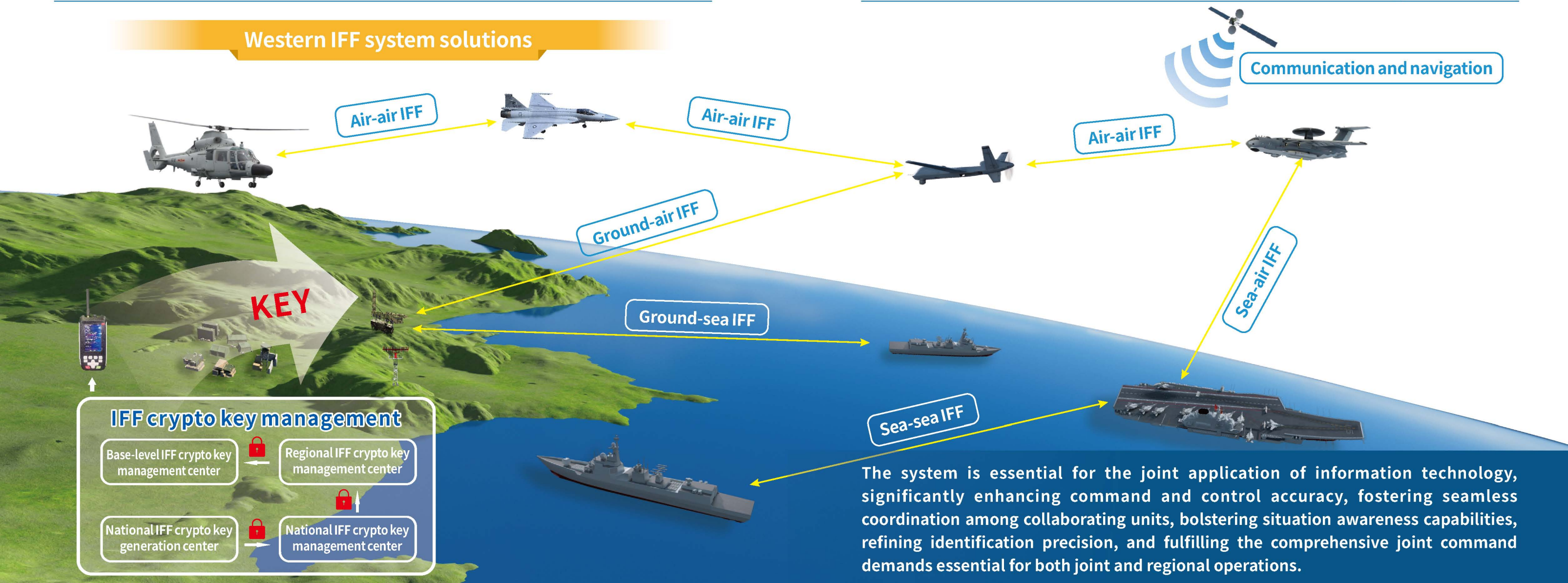
The product boasts compatibility with conventional mode transponders (namely, Mode A/C) and incorporates Mode S functionality. It seamlessly integrates with ground-based ATC SSR systems and 1090ES data link ground stations to effectively surveil and track aircraft movements. Additionally, it features ADS-B OUT capability, actively disseminating pertinent aircraft information to ensure aviation safety.



● Airborne ADS-B

It furnishes comprehensive aircraft data including latitude, longitude, altitude, Mode S address, and flight number, empowering flight crews with a clearer understanding of surrounding air traffic and enhancing situation awareness. Furthermore, it serves as a vital tool for airline operational surveillance and management, ensuring safe and efficient flight operations.





• Product functions

Target identification:

Quickly and accurately identify cooperative targets, enhance command coordination and reduce fratricide.

ATC:

Safeguard flight operations by implementing precise aircraft tracking and control measures, ensuring efficient, orderly, and safe mission completion from takeoff to landing.

• System capabilities

Equipment system

Provide western system equipment covering air, land and sea to build a comprehensive equipment system for users.

Cryptographic system

Provide life-cycle management services for IFF crypto key of western IFF system, including key generation, update, transmission and clearance.

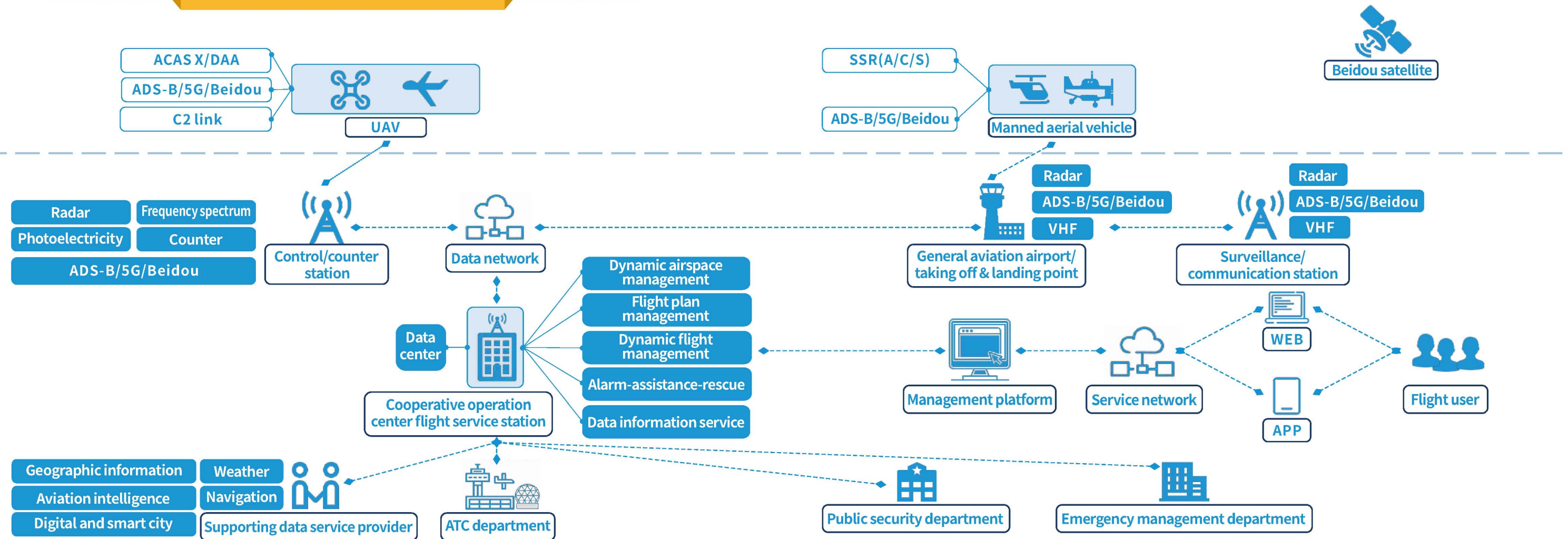
Support system

Provide O-level, I-level and D-level services and equipment to ensure the stable operation of the western IFF system and maximize the operation efficiency of IFF equipment.

Technical services

Offer comprehensive technical services encompassing technology transfer, collaborative production, and technical training, empowering users to achieve autonomous control over their core equipment and thereby bolstering their scientific, technological competencies, as well as their capabilities in equipment construction and development.

Low altitude airspace management solution



Based on data centers, integrated air-ground surveillance and a “cloud - network - terminal” technical framework, the electronic equipment system serves as an integrated, digital, smart and one-stop management and service platform for low-altitude airspace, integrating low-altitude cooperative operation, urban UAV management, and UAV control and command. The core system provides digital and smart management and services for low-altitude flights to manned aerial vehicles/UAVs, navigation companies, the public, ATC and industry management departments, public security departments, and emergency support departments. It can provide flexible, diverse and configurable system construction and services for various low-altitude airspace management scenarios in key areas, important regions, cities and provinces to enhance the safety and convenience of low-altitude flight movement and offer technical and system support for optimizing the allocation of low-altitude airspace resources and ensuring airspace safety, flight safety and public security.



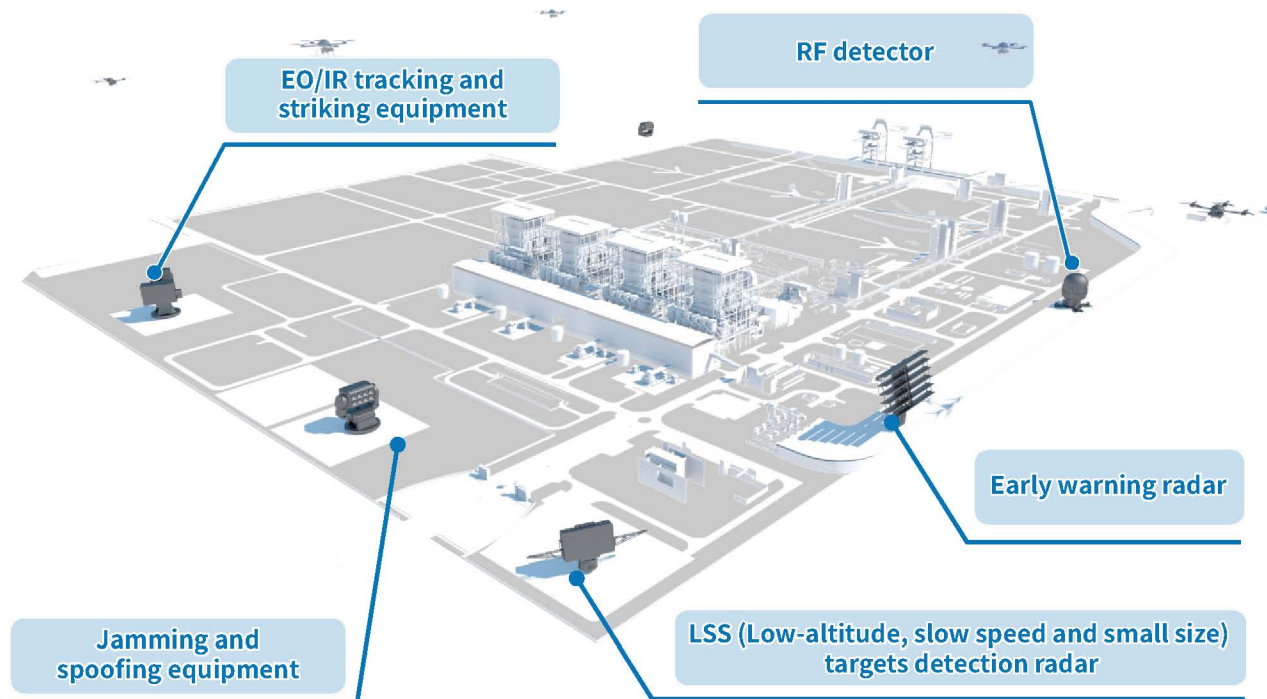
Low-altitude operation scenario



Typical deployment scenario

UAV Defense

● Anti-UAV system



The system adopts low-altitude detection radar as the main early-warning detection means, and integrates RF detector and EO/IR as the auxiliary detection means. The targets information from these detectors is fused to achieve remote early-warning and reliable identification of intruding targets. The system command and control system forms the defense area situation based on comprehensive air intelligence data, and forms the disposal plans according to threat characteristics.

The construction of the Anti-UAV security system an international airport in Sichuan largely guarantees the safety of the clearance airspace of the Airport. Since 2017, when the system was deployed and completed, it has detected unauthorized aircraft multiple times, which strongly supports effective evidence collection and control by public security department of the Airport. Following the completion of a full system upgrade in 2021, our capability for comprehensively detecting, identifying, and controlling LSS targets has undergone a significant enhancement.



Fixed distributed Anti-UAV system Mobile integrated Anti-UAV system



- Deployed in a fixed or mobile way to meet various user needs
- Open architecture, excellent compatibility, and high reliability
- Deep integration of air intelligence, intelligent decision-making assistance, and accurate disposal of air intelligence

● Serialized low-altitude detection radar equipment

• Integrated air-ground detection radar

With integrated air-ground detection capability, the radar is capable to detect and track targets such as personnel, vehicles and low-altitude aircraft, and provide real-time intelligence and situational information. The radar features small size and light weight.



• Small and micro UAV detection radar

The radar is capable to detect, locate, and track “low, slow and small” air targets precisely, and classify and identify typical targets. The radar features high maturity, which has been applied in various scenarios such as islands, reefs, borders, important areas, and urban core areas.



• 2D phased array detection radar

The radar is capable to detect and track various intruding targets such as rotary-wing UAVs, fixed-wing UAVs, armed helicopters, flying at low or ultra low altitudes, and ground moving vehicles and personnel. The radar can provide target indication information at high data rate and high accuracy for defense systems.



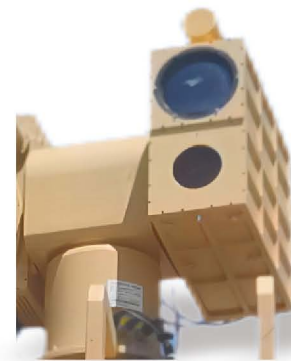
• RF detector

RF detector can effectively detect, identify, and perform direction finding (DF) for UAVs within a certain area, and is able to detect the remote control and image transmission data links of UAVs. It is installed in a fixed way, and supports rapid movement for mobile deployment. With good environmental adaptability, it supports multi equipment networked operation and unattended operation.



• EO/IR

Configured with electro-optical detector and infrared-ray sensor, EO/IR supports day and night detection. Featuring visual detection, automated search and high-precision tracking, EO/IR can achieve rapid target identification and verification and visual evaluation of disposal effectiveness with full-process tracking.

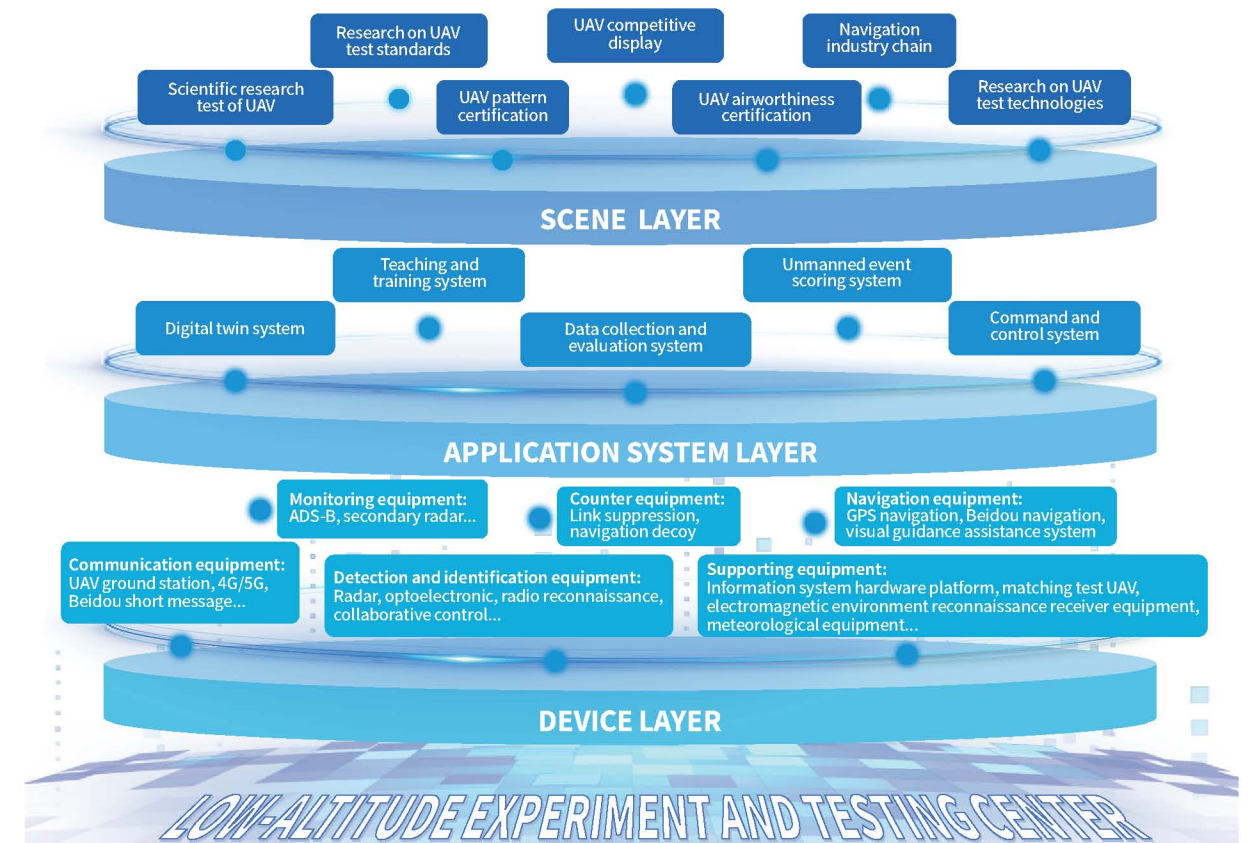


• Jamming and spoofing equipment

It can transmit suppressive jamming and spoofing signals to achieve disposal effects such as expel, forced landing and point-of-choice landing. The parameters such as jamming range, power, frequency, and direction can be set to support multi disposal modes and ranges.



Low-altitude experiment and testing solution



The center covers an area of over 506,667 m², including a flight test airspace of nearly 1,000 km². It has the flight test base and various flight scenarios for typical weathers.

Identification

Joint low-altitude innovation test verification center
CNAS testing + airworthiness certification testing + customized flight scenario testing

Business scope

Testing of low-altitude aircraft performance and airborne electronic equipment, testing of ground CNS and operation management system, detection of UAV, flight testing of counter equipment, geographic surveying, training, competitions, etc.

Airspace situation

Sichuan Co-administrated Airspace No. 4 and No. 7,
flight plan approval time ≤ 30 mins.

Technical team

Professional pilots + airspace management
+ flight scenario construction + test implementation



Aerial view of Jiuzhou low-altitude experiment and testing center

Optical communication

Capacity introduction

- Large scale manufacturing capability: vertically integrated services from chips to TO/COC/OSA to modules



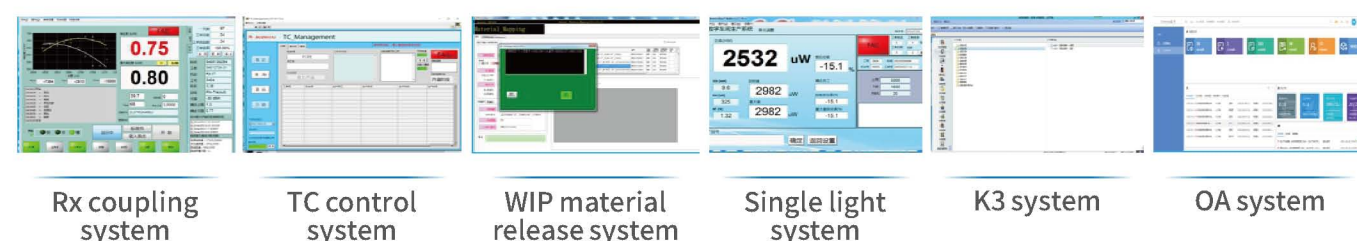
R&D capability and product iteration capability

- The technical talent team with 10 - 20 years of experience in the industry
- Use of optical communication capabilities for non-optical communication products such as Laser radars and onboard COB cameras

Digital control and deep integration of manufacturing entities

- Leading the industry in digital management of full process manufacturing due to fully automated autonomusness and controllability
- Having a fully informationized production management system of "ERP + OA + MES"

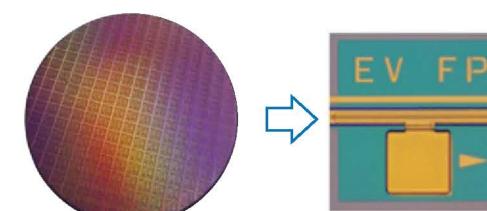
Automated system



Chips sealing and testing

Capability to meet customized demand

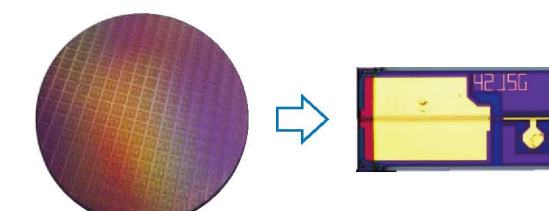
- Support full-speed DFB/EML/APD chips packaging services
- Support COC packaging and aging testing services



25G DFB

Professional technical and quality control capabilities

- Provide technical solutions in sub fields such as Wafer/Bar/Chip/COC for high-end optical chips
- Capable of full process control for traceability, fool proofing, early warning and large data analysis



10G 1577 EML

Optical device

Mass production capacity for conventional components/devices

- 25,000 m2 of factory buildings at the level of 100,000/10,000
- Stable market share in segmented fields, ranking among the top two in the industry
- Exclusive 50GPON device bulk supply channel for the industry

Capability to meet customized demand

- Meet the miniaturization needs, with high stability and reliability
- Support long-distance transmission
- Quickly respond to different solution needs of customers

Capability in integrated optoelectronic device technology



EML TO



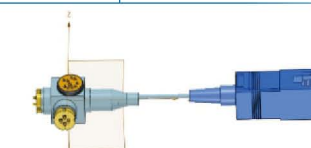
2.5G BOB BOSA



10G EPON OLT



Mt jumper



Combo ONU

Optical module

- Laser TO - device - integrated module manufacturing platform
- COB/COC precision manufacturing packaging platform (chips - module integration)
- Stable production and sales, ranking among the top 2 in the industry, achieving full coverage of high speeds such as 100G/200G/400G/800G
- Cooperate with key customers to achieve the first offering globally for 50G PON modules
- Capable of cutting-edge technologies such as next-generation optoelectronic integrated packaging technology, LPO packaging technology, liquid cooling technology, etc



400G optical module



800G optical module



50G COMBO OLT

Automated equipment

- Have key core technologies in high-precision mechanical structure control, image processing, OCR AI image recognition, etc.
- Capable of developing chip aging simulation and testing in other fields (such as machinery, automobile electronics, etc.)
- Capable of meeting customized services of production equipment for upstream and midstream products in the industry

Technological innovation points

Chips recognition and welding system

High-precision fast positioning device for chips

Blue film separation and crystal extraction device

Product gripping 90 degree flipping eutectic welding device

Product category

Multi DIE eutectic welding machine

Visual alignment and sealing machine

COC/COB eutectic machine

2.5G/10G eutectic machine

5. OCR character reader

Chips/IC intelligent point counting machine

25G fullypreset welding eutectic machine

LD/body automatic press machine



TO series high-speed high-precision eutectic machine



COC/COB high-speed high-precision eutectic machine



High-precision visual alignment and sealing machine

Intelligent terminal



Dedicated to providing integrated scenario solutions, enabling technology to truly integrate into daily life, fully connecting and optimizing the smart life experience, offering a variety of products such as high-performance routers, intelligent set-top boxes, high-definition security cameras and cloud computers. Main customers: various operators and leading communication enterprises.

Production capacities

- Have the manufacturing base covering an area of over 110,000 m², including 28,000 m² of logistics and warehousing center
- Annual production capacity of intelligent terminals: 15 million units. Annual production capacity of optical network terminals: 20 million units
- The manufacturing capability covers the complete process from PCB to PCBA to final assembly for electronic products, along with rich experience in mass production.
- 120 automated production lines and the first benchmark line for lean automation in the optical network terminal industry
- Acquiring automated equipment for SMT, DIP, single board testing, and group testing packages, etc.
- Continuously enhancing the automation coverage of traditional and newly established processes, and strengthening the independent development capabilities in smart manufacturing.



➤ Data communication terminal

●● Wi-Fi6 router

Used in various scenarios such as homes, shops, offices, etc., and can achieve full house coverage and high-speed Internet access through MESH networking.



Ax5400 series



Ax3000 series



●● 10-gigabit optical modem

Support high bandwidth. Achieve the forwarding and management of access network data by the photoelectric signals conversion in both symmetric and asymmetric rate modes. Used in large bandwidth scenarios such as homes, offices and industries, meeting the needs of gigabit-level wired access and gigabit-level wireless coverage.



Wireless optical modem series



Data optical modem series

●● 5G access terminal

5G home access terminal: converts 5G wireless signals into WiFi signals and wired networks, achieving a gigabit-level bandwidth access experience. Suitable for being applied in homes, offices and industries.

5G industrial access terminal: integrating industrial fieldbus protocol, providing industrial control interface, enabling fast 5G data transmission in industrial interconnection scenarios.



Industrial access terminal



Home access terminal

➤ Digital audio/video terminal

●● 8K/4K UHD intelligent set-top box

Adopting mainstream SoC, supporting 8KP120 and 4KP60 UHD digital audio/video reception, decoding and playback. Supporting HDR, wide color gamut, high fidelity surround sound effect, etc. Supporting national AVS3\AVS\DRA audio/visual encoding and decoding standards. Applied across multiple domains, including UHD program broadcasting such as family cinema and large-screen game broadcasting, HD video conferencing, 5G + 8K + XR cloud interactive experiences (tourism, shopping, etc.).



8K UHD series



4K UHD series



●● Network camera

The pan tilt camera can be applied in indoor surveillance locations with high-definition image quality requirements in small businesses, homes, offices, and other settings. The gun camera can be applied in various security locations, encompassing rural areas, roads, yards, warehouses, communities, and beyond, ensuring high-definition image quality even in low-light or light-free environments.



Pan tilt network camera



Gun network camera

●● Cloud computer

Equipped with domestically produced ARM quad core high-performance low-power processor. Supporting 1920 * 1080 resolution and dual display, with strong audio/video processing performance. Variety of external interfaces: 1 * HDMI, 1 * VGA, 2 * USB3.0, 4 * USB2.0, 1 * RJ45, 1 * earphone/microphone (two-in-one). Cloud resources assignable as needed and cloud desktop resources accessible anytime and anywhere, suitable for various business scenarios with high security needs, helping governments and enterprises easily integrate into the cloud.



Smart meeting room system

Hushan IoT product seminar

Leveraging the cloud management platform and adopting the B/S architecture as its core server, the system ensures flexible and efficient meeting scheduling, precise allocation of meeting room resources, remote meeting information publishing, one-click configuration of meeting rooms, and automated equipment inspection, all while minimizing operational and maintenance costs and enhancing user-friendliness.

Smart audio terminal

Equipped with 1-in 2-out audio processing function, support connecting to the IoT platform for local and remote network control and device status checking. Equipped with the built-in detection module, support automatically monitoring faults in the speaker, DSP module, and power amplifier module. Real-time operation, detection, or scheduled automatic module testing can be performed remotely via the platform or locally.



Smart microphone

Fully CNC design, integrating voice and video tracking functions. The microphone is durable due to its aluminum alloy shell design with a high-strength tempered glass interface. The unit microphone lever is separated from the base, and is fixed in a spiral manner, which eliminates noises and provides greater transportation safety protection.



Kirin small spacing display series

Pixel spacing (mm): 0.9375 | 1.25 | 1.5625 | 1.875

Ultra light and thin box, weight per set: 5.5 Kg, total thickness: < 27 mm. All-in-one board card design and easy maintenance. Point-to-point splicing of 720P, 1080P, 4K, 8K and above. Low brightness and high grey design, high contrast, high color rendition, and high dynamic range. Support upgrading to dual power backup or dual link backup.



Smart computing center

A single device, with a convenient design interface and elegant user interface, satisfy various needs of the conference room. The device integrates an audio processing module, a video processing module, an audio/video matrix module, a DSP digital signal processing module, a central control function module, and a timing device function module, which can be connected to the IoT platform to achieve timing automation, real-time control, remote support, and detection management functions.



Smart hall System

Specifically designed for halls, the integrated system solution combines sound, light, video, and telecommunications. It employs network digital audio and video transmission technology to ensure low distortion and line attenuation in the signal flow.

Stage lighting system

An intelligent lighting management system that integrates light control, scene control, smart linkage, remote control, and other functions. It adopts advanced IoT technology and cloud computing technology to achieve centralized control and management of lighting equipment in multifunctional halls, and thus provide users with a more intelligent, convenient, and efficient lighting control experience.



Professional speaker system

The system adopts network digital technology to ensure low distortion and line attenuation in the signal flow, and supports IoT platform control to achieve remote control.



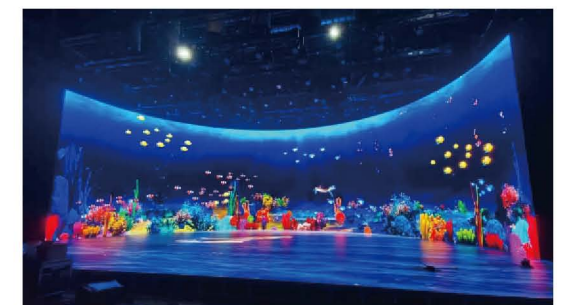
Professional LED display system

Including a full range of LED display screen products such as the Kirin series 600 * 337.5 mm box, Hongyun series 640 * 480 mm box, 500 * 500mm box, 500 * 1,000 mm box, 320 * 160 mm module, etc., immersive XR/VP screen, and creative display screens such as strip display screen.



XR display screen for studio

Provide an immersive shooting environment for fields such as film and television, advertising, live broadcasting, gaming, etc., which reduces the use of green screens and lowers the costs and time of post-production.



Cinema projecting system

The active luminous display makes significant progress in brightness, color rendition, white/black contrast, dynamic range, etc. Combined with professional speaker, it brings a more immersive professional viewing experience, with comprehensive strength in R&D, manufacturing, engineering installation and debugging, and after-sales services of system products.



Cinema LED movie screen system

The LED movie screen certified by DCI adopts the latest LED display technology, and its optical parameters meet the requirements of the movie industry. Integrated cinema playback system supports digital cinema standard format DCP.

- Screen specifications such as 8m, 10m, 16m, 20m, etc
- High-quality audio and visual experience, fully enhancing the immersive experience of the movie
- Extreme black, low brightness and high grey, DCI-P3 color gamut, 3D display
- High visibility and high safety protection
- 100,000 hours of lifespan, principle of inorganic self-lighting
- Leading surface optical processing technology in the industry
- Leading movie playback service system in the industry



Cinema speaker system

With the comprehensive strength in R&D, manufacturing, engineering installation and debugging, and after-sales services, the systems and products meet the needs of various sound reproduction system projects, including ordinary halls, VIP halls, luxury halls, giant screen halls, panoramic sound halls, etc.



Command center system



The overall design of the Internet + Emergency Command Center System is based on audio, video, network and control infrastructures. It aims to build a full media resource sharing system. It fully uses key technologies such as cloud computing, streaming media, IoT, big data, next-generation Internet + communication network, etc. It can provide multiple subsystems, including professional sound reinforcement, pickup microphone, distributed transmission and control, paperless system, broadcasting system, video meeting, meeting information recording, etc.

Paperless system

Upload meeting materials in advance to ensure that attendees can obtain meeting information in advance. Arrange seats in advance to facilitate quick seating and thus improve meeting efficiency.

- Reduce paper consumption to practice the concept of environmental protection and sustainable development
- Accurately manage meeting resources to improve resource utilization rate
- Implement meeting interaction, such as real-time voting, annotations, etc
- Realize the electronic storage of meeting materials and records for easy query and analysis
- Integrate meeting appointments, materials uploading, seat arrangements to simplify process operations



Intelligent visual control system

The equipment information can be viewed and modified on the IOT platform, and the corresponding configuration can be made for central control interfaces of nodes. In addition, replacement between platforms and the state diagram of the data volume received and sent by the equipment can be viewed. The product fully utilizes advanced technologies such as video compression processing technology, network technology, visualization technology and centralized control, is built with IP network as the link, and integrates video splicing processing, KVM collaborative management, audio processing, centralized control and other functions. Featuring distribution, networking, visualization and server decentralization, it is ideally suited for command and control applications across various industries, representing the optimal solution for visual collaborative command and management.



Active directional array sound column

Employing the principle of acoustic wave transmission and interference, this design supports the projection of up to 1-3 independent sound beams, each individually controllable for near-field, mid-field, and far-field audio delivery. This ensures optimal volume levels at various distances, mitigating issues of overly loud audio near the source and insufficient volume at greater distances. Additionally, it focuses sound directly onto the listening plane, minimizing unwanted reflections, thereby further enhancing speech clarity. This solution provides exceptional audio experiences tailored for large-scale indoor and outdoor venues.

Accessible via PC, the sound column facilitates seamless debugging through an RJ45 connection. Equipped with an integrated DSP digital signal processing function, it enables real-time access and control over acoustic steering and EQ functionalities. Boasting 16 meticulously designed 2-inch high-quality full-range drivers, complemented by a DSP module and digital power amplifier, each channel boasts a maximum output power of 15W, delivering robust musical performance unparalleled.



Cabin broadcasting intercom system

The system consists of audio frequency control unit (ACU), zone analysis unit (ZAU), portable microphone (FAH) and cabin speaker (SPK). The system has the functions of cabin intercom, passenger broadcasting, flight attendant calling, system maintenance and system loading. As the first airborne in-cabin communication system passing the civil aircraft airworthiness in China, it conforms to international standards such as CTSO-C139A, ARINC628P3, ARINC715A, RTCA/DO-214A, RTCA/DO-178B, RTCA/DO-254, RTCA/DO-160G, etc..



Field audio-visual system

The system is a comprehensive, field-ready solution integrating advanced audio-visual capabilities. It seamlessly marries cutting-edge graphic technology, intelligent controls, HD decoding and playback, touch-based interactivity, crisp HD image displays, rotational molding packaging innovations, modular design principles, and portable folding concepts. Boasting comprehensive functionality, centralized control and display, user-friendly operation, steadfast reliability, and rugged durability, it is ideally suited for diverse and challenging environments.



Simulation training ball screen visual display system

The immersive inner ball screen represents the ultimate in display immersion, transcending all current exhibition formats. It transforms ordinary flat imagery into a spectacle, projecting onto a spherical surface to create a breathtaking interior spherical image. This colossal image, seamlessly stitched and corrected along the curvature, forms a panoramic vista of unparalleled beauty, either on a specially curved or fully spherical surface, offering an unprecedented sensory journey. The enormous, three-dimensional screen delivers a profoundly immersive experience, coupled with astounding and innovative visual delights that captivate the senses. Standing near the circumference, one is enveloped by the sheer impact of a 360° surround screen, creating a truly immersive and awe-inspiring visual spectacle.

- Immersive scene simulation, simulated interaction
- The module adopts flexible PCB.
- 360° view, low brightness and high grey
- High resolution, high contrast, super-large viewing angle, good brightness and color consistency, non-reflectance
- Front/rear product maintenance, external decorative board quickly opened for maintenance.



Smart lighting

Intelligent road lighting system

Equipped with a range of advanced features, it automatically adjusts brightness based on traffic flow, enables remote lighting control, incorporates active fault alarms, safeguards against lamp and cable theft, and facilitates remote meter reading. These capabilities significantly conserve electrical resources, elevate the management standards of public lighting, and reduce maintenance expenses.



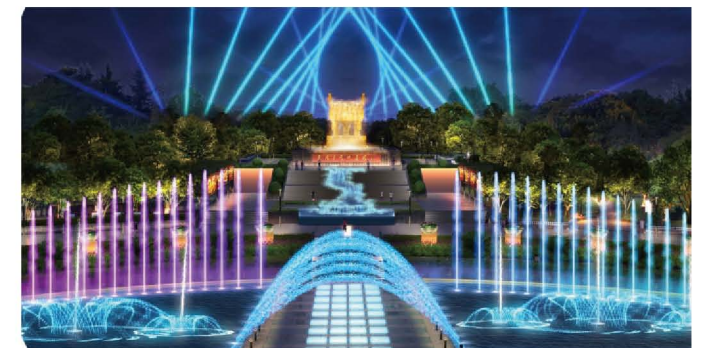
Smart park lighting system

The system offers comprehensive smart and healthy lighting services encompassing design, installation, and maintenance for industrial parks, schools, hospitals, office buildings, and other premises. These services enable smart control features such as scene switching, time control, and zonal grouping, thereby achieving smart, healthy, and low-carbon illumination effects.



Smart culture and tourism lighting system

Taking smart lighting as the core, the system integrates multimedia interactive devices and scientific, technological and cultural elements to create an audio-visual interaction + immersive experience, so that tourists can deeply experience the charm of the cities/scenic spots.



Healthy lighting

Biomimetic lighting

The composition of the solar spectrum is accurately simulated at all times, and the color temperature and brightness are intelligently adjusted according to the requirements of different time periods and different scenes, to simulate the true color of the sky, which is completely in line with the biological rhythm.

Plant lighting

With the increasing market demands for plant lighting, the Company launches a container farm system solution, namely, easily harvesting fresh and healthy food ingredients indoors through scientific planting management.

Educational lighting

Four series of products, such as blackboard lamp, panel lamp, lamp tube and control panel, have passed various certifications and fully meet the requirements of light environment in classrooms of primary and middle schools.

Negative oxygen ionization lamp

It creates the space environment of forest oxygen bar by releasing high-concentration negative oxygen ions. It uses the specific spectrum to eliminate ozone, purify indoor air, carry out sterilization and create a natural and healthy light environment.



Biomimetic lighting



Plant lighting



Educational lighting

Industry lighting

Special lighting

Products cover transport aircraft, helicopters, UAVs, special aircraft and other equipment platforms, as well as laboratories, caves and other closed spaces.

Core products

- Conformal pressure-resistant navigation signal lamp system
- Three-mode lighting control system
- High-speed white and purple lighting system
- Conformal pressure-resistant navigation signal lamp system
- Three-mode lighting control system
- High-speed white and purple lighting system

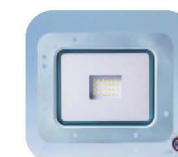


Civil aircraft lighting

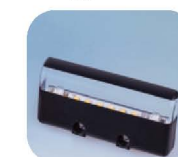
The products offerings encompass lighting equipment and control systems tailored for various derivative aircraft types, including civil passenger aircraft, cargo planes, business jets, and medical aircraft. These products not only fulfill the high reliability requirements for civil aircraft airworthiness but also boast economic advantages such as lightweight design and low energy consumption.



Driver reading lamp



Overhead light of main cargo hold of ARJ21-700 cargo aircraft



Instrument panel floodlight



Cockpit dome light

Rail and transportation lighting

By focusing on the lighting fields of rail transit, specifically sub-areas like subway cars, subway platforms, and airport terminals, we have accumulated rich industry experience and developed exceptional technical expertise.



CRRC Hong Kong Railway



Shenzhen metro



Tianfu airport

Municipal lighting

We are dedicated to establishing ourselves as an influential player in the lighting industry by offering our customers a comprehensive suite of services, encompassing product development and manufacturing, lighting system solution design, engineering construction, and project maintenance.

Micro vibration motor & precision transmission module

By focusing on the design, development and manufacture of micro vibration motors and precision transmission modules, we provide a complete set of tactile feedback and drive control solutions for users. Products are widely used in communication terminals, smart wear, VR, smart cars and other fields. As the main supplier of Huawei, Vivo, BYD, Meta, Google and other industry-leading enterprises, we maintain a market share of more than 10% in the global consumer electronic vibration motor field.

Micro vibration motor

The company offers mass-production-grade, self-developed algorithm software capable of producing various vibration effects for different scenarios, which has gained widespread customer recognition.



Linear vibration motor

The products are among the most advanced in mass-produced vibration motors, featuring fast response times, strong vibration acceleration, and high reliability, with vibration directions available in both vertical and horizontal orientations. The company is the only one in China capable of large-scale, simultaneous mass production of two product series. Additionally, it independently develops related drive software algorithms, which can work with linear vibration motors and drive ICs to provide users with comprehensive haptic feedback solutions. The products are suitable for smartphones, smart wearables, VR, and other consumer electronics.

Key indicators

- **Product specifications:** (X,Y) Horizontal vibration motor, (Z) Vertical vibration motor
- **Rated voltage:** 1.2-2.0 V AC
- **Vibration quantity:** 0.6-5.0 Gp
- **Product features:** high vibration intensity, quick response
- **Application scenes:** smart phone, wearing, VR, gamepad, vehicle, laptop, etc.



ERM vibration motor

The company offers $\phi 3$ core vibration motors and $\phi 7$ - $\phi 10$ flat vibration motors (with thickness controlled within 3mm), both of which deliver excellent vibration effects in smartphones and smartwatches weighing under 200g. It has led the formulation of national standards for vibration motors used in portable electronic products, and holds the largest market share in the core vibration motor industry.

Key indicators

- **Product specifications:** Core ERM, Coin ERM
- **Rated voltage:** 2-3 V DC
- **Vibration quantity:** 0.1-0.5 Gp
- **Product features:** compact size, flexible connectivity, simple control and drive mechanisms
- **Application scenes:** smart phone, wearables, electronic cigarette, etc



Precision transmission module

The product combines "micro drive motors + precision transmission mechanisms" in a new application, featuring a compact size, precise positioning, and high transmission torque. Initially widely used in smartphones, as the product matured, it quickly expanded into markets such as smart home appliances, laptops, smart home systems, and automotive electronics etc.



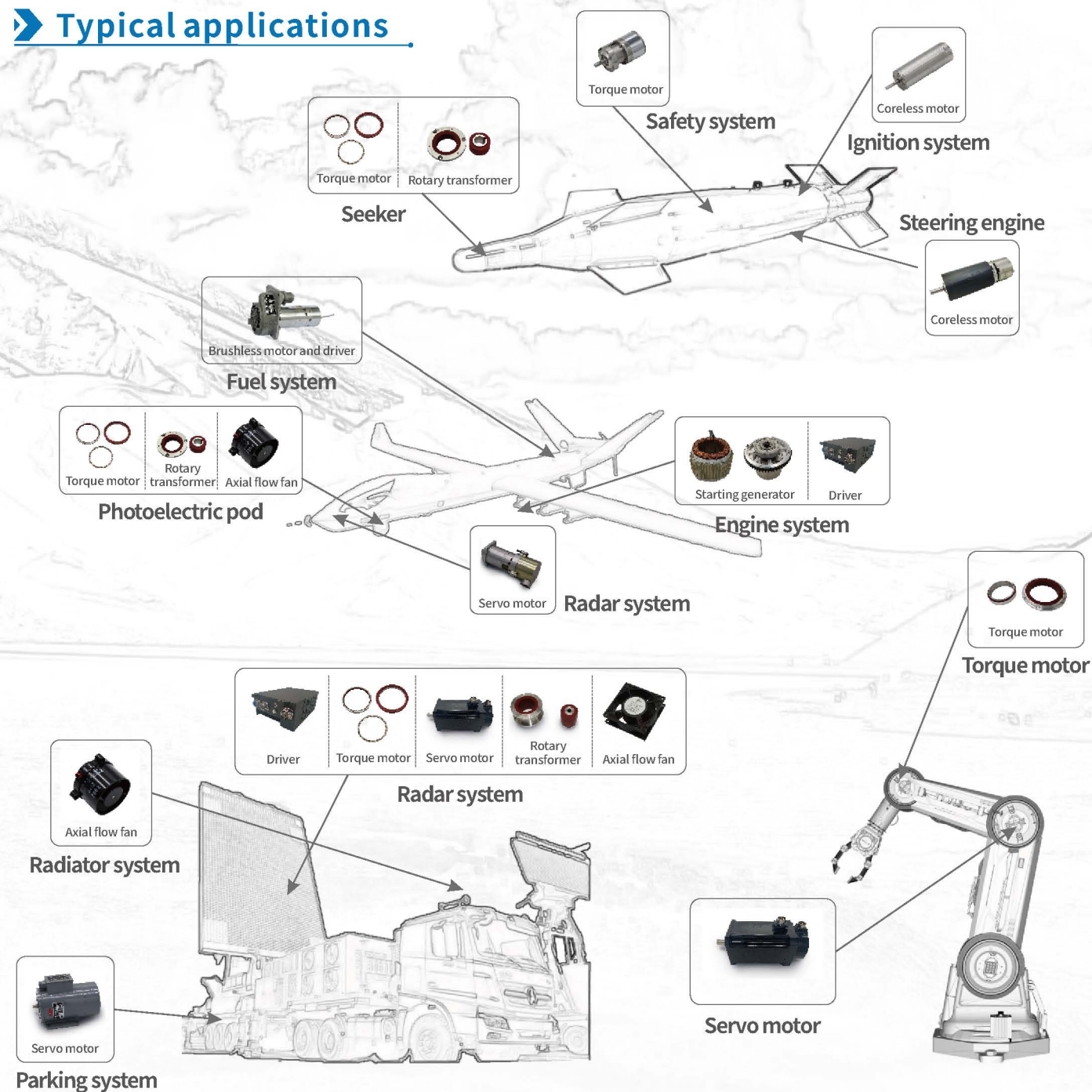
Application field



Micro-special Motor

Dedicated to the research, development, and production of micro-special motors and drive systems for over 60 years, we have been commended by the Central Committee of the Communist Party of China and the State Council for 3 times. The products cover 21 categories and more than 3,000 models in the field of micro and special motors, which are widely used in aerospace, shipbuilding, robot and other fields, and many products occupy the first place in the market segment.

Typical applications



Torque motor

The product directly drives the load, improves the system's reliability and products' lifespan.. It features a compact structure, low rotation speed, strong torque, strong overload capacity, fast response, good linearity and minimal torque fluctuation.

- 100% localization
- Minimum torque fluctuation coefficient: < 1%
- Minimum speed can reach 0.25 r/min

Key indicators

- Diameter range: 25 mm ~ 3,000 mm full coverage
- Peak locked-rotor torque: 0.03 N m ~ 100,000 N m
- Maximum no-load speed: 16 r/min ~ 5,900 r/min



Servo motor

The product can quickly realize high-accuracy position and speed control. It is characterized by high power density, minimal torque fluctuation, low cogging torque, small moment of inertia, high precision, and fast response.,making it suitable for use in various harsh environments.

- The torque fluctuation coefficient can reach 0.5%
- The time constant can reach 2 ms

Key indicators

- Diameter range: 25 mm ~ 500 mm
- Rated power: 10 W~25 kW
- Rotating speed range: 200 r/min~30,000 r/min



Rotary transformer

As an electromagnetic sensor, the product is used to measure the position and angular speed of the rotating shaft of a rotating object, it has the characteristics of simple structure, high reliability, high accuracy and strong resistance to harsh environment.

- Epoxy integral potting
- Strong environmental adaptability

Key indicators

- Diameter range: 20 mm~1,000 mm
- Excitation voltage: 5 V, 7 V, 12 V, 26 V and 36 V
- Excitation frequency: 400 Hz, 1,000 Hz, 5,000 Hz, 10,000 Hz
- Electrical error: the maximum accuracy of unipolar rotary transformer is $\leq 3'$, the maximum accuracy of multipole rotary transformer is $\leq 5''$



Coreless motor

It adopts iron core rotor structure, featuring less iron loss, no slot torque, small volume, light weight, small moment of inertia, large torque, fast response speed and high stability.

- 100% localization
- It can integrate motor body + encoder + reducer + brake.

Key indicators

- Diameter range: 16 mm ~ 60 mm
- Rated speed: 9 r/min ~ 16,400 r/min
- Rated torque: 10mN·m ~ 3.07 N·m



Driver

Control instructions are received to realize accurate closed-loop control of motor motion parameters (position, speed and torque), to meet the system requirements. Small volume, large power density and rich interfaces, compatible with Uart, CANopen, Modbus and customized protocols.

- 100% localization
- Graphical debugging software facilitates system debugging and fault diagnosis
- Meets multi-motor drive needs

Key indicators

- Power supply voltage: 12 VDC ~ 600 VDC/12 VAC ~ 400 VAC
- Output current: 0 ~ 300 Arms
- Current loop: the bandwidth can reach 1.5 kHz and the control resolution is $\leq 3\text{mA}$
- Speed range: 0.001 °/s ~ 12,000 °/s
- Position control accuracy: 0.0005°



Starter-generator system

The product is composed of motor and controller, which integrates starting function and power generation function, and is mainly used for supporting aero-engines. After the motor drags the engine to ignite, it switches to the power generation state to supply power to the system. It has the advantages of simple and compact structure, large power density, wide speed regulation range, small volume and excellent output power supply characteristics.

- Output voltage ripple coefficient: $\leq 1.5\%$
- Rated load response time: < 5 ms
- Multi-channel output with different voltage levels

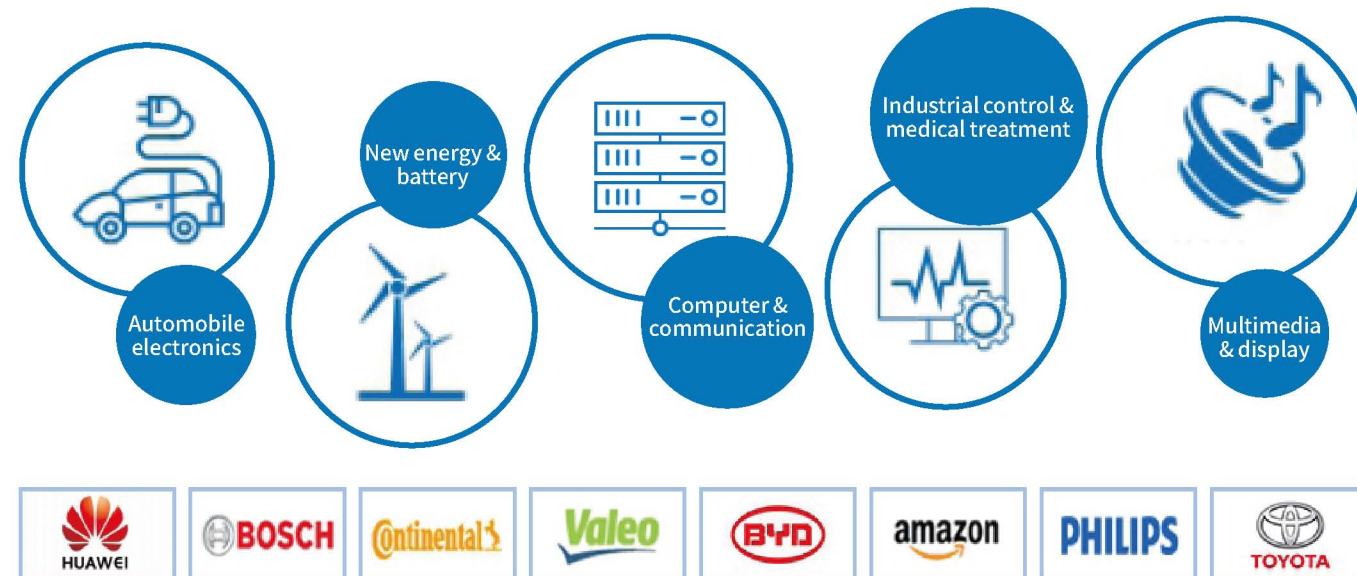
Key indicators

- Power range: 300 W ~ 20 kW
- Starting torque: 0.1 N·m ~ 100 N·m
- Output voltage level: 14 V, 24 V, 28 V, 270 V
- Range: 2,000 r/min ~ 40,000 r/min
- Power supply quality: meeting GJB181B-2012



Printed circuit board (PCB)

Committed to becoming a globally leading supplier of highly reliable PCBs,, we provide multilayer boards of 24 layers or below and HDI products with 1~4 orders, which are widely used in the fields of automobile electronics, computer and communication, industrial control medical treatment, new energy and power supply, multimedia and display. Products are sold to Europe, America and Asia, with main customers including world-renowned brand enterprises such as Continental, Valeo and Huawei.



Vehicle-mounted high frequency circuit board

It applies to the active safety field of high resolution, excellent directivity, strong anti-interference performance and high detection performance of automobiles. The high-frequency and high-speed PTFE material filled with ceramics and the VLP-grade ED copper foil make the radar have excellent detection accuracy and the longest detection distance of 250 m. Laser blind hole + mechanical blind hole fully improves wiring density to ensure signal transmission integrity. The surface treatment of OSP has good weldability and economy.

Key indicators

- Layer number: 6L
- Board thickness: 1.6 ± 0.16 mm
- Surface treatment: OSP
- Board: L1-2: Rogers RO3003G, L3-6: ITEQ IT-180ATC
- Size: 105 mm \times 145.19 mm \times 2 Unit
- Special processes: PTFE + FR4 mixed pressing, PTFE laser blind hole, mechanical blind hole, radar area, graphic right angle design.

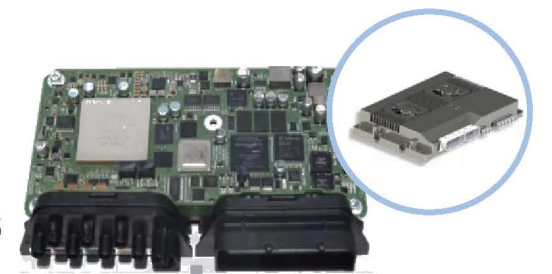


Automatic driving domain control unit

Automatic driving domain controller is the core of each functional domain of automobile, which is mainly composed of domain master processor, operating system, application software and algorithm. Platform basing, high integration, high performance and good compatibility are the main core design ideas of domain controller. POFV process is used to improve wiring density, reduce volume and make it easier to weld. The chemical metal surface treatment has good flatness and weldability.

Key indicators

- Layer number: 10L
- Board thickness: 1.6 ± 0.16 mm
- board: TU862HF
- Surface treatment: chemical metal
- Size: 245.00 mm \times 194.00 mm \times 1 Unit
- Special process: POFV crimping hole, tolerance of ± 0.05



Intelligent automobile cabin system

It aims to integrate various IT and AI technologies, to create a brand-new internalized integrated digital platform, and thus to provide intelligent experience for drivers and promote driving safety. The system and PCB must withstand a variety of environmental challenges, including temperature, humidity, rain, acid fog, vibration, electromagnetic interference and current surge, etc., to provide high reliable electrical circuits for the system.

Key indicators

- Layer number: 10L
- Board thickness: 1.5 ± 0.15 mm
- Board: NP-155FTL
- Surface treatment: OSP
- Size: 250.00 mm \times 114.00 mm \times 1 Unit
- Special process: resin plug hole + POFV

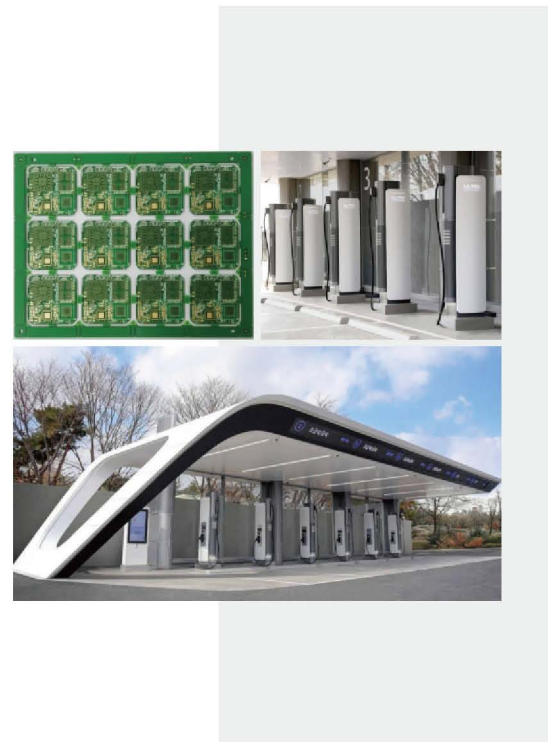


Charging pile circuit board

It applies to intelligent fast charging safety charging piles. Adopts stable materials with low absorption rate of CAF resistance. Adopts the first-order HDI blind hole + mechanical buried hole design to improve the wiring density and improve the intelligent level of charging piles. Utilizing the POFV process enhances wiring density, reduces overall volume, and facilitates easier welding. The chemical metal surface treatment has good flatness and weldability.

Key indicators

- **Layer number:** 16L
- **Board thickness:** 1.72 ± 0.172 mm
- **Board:** Shanghai Nanya Ny2150
- **Surface treatment:** chemical metal
- **Size:** 180 mm × 140 mm × 12 Unit
- **Special process:** 1+14+1, buried hole, laser blind hole, resin plug hole + POFV



Server motherboard

High-speed PCB ensures the integrity of signal transmission. It has the advantages of high signal transmission rate, low signal attenuation, low crosstalk and low noise. It meets the requirements of high-speed digital circuit for signal integrity and electromagnetic compatibility. Through line impedance matching, signal return path, signal reference plane, shielding layer, terminal processing, signal integrity analysis, etc., the performance and reliability of high-speed PCB are ensured.

Key indicators

- **Layer number:** 14L
- **Board thickness:** 1.93 ± 0.18 mm
- **Board:** ITEQ IT-968G
- **Surface treatment:** OSP
- **Size:** 421.64 mm × 455.6 mm × 1 Unit
- **Special process:** double-sided 9 kinds of back drills, resin plug holes, insertion loss requirements, 24 groups of impedances and 11 kinds of crimping holes.

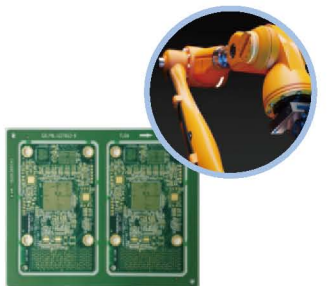


HDI board of industrial robot

It applies to the field of intelligent industrial robots. Low CTE, high TG and high reliability board material, as well as second-order HDI high-density interconnection design enables the robot to carry out intelligent learning. Through resin plug hole + POFV, it makes the performance more stable, and the chemical metal surface treatment has good flat and weldability.

Key indicators

- **Layer number:** 16L
- **Board thickness:** 1.72 ± 0.172 mm
- **Board:** Shanghai Nanya Ny2150
- **Surface treatment:** chemical metal
- **Size:** 180 mm × 140 mm × 12 Unit
- **Special process:** 1+14+1, buried hole, laser blind hole, resin plug hole + POFV

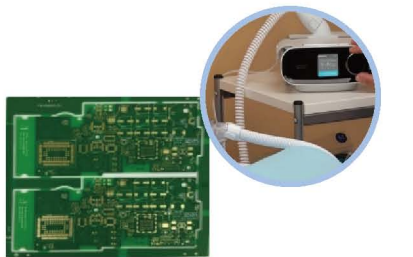


Respirator motherboard

It applies to the main machine of the respirator to assist the sick breathing functions, such as air passage pressure control, pressure monitoring, moisture monitoring, etc., and to collect the data of various sensors, analyze, summarize and calculate the data, and then control the motor operation according to the calculation results to ensure the normal and reliable operation of the equipment.

Key indicators

- **Layer number:** 8L
- **Board thickness:** 1.6 ± 0.13 mm
- **Board:** Shengyi S1000H
- **Surface treatment:** chemical metal
- **Size:** 169 mm × 182 mm × 2 Unit
- **Special process:** impedance test



Multimedia display board

It applies to the multimedia display field. The high TG value board has good thermal management, and the first-order HDI high-density interconnection design supports more complex multimedia functions. Small aperture and large capacity technology supports fast and efficient data transmission.

Key indicators

- **Layer number:** 4L
- **Board thickness:** 2.0 ± 0.16 mm
- **Board:** NP155, inner copper thickness HOZ
- **Surface treatment:** chemical metal
- **Size:** 159.9 mm × 168.65 mm × 1 Unit
- **Special process:** 1 + 2 + 1, buried hole, laser blind hole, resin plug hole



Wire and cable & electrical interconnection

As a national high-tech enterprise, focusing on R&D, manufacturing and service of photoelectric wires and cables and electrical interconnection products, as well as a national research and production unit of aerospace-grade high reliable components, we produce defense equipment cables, power transmission and distribution cables, electrical equipment cables, communication cables, electrical interconnection products and materials, which are widely used in aerospace, electric energy, rail transit, chemical mining, equipment manufacturing and communication.

Power transmission and distribution cables

We provide medium and high voltage power cables, overhead stranded wires and overhead insulated conductors, mainly used in backbone transmission networks of 1,000 kV and below, and power transmission and distribution in urban industrial and mining distribution networks.

- High voltage level, large transmission capacity
- Excellent electrical performance
- High reliability, strong environmental adaptability and other characteristics



Electrical interconnection products

We provide aerospace cables, aviation cables, low-frequency connecting cables, high-frequency connecting cables, optical connecting cables, mooring cable systems, and photoelectric cable retracting systems are the basic components for quickly electrical interconnection between and within the devices. According to different requirements and environments, the main/auxiliary materials with the same or different characteristics can be selected, combined, and reliably connected through process technology to achieve single or multiple effects. The overall solutions for 3D wiring, circuit design, device selection, laying and installation are available as well.

- High degree of integration, excellent comprehensive performance
- Light in weight and small in volume
- Easy to lay and reliable in use



Defense equipment cables

They are mainly aerospace cables, low-loss stationary-phase RF cables, integrated cables and cable protection products, which are mainly used in the fields of dynamic power supply, RF signal, control signal transmission and cable bundle protection in electrical equipment and between equipment.

- Excellent electrical and mechanical properties
- Strong environmental adaptability and stable transmission performance
- Providing comprehensive solution with small shape, light weight and excellent performance



Electrical equipment cables

Mainly focusing on new energy charging cables, new energy photovoltaic cables, mineral insulated cables, rubber-sheathed cables, power distribution cables, and 27.5kV railway-specific cables, these products are used in various fields such as electricity, rail transportation, mining, construction, electrical engineering, chemical engineering, and new energy.

- Excellent flame retardant and mechanical properties, environmental friendliness and safety
- Good withstand voltage level and insulation performance
- Can provide highly reliability and customized system solutions



Communication cables

Mainly products include rail transit signal cables, outdoor communication optical cables, butterfly optical cables, photoelectric composite cables and high-speed data cables, which are used for signal transmission lines laid in rail transit signal networks, communication backbone networks and access networks, as well as for signal connections of optical communication terminals, intelligent monitoring and security equipment.

- High transmission efficiency, low attenuation and anti-electromagnetic interference
- High-density and large-capacity optical signal transmission characteristics
- Integrating photoelectricity into one, saving space and increasing laying density

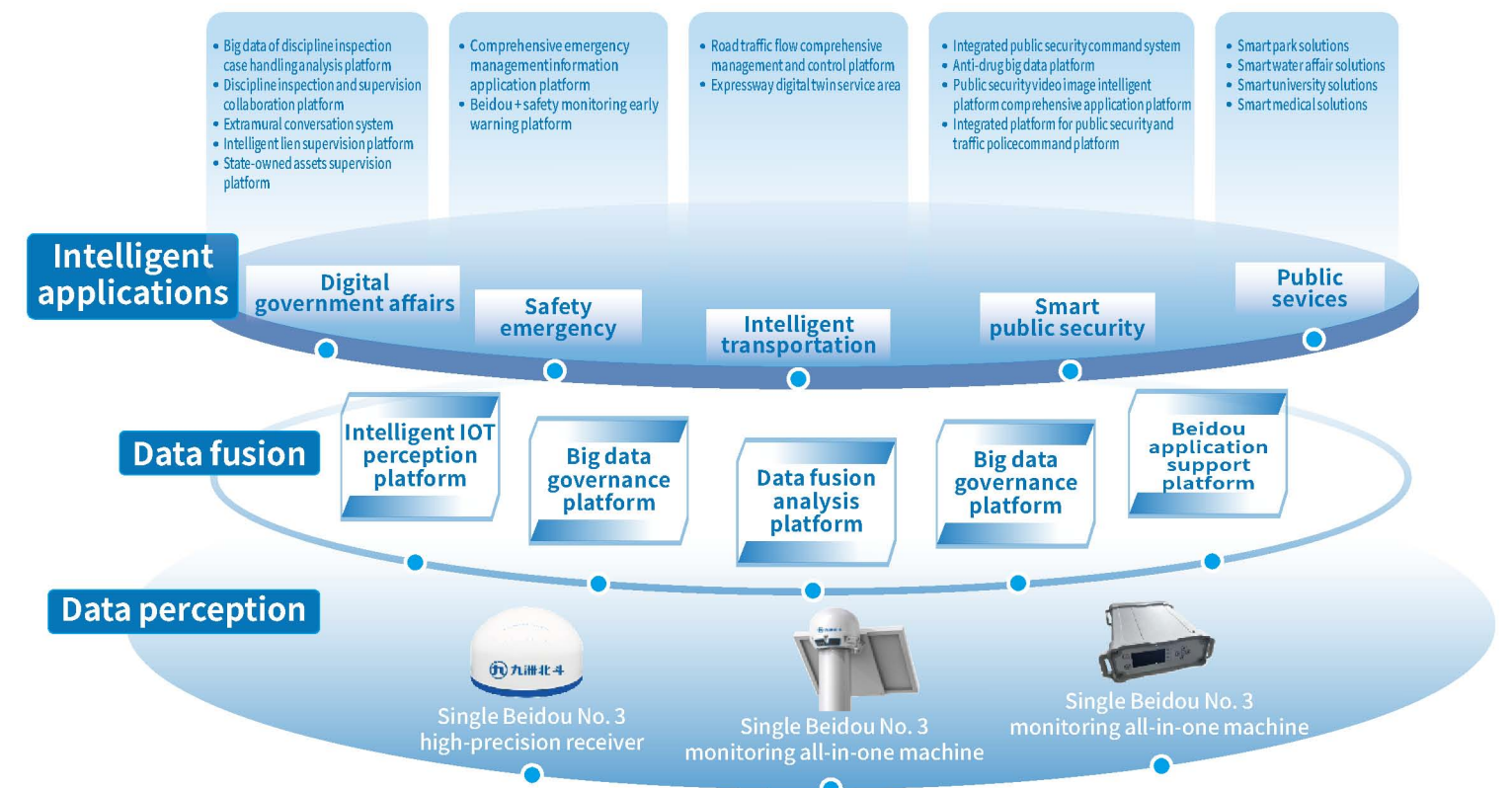
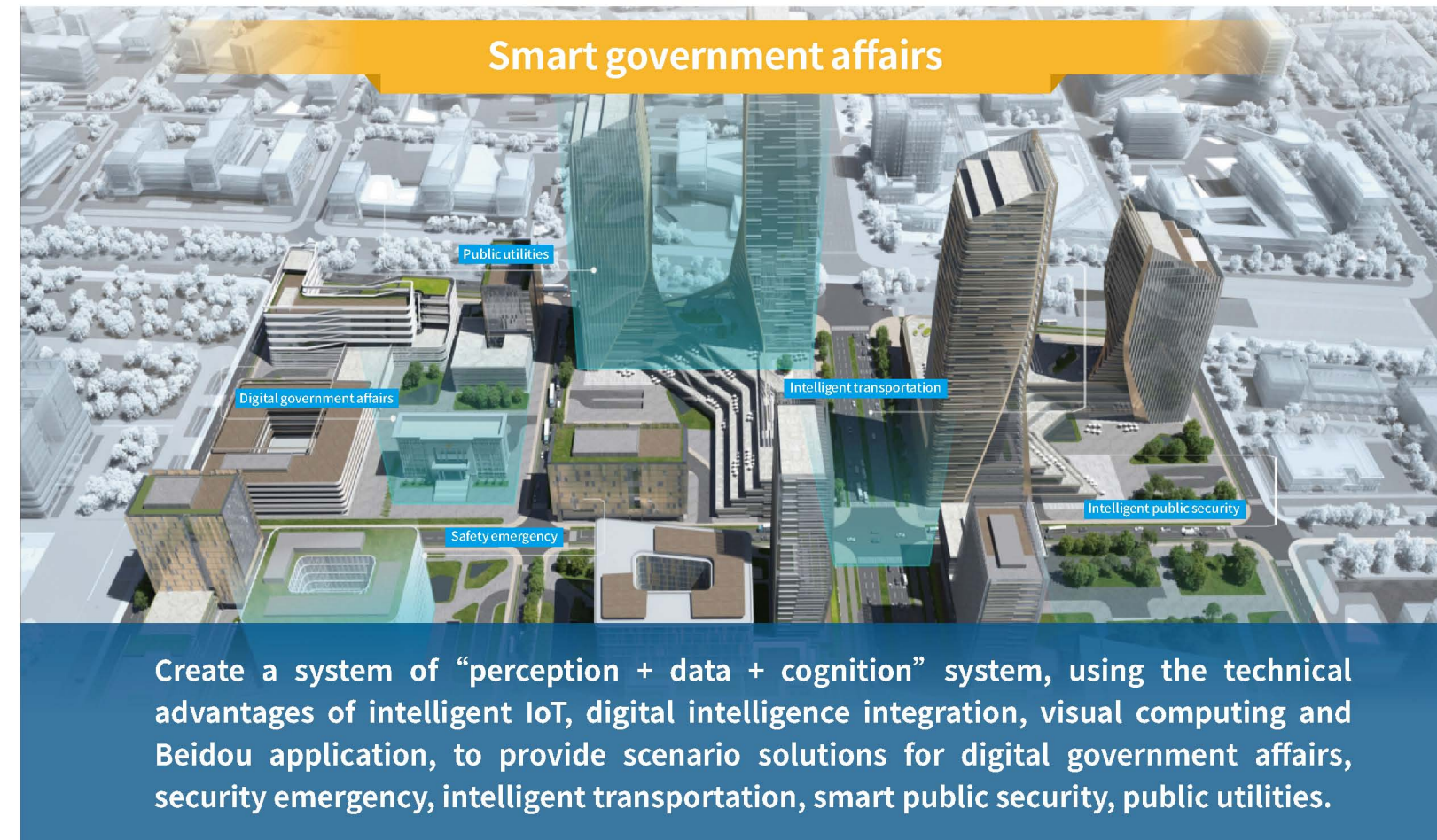
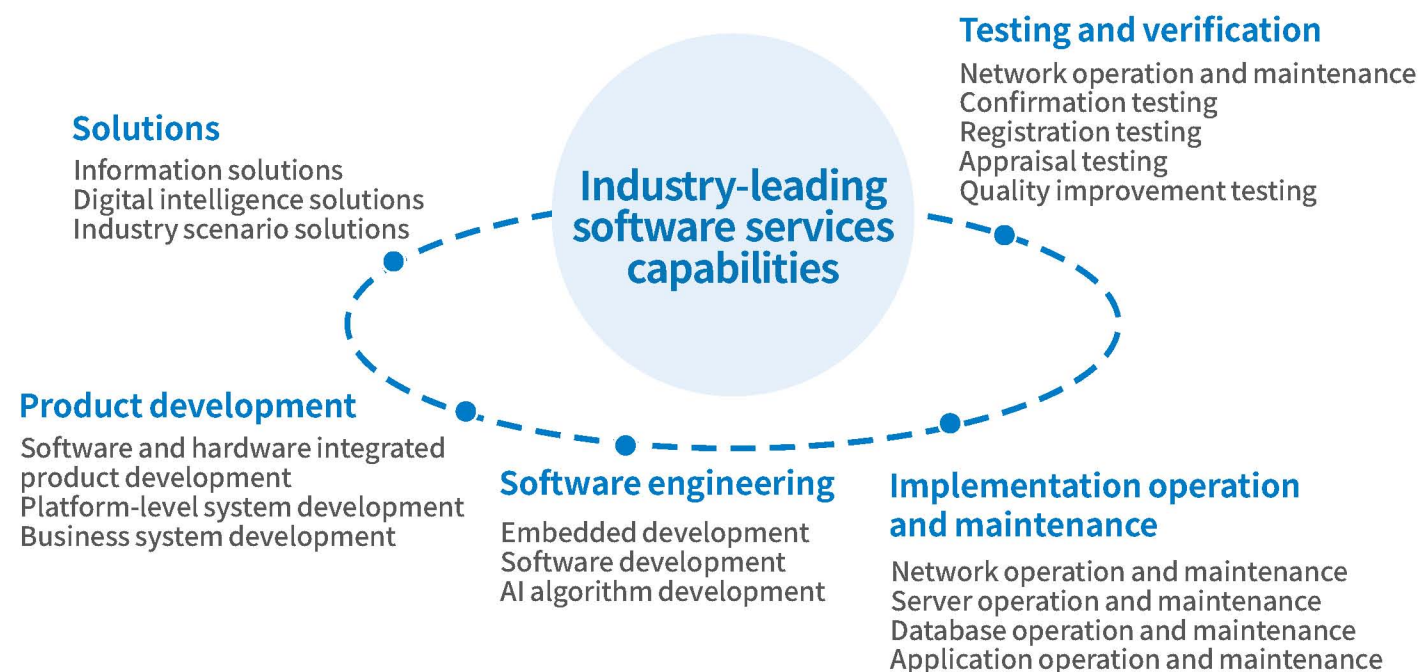


For government, enterprises and other market segments, we provide autonomous and controllable software and integrated hardware products and solutions. Carry out solutions, software engineering, implementation operation and maintenance, testing, and verification services.

Product solutions and application scenarios



Industry-leading software services capabilities

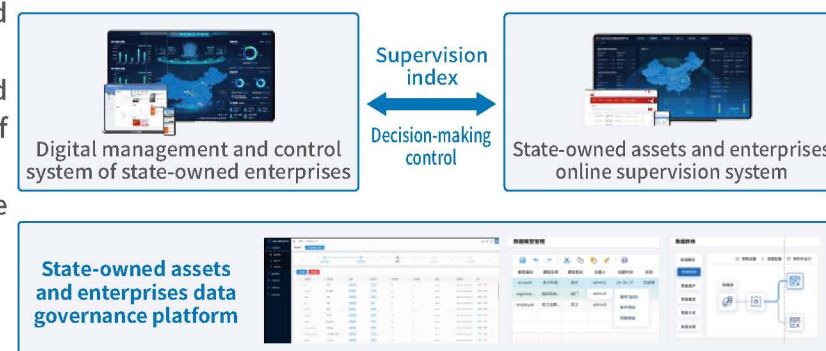


Digital government affairs

State-owned enterprise online supervision solutions

Focusing on “three-major and one-large” decision-making and operation, transform functions by managing capitals, fully utilizes information technology, integrates information systems including property rights, investment and finance, and builds a network platform to connect capital-contributing representative institutions and enterprises, to realize full coverage and real-time online supervision of state-owned assets supervision business.

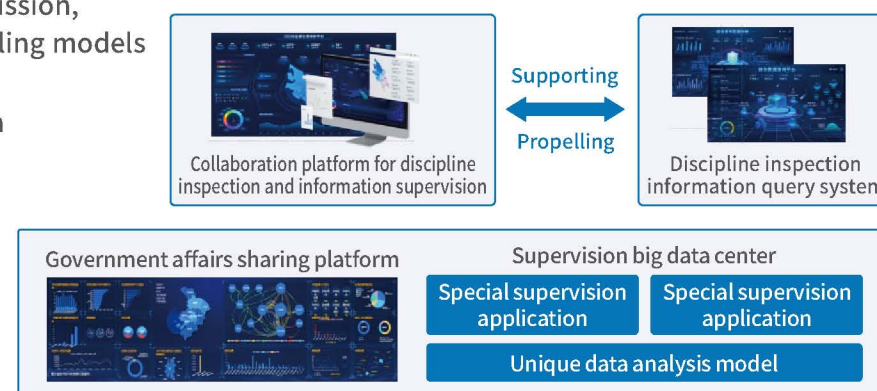
- Informatization + big data assisted leadership decision-making
- Horizontal interconnection and vertical intercommunication of state-owned assets data
- Internet + promoting accurate supervision of enterprises
- Safe and controllable system



Comprehensive case handling solution with big data for discipline inspection and supervisory

Based on big data distributed computing and algorithm engine technology, the solution opens up 1,000+ external data covering public security, banking, securities, operators, industry, commerce, taxation, etc., and builds a comprehensive application platform for supervision, discipline inspection and investigation big data integrating data query, analysis, summary and judgment, to help the discipline inspection department find clues in time and investigate and settle cases.

- Solve cross-network data fusion analysis
- Based on the discipline commission, realize hundreds of case handling models in 8 categories
- Big data + security supervision



Road traffic flow comprehensive management and control platform

Perform processing and intelligent analysis of highway ETC data, including flow rates, toll transactions, and other relevant metrics. Utilize advanced intelligent algorithms to identify congestion hotspots across the entire road network, thereby facilitating informed decision-making and providing actionable suggestions for effective congestion mitigation strategies.. Implement a preferential toll strategy to strategically redirect freight traffic across the road network, thereby alleviating congestion, enhancing overall passage efficiency, and ultimately boosting revenues for road operators.

- Forecast traffic flow and income
- Identification and analysis of hot road sections
- Cargo behavior characteristics
- Quantitative strategy of cargo drainage, management and control



Digital twin service area platform for expressway

For the management objects such as expressway vehicles, electromechanical equipment, service area, road bridges and tunnels, the platform applies digital twin, radar and video fusion, big data and AI machine vision and other technologies to create a “transportation, management and maintenance” platform of expressway based on the digital twin road network as “one map”.

- Advanced traffic simulation algorithm
- Omnidirectional data perception
- High-precision digital traffic base
- Digital simulation decision-making service

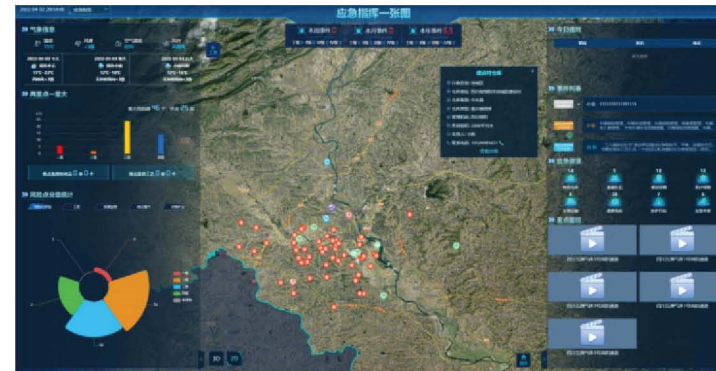


➤ Safety emergency

● Emergency management comprehensive information application platform

The platform supports emergency information aggregation, rapid display, communication, collaborative consultation, special research and judgment, command and dispatch, and decision-making assistance, and provides services such as information receiving and reporting, data collection, analysis and research, supervision and management, monitoring and early warning, emergency command, and decision-making support for emergency management

- Emergency information collection, efficient response support
- Establish and improve the efficient emergency command mechanism
- Prevent disasters ,reduce losses, and ensure effectiveness for emergency response



● Beidou + safety monitoring early warning platform

Build a real-time disaster monitoring and early warning system, with application capabilities of disaster investigation, group monitoring and prevention, professional monitoring, early weather warning, consultation and judgment, emergency command and dispatch, etc. to promote the scientific, systematic, standardized, information-based and modern geological disaster prevention and control business, promote disaster prevention and control level and capability, and minimize disaster losses.

- Disaster perception, risk monitoring, intelligent analysis and judgment
- Innovate supervision means for early warning analysis and disposal of the whole chain
- Enhance the efficiency of supervision and support emergency management decision-making

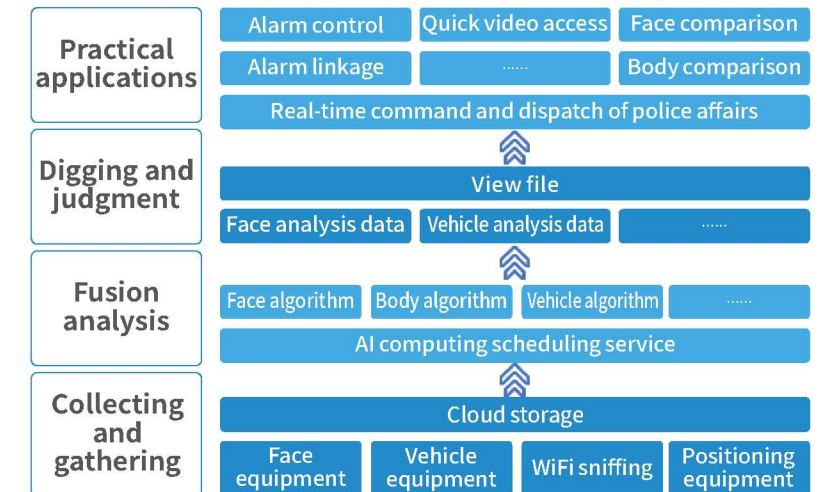


➤ Smart public security

● Intelligent comprehensive application platform of video image

Leveraging deep learning, cloud computing, big data, and other technologies, we aggregate multi-dimensional data including facial recognition, vehicle recognition, WiFi sniffing, and location information to provide intelligent image applications such as rapid video retrieval, face comparison, body comparison, and vehicle comparison. This enables comprehensive case analysis, deployment and alerting, alarm linkage, spatio-temporal analysis, panoramic tracking, and other functions, ultimately achieving the goals of "resource sharing, interconnection and control, one-point deployment, and full-network response."

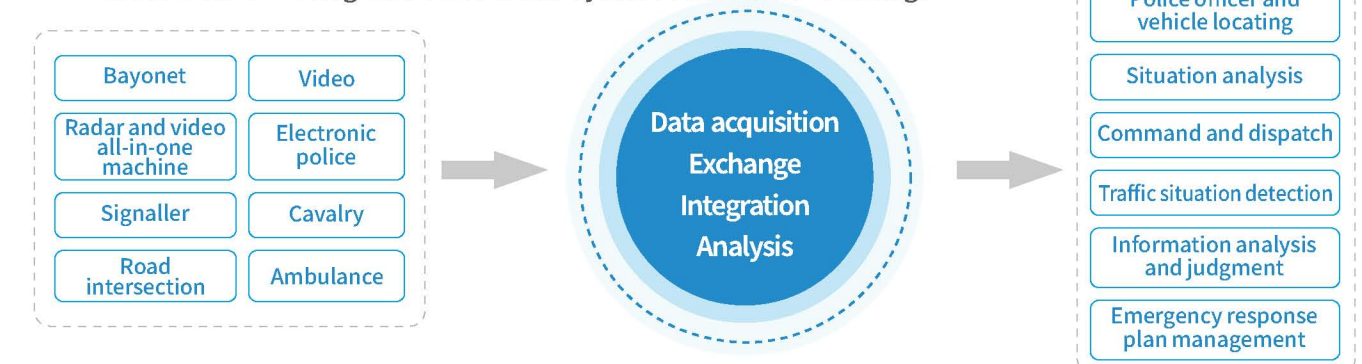
- Multi-modal data acquisition and gathering
- Intelligent analysis and recognition of video images
- Big data digging and judgment
- Real-time command and dispatch of police affairs



● Integrated public security and traffic police command platform

Utilizing advanced technologies such as cloud computing and big data, we deeply integrate various transportation application resources. Based on GIS, we establish a "One-map Command and One-map Combat" system to implement business applications including police officer and vehicle location, alert analysis, command and dispatch, law enforcement supervision, traffic situation monitoring, information analysis and judgment, contingency plan management, information services, and data analytics.

- One-map command and one-map combat
- Trajectory restoration and road condition alarm
- Support special service and major security activities
- Cross-network integration and multi-system collaborative linkage

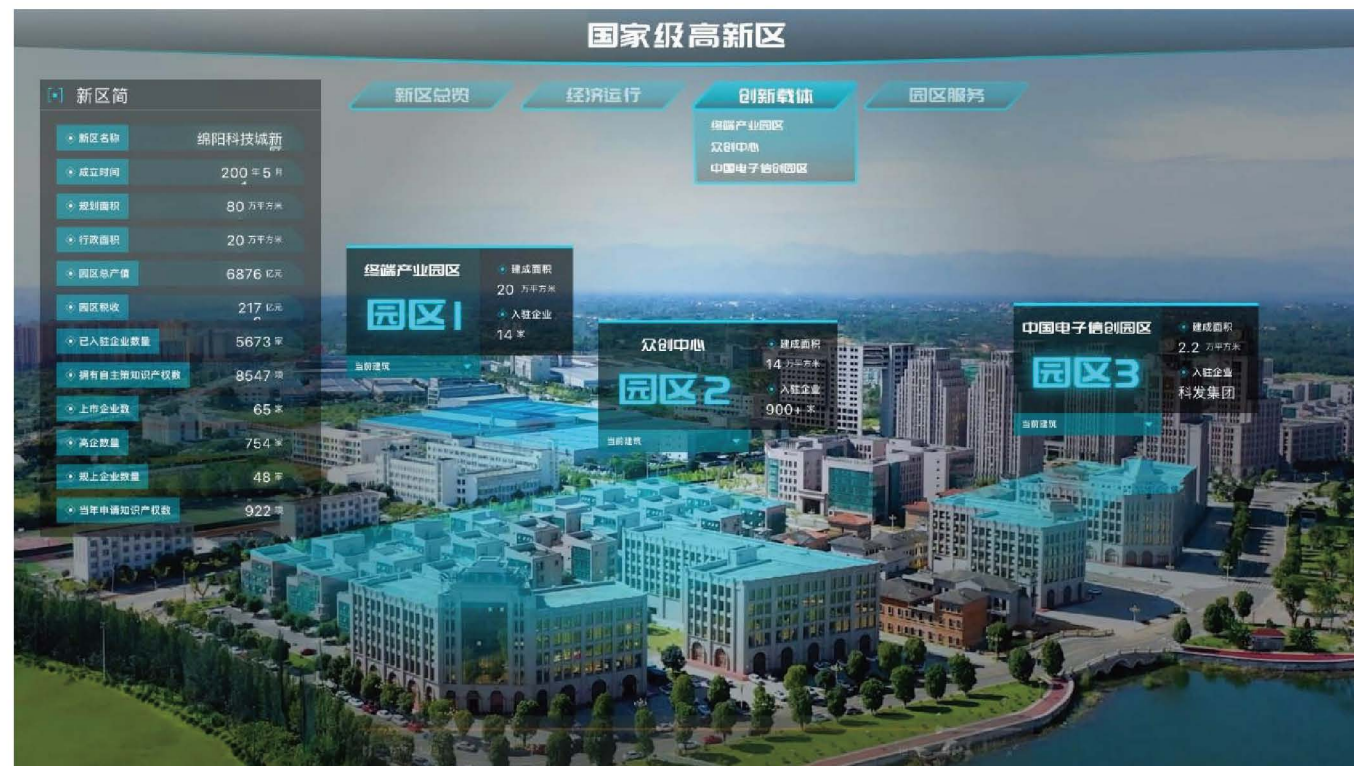


Public services

Smart park solutions

Based on Internet, IoT, big data and other technologies, various facilities, equipments, personnel and vehicles in the park are perceived, collected, analyzed and managed to realize the intellectualization, digitization and ecologicalization of the park. Provide comprehensive and accurate data for park managers, and help the management department to make better decisions and management.

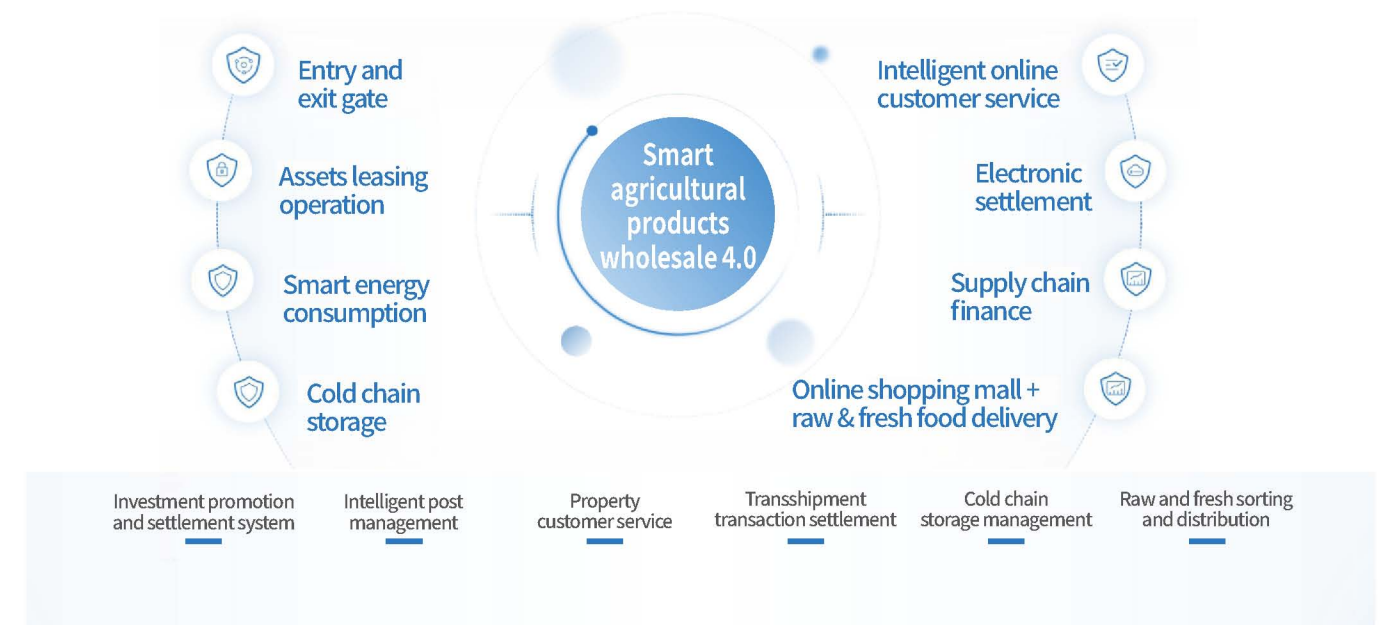
- All-area security closed loop, full-process control
- Centralized and visualized park management
- One-map control of energy consumption, vehicles, personnel and other data in the park



Smart agricultural approval solutions

Aiming at the actual needs of large-scale agricultural products trading market posts, asset leasing, property management, cold chain storage, security energy consumption, electronic settlement and supply chain finance, based on AI + digital twins technology, build a smart agricultural approval platform integrating agricultural products incoming, sales and storage + electronic transaction settlement + market management + logistics distribution + warehousing services.

- Cloud-based operation services
- Intelligent post charge collection
- On-site audit mobilization
- Integrated transshipment transaction
- Digital twin visualization



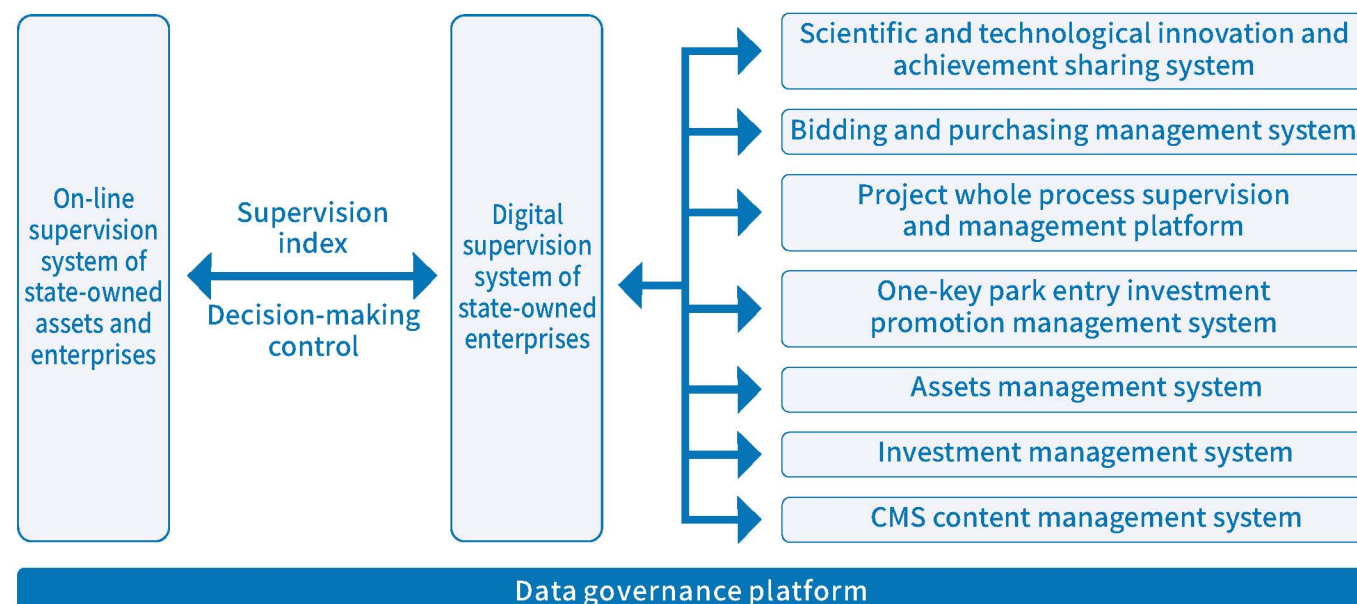
Intellectualized reconstruction and digital transformation

Enterprise digital management and control solution

Through the “vertical and horizontal combination” of business flow, information flow and data flow, the State-owned Assets Supervision and Administration Commission, the group companies and their subordinate industrial companies are vertically connected, and the functional departments of the group companies are horizontally connected to form a full-service, full-scale real-time online management and control platform covering the enterprise headquarters and industrial companies with the core of “one platform, three centers and four systems”, which digitally empowers the high quality development of the enterprise.

- Digital global collaboration is more effective
- Platform response, more agile expansion and scalable performance
- Apply intelligent portal and assistant, etc., raising the automation level
- Build ecologicalization, supporting group-type complex organizations and collaboration

Functional architecture diagram

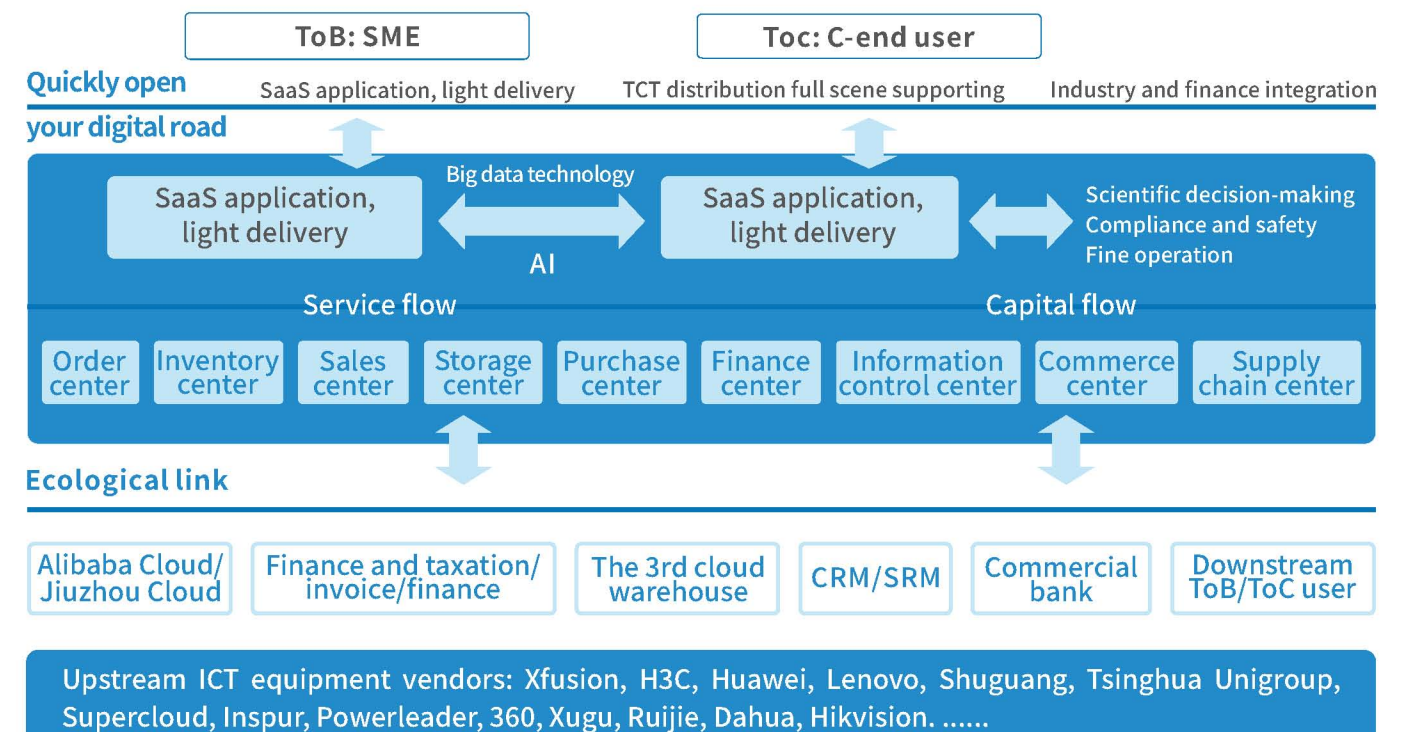


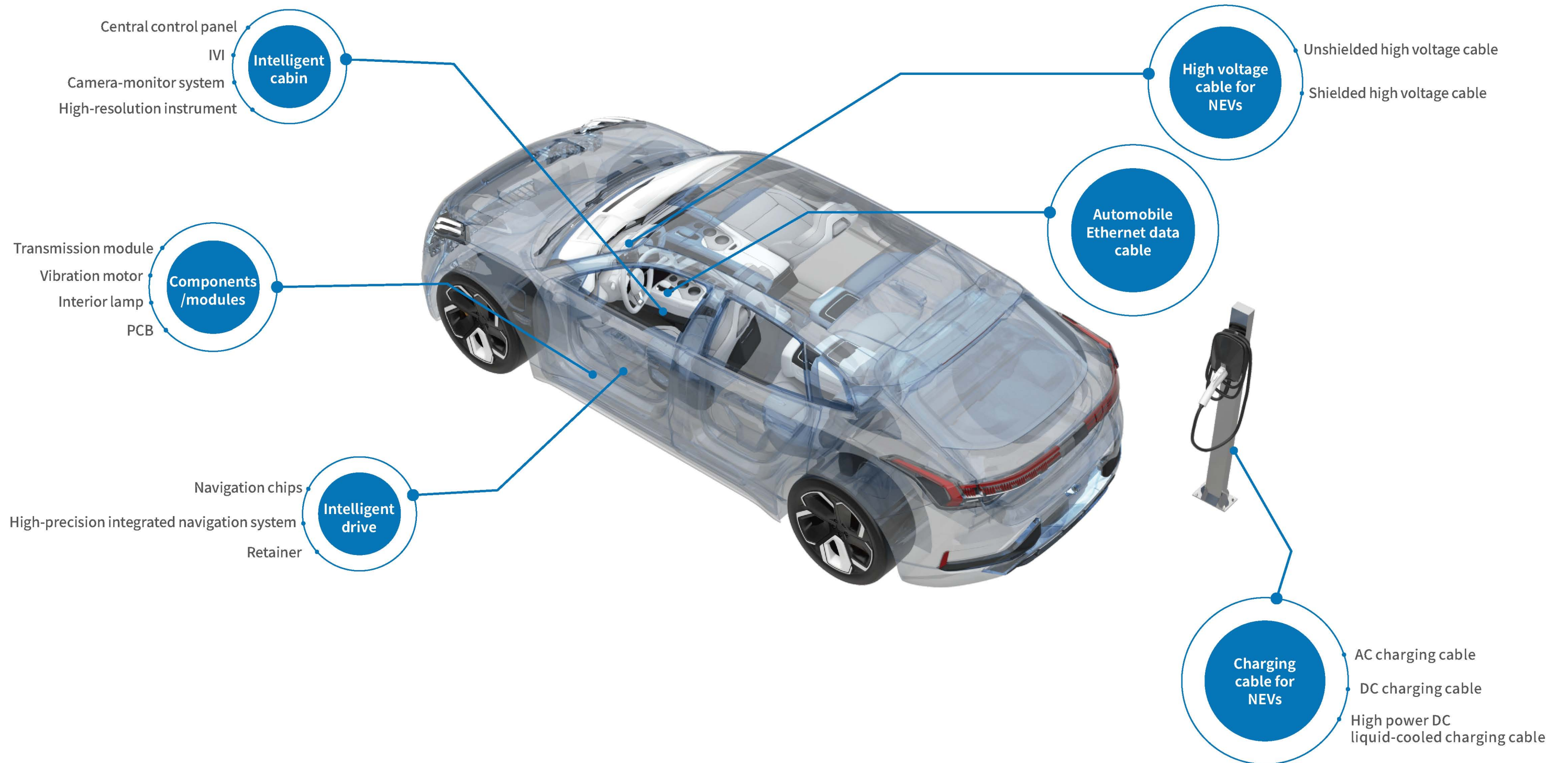
Cloud business digital business system

As the supporting platform for core business of ICT operations of Chinese SMEs, it opens up the upstream and downstream of the supply chain and empowers online/offline integrated operations. Focusing on business flow, data flow and capital flow, integrate CRM and SRM to implement precise control and analysis on key aspects of ICT operations such as sales, procurement, commerce, finance, inventory, invoices, etc., to help enterprises achieve scientific decision-making and refined operations.

- **Compliance control:** strengthen capital supervision and multi-dimensional credit control to ensure compliance and risk controllable of commercial operations.
- **Efficient operation:** adopt SaaS service mode, make whole business processes online, innovate operation mode, improve operational efficiency.
- **Industry and finance integration:** realize the integration of industry and finance, financial data empowers business development, and reduce costs and increase efficiency in enterprise operation.

Functional architecture diagram





In-Vehicle Infotainment (IVI)

The system chips adopts the mainstream high-performance and high-computing, supporting multi-system and multi-channel inputs and outputs, with built-in 4G/5G and other functions.



BMS battery management system

The NXP main chip is adopted, which has fault protection under overcharge, overtemperature and overcurrent, bluetooth and communication functions, and whose technology has reached the domestic advanced level. Existing products of 12 V, 24 V and 60 V have been adopted by Xiaopeng, Geely, Great Wall, Seres, BAIC, Foton and JAC.



High-precision integrated navigation system

It is used for high-precision positioning and attitude measurement in passenger vehicles, commercial vehicles, low-speed unmanned vehicles, engineering machinery and UAVs.

Beidou No. 3 navigation communication chip

The fully domestic RF baseband and high-precision positioning algorithm GNSS SoC chip can track all frequency point signals of the whole systems such as BDS, GPS, GLONASS and Galileo, integrate 5 RF channels to achieve high-precision positioning and orientation functions, and support the functions of short message communication in Beidou No. 3 area and global short message communication.



High-precision positioning and directional board

Based on high-precision GNSS, high-performance IMU development, tight coupling, parameter compensation and online estimation, kinematics model assistance, wheel speed assistance and other technologies are used to output stable high-precision position and attitude information in all scenarios



High-precision integrated navigation system MINS200 series

It can flexibly adapt to multiple types of IMUs (such as ADI, EPSON, MURATA, fully domestic type, etc.) for users' selection, and integrate multiple types of rich interfaces, mobile communication modules and other hardware. The whole machine can be used in harsh environment and can output stable, continuous and reliable high-precision position and attitude information in various complex scenes.



Automobile electronic manufacturing

Possessing large-scale capabilities in automotive electronic product mounting, assembly, and mechatronics processing and manufacturing, we currently have two production bases in Mianyang and Chongqing, equipped with two industry-leading electric drive system assembly production lines and 32 SMT lines (to be increased to 50 by 2024). The annual production capacity includes 1.5 million vehicle-mounted PCBAs, 180,000 smart optical displays, 300,000 in-vehicle infotainment (IVI) systems, and an electric drive system with a planned annual production capacity of 1 to 1.5 million units/sets.

