







With the entry business in digital power system, Zhiguang Electric took its first step towards "a pursuer and advocator of smart energy".

Successfully listed on the SME Board of Shenzhen

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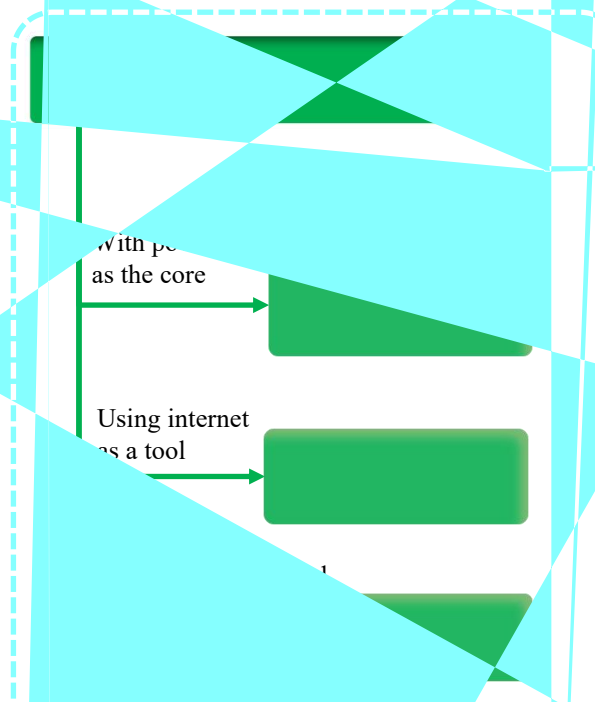
The business scope covers

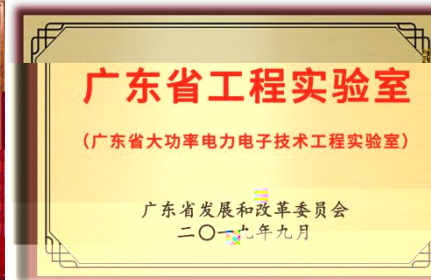
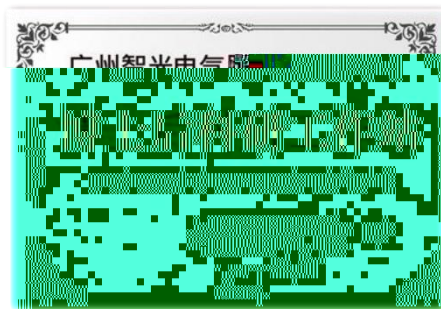
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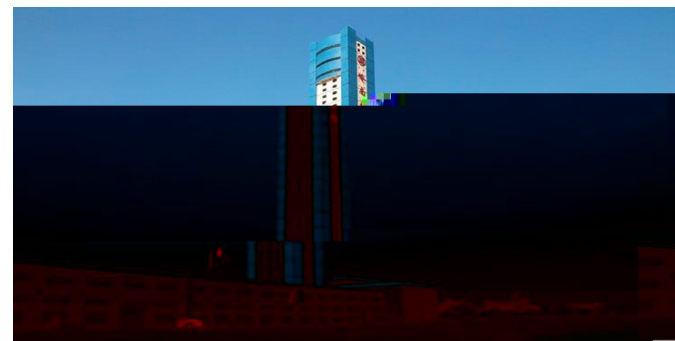
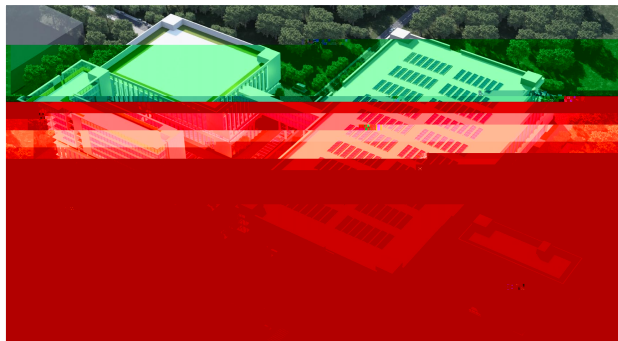


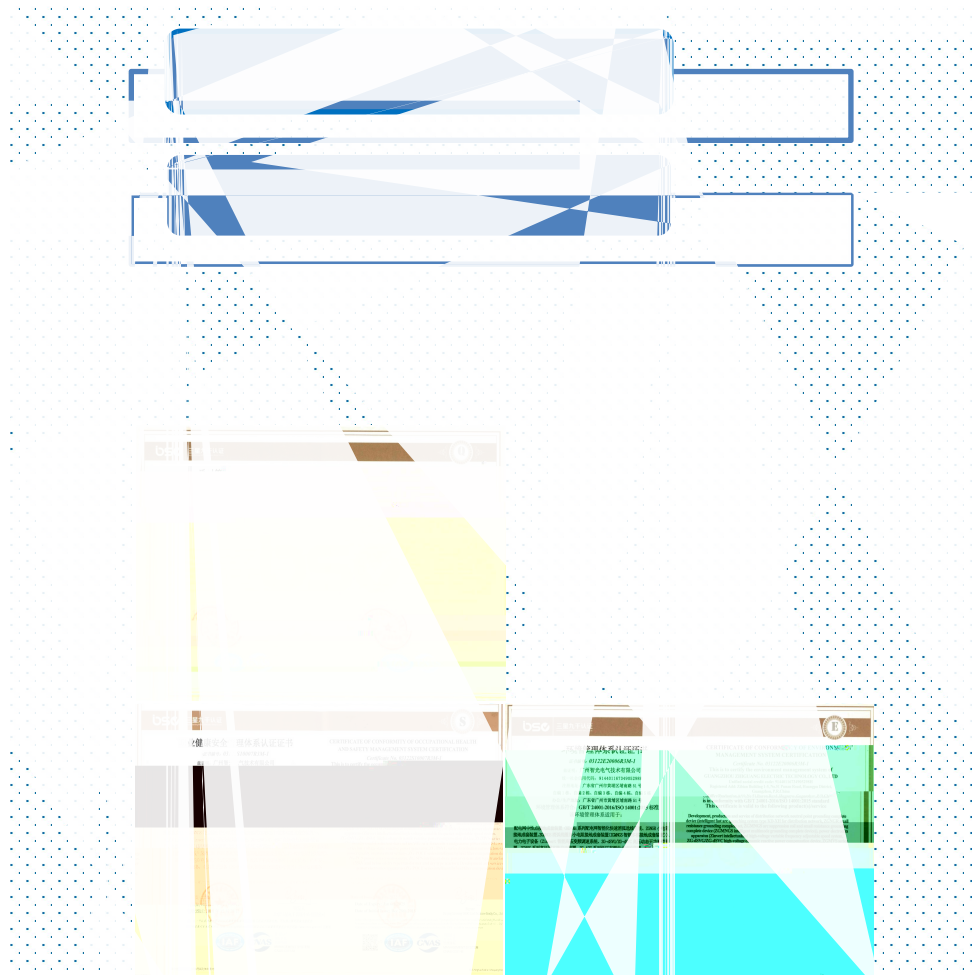
Huangpu Science City  
ZhiGuang Electric headquarters  
ZhiGuang Integrated Energy Industrial Park

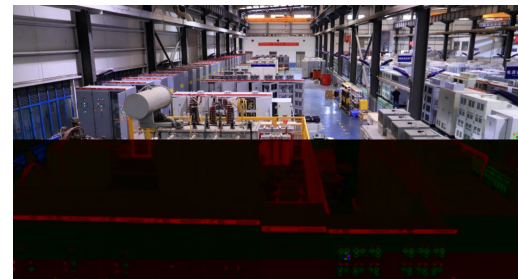
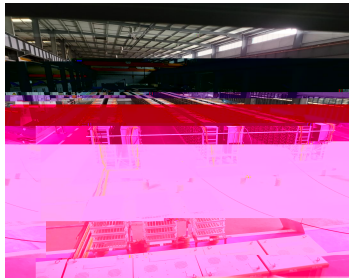
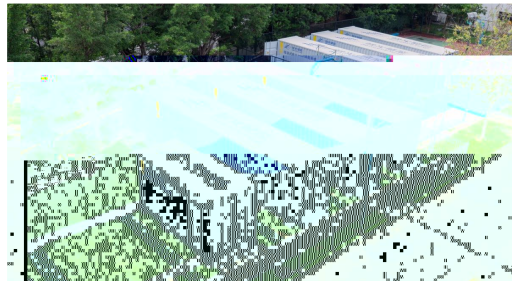
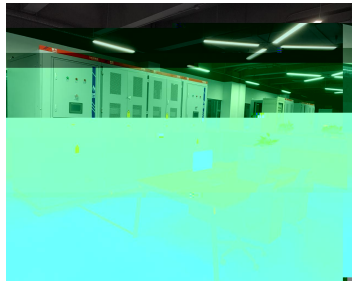
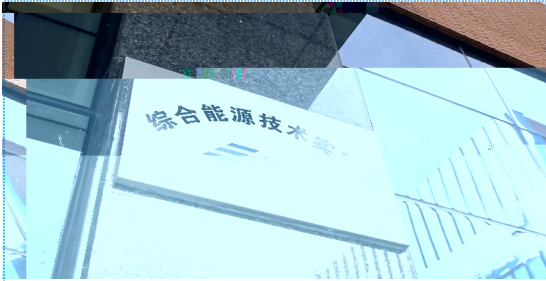
Yunpu Park  
Power electronic  
products R&D and  
manufacturing base

Yonghe Park  
Energy storage technology  
research and manufacturing  
base under construction

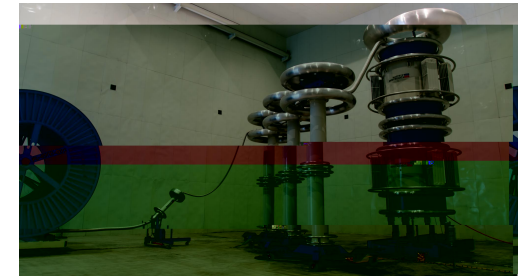
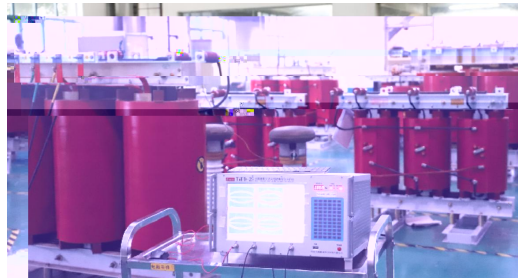
Nansha Park  
Power transmission  
products R&D and  
manufacturing base

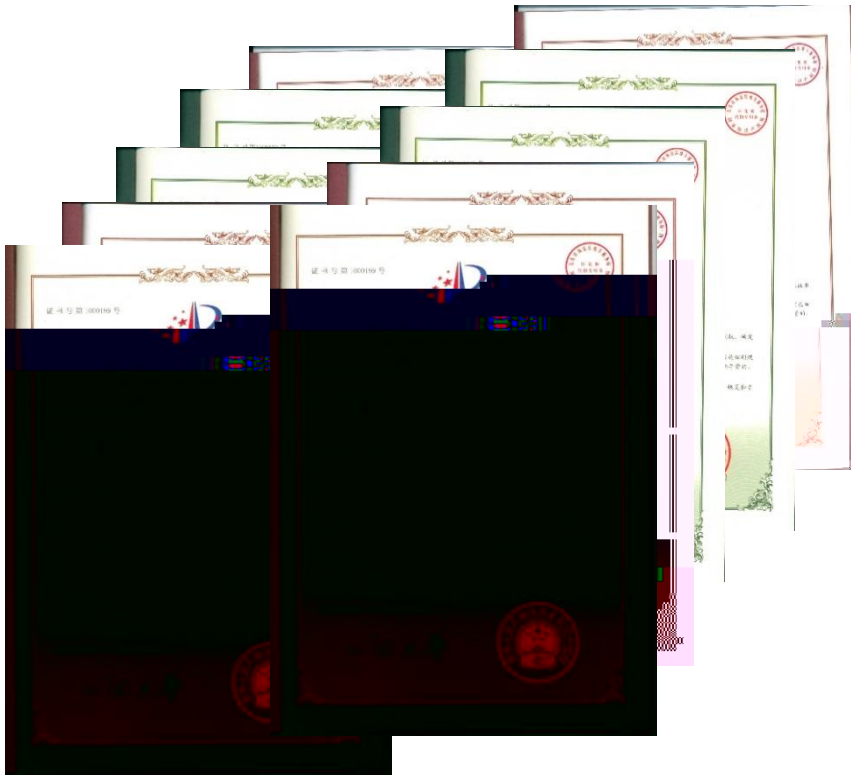
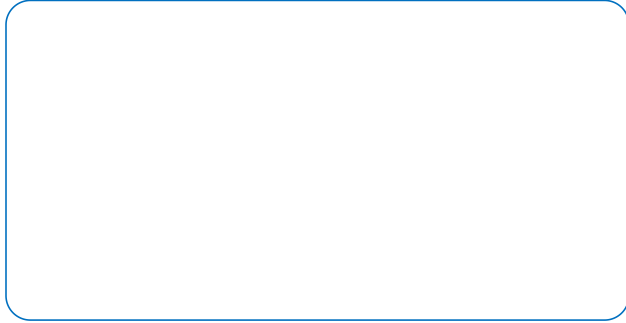






Power electronics simulation laboratory	Experimental platform for 5MW energy storage	35kV Renewable energy grid-connected mobile test device	Power electronics control technology research laboratory
35kV Cascaded high voltage energy storage system	Zhiguang proprietary cloud data center	High voltage high power electronics test room	Ultra-large capacity high voltage frequency conversion technology laboratory
		Special electric reactor laboratory	Cable high voltage partial discharge test laboratory





Specification of Arc Suppression Coil Apparatus with Automatic Tracking and Compensation	DL/T1057-2007
The Guide of Design Optimization for Motor Systems (Fans, Pumps, Air Compressors)	GB/T 26921-2011
Power Transformers - Part 6: Reactors	GB/T 1094.6-2011
The Methods of Electric Power Balance Test and Calculation in Fan System	GB/T 13467-2013
Dry-type Converter Transformers for High Voltage Frequency Control	NB/T 42021-2013
Adjustable Speed Electrical Power Drive Systems - Part 5	GB 12668.501-2013
Power Cables with Cross-linked Polyethylene Insulation and Accessories for Rated Voltage of 110 kV( $U_m=126$ kV) - Part 1: Test Methods and Requirements	GB/T11017.1-2014
Long AC Submarine Cables with Cross-linked Polyethylene Insulation and Their Accessories for Rated Voltage of 220kV ( $U_m=252$ kV)	GB/T32346.1-2015
Electrochemical Energy Storage System Evaluation Specification	T/CNESA 1000-2019
Resistors for Earthed Neutral	JB/T 10777-2018

Large and medium-sized corporate groups



↘ Overseas countries and regions with Zhiguang Electric products' presence



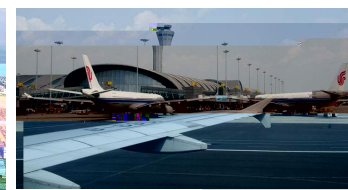
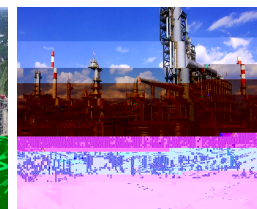




1. Microgrids and distributed energy
2. Integrated energy saving services
3. Renewable energy development and investments
4. Energy storage power station development and investments



1. Energy storage and power station system
2. High / low voltage frequency control system
3. High voltage static var generator
4. Distribution network neutral grounding device
5. Power quality control APF, SVG, etc.
6. UPS uninterruptible power supply
7. Electric power informatization system
8. High and low voltage power cable, intelligent cable



Power supply+power grid new-type power system business

6~35kV Cascaded high voltage energy storage system



- ✎ The only global electrochemical energy storage system provider of over 90% RTE efficiency for large (shared) energy storage power stations;
- ✎ Unit-capacity can reach 25MW and be directly connected to 35kV, greatly simplifying the control of large-scale energy storage power stations
- ✎ Battery cluster's high-power active balancing control, achieving power balancing among different clusters and
- ✎ The investment of the whole station calculated by POI will be saved by over 10%.

✎ Examples of typical customers: China Southern Power Grid, State Grid, Huaneng, Huadian, China Energy, China Three Gorges, etc.

High voltage static var generator SVG



- ✎ Reactive and voltage stabilization control system for large renewable energy stations, power grids;
- ✎ Unit-capacity can reach 80MVar/35kV with types of air-cooled and water-cooled; and
- ✎ Supports multiple units connection in parallel.

✎ Over 2000 practical applications of major power grid, renewable energy groups and industrial clients.

Distribution network neutral grounding system



- ✎ Provides various types of neutral grounding control systems for substation distribution network and ensures the safety of power grid operations;
- ✎ Types of grounding line selection system, such as high short-circuit impedance, multi-tap, small resistance and multimode; and
- ✎ Supports multiple units connection in parallel.

✎ Over 13000 practical applications of major power grid, renewable energy groups and industrial clients.

智光



- ▷ Renewable energy development cooperations with Huadian, SPIC, China Energy , Huaneng, Guangzhou Development Group, Guangdong Hydropower Group, etc.

## Key industrial and commercial clients

### High/low voltage frequency control and soft-start



- Has Provided over 15000 sets of high voltage frequency control system with single machine power up to 25MW for clients over 40 countries and regions around the world, covering asynchronous, synchronous and soft-start applications, which can support multiple coordinations, helping clients improve motor energy efficiency by 20-30%; and
- Has participated in the preparations of a number of industry standards.

- Cooperations with large enterprises (e.g. the five major power generation groups, China Resources, Baowu Steel Group, Conch Group and Huaxin Group, etc.) and local state-owned enterprises for many years; and
- Playing a key role in localization substitution for major domestic projects with comparable quality to that of international brands.

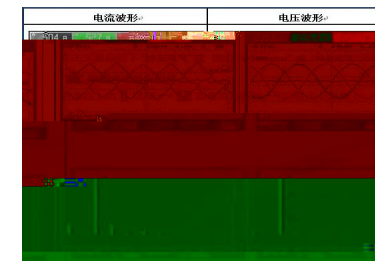
### Industrial energy storage, UPS system



- Modular and standardized energy storage;
- Alleviating power shortage, participating in demand response and saving energy costs;
- Emergency power supply for important clients and loads; and
- Supports multiple connection in parallel

- Hundreds of thousands of devices used in many fields, such as Inspur Group Beijing Metro, Chengdu Metro, MTR, public security, etc.; and
- Wider customer base extended to industrial clients of Pearl River Delta and power grid companies.

### Integrated management of power quality



- Provides customized power quality management solutions for clients; and
- Crafted integrated electric energy solutions based on UPS, APF, SVG and support voltage sag, harmonic suppression, etc.

- Suitable for harmonic suppression in mining, metallurgy and other industries ;
- Power maintenance of important loads, voltage sag treatment, etc.; and
- Emergency power supply, security power supply, etc.

## Key industrial and commercial clients

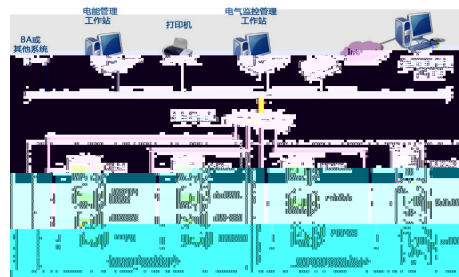
### Substation neutral grounding line selection system



- ✎ Provides various types of neutral grounding control system for substation distribution network to guarantee the safety of power grid operations;
- ✎ Types of grounding line selection system, such as high short-circuit impedance, multi-tap, small resistance and multimode are covered; and
- ✎ Supports multiple units connection in parallel.

✎ There're more than 13000 practical application cases, including major power grid, renewable energy groups and industrial clients.

### Energy digitalization and energy management

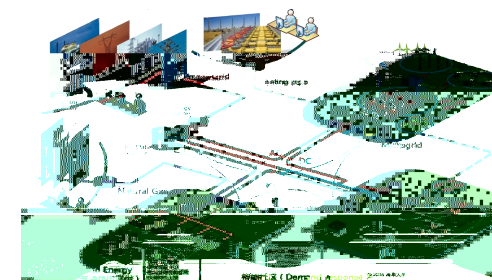


- ✎ Provides 0.4~35kv power automation instruments, integrated monitoring and protection for various industrial and commercial clients; and
- ✎ Provides digital energy management platform and digital transformation based on cloud data and cloud computing, offering suggestions and decision support for intelligent operation of energy.

✎ Applications of hundreds of thousands of instruments and protections in over 200 power plants of the five major power generating groups, China Resources, etc.; and

✎ With the experience of connecting provincial energy management centers and national energy platforms.

### Integrated energy services



- ✎ Provides investment and services of energy saving, microgrid and distributed energy for large industrial and commercial entities;
- ✎ Provides services of energy trusteeship and regional energy optimization;
- ✎ Distributed energy storage business to alleviate power shortage and reduce energy costs; and
- ✎ Involved in spot market, demand side response, virtual power plant business.

✎ Provider of integrated energy services for major commercial complex in Guangzhou Knowledge City and Nansha District.

# CONFERENCE

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## Large container terminals

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- Provides 20MVA shore power system for green transformation of ports;
- Provides energy storage and energy saving of port, refrigerated container facilities and systems for improved energy efficiency and energy cost reductions; and
- Provides energy digitalization and integrated energy business for ports.

- Provider of shore power equipments for large and important ports in Tianjin, Qingdao, Ningbo, Shamen, Shantou, Guangzhou, etc., with a
- Deeply engaged in the business of port and container terminals.

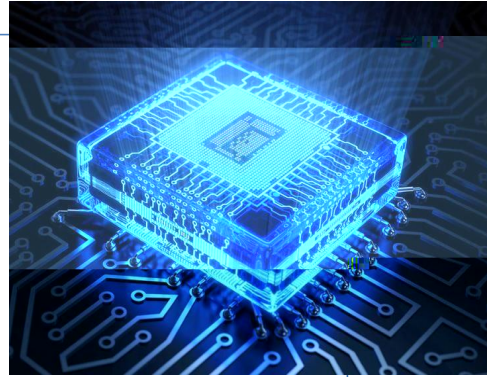
# CONFERENCE

## Hunt for seasoned, promising enterprises for investments, mergers and acquisitions





- Take “the foundation of the company's applications in power electronic products” and “Guangzhou CanSemi Technology Inc., the only mass production platform for 12-inch chip in the Guangdong-Hong Kong-Macao Greater Bay Area” as two fulcrums, looking for proper investment projects along the IGBT industry chain, with enterprises in medium voltage chip, module design and packaging as key focuses.



- Zhiguang Electric will appeal to the pre-production verification and industrialization ability of Guangzhou CanSemi Technology Inc., a joint-stock enterprise whose main investments are in analog chip design service projects.

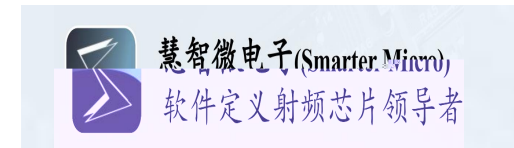


- Energy conversion revolution is the core driving force for the development of power semiconductor industry;
- The third generation semiconductors of SiC and GaN will play a crucial role in recyclable, efficient and reliable energy systems; and
- Zhiguang Electric will follow closely with SiC and GaN technology projects.

is a "Double Hundred Enterprise" by the State-owned Assets Supervision and Administration Commission of the State Council, one of the fourth batch of national pilot enterprises of mixed reform and the business carrier of the integrated energy business of China Southern Power Grid, and a leading enterprise in the field of integrated energy services in China.



as well as an important partner of a group of large-scale integrated circuit manufacturing and design enterprises at home and abroad.



, the only 12-inch chip mass production company in the Guangdong-Hong Kong-Macao Greater Bay Area.

. The company majors in the development of RF / analog integrated circuits and SoC system integrated circuits, with annual chip shipments of 700 million.

. The company has developed the basic patent -- RF front-end reconfigurable technology, which takes the lead in achieving technological breakthrough and large-scale commercial applications in the world.

