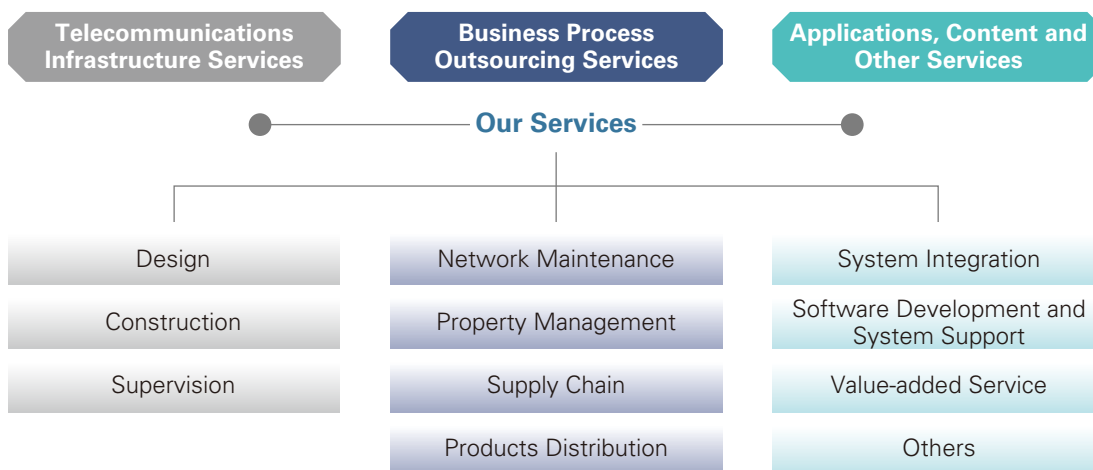# BUSINESS OVERVIEW

The Group is a leading service provider in the informatization sector in the PRC. Leveraging its positioning as a "New Generation Integrated Smart Service Provider" and its strength of being "Builder of Digital Infrastructure, Provider of Smart Products and Platforms, Provider of Industrial Digitalization Services, Guard of Smart Operation" ("1 Positioning, 4 Roles"), the Group commits to "Building Smart Society, Boosting Digital Economy, Serving a Good Life", continues to accelerate the building of first-class enterprise, and provides integrated comprehensive smart solutions for the informatization and digitalization sectors. The Group provides integrated smart solutions including telecommunications infrastructure services, business process outsourcing services as well as applications, content and other services for its customers such as telecommunications operators, governments, industrial customers and SMEs.

The Group's business spans across China and dozens of countries and regions globally, with overseas customers mainly located in key regions such as Asia Pacific, the Middle East and Africa.

WE PROVIDE INTEGRATED COMPREHENSIVE SMART SOLUTIONS FOR THE INFORMATIZATION AND DIGITALIZATION SECTORS
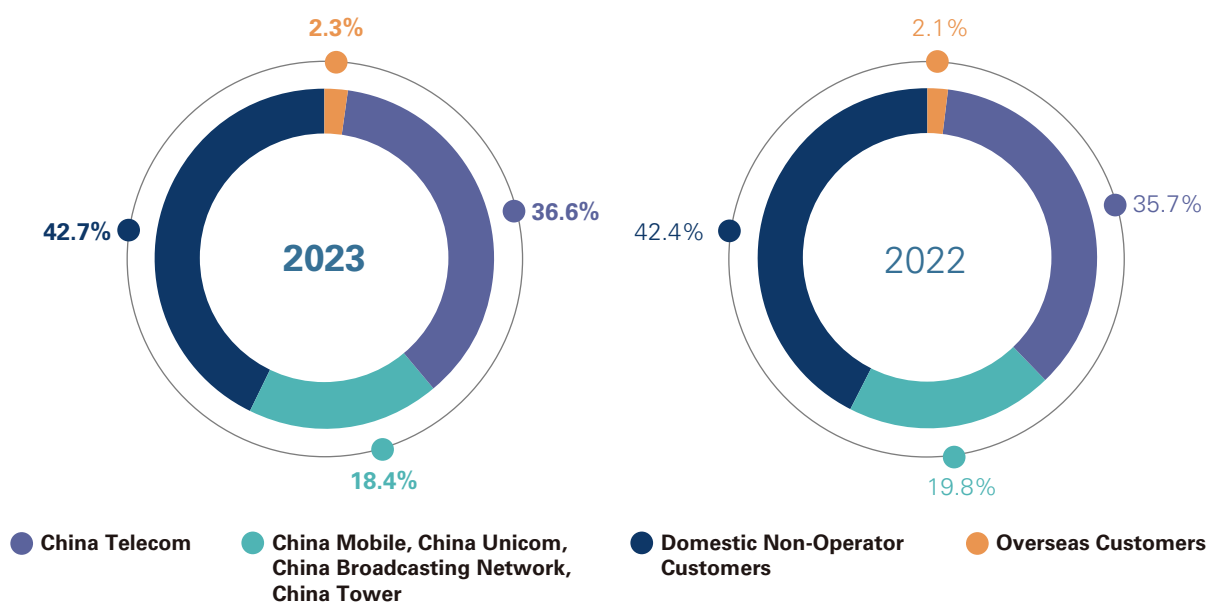
Telecommunications Infrastructure Services	Business Process Outsourcing Services	Applications, Content and Other Services
Our Services		
Design	Network Maintenance	System Integration
Construction	Property Management	Software Development and System Support
Supervision	Supply Chain	Value-added Service
	Products Distribution	Others

(in RMB million, except percentages)	Revenue in 2023	Revenue in 2022	Change
Domestic non-telecom operator customers ("Domestic non-operator customers")	**63,433**	59,697	6.3%
Domestic telecommunications operator customers	**81,726**	78,053	4.7%
Of which: China Telecom	**54,399**	50,268	8.2%
China Mobile, China Unicom, China Broadcasting Network, China Tower	**27,327**	27,785	(1.6%)
Overseas customers	**3,456**	2,998	15.3%
Total	**148,615**	140,748	5.6%

MARKET EXPANSION

In 2023, the Group continued to adhere to the overall roadmap of "value-driven, seeking steady yet progressive growth and high-quality development", actively rode the trend of the building of Digital China and seized the opportunities of in-depth integration of digital economy and the real economy. With the target of achieving high-quality development, the Group further enhanced market development, cultivated new growth areas, and shifted momentum of development, thereby optimizing its business structure and improving development quality. Total revenues amounted to RMB148,615 million for the year, representing a year-on-year growth of 5.6%.

In 2023, the Group focused on the digitalization reform of society. The revenue from the domestic non-operator market amounted to RMB63,433 million for the year, representing a year-on-year increase of 6.3%. The Group kept abreast of the investment demand of emerging businesses of domestic telecommunications operators, adhering to the development strategy of "CAPEX + OPEX + Smart Applications" to enhance service quality and strengthen cooperation on an ongoing basis. The revenue from the domestic telecommunications operator market amounted to RMB81,726 million for the year, representing a year-on-year increase of 4.7%. The Group overcame the impact of the overseas macro-environment, optimized its market deployment and expanded upstream and downstream along the industrial chain to offer integrated services ranging from network construction to maintenance. The revenue from overseas customers amounted to RMB3,456 million, representing a year-on-year increase of 15.3%.

The following charts show the revenue contribution from each customer group:

● China Telecom ● China Mobile, China Unicom, China Broadcasting Network, China Tower ● Domestic Non-Operator Customers ● Overseas Customers

In 2023, the Group seized the development opportunities of strategic emerging businesses, and accelerated its deployment in strategic emerging industries, such as digital infrastructure, smart city, green and low-carbon, emergency management and security. For digital infrastructure, the Group grasped the demand for large models and cloud computing, focusing on intelligent computing, supercomputing and cloud business. Leveraging its high-end consulting and design capabilities as the lead and the application of BIM digitalization technology, the Group provided customers with full-profession, integrated and full life cycle specialized services for green and low-carbon digital infrastructure, which included consultation and design, electromechanical installation, application and integration of network platforms, as well as operation and maintenance. The Group actively served the national "East Data, West Computing" projects, and participated extensively in the construction of national integrated big data centers for the "eight national computing hubs and ten national data center clusters". In the fields of smart city and digital government, the Group focused on the new urbanization construction and urban renewal, the revitalization of old town neighbourhood and community development, and important needs of smart transportation, safe cities, smart government affairs, smart towns, city brains, one platform unified services and digital villages, and provided customers with design, construction, platform development, system integration and full-process consultation and other services. Regarding green and low-carbon, the Group seized the market opportunities of new energy construction and energy usage services, and offered integrated AI energy-saving and carbon reduction service for new green and low-carbon data centers, as well as providing new energy solutions including photovoltaic energy, wind power and hydropower to different types of customers. Besides, it engaged in platform development and services such as "Dual Carbon" management cloud platform, energy consumption monitoring management platform and carbon asset digitalization management platform. It also offered energy management, production and manufacturing equipment disposal management. As for emergency management, with the main business line of eight major industries including emergency management, fire-fighting, ecological environment, water conservancy, meteorology, natural resources, forestry and grassland, and civil air defense, the Group developed more than 40 industry and equipment application products to provide governments, chemical industry parks, and highly hazardous customers with consultation and design, software development, system integration and operation and maintenance services. Regarding cybersecurity, to cater for customers' needs for operational compliance, digitalization development and operational practices, the Group provided them with security products in the fields of cybersecurity, data security, and information security, security consultation and design, security integration, project implementation, special security services, security supervision and other services. The value of the new contracts from strategic emerging industries amounted to over RMB59 billion, representing a year-on-year increase of over 30%.

Green Energy Saving Management
– BIM Smart Operation and
Maintenance Management Platform

Emergency Management
– Mining Equipment
Management System

Digital Government
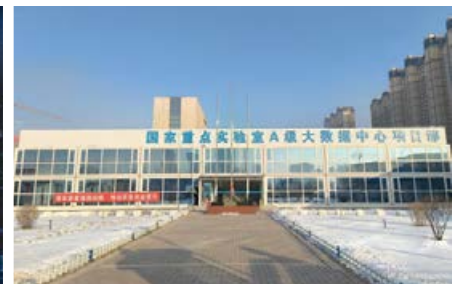– One Platform Unified
Management System

Domestic Non-Operator Market

In 2023, the Group kept abreast of the trend brought by the reform of societal digitalization, seized the development opportunities of the digital transformation across industries and focused on strategic emerging industries such as digital infrastructure, smart city, green and low-carbon, emergency management and security, etc. Through continuously forging core capabilities and platforms as well as leveraging the advantage of integrated service capabilities, the Group achieved improvement of business quality and continuous optimization in revenue mix. The revenue from the domestic non-operator market amounted to RMB63,433 million, representing a year-on-year increase of 6.3%.

The Group quickly responded to customer needs and provided a comprehensive smart product portfolio that could be disassembled or combined, as well as full-process service capabilities from top-level design to product R&D and operation. During the year, the Group signed more than 1,300 new contracts worth over RMB10 million each, undertook benchmark projects such as Urban Lifeline Safety Construction Project in Nanjing, A-grade Big Data Center Project of a Power Group, Smart Game Projects for Hangzhou Asian Games and Chengdu FISU World University Games, Rooftop Distributed Photovoltaic Project for a Steel Company in Qingdao and Hami Wind Storage Supervision Project.

Urban Lifeline Safety Construction Project in Nanjing

A-grade Big Data Center Project of a Power Group

Smart Game Project for Chengdu FISU World University Games

Rooftop Distributed Photovoltaic Project for a Steel Company in Qingdao

Hami Wind Storage Supervision Project

Capitalizing on its "Consultant + Staff + Housekeeper" service advantages and its superior "Platform + Software + Service" capabilities, the Group established the "Industry + Region" matrix marketing mechanism and built a sound and localized marketing team across the country with approximately 17,000 sales personnel deployed in the key areas, and constantly strengthened its efforts in group-level product synergistic marketing. The Group also accelerated the formation of the technical expert team for its core products, which comprised over 10,000 consultation and design experts and relevant software talents. Through consistent training and informatization means such as the cloud exhibition hall, the Group enhanced capabilities consolidation and empowering and continuously strengthened the teams of professional talents. Currently, the annual contract value secured by the Group in several industries, including government, construction and real estate, Internet and IT, electricity, transportation, finance and education, has exceeded RMB1 billion in each sector.

The Group Undertook Multiple Key Data Center Projects (Including Intelligent Computing, Supercomputing and Computing Power Centers)

Wujiang Computing Power Center, Eight National Computing Hubs

General Contracting Construction Project of a Central Big Data Center (Cybersecurity Base)

High-performance Computing Power Center Construction Project for a Provincial Meteorological Bureau

Big Data Center and Big Data Application Demonstration Base Project for a State-owned Bank

An Artificial Intelligence Data Center (EPC) Project in Qianhai

Domestic Telecommunications Operator Market

In 2023, the Group further integrated itself into the ecosystem of operators in the domestic telecommunications operator market and seized the opportunities from traditional businesses and transformation. It persisted in the "CAPEX + OPEX + Smart Applications" development strategy and grasped opportunities in AI computing power construction, industrial digitalization, 5G+ and new infrastructure construction, with a view to penetrating traditional CAPEX businesses. The Group explored the market potential of network maintenance, property management and supply chain services, and strived to increase the OPEX market share. It fully supported operators' demand for industrial digitalization in the course of transformation by proactively engaging in the market expansion of 5G industrial applications, industrial digitalization and network information security, and it assisted operators to achieve green development by supporting "zero carbon" data center construction, green retrofit of old machine rooms, and "Dual Carbon" energy-saving platform construction, which ultimately stabilized the fundamentals of business from the domestic telecommunications operators. The revenue from this market amounted to RMB81,726 million for the year, representing a year-on-year increase of 4.7%. Of which, the revenue from China Telecom amounted to RMB54,399 million, representing a year-on-year increase of 8.2%.

The Group Actively Supported the Business of Domestic Telecommunications Operators

Overseas Market

In 2023, the Group proactively integrated itself into the new development paradigm of "dual-circulation with domestic and international development reinforcing each other" and seized the important opportunities in the "Belt and Road" and digital economy construction. The Group continuously optimized overseas market deployment and focused on key regions such as Asia Pacific, the Middle East, Africa and Latin America. Targeting telecommunications operators, energy and electricity customers, overseas governments and enterprises, and "Go Abroad" Chinese companies, the Group focused on four businesses namely digital infrastructure construction, "Dual Carbon" services, smart government services and industrial informatization services. On the basis of safety development at a high standard, the Group accelerated transformation and upgrading, promoted capability improvement and diversification of business structure, thus brought along high-quality development of overseas business. The revenue from overseas customers amounted to RMB3,456 million, representing a year-on-year increase of 15.3%.

Transformed and Upgraded the Group's Overseas Business, Undertook Various Photovoltaic Projects

BUSINESS EXPANSION

As a leading service provider in the informatization sector in the PRC that provides integrated comprehensive smart solutions in the informatization and digitalization sectors, the Group offers telecommunications infrastructure services, including design, construction and supervision; business process outsourcing services, including management of infrastructure for information technology, general facilities management, supply chain and products distribution; and applications, content and other services, including system integration, software development and system support as well as value-added services, etc.

Telecommunications Infrastructure Services

As the largest telecommunications infrastructure service provider in China, the Group possesses all the highest-grade qualifications in the communications construction industry in China. In 2023, the Group's revenue from telecommunications infrastructure services amounted to RMB76,137 million, representing a year-on-year growth of 4.4%.

The Group has the capabilities to provide worldwide telecommunications operators with comprehensive telecommunications infrastructure services including planning, design, construction and project supervision for fixed-line, mobile, broadband networks, data centers and operation supporting systems. In 2023, the Group endeavoured to address the business needs of domestic telecommunications operator customers and supported the construction of domestic computing power and 5G network. The revenue of telecommunications infrastructure services from domestic telecommunications operator customers amounted to RMB40,886 million for the year, representing a year-on-year increase of 3.0%.

The Group Endeavoured to Support New Infrastructure Construction

The Group also provides various services, including construction services for ancillary communications networks, integrated informatization solutions and industrial smart solutions, to domestic non-operator customers in the government, finance, construction, transportation, emergency management, electricity, and medical care sectors, as well as overseas customers. In 2023, the Group made constant new breakthroughs in the fields of data center, smart city, green and low-carbon, emergency management and security. The Group's revenue of telecommunications infrastructure services from domestic non-operator customers amounted to RMB32,658 million for the year, representing a year-on-year growth of 6.2%.

As domestic telecommunications operators continue to accelerate digital transformation, increase their investment in new infrastructure such as data centers, and speed up the pace of transformation and upgrading, the Group will further integrate itself into the ecosystem of operators and enhance its product and service capabilities, so as to cater for the demand of domestic telecommunications operators for integrated network construction services, so that it can continue to maintain the stable development of the business from domestic telecommunications operators. Meanwhile, with the in-depth implementation of the Digital China strategy, the acceleration of digital information infrastructure construction, along with flourishing development of industrial digitalization and increasing demand for energy conservation and carbon reduction, the Group will embrace new growth opportunities in both the domestic non-operator market and overseas market.

Business Process Outsourcing Services

The Group is the largest integrated provider of business process outsourcing services in the communications industry in China. Along the communications business value chain, it provides services including information technology infrastructure management ("Network Maintenance"), general facilities management ("Property Management"), supply chain and products distribution. The target customers of its services include domestic and overseas telecommunications operator customers, government agencies and enterprise customers. In 2023, the Group's revenue from the business process outsourcing services amounted to RMB43,551 million, representing a year-on-year increase of 1.1%.

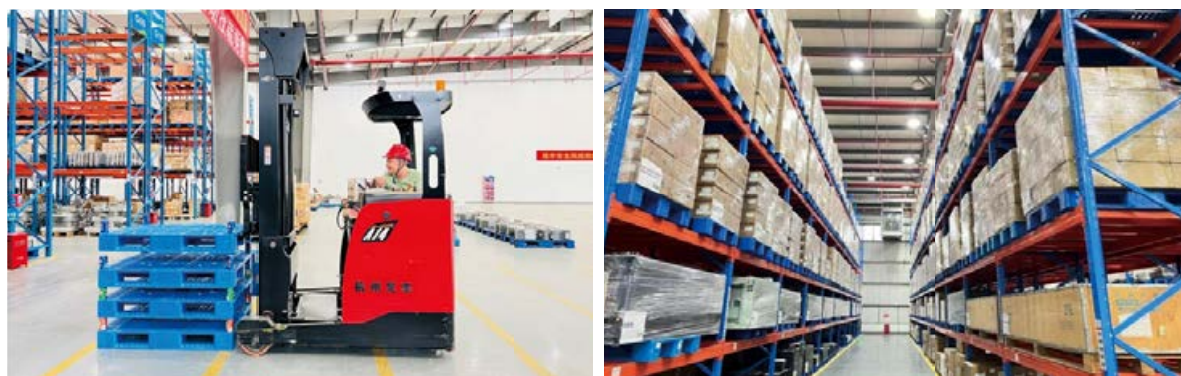**The Group Provided Operation and Maintenance Services**

The Group provides information technology infrastructure management and network optimization services for telecommunications operators covering fiber optic cables, electric cables, mobile base stations, data centers, network equipment and terminals. In 2023, the Group relied on its proprietary "Maintenance Cloud" digital transformation platform for professional maintenance to facilitate the development of information technology infrastructure management business with a revenue of RMB18,568 million, representing a year-on-year increase of 2.3%.

The Group provides general facilities management services to customers for their data centers, cloud bases, commercial buildings, high-end residential buildings, high-speed railway stations and airports, etc. The Group further advances the business consolidation of its general facilities management business, improves synergistic operation capabilities and develops smart service capabilities. In 2023, the Group's revenue from general facilities management services amounted to RMB7,885 million, representing a year-on-year growth of 1.9%.

The Group focuses on supply chain integration services in the field of digital infrastructure, and further expands its customer base from other sectors with operator customers as the foundation. The Group focuses on upstream and downstream customers in the industry chain, and fully leverages its advantage in the full-process and network-wide synergistic operation of the supply chain to provide integrated and full life cycle supply chain services including integrated logistics, procurement and tendering, quality inspection, repair and disposition to domestic telecommunications operators, government and enterprise customers. In 2023, the Group's revenue from supply chain amounted to RMB13,372 million, representing a year-on-year growth of 4.1%.

The Group Provided Full-process Integrated Supply Chain Services

The products distribution business mainly refers to the distribution of communications and information products. The Group provides terminal sales and device distribution services to domestic telecommunications operator customers and offers distribution and procurement services of IT devices, auxiliary machinery and equipment to domestic non-operator customers. In 2023, the Group proactively reduced the business of products distribution with lower efficiency, and the revenue of products distribution business amounted to RMB3,726 million, representing a year-on-year decline of 13.8%.

Given the increasing scale of 5G network and data centers, the Group believes that the OPEX market of domestic telecommunications operators has favourable room for development, and the domestic non-operator market also sees growing demands for business process outsourcing services. Business process outsourcing services have the features of high customer loyalty, low accounts receivable turnover days and good cash flow. The Group will further consolidate resources for professional operations to pursue more efficient development in this market.

Applications, Content and Other Services

The Group provides informatized system integration, industrial digitalization applications, proprietary software and platform product development, digitalization business and IT system support as well as value-added services to customers including domestic and overseas telecommunications operators, government agencies and enterprise customers. In 2023, the relevant revenue amounted to RMB28,927 million, representing a year-on-year increase of 16.8%.

The Group consistently advances on research and development. Focusing on "1 Positioning, 4 Roles" in key technology applications and innovation, it further increased research and development investment, with an investment amount of over RMB5.5 billion in 2023. The Group managed relevant resources in a centralised manner to refine technological innovation management through three core functions, which were the research strategy management, research project management and integrated research management. Special emphasis was put on the deployment of research in four major aspects, namely leading technology, industrial digitalization, network information security and emergency management and the digitalization middle platform. Currently, the Group has around 20 product research and development centers and has developed over 30 industrial application products, covering various industries and sectors such as smart city, digital government, cybersecurity, industrial Internet, smart sport, smart education and intelligent building. It also has a proprietary innovation middle platform, integrated cloud management platform, CCS IoT, maintenance cloud, blockchain platform and other core platforms. The Group insisted on carrying out research and development and innovation independently and accelerated the transformation of research and development results to promote rapid growth of related businesses. In 2023, the revenue from software development and system support recorded a year-on-year growth of over 25%.

The Group Continued to Provide a Wide Range of Smart Applications

Industrial Internet Situation Perception Platform
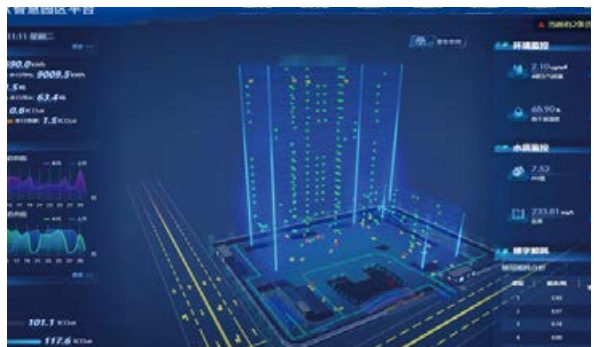

Smart Transportation

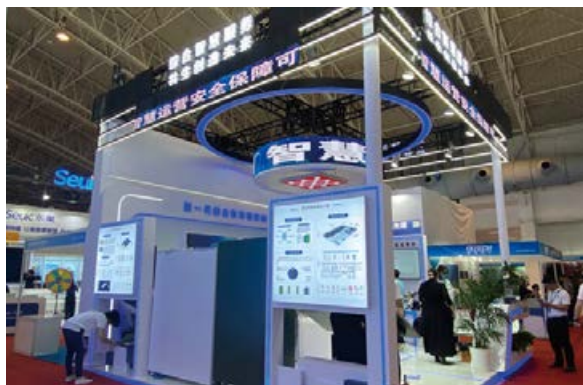Smart Campus

Smart Emergency Management

Smart Sport

Smart Park

In 2023, the Group seized opportunities in the new infrastructure construction and digital transformation in China by capitalizing on its strength in integrated service and capabilities of system integration and software development. Leveraging its proprietary core platforms and a range of industry-leading smart products, it continuously expanded the ecological cooperation scale and vigorously developed the markets including 5G+, data centers, smart city, green and low-carbon, emergency management and security, etc., which effectively satisfied the demand of government and enterprise customers for digital transformation. As the Group gained increasing industry recognition and brand influence, it has ranked 4th in "100 Most Competitive Software & IT Service Enterprises" for three consecutive years, being selected in the "Smart Safety and Emergency Industry Map" by the China Academy of Information and Communications Technology and "China Cybersecurity Industry Panorama" by AQNIU. In the past three years, it has participated in and won nearly 50 provincial and ministerial-level science and technology awards.

The Group will seize the opportunities arising from the rapid development of the digital economy, keep upgrading its key products, accelerate the construction of strategic core platforms, improve the software service capabilities and develop smart products, so as to meet the business demands for industrial digitalization from customers.

The Group Actively Participated in Various Exhibitions and Established Ecological Cooperation

The Group Gained Increasing Industry Recognition and Brand Influence in the Area of Technological Innovation

CONTENTS OF CERTAIN KEY PRODUCTS OF THE GROUP

1	
Smart City	Relying on 5G, the Internet of Things ("IoT"), big data, cloud computing, BIM/CIM, AI and other emerging technologies, we provide integrated solutions of top-level planning, consultation and design, product research and development, delivery and implementation, and operation and maintenance for smart city, including but not limited to digital governance platform for smart cities, city operation and management platform, city operation command center, city portal, leadership cockpit, urban lifeline-related regulation and other thematic smart applications that can be assembled and disassembled. Based on the effective integration and collaborative sharing of city data resources, it gives full play to the function of data elements, helps to realize the refinement of city management, the intelligentization of city services and the modernization of city governance, activates the smart industry ecology, enhances the overall competitiveness of the city and promotes the digital transformation and upgrade of the city.

2	
Digital Government	With extensive experience in the information and telecommunications industry and the accumulation in technologies of big data, cloud computing, AI and blockchain, the Group actively participates in the construction of one network, one cloud, multiple integrated platforms and one comprehensive portal for local governments at all levels, and supports the construction of an integrated digital government system with N applications. The Group provides informatized core platforms and solutions for the government's digital transformation, including the integrated government affairs and service platform, the one platform for unified management and the smart government service hall. The integrated government affairs and service platform promotes the in-depth integration of decentralized online and offline service channels, service capabilities and service resources; the one platform for unified management supports decision-making of governments at all levels; the smart government service hall provides "convenient service window, smart think tank for government policies, innovation square for business collaboration, name card for city image promotion", which becomes the important medium for the government to serve the people and strengthen the close ties between the government and the people.

3	
CCS Cyber Security Product Portfolio	CCS Cyber Security Product Portfolio independently builds a network and information security capability matrix with the featured advantages of the Group. It builds security operation and data security hardcore product portfolio such as cyberspace surveying and mapping, smart security operation, data security monitoring and commercial cryptography application modification. It develops integrated comprehensive service capabilities covering the entire life cycle from consultation and design, implementation of integration, risk assessment, operation and maintenance reinforcement to emergency response, and provides overall network and information security solutions and comprehensive products and services for national critical information infrastructure such as government, communications, finance, and energy.

4

CCS Emergency Management Product Portfolio

With the main business line of pan-emergency management industry, and targeting production safety, emergency command, fire-fighting, natural resources, forestry and grassland and water conservancy and other sectors, CCS Emergency Management builds pan-emergency management application product map with production safety risk monitoring and early warning platforms in respect of hazardous chemicals, tailings ponds, non-coal mines, coal mines, industry and trade, emergency rescue command platform, urban emergency management multimedia dispatch platform, smart chemical park, smart management and control platform, industrial Internet + enterprise production safety cloud platform, enterprise security training and education platform, smart fire-fighting monitoring and early warning platform, smart water conservancy informatization management platform, heavy rain and flood risk monitoring and early warning platform, forest fire risk monitoring and early warning platform as the core. Guided by consultation and planning, it actively promotes digital platform software products with independent intellectual property rights and core computing technologies. The Group gains projects with system integration and general contracting capabilities which drives project operation and maintenance services. Through scientific and technological means, we promote the transformation of the production safety and urban public security towards prior active monitoring and prevention, and effectively enhance the capabilities for disaster prevention, mitigation and relief and the emergency management and rescue of major production safety accident.

5

Industrial Internet

Through the accumulation of professional capability and practice and exploration in the industry, the Group has established a complete cloud-network and basic IoT service system to provide full-process professional services from planning and design, consultation and development to implementation supervision, which covers the operation and optimization of CCS IoT, edge computing platform and other critical platforms. In the field of data service, we have built the Comservice data middle platform to provide customers with comprehensive and accurate data governance services through data mining, cleaning, classification and application. In terms of application service, the Group has launched a series of professional products, including security situation analysis, intelligent integration industrial management and industry applications, to meet the needs of different industries and scenarios. In line with hotspots and trends within the industry, the Group also provides special diagnostic evaluation services in the fields of intelligent manufacturing, data governance and energy conservation. Based on these evaluation results, the Group can provide strategic suggestions and implementation paths for enterprises' digitalization transformation, further promoting the healthy development of the industrial Internet industry.

6

Smart Sport

Smart Sport provides leading comprehensive information services of "full-process consultation + products + system construction + integrated operation" in the domestic sports industry. It leads and participates in the construction of national sports standards and norms as well as national smart society sports base, creating full-stack pan-sports solutions. We focus on technological innovation in the core areas of smart sports and create leading smart sports brains and N-type digital sports applications. The Group successfully completed the event information service support for the Chengdu FISU World University Games and Hangzhou Asian Games, and created a new model of comprehensive competitions. The Group deeply implements the strategy of a leading sporting nation and Digital China, by undertaking national sports public service pilot projects and forging a number of provincial-level benchmark digital sports platforms. Smart Sport improves the digital sports public service system, supports all business scenarios of digital sports with a multi-dimensional data element system, and creates a new prospect in which data empowers sports business and serves society.

7	Smart Education products are based on the concepts of integration, green, and innovation to create a smart integrated environment for campus work, study and life. By means of application service systems, we fully integrate teaching, research, management, campus life, campus security, and intelligent engineering to achieve one-network aggregation of educational data assets, one-network collaboration of identity information, and one-network management of hardware equipment, thus providing upper layer application with stable foundation support. The campus comprehensive management platform, logistics comprehensive service platform, and one platform for unified services to meet the business management needs of multiple departments such as logistics, academic work, teaching, and information centers. The campus unified operation visualization can provide "what you see is what you get" one platform unified management for energy conservation and emission reduction, emergency management, safe campus as well as command and dispatch.

Smart Education

8	Integrating technologies such as the IoVT, IoT, big data and AI, we build an integrated Smart Livelihood service system to achieve full spatiotemporal monitoring, intelligent sensing, remote command and precise management and control. This platform system has been used in the fields of food safety and transportation and postal services. In the field of food safety, it empowers the government and market entities to improve the smart supervision and management, ensures food safety and promotes social co-governance. In the field of transportation and postal services, we help resolve the "last mile" distribution difficulty and promote the interconnection of urban and rural logistics.

Smart Livelihood

9	Leveraging the Intelligent Building Management System (CCS-iBMS) as the core, the all-optical network FTTD (Fiber to the Desktop) as the unified base for information communications of buildings, and fully integrates the management of automated and informatized subsystems for different types of buildings. At the same time, it provides the owner of buildings with new generation proactive smart building solutions such as embedded sensing, AI IoT, and "Dual Carbon" management. The system provides two deployment options including local exclusive and cloud-based sharing.

Intelligent Building

10	CCS Innovation Middle Platform builds a middle platform for technological innovation with characteristics of the Group, it supports the closed-loop management of talent, management, production and results in the whole process of technological innovation, and commits to realizing the digitalization operation of technological innovation while improving the effectiveness of technological innovation. The innovation middle platform contains core function modules such as enterprise technological innovation management, development workbench, R&D assets and cloud exhibition hall. The enterprise technological innovation management module provides technological innovation management of the Group with organization and personnel management, R&D project full-process management, accumulation of technological innovation results and other functions. The development workbench offers R&D management and the one-stop DevOps tools for the delivered projects of the Group. The R&D asset module realizes the accumulation and management of technological innovation achievements, and endeavors to build standard product library, compliance document management library and exhibition hall material library of the Group. The cloud exhibition hall provides a showcase for the promotion of solutions, products, cases, atomic capabilities, ecology, enterprise services and other technological innovation achievements through the mini program, aiming to create a window for the promotion of the brand and technological innovation achievements of the Group. The platform aims to support the enterprise's business innovation to achieve digitalization transformation.

CCS Innovation Middle Platform

11	CCS IoT is an all-scenario integrated IoT platform converging different project status including R&D and design, project construction, project operation and monitoring and post-project service, and empowering the pre-sales, design, development and operation capabilities of the IoT for all specialised branches. It enables quick connection of devices and easy setting of scenarios; builds component and module market to support rapid development; fully integrates equipment management and operating situation monitoring; aggregates internal and external ecology to expand AI, BI and digital twin capabilities as well as supporting the quick implementation for projects. CCS IoT launches SaaS services, component-based deployment, all-in-one machines and other product forms and derivative hardware products, and continues to provide IoT project supporting services for the Group.

CCS IoT

12	"China Comservice Blockchain Platform" follows the principles of independence and controllability. With the domestic top blockchain technology capabilities, we provide a cloud-chain integrated blockchain base platform that can meet the unified management of multiple chains to promote high-quality development of digitalization transformation. The platform deeply empowers the reform of business models, rebuilds the value order of industrial data, and promotes the applications in major industries such as agriculture and rural areas, government affairs and services, judicial services, medical health, "Dual Carbon" governance, and electronic tax receipt. Through a series of key products, we support customers to transform virtual data into realistic and usable data elements, expand the scope of customer business applications continuously, and promote "blockchain+" to empower the real economy.

Blockchain Platform

13	Maintenance Cloud builds a digitalization transformation platform for the maintenance profession, helping maintenance innovation and expansion. The digitalization of maintenance capabilities is shown externally; Creates a supply and demand square to realize business matching; The full-process connection of the general agent/territory business to realize the end-to-end and full-process transparent management of projects; Innovation of typical maintenance scenarios (safety production, hidden risk management, vehicle monitoring) for quick promotion of special work task.

Maintenance Cloud

14	It is a comprehensive energy-saving and carbon-reducing capability management platform for buildings and parks. By building a ubiquitous IoT network and integrating advanced carbon emission calculation models, the platform realizes all-round intelligent monitoring and accurate measurement of energy and carbon data. The platform can formulate and implement intelligent energy-saving strategies based on key dimensions such as flow of people, light intensity, air conditioning, lighting and socket usage in the park, ensuring that park operation is always maintained at a state of optimized carbon emissions. Through high-precision digital twin models, the platform can conduct refined management of the carbon savings of each device, thereby building a complete carbon neutral system.

Carbon Neutral Data Management Platform

15	The platform is a comprehensive energy-saving and carbon-reducing system of "Products + Solutions + Services" under the data center scenario to specifically solve the AI energy-saving problem of air-conditioning water-cooled chilled water system in data centers. By establishing an equipment mechanism model pool, the platform uses AI algorithms to continuously learn and train, combine and seek for excellence, thereby outputting comprehensive tuning strategies of HVAC to assist in energy conservation and carbon reduction in the data centers.

C-Cooling Energy-saving Cloud Platform