



# Network Power Product Catalogue

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# Corporate Brief



Shenzhen INVT Electric Co., Ltd. (stock code: 002334, hereinafter referred to as INVT) was founded in Shenzhen in 2002. With over two decades of development, INVT has built a diversified business portfolio spanning four major sectors: **Industrial Automation**, **Network Power**, **E-Mobility**, and **PV & ESS**.

As a benchmark of intelligent manufacturing in China, INVT delivers state-of-the-art products and solutions to customers worldwide. By deeply integrating technological innovation with application know-how, INVT leverages its strong R&D capabilities and extensive industry experience to help customers achieve sustainable development.



# Market Leadership



**TOP 2**

Top 2 Chinese Brand in LV & Medium Voltage Drives

**TOP 2**

Modular UPS Brand in China

**TOP 5**

Row-level Precision Air Conditioner Brand in China

**TOP 3**

Commercial EV Controller in China

**TOP 2**

EV Controller for Light Truck

## Major Breakthroughs

- First Chinese Drive brand got UL and TUV certification
- First to deliver AFE four-quadrant VFDs to the steel industry
- Won the world's largest 2 million-ton CCUS project in Baogang Group
- Launched the world's first solar pump inverter
- First Chinese brand main drive systems installed for electric drilling rigs
- World's first continuous heat treatment production of ultra-thin, ultra-high-strength hot-rolled steel

## Manufacturing Honor

- **2023 Digital Transformation Contribution Award**
- **2023 Excellent Service Provider in Intelligent Manufacturing in Suzhou**
- **2024 3A-Level Green Factory in Suzhou**
- **2025 Advanced Intelligent Manufacturing Factory in Jiangsu Province**

# Global Footprint



Global Markets

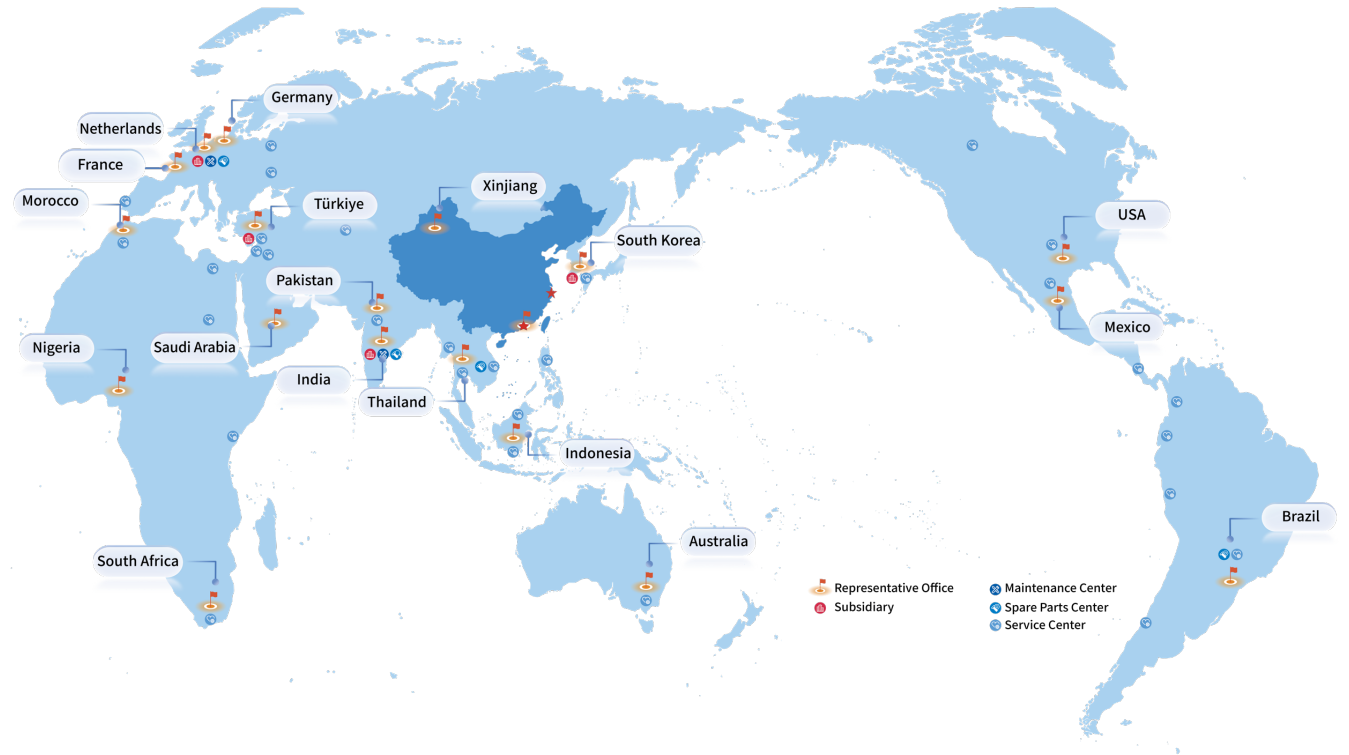


Channel Partners



Service Centers

China	400+	135
Asia Pacific	90+	13
India	120+	11
Middle East	50+	4
Africa	60+	3
Central Asia	60+	2
Europe	110+	4
Americas	120+	14



120+	1000+	18	5	40+	4	180+
Countries and Regions	Channel Partners	Overseas Representative Offices	Overseas Subsidiaries	Domestic Offices	Bases	Service Centers

# R&D Capabilities



**23** years of

Technological Experience

**25%**

of Employees in R&D

**10%**

R&D Investment

**5**

R&D centers

**1800+**

Granted Patents

**480+**

Granted Invention Patents

## Hardware Development Library

Component Library

Preferred Device Library

CBB Library

Material Failure Database

Technical Specification Library

Test Specification Library

Expertise Library

Corporate Standards Library

...



## Supporting Testing Facilities



Quality Management System Certifications: IATF 16949:2016 | ISO 9001:2015 | ISO/IEC 17025:2017 | ISO/TS 22163:2017

Environmental Management System Certification: ISO14001:2015

Occupational Health and Safety Management System Certification: ISO 45001:2018

Laboratory Accreditation : CNAS Certificate | TUV ACT Certificate | UL Laboratory Certificate | CE Certification

## Suzhou Industrial Park



- Site area: 120,000 square meters
- Usable area: 400,000 square meters
- R&D centre of Industrial Automation business in East China
- Advanced manufacturing base for Industrial Automation products including LVD, MVD, Servo system, Elevator integrated drive, PLC, HMI

### Low-voltage VFD & Motion Controller

Planned annual capacity:

**3.6+ million units**

### Medium-voltage Drive

Planned annual capacity:

**30,000+ units**

### Servo Motor

Planned annual capacity:

**600,000+ axes**

## Zhongshan Industrial Park



- Site area: 93,000 square meters
- Usable area: 330,000 square meters
- Advanced manufacturing base of network power and renewable energy products including UPS, Precision air conditioner, Grid-tied inverter, Hybrid inverter, EV controller, Powertrain system

### Network Power

Planned annual capacity:

**270,000+ units**

### PV & ESS

Planned annual capacity :

**240,000+ units**

### E-Mobility

Planned annual capacity :

**400,000+ units**

# Network Power Products



## Critical Power Supply Solutions

## Thermal Management Solutions

## Modular Data Center Solutions

## Intelligent Monitoring Solutions

### Data Center and IT Applications

#### Large Data Centers



#### Medium Data Centers



#### Small Data Centers & Edge Computing



## Other Critical Power Supply Applications

## Energy Storage Thermal Management Applications

## Outdoor Data Center Applications



# Application Scenarios



Defense &  
Aerospace

Public  
Services

Banking &  
Finance

Power  
Utilities

Transportation

Internet Data  
Centers

Industrial  
Manufacturing

Telecom  
Operators

# RM Series Modular UPS



5kVA-3200kVA flexible deployment for various application scenarios

**12 PMs** 12 types of power modules, ranging from 5kVA to 100kVA, cater to diverse scenarios, allowing for on-demand matching and flexible capacity expansion

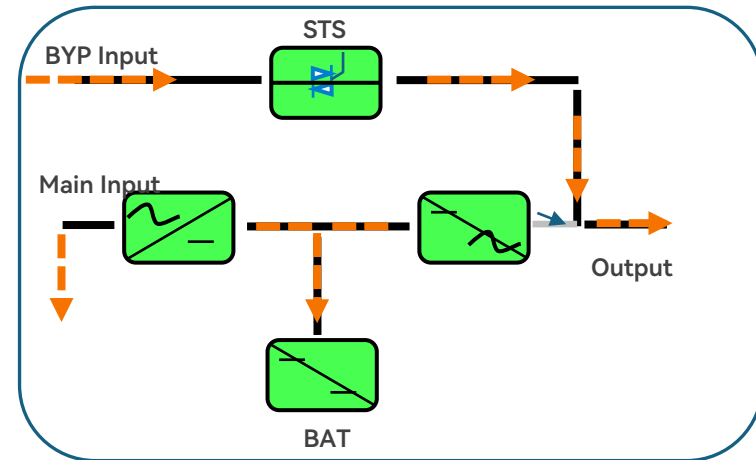
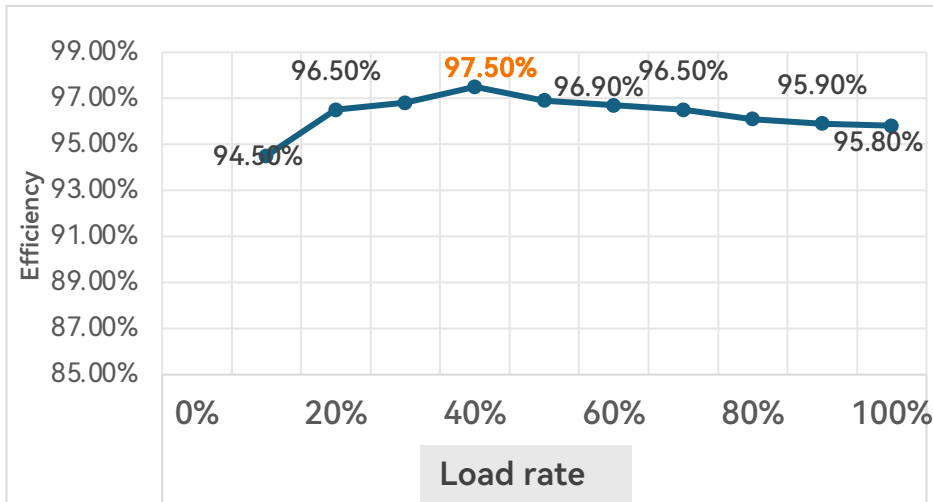


Low Power Medium Power Large Power

# Ultra-High Efficiency, Proven Performance



With an efficiency of up to 97.5%+, it is green and energy-saving, reduces the PUE value of the computer room, features an intelligent online mode (super bypass) with 0ms switching, boasts an efficiency of up to 99.2%, and incorporates active filtering.



Compared with the average 95% efficiency in the industry, RM600/100D UPS with 100kW power module efficiency of up to 97.5%, Save 21600kWh of electricity annually, Reduce carbon emissions by 16,956kg

In Super ECO mode, the system efficiency up to 99.2%. Calculating at 600kW, load rate of 60%, and an electricity cost of 0.116\$/kW\*H, with a 10-year lifecycle, the electricity cost savings amount to 91208\$

# Precision Air Conditioner Product Portfolio



	3.7kW-20kW	25kW-60kW	70kW-120kW	180kW~	Outdoor unit	
<b>Rack Type</b>	VCS 3.7kW	VCS 7.5kW	VCS 12.5kW			
<b>Room Type</b>	VCA fixed frequency air-cooled 5.5-20kW	VCA variable air-cooled 5.5-32kW	VCA fixed frequency air-cooled 25-100kW	VCA variable air-cooled 25-120kW	VCA chilled water 30-250kW	
<b>In-row Type</b>	VCR air-cooled 12.5-30kW	VCR chilled water 25kW	VCR air-cooled 40-60kW	VCR chilled water 80kW		
<b>Return Air Wall</b>	VCB 5-20kW	VCW Near-end Air Wall 30-75kW	VCW Far-end Air Wall 60-450kW			
<b>Liquid Cooling</b>	SC Air-to-Liquid 8kW-16kW	SC Liquid-to-Liquid 15kW-30kW	SC Air-to-Liquid 100kW	SC Liquid-to-Liquid 60-1350kW		

3kW  
50kW

**Direct Evaporative Cooling**

**Indirect Evaporative Cooling**

**Multi-unit Host**

# Advanced Components, Superior Cooling Performance



- EEV with rapid response to operating condition and load changes, enabling precise flow control and achieving temperature control accuracy of  $\pm 0.1$  °C.
- DC inverter compressor can provide 10-100% range stepless capacity
- 7/10 inch LCD screen, Three-level password authorization
- 10000+ local records
- RS48S/SNMP dual interface, supporting communication and group work for up to 64 units.
- Backward-curved centrifugal EC fan delivers high airflow with low noise, providing on-demand airflow output while achieving 20%-30% energy savings.
- Self-developed controller
- Real-time monitoring of power supply voltage, frequency, and three-phase imbalance, with a voltage range of  $\pm 15$ %.



# Better Protection, Greater Efficiency



- Optional refrigerant pump or indirect evaporative cooling can be configured according to environmental conditions, improving energy efficiency by **more than 30%**.

- Low-temp. kits are compatible with temperatures below  $-20^{\circ}\text{C}$  and support as low as  **$-45^{\circ}\text{C}$** .
- Low-temp. kits can be integrated into the entire unit, supporting both indoor and outdoor unit integration, saving **40%** of space and simplifying on-site installation.



- Indoor/outdoor unit installation distance support for **120m**
- Support optional condensate pumps, custom-designed corrosion protection, and enhanced shock resistance, meeting various needs.

- Leak detection provides rapid alarm response within **1ms**;
- Smoke alarms are optional and can be integrated with the fire alarm system to prevent incidents before they occur.

# Modular Data Center Solutions Portfolio



Monitor SYS

## Micro and medium IDC



iSmart & iWit

- Computer rooms for small and medium-sized enterprises and institutions, as well as branch computer rooms.
- Financial service outlets, telecommunications service halls and base stations, retail establishments, and tourist attractions.
- Gas stations, toll booths, smart buildings
- Support **1-30kW/Cabinet**

## Large IDC



iTalent

- Core server rooms for large data centers, industrial parks, and other data centers are suitable for government, healthcare, education, finance, telecommunications, and other sectors.
- Support **8-48 cabinets 3-50kW/Cabinet**
- Support air cooling, Liquid cooling

## Container IDC



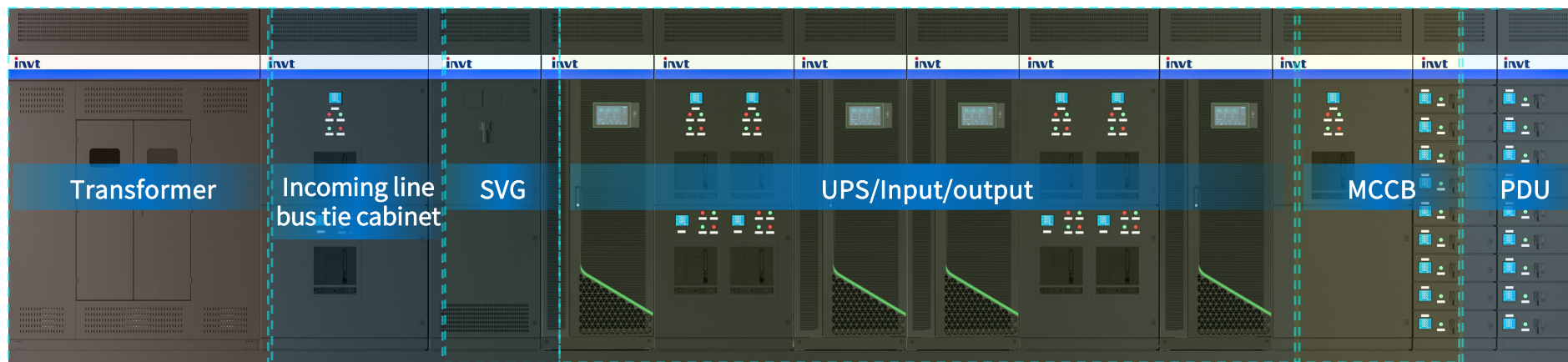
iLegend

- It is particularly suitable for outdoor camp deployment, such as data centers in special industries like oil exploration, marine scientific research, disaster recovery, and emergency communications.
- Support **1-10 cabinets, 1-50kW/Cabinet**
- Support air cooling, Liquid cooling

# Integrated Power Distribution Solution



INVT 2MW & 2.4MW power modules: Integrated power modules combining transformers, low-voltage distribution cabinets, reactive power compensation cabinets, UPS and feeder cabinets, inter-cabinet copper busbars, and monitoring systems, achieving a system efficiency of up to **98%**.



- Rapid delivery: Modular prefabrication production, integrated design and delivery shorten the construction cycle by **40%**;
- Compact structure: The integrated power distribution architecture saves **30%** of space compared to traditional power distribution, with a 2.4MW unit size less than <12m;
- Green and energy-saving: Prefabricated copper busbar installation, efficient power distribution connection, and super ECO mode system efficiency up to **98%**.

# Project Reference



## Baidu & PaddlePaddle AI Data Center Project

### Needs and Challenges

- Low cabinet utilization rate (loose planning, low cabinet deployment rate, and poor ROI); high energy consumption (electricity costs account for over 70% of OPEX).

### Solution

- INVT iTalent series integrated data center (compact layout increases cabinet deployment rate per unit area by 30%; cold and hot air flows are isolated to avoid mixing losses)
- VCR series air-cooled in-row precision air conditioners (20%-100% cooling capacity can be adjusted on demand; equipped with EC fans, variable-frequency outdoor units, and electronic expansion valves to improve annual energy efficiency ratio (AEER) and achieve low PUE; high return air temperature design to improve energy efficiency).

### Customer Benefits

- Space efficiency improvement: The cabinet density is increased to 20kW, resulting in a 50% improvement in space utilization rate;
- Energy consumption restructuring: Electricity costs is reduced by 20%, promoting the development of an independently controllable AI industry.



## Sanjiangyuan China Unicom Project

### Needs and Challenges

- High energy consumption (over 70% electricity usage) and compact reserved space (construction proceeds simultaneously).

### Solution

- The modular UPS 3\* RM500/50X provides uninterrupted and stable power for China Unicom
- The modular UPS 3\* RM600/100D provides uninterrupted and stable power for China Unicom.

### Customer Benefits

- Extremely high cost performance
- Supper ECO , power energy cost saving 15%+
- Ultra-high power density, area utilization rate increased by 30%.



## JD AI Data Center Project

### Needs and Challenges

- Heat dissipation problem: Increased chip complexity (such as GPU/ASIC) + increased heat flux density (severe heat dissipation demands); energy consumption problem: Soaring energy consumption in high-density data centers (numerous high-performance servers/storage devices).

### Solution

- INVT iTalent series integrated data center (isolates hot and cold air flows to prevent mixed losses, and supports high-density cabinet deployments up to 20kW/cabinet, significantly improving heat dissipation efficiency) + VCR refrigerant pump air-cooled in-row precision air conditioner, and utilizes low-temperature natural cooling sources through the refrigerant pump technology, achieving over 30% energy savings compared to traditional chilled water systems).

### Customer Benefits

- Computing power density and elastic expansion (supports flexible power configuration of a single cabinet (10-30kW), which can be rapidly expanded by adding micro module units in the future to meet the growth of computing power)
- Energy efficiency breakthrough (adopts green energy, PUE <1.3, reducing energy consumption); intelligent operation and maintenance (improving efficiency and reducing cost); modular support for future expansion.



## Chengdu Rail Transit Group Co., Ltd. Smart Passenger Service Platform

### Needs and Challenges

- As required by rail transit projects, UPS equipment provides stable and higher-quality power to ensure the safe operation of electrical equipment
- Power distribution equipment combining aesthetics and reliability.

### Solution

- INVT RM500/50X UPSs provide stable power support for intelligent transportation
- Customize product appearance and color, customized construction and installation service provider.

### Customer Benefits

- Input PF >0.99, output THD 小于1%, efficiency >96%, contributing to the meticulous management of urban rail transit
- Modular UPS design, highly redundant power modules, intelligent monitoring and management provide stable and reliable power while reducing operation and maintenance costs by 23%.



# Project Reference

## USTC Research Institute Supercomputer Data Center Project

### Needs and Challenges

- High cabinet power density (25kW/cabinet); high energy consumption (electricity costs account for over 70% of OPEX); short construction cycle(quick delivery is required)

### Solution

- INVT iTalent series integrated data center (isolates hot and cold air flows, and supports high-density cabinet deployments up to 25kW/cabinet); prefabricated and pre-engineered in the factory to ensure high construction efficiency) + VCR air-cooled in-row precision air conditioner (equipped with EC fans, variable-frequency outdoor units, and electronic expansion valves to improve annual energy efficiency ratio (AEER) and achieve low PUE; high return-air temperature design enhances energy efficiency).

### Customer Benefits

- In-row precision air conditioners and enclosed cold channel effectively solve the problem of high power in cabinets
- Energy consumption reconstruction: The electricity cost is reduced by 20%
- The construction cycle can be greatly shortened from design, procurement, construction and installation to meet customer requirements.



## Jinan Yaoqiang International Airport Project

### Needs and Challenges

- Uninterrupted power supply: Seamless switching between old and new UPS systems without power interruption (ensure aviation safety); quality and safety: Load-bearing switching (new UPS must be reliable); switching efficiency: The operation must be completed within a strict 3-hour flight-free window (the solution must be rigorous).

### Solution

- First site inspection (pointed out the problems such as limited space and disassembly of the original power-frequency machine, gaining customer trust); multiple solution rehearsals (to ensure zero error); emergency plan (covering switching risks).

### Customer Benefits

- Ensures the stability of civil aviation power system; UPS provides a digital foundation for business.



## Belt and Road Hungary & Serbia Railway Project

### Needs and Challenges

- The project will be constructed in three phases, the first phase includes 16 stations, while the second phase covers 12 stations
- Different stations have the different requirements and demands, but all of the equipment should be stable, easy to install, and convenient to maintain.

### Solution

- Research into on-site needs and a comprehensive survey of the usage scenarios of railways in Hungary and Serbia, we provide customized solutions for railway projects;
- We provide different models of UPS such as RMX series , HR series, and HR33 series UPS
- Our professional team provides customized installation and delivery services, as well as after-sales support, based on different needs.

### Customer Benefits

- With supporting equipment and standardized construction, labor costs have reduced by 20%
- The equipment is highly efficient, environmentally friendly, energy-saving, and reduces emissions, saving 15% on electricity.



## India a Laboratory

### Needs and Challenges

- Strict temperature and humidity control for the specific testing environment;
- Stable airflow distribution to ensure uniform environmental conditions
- Limited installation space and complex laboratory layout
- High reliability requirement for continuous laboratory operation

### Solution

- Precision air conditioning system with ducted air supply and return
- Uniform air distribution through distributed air ducts
- High-precision temperature and humidity control technology
- Integrated monitoring and intelligent control system

### Customer Benefits

- Precise temperature & humidity control increases experimental success rate by 11%.
- Prefabricated system design for faster installation and deployment, reduce installation labor costs by 30%

# Project Reference



## Changde CRRC Production Base Data Center Project

### Needs and Challenges

- The construction of a new data center requires long-term planning and layout based on the data and information development needs of the next 3 to 5 years, with a single cabinet load of 2 to 3 kW
- Low PUE.

### Solution

- Installation and solutions are provided in accordance with Class B data center standards. One iWit and two iTalent
- Single cabinet 3kW, 2\* RM300/50X UPS, +Precision power distribution cabinet, +Precision in-row air conditioning.

### Customer Benefits

- The factory implements prefabrication production, high-quality on-site construction, reducing construction costs by 12%, reducing debugging costs 7%.



## Zhejiang Huashang AI Data Center Project

### Needs and Challenges

- Urgent demand for digital transformation due to low digital efficiency and difficult information processing; insufficient computing power driven by rapidly growing AI workloads; limited outdoor space for the factory.

### Solution

- INVT iTalent series integrated data center solution, 158 server cabinets +30 in-row air conditioners+3 room-level air conditioners + intelligent management system; fast delivery + efficient energy saving (responds to low carbon calls).

### Customer Benefits

- Modular layout (enhanced computing power);
- Centralized air conditioning outdoor unit (15% reduction in floor space);
- DC variable-frequency compressor + EC fan + variable-frequency outdoor unit (low PUE);
- Intelligent operation and maintenance (improved efficiency and cost reduction).



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