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TELECOM

CONNECTING WONDERFUL LIFE WITH OPTIC-ELECTRIC NETWORK

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FOSTERING CLEANER PRODUCTION AND ACCELERATING GREEN AND LOW-CARBON DEVELOPMENT

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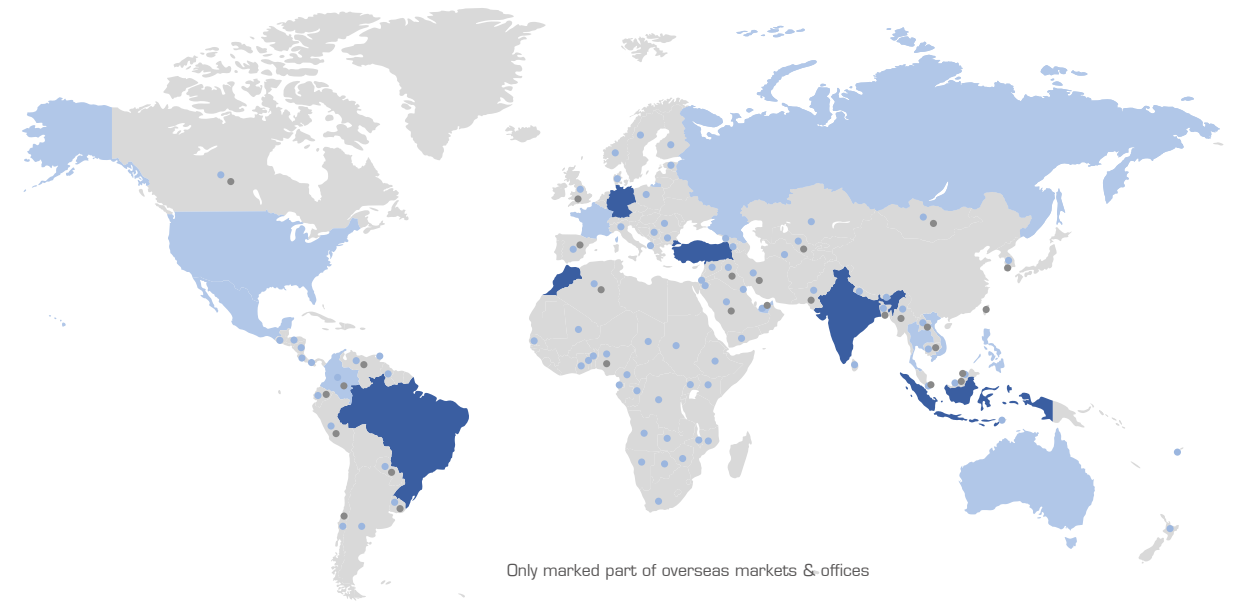
- 18 **Main Products**
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ABOUT US

Established in 1992, ZTT started from optical fiber communications and was listed on Shanghai Stock Exchange (SSE) in 2002 (Stock Code in SSE: 600522). ZTT has pictured a diversified industrial portfolio for marine equipment, renewable energy, new materials, smart grid, optical communications and other industrial products. ZTT follows the new economic model of fostering cleaner production and accelerating green and low-carbon development, works hard to serve as the pioneer of persistent endeavor to achieve national goal involving carbon dioxide emissions peaking by 2030 and carbon neutrality by 2060, emerging as a green manufacturing technology group assuming regional economy.



1992 Established	160 Global Markets	16,000⁺ Employees
54 Branch Offices	80 Registered Subsidiaries	5 Overseas Plants
2,500⁺ Patents	Top-500 Enterprise in China	\$12.5 Billion Revenue 2021

Overseas Plants



India Plants



Indonesia Plants



Brazil Plants



Turkey Plants



Morocco Plants

DEVELOPMENT PROCESS



1992

2008

2014

2018

FIELD

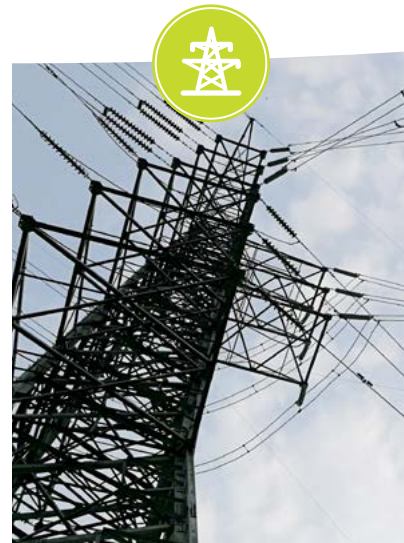
Information & Communication

ZTT provides cables, components, devices, antenna feeders and other infrastructure services for multi-dimensional network construction. The products include types of preforms, optical fibers, optical cables, ODN, antennas and RF cables, active terminals, optical transceivers, data centers, high-performance raw materials and other products for telecom infrastructure network, as well as engineering consulting, design, construction and integration services.



Smart Grid

Focusing on the development of power grid, ZTT is committed to building the whole product chain of power equipment products, and aims to the safety, energy conservation, environmental protection and intelligence, provides first-class system solutions for power transmission and distribution, receiving great praise with "ZTT Serves Power Grid, Power Grid Trusts ZTT" in the industry.



New Energy

Led with power station construction, featured with distributed photovoltaic, centered on microgrid technology, taking key materials as a breakthrough, and highlighted with large-scale energy storage system, renewable energy industry has gradually grown into a new growth pole of ZTT.



Marine Equipment

ZTT tightly grasps the development opportunities for submarine economy involving island development, marine new energy development, undersea observation network, marine resources exploration, and marine engineering equipment, adheres to the principle of equal emphasis on offshore & onshore resources and optoelectronic integration, provides overall solutions for marine equipment, and serves the construction of Chinese maritime power.



Intelligent Manufacturing

Adhering to the high starting point and standard positioning, ZTT not only produced high-end equipment for spare cables, optical fiber cables, wires and cables to meet domestic and overseas market demands, but also set up ZTT intelligent manufacturing alliance to deliver the "strongest brain" and optimal solutions for the enterprise's data-oriented processing, information and intelligent construction.



EPC

ZTT now extends its service to Finance, Design, Supply, Installation, Testing and Maintenance, and offers EPC, EPC+F, BOO/BOT solutions.



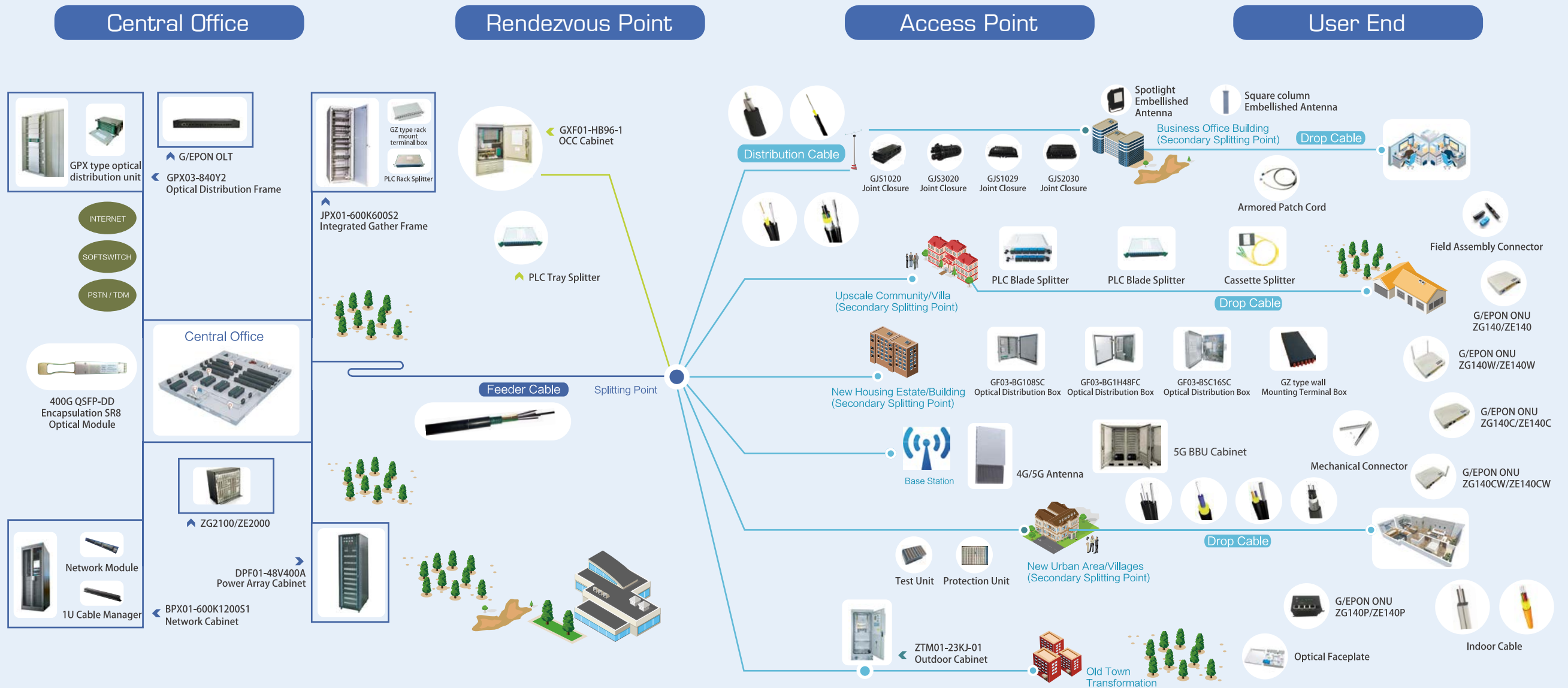
ZTT embarked on optical fiber communications in 1992. Presently, ZTT has pictured a diversified industrial portfolio for marine equipment, renewable energy,

new materials, smart grid, optical communications and other diversified industrial products.

INTEGRAL CONNECTION SOLUTIONS FOR FIXED AND WIRELESS NETWORK

ZTT provides infrastructure product package solution such as optical cables, optical components, optical devices and antenna feeders for 5G network construction from cloud, pipe and terminal product. The products include all kinds of fiber preform, optical fiber, optical

cable, ODN, antenna and radio frequency cable, active terminals, optical transceivers, data centers and other products, as well as engineering consulting, design, construction and integration services.



FTTX ODN SOLUTION

ZTT specializes in the production of optical cross connecting cabinet, optical distribution frame, digital distribution frame, integrated cabinet, outdoor cabinet, broadband access box, optical fiber distribution box,

floor box, optical fiber connector, optical joint box, optical terminal box, PLC splitter and other products. We provide customers with one of the most complete product categories in the industry.



1	2	3	4	5	6	7	8	9	10	11	12	13	14
ODF(Optical fiber distribution frame)	Integrative gather frame	DDF(Digital distribution frame)	Ribbon cable	Joint closure/ Pre-Connectorized FAT	Cross connecting cabinet	Directly buried cable	15	16	17	18	19	20	21
Broadband access box-FTTB	Network cabinet	Wall mounted rack	Outdoor cabinet	Figure-8 optical cable/ Pre-connected Drop Cable	Duct drop cable	Cold channels rack							

BACKBONE NETWORK SYSTEM SOLUTION

ZTT specializes in the research and development, production and distribution of indoor and FTTX optical cables, micro-optical cables, soft armored optical cables, low-voltage photoelectric composite cables and other products. The products include both regular products and customized products for special demand. The cable performance and quality are industry-leading. ZTT can also provide customers with customized system solutions.

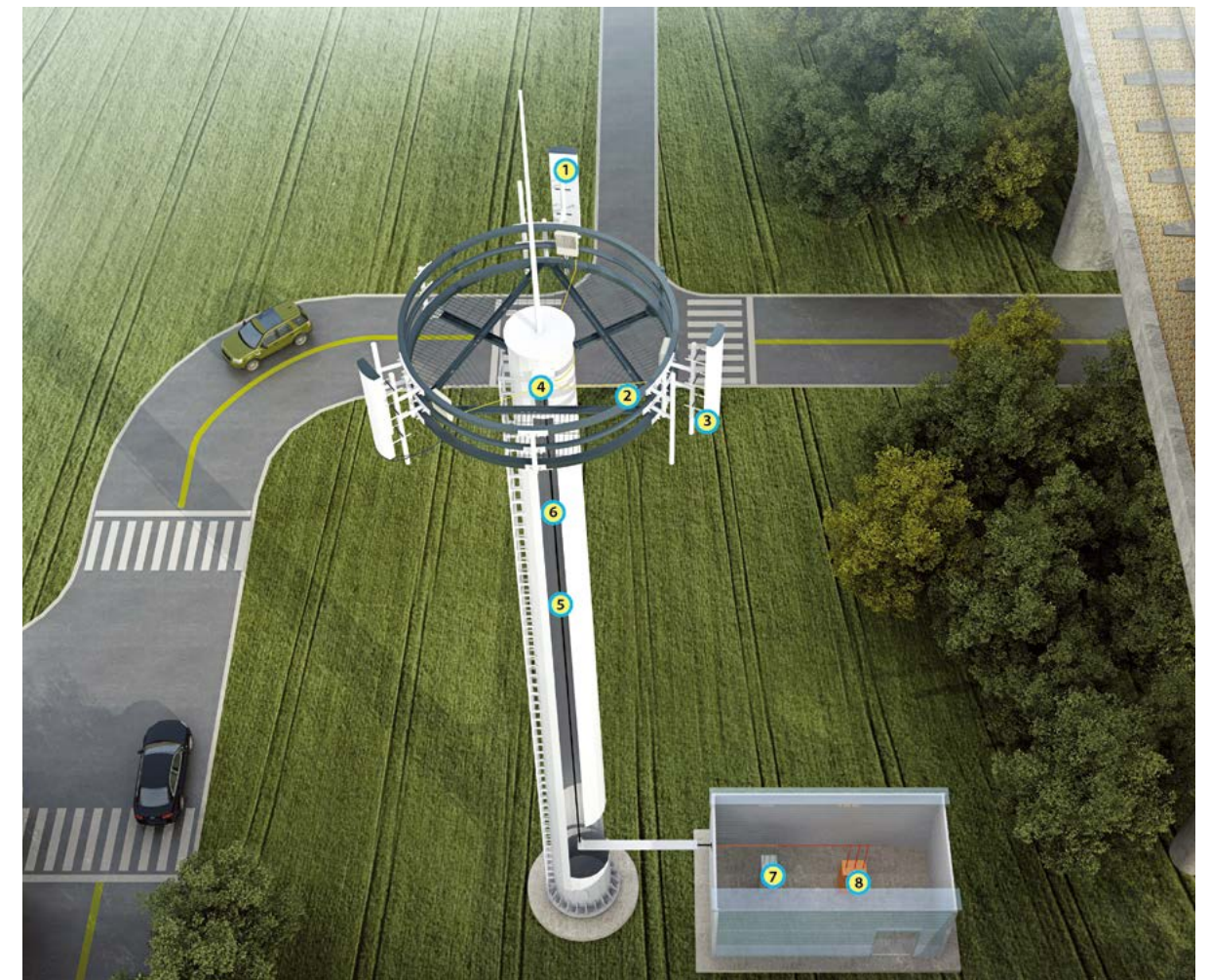


HYBRID SOLUTION

With the development of BBU and RRU, it comes into being FTTH system.

ZTT hybrid cable combines optical fiber cable and power cable in a single lightweight aluminum corrugated cable, making it the world's most innovative solution for Remote Radio Head (RRH) deployments.

ZTT hybrid cable provides the cabling expenditure reductions, easy installation and operational efficiency for mobile and telecom operators.



1	2	3	4	5	6	7	8
							
Antenna	FPHC jumper[1/2"]	RF jumper[1/2"]	Branch box	Hybrid cable[7/8"]	Prefabricated hybrid jumper(4&5)	Optical transceiver	UPS

WIRELESS COMMUNICATION SOLUTION OF RAIL TRANSIT

It is committed to provide professional cables and supporting accessories for wireless communication of rail transit system, and leaky cables developed by ZTT support 2 / 3 / 4 / 5G applications.

1	2	3	4	5
Leaky coaxial cable The best solution for the long and narrow space and support 2G/3G/4G/5G multi system combined	UPS lithium battery pack Ensuring zero delay power supply of base station	Fiber and power hybrid cable Solve the problem of remote device signal access and power supply at the same time	Antenna Narrow beam and high gain achieving full coverage of the open area	LCX clamp for high speed railway Anti 400Km/h wind tunnel impact load

5G ROOMTOP LEAKY CABLE SOLUTION

ZTT proposed an innovative roomtop leaky cable solution: replace the traditional combination scheme of "ceiling antenna + feeder + passive components" with "one wide-angle radiation leaky cable". The wide-angle rooftop leaky cable is a kind of special coaxial cable. Its outer conductor is provided with periodic slots, which has the dual functions of feeder and antenna. It has both the signal transmission function of feeder and the signal transceiver function of antenna.

ZTT also offers a whole range of services which includes:

System design	Package solution	Installation instruction	Turnkey is available in selected scenario

Roomtop is the latest wireless coverage solution for In-Building system.

Application Scenarios:

Office building, Shopping mall, Hospital, School, Hotel, Airport, Underground parking, Old building renovation, Exhibition hall, Metro station hall and etc.

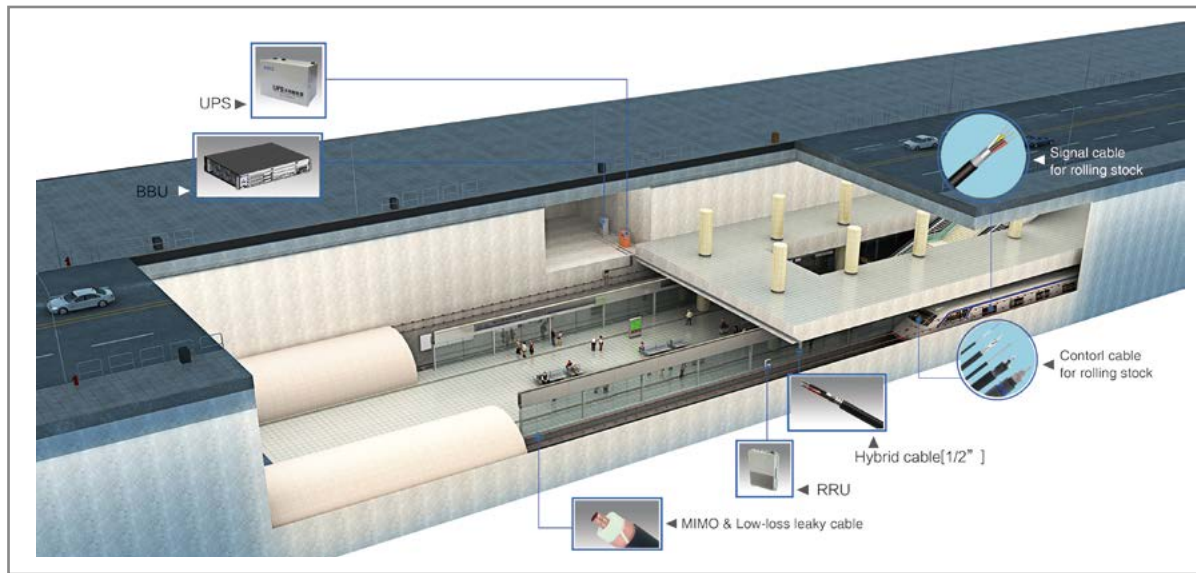


MIMO & LOW-LOSS LEAKY CABLE SOLUTION FOR METRO SYSTEM

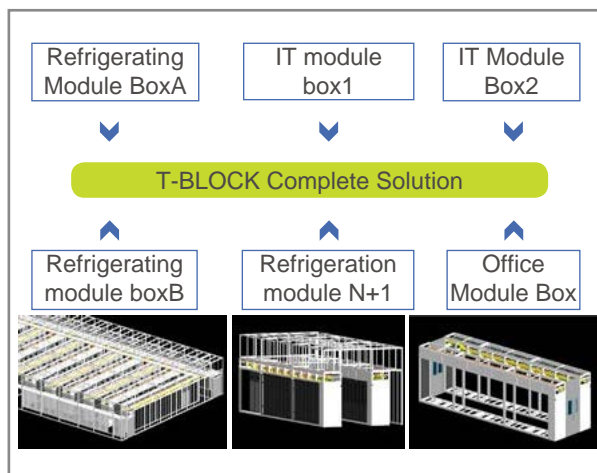
MIMO 5G leaky cable is developed with dual polarization slot technology by ZTT, the advantages are as following,

- Horizontal and vertical polarization, 360° full coverage, no blind spots.
- Minimum installation distance reduces to 30cm, no signal interference.
- Saving tunnel space resources.

ZTT also developed 5G low loss broadband radiation leaky cable, with uniform field strength from beginning to end, uniform signal coverage. Wide band realizes co-construction and sharing of different operators and break through the transmission bottleneck of traditional leaky cable.



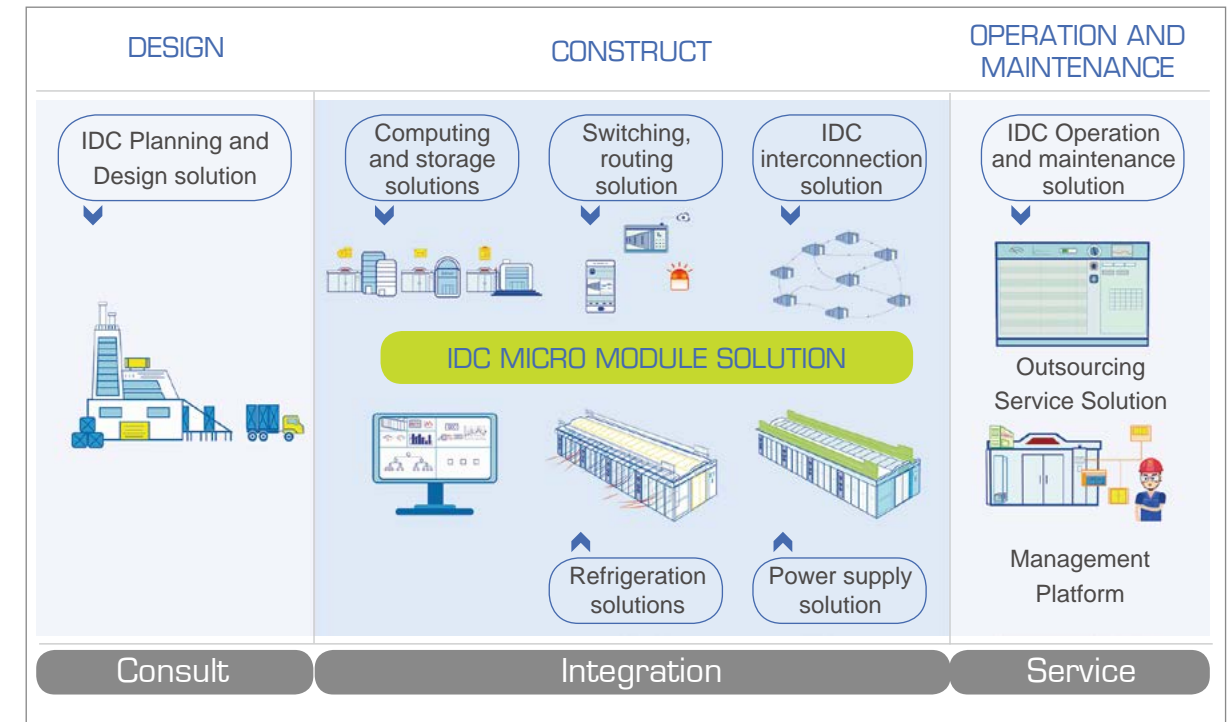
T-BLOCK COMPLETE SOLUTION



ZTT has the data center design ability, including rich traditional data center design, complete T-BLOCK data center BIM modeling, each module (power supply, integrated wiring, bridge, air conditioning, power distribution, lighting, fire protection, computer room installation) prefabricated integration and on-site construction drawings, implement and optimize customer demand effectively.

ZTT has completed hundreds of engineering projects at local and overseas. It has rich implementation experience in communications, informatization, electromechanical, construction, electric power, new energy, intelligence, security, etc., and has the ability to construct various modules of T-BLOCK.

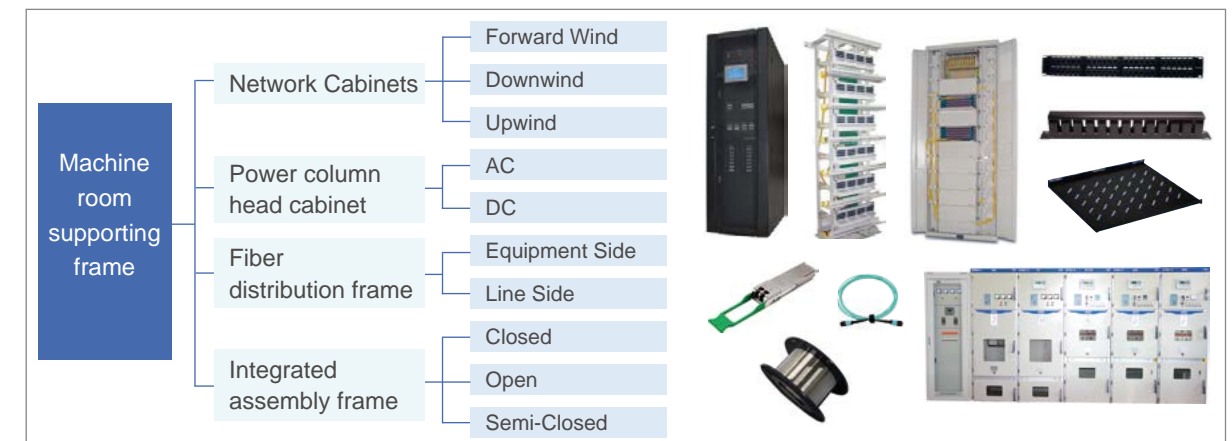
DATA CENTER INTEGRATED SOLUTION



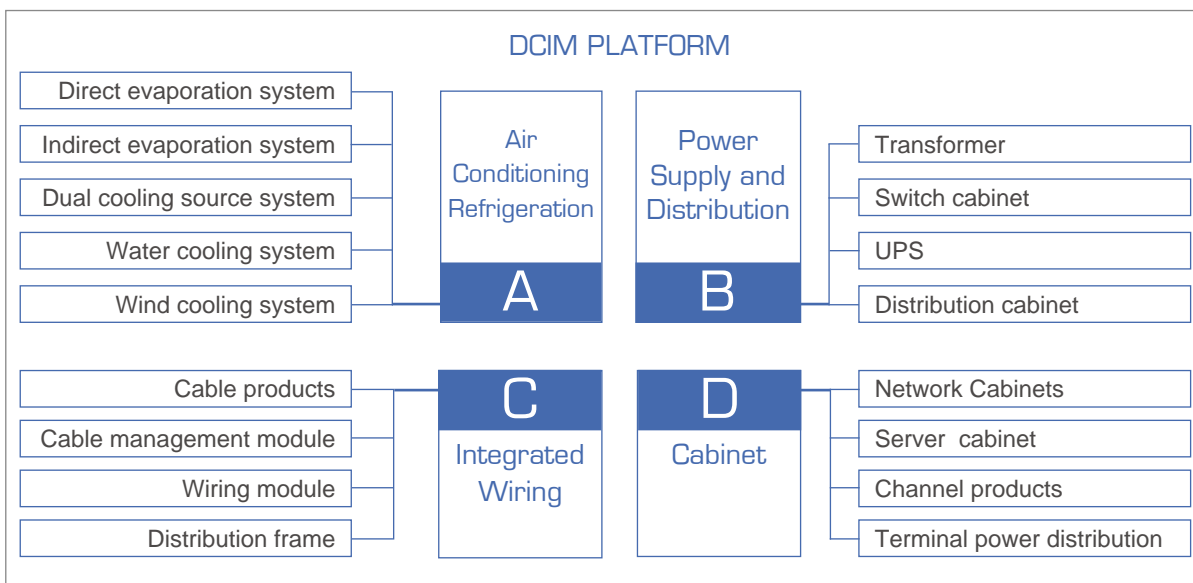
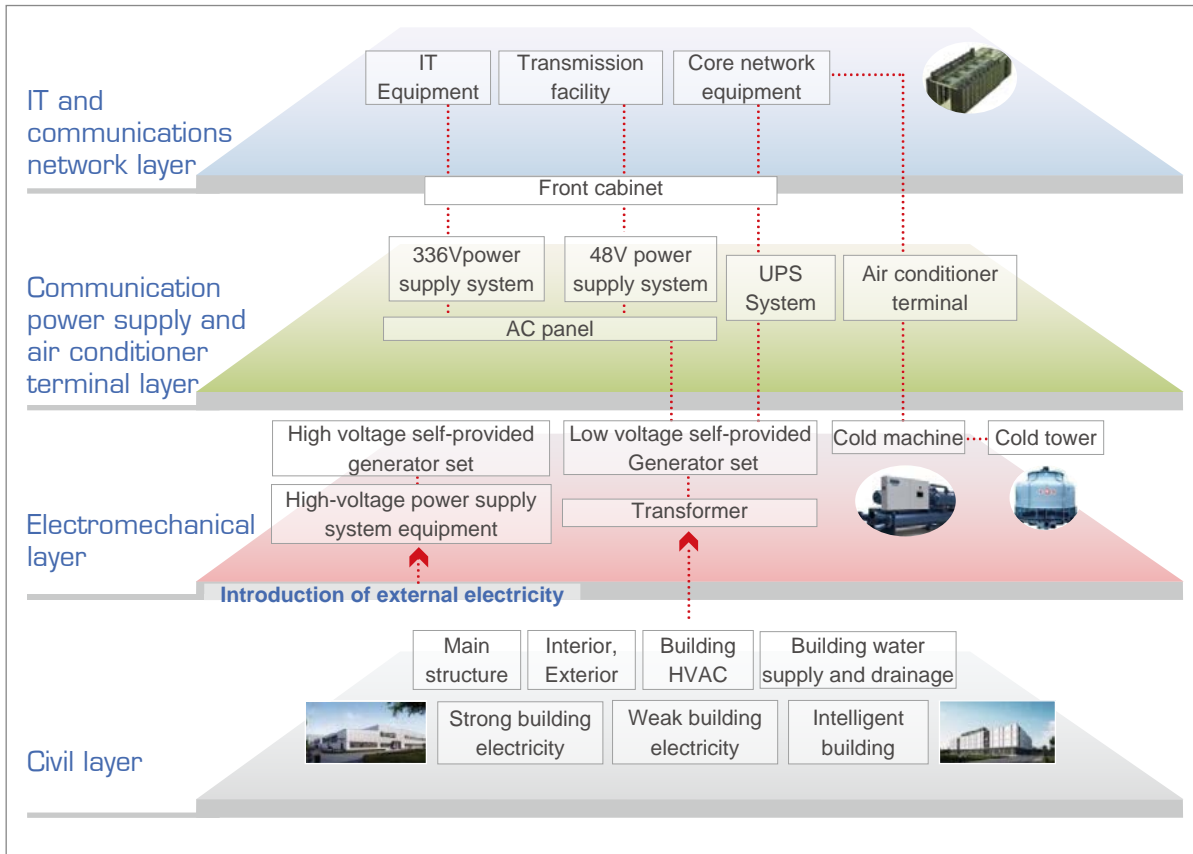
Data center supporting products

Large and medium-sized data center in addition to the main equipment and oil machine, to provide a full range of product solutions.

The data center is classified according to four levels: civil construction layer, electromechanical layer, communication power and air conditioning terminal layer, IT or communication network layer. ZTT's own products cover all products of electromechanical layer, communication power supply and air conditioning terminal layer, as well as some products of IT and communication network layer and civil construction layer.



We also provide general contracting services such as project consulting, design, construction, material provision, operation and maintenance, etc., and applies industry-leading experience in data centers to improve user operating efficiency.



MAIN PRODUCTS



OPTICAL FIBER PREFORM

- G.654E/G.652/G.657/G.655/G.656 etc. single-mode optical fiber preform
- Multi-mode optical fiber preform
- Specialty optical fiber preform














OPTICAL FIBER (TELE WEAVE™)

- ZTT-ALF® G.652D Low PMD non-dispersion shifted low-loss series of optical fiber
- TELE WEAVE-Tera™ G.654 Low-loss and ultra large effective area optical fiber
- TELE WEAVE-Focus™ G.655 Low PMD non-zero dispersion shifted SMF
- TELE WEAVE-Slim™ 200um/180um small size series of optical fiber
- TELE WEAVE-Premium™ G.657A1/A2/B3 Bending insensitive optical fiber
- TELE WEAVE-Broad™ OM1/OM2/OM3/OM4 MMF
- Low temperature resistance optical fiber
- TELE WEAVE-Phoenix™ High temperature resistance optical fiber
- High intensity and ultra-long haul optical fiber for submarine communication networks
- Ultra low bending loss SMF with high pressure resistance

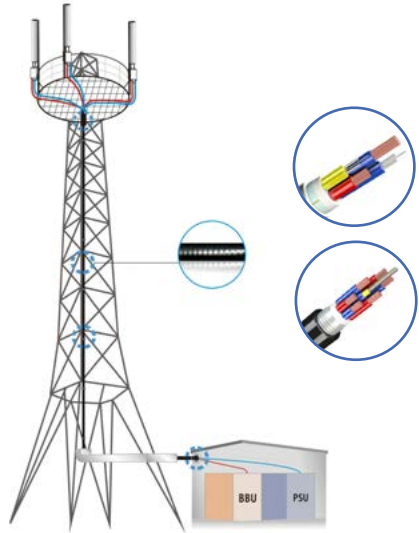
SPECIAL COMMUNICATIONS CABLE



 <p>• Figure-8 Self-supporting Aerial Cable Self-supporting structure, directly overhead, reduce the cost of laying</p>	 <p>• Drain Cable Corrosion-resistant, anti-bird pecking, anti-rat biting</p>
 <p>• Optical Fiber Composite Power Cable Conduct simultaneously the transmission of optical signals and weak electricity</p>	 <p>• FTTH Indoor Optical Cable Easy to splice, with anti-retardant and self-extinguishing</p>
 <p>• Clean Hand® Dry Cable Full dry structure, environmental protection, easy construction. New all dry fiber ribbon cable, easy splice</p>	 <p>• Easy tear™ Micro bundle cable Easy sheared with two fingers, excellent flexible and convenient for installation</p>
 <p>• Central Tube Cable Beam tube structure, small diameter, light weight</p>	 <p>• Island link® Steel Wire Armored Cable Meet climbing buried and underwater laying application requirements, etc.</p>
 <p>• Color Stripe Cable Identified by using the color stripe, easy to distinguish</p>	 <p>• BlownElite® Air Blowing Micro Cable Small diameter, light weight, blowing laying, easy to expanse</p>

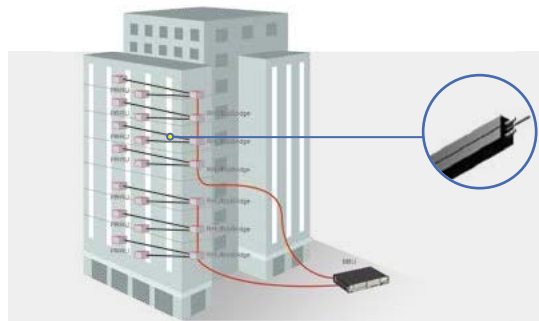
 <p>• Bite guard® Nylon Cable Use Nylon sheath, anti-bird pecking, anti-rat biting</p>	 <p>• Bunchy Armored Cable Bunchy structure, spiral armor, strong flexibility, good resistance to stress</p>
 <p>• Fireproof Cable Withstand 750 °C flame, protect smooth communication and data backup while firing. Meet with CPR requirements</p>	 <p>• Butterfly Drop Cable Easy to construct and isolate directly for the introduction of FTTH indoor and outdoor</p>
 <p>• Bite guard® FRP Armored Cable Excellent anti-rodent, Non-metallic armor with light weight</p>	 <p>• Ballet™ Flexible Tube Cable provide optical fiber cable products with better softness and flexibility.</p>
 <p>• Integration™ Indoor/Outdoor Cable Easy fiber deployment, indoor and outdoor for distribution network and access network</p>	 <p>• 3-Strand Cable Small size and light weight; Applicable for short span aerial and duct installation;</p>
 <p>• One Fiber One Tube Figure 8 Cable Easy fiber deployment, distribution network before access network</p>	 <p>• Low Fiction Cable Small size, light weight, more easily through the pipeline. Coefficient of friction $\mu \leq 0.15$</p>
 <p>• Stealth-tek® Invisible Cable Installed cable almost undetectable to the casual observer</p>	

HYBRID CABLE FOR OUTDOOR



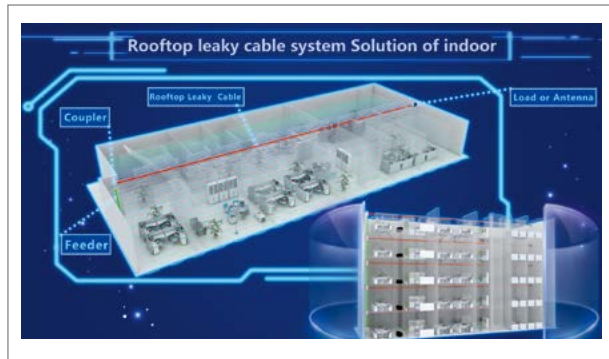
ZTT's Hybrid solution lead network evolution to 5G, with certificates and rich supply experience, can provide design, package solution and installation instructions to customers. Both hybrid cable and cable assembly are available to be provided as long as customer share the required details.

HYBRID CABLE FOR INDOOR



Indoor type hybrid cable used for 5G IBS, with smaller outer diameter and light weight, could not only transmit signals but also provide electricity for active equipment in PicoSite. ZTT is Expert in this type cable manufacturing, moreover, which has built an annual capacity of 55,000 km hybrid cable, also becoming a leading manufacturing enterprise in this field.

5G ROOMTOP LEAKY CABLE



- Signal is more uniform than DAS, effectively reduce blind spots, and directly upgrade from 4G to 5G.
- Hidden inside ceiling, resolve the issue of users' repulsion on visible antennas.
- Reduce 90% of connections & fault points, PIM value also get improved.
- More convenient on installation, 50% manpower get reduced.
- Save over 15% of total cost compared with DAS.

RF / LEAKY COAXIAL CABLE



ZTT RF cable and leaky coaxial cable have the features of low attenuation, low VSWR and other characteristics, and are suitable for 3G, 4G and 5G constructions. ZTT products have been successfully applied to Beijing Olympic Games, Shanghai World Expo and other major projects. ZTT has founded enterprise academician workstation, and has the only test platform of leaky coaxial cable tunnel simulation, leading the development of radiant leakage cable industry standards in China.

ZTT provides customers with wireless antenna system, rail transit leakage communication system solutions and products.

ANTENNA

Base Station Antennas

ZTT provides customers with a full range of base station antenna products for 4G and 5G.



In-Building Antennas



Indoor Camouflage Antennas

Indoor camouflage antennas belong to indoor antennas. While meeting the needs of customers for indoor signal coverage, the appearance of the antenna is camouflaged and modified by various means to achieve the purpose of beautifying the indoor visual environment.



OPTICAL TRANSCEIVER

ZTT provides various product solutions from 1.25G to 400G for communication equipment manufacturers, cloud services and data center equipment and other industrial customers. ZTT focuses on 5G fronthaul application and datacenter application.

400G QSFP-DD DR4/FR4 Optical Transceiver

400G QSFP-DD DR4

- 8-channel high-speed PAM4 electrical interface
- MPO-12 optical interface
- Silicon photonics platform
- 4 pair independent optical channels
- The maximum transmission distance of single-mode fiber (SMF) over 500 meters
- Maximum power consumption ≤10W
- Case temperature: 0 to 70 C

400G QSFP-DD FR4

- 8-channel high-speed PAM4 electrical interface
- LC receptacle optical interface
- High performance/reliability CWDM4 EML laser
- Integrated CWDM MUX&DEMUX
- The maximum transmission distance of single-mode fiber (SMF) over 2km
- Maximum power consumption ≤12W
- Case temperature: 0 to 70 C



100G QSFP28 SR4/CWDM4/LR4 Optical Transceiver

100G QSFP28 SR4

- 4-channel high-speed electrical interface
- MPO-12 optical interface
- 4 pair independent parallel optical lanes
- The maximum transmission distance of OM4 multimode fiber (MMF) over 100 meters
- Maximum power consumption ≤2W
- Case temperature: 0 to 70 C

100G QSFP28 CWDM4/LR4

- 4-channel high-speed electrical interface
- LC receptacle optical interface
- High reliability CWDM4/LAN-WDM DFB laser
- The maximum transmission distance of single-mode fiber(SMF) over 10km
- Maximum power consumption ≤4.5W
- Case temperature: 0 to 70 C



10G/25G/100G AOC

100G/25G/10G AOC

- High-speed differential data input and output
- Low power consumption and high performance
- Fiber link length can be customized
- Case temperature: 0 to 70 C



25G SFP28/10G SFP+ Full Series

25G SFP28/10G SFP+

- Build in multi-rate CDR
- Single fiber or dual fiber LC interface
- High-speed and high performance laser
- WDM wavelengths solution available (CWDM/DWDM/MWDM)
- Maximum transmission distance up to 40km
- Maximum power consumption ≤ 2W
- Case temperature: -40 to 85 C



OVERSEAS REFERENCE

Total Overseas Supplied FTTx More than 6,086,000 pcs.

Total Oversea Supplied Cable Length More than 3,649,107 Km



SOCIAL RESPONSIBILITY



Employee Care

ZTT first established the working mechanism of "spiritual mentor for employees", which embodies the scientific management principle of "always putting people first" and gives full humanistic care to our employees.



Charity Activities

While developing steadily, ZTT has set up a "ZTT charity fund" to actively participate in social charities, respond to natural disasters immediately. ZTT donated money and materials in the fight against snow disasters, earthquakes and other disasters, and organized engineers to provide technical assistance and support for communication power restoration.



Gender Equality

ZTT is committed to gender equality, and understand that diversity leads to better business outcomes. We are working towards achieving gender equality in our business by creating a gender-inclusive and equitable work environment; making progress on a gender-balanced workforce, and establishing an inclusive and unbiased culture.



Cultural Diversity

ZTT, as an international company, has been recruiting international employees from different cultural background, and implemented local construction according to the development and cultural traditions of different countries, and is committed to becoming a part of its community, earning the recognition of natives.

Charity Activities



ZTT Hope Primary School



ZTT Indonesian employees donated materials to the victims



ZTT donated power supplies for the construction of Fangcang Hospital during COVID-19 pandemic

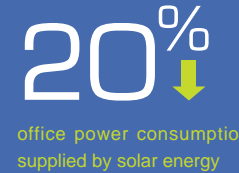


ZTT India donated anti-epidemic funds to AP State Government Epidemic Prevention Foundation



ZTT environmental friendly green manufacturing adheres to the sustainable development strategy. In practice of corporate social responsibility, ZTT regards green manufacturing and sustainable development as the value orientation of enterprise's contribution to the society, realizes resources conservation and environment friendliness, releases the first corporate social responsibility report in the industry, and is successfully selected as the social responsibility benchmarking enterprise of communication industry in China.

In recent years, ZTT has been actively studying the use of renewable energy, and reducing the self-carbon footprint while reducing operating costs, realizing the goal that 20% of office energy consumption is provided by means of clean energy so far.



ZTT promotes the construction of solar photovoltaic power station, and improves the proportion of clean energy use, reducing carbon emissions to the greatest extent. Annual power generation of ZTT's photovoltaic power stations connected to the grid has hit 447 million on average by now, the annual emission of greenhouse gas CO₂ can be reduced by approximate 507000 tons compared to coal-fired power stations, being equivalent to 830000 Mus of afforestation.



In the past three years, ZTT has invested 10 million USD in environmental protection.



ZTT attached great importance to the protection of water resources, developed water-saving objectives, tightened the water consumption management, and improved the utilization rate of water by adjusting water consumption structure and improving water use method, avoiding the waste of water resources. In 2020, ZTT has saved 50,000 tons of water.



UN Sustainable Development Goals Addressed

