

BUSINESS OVERVIEW

The Group is a leading service provider in the informatization sector in the PRC. Leveraging its position as a “New Generation Integrated Smart Service Provider” and targeting to become “the Main Force in Digital Infrastructure Construction, the Vanguard in Smart City Services, the Leading Enterprise in Industrial Digitalization Services, and a Trusted Expert in Smart Operation” (“1 Positioning, 4 Roles”), the Group commits to “Building Smart Society, Boosting Digital Economy, Serving a Good Life” 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 including 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 Southeast Asia and the Middle East.

WE PROVIDE INTEGRATED COMPREHENSIVE SMART SOLUTIONS FOR THE INFORMATIZATION AND DIGITALIZATION SECTORS



(in RMB million, except percentages)	Revenue in 2022	Revenue in 2021	Change
Domestic non-telecom operator customers ("Domestic non-operator customers")	60,583	57,446	5.5%
Domestic telecommunications operator customers	77,165	73,803	4.6%
Of which: China Telecom	50,268	46,047	9.2%
China Mobile, China Unicom, China Tower	26,897	27,756	-3.1%
Overseas customers	2,998	2,742	9.3%
Total	140,746	133,991	5.0%

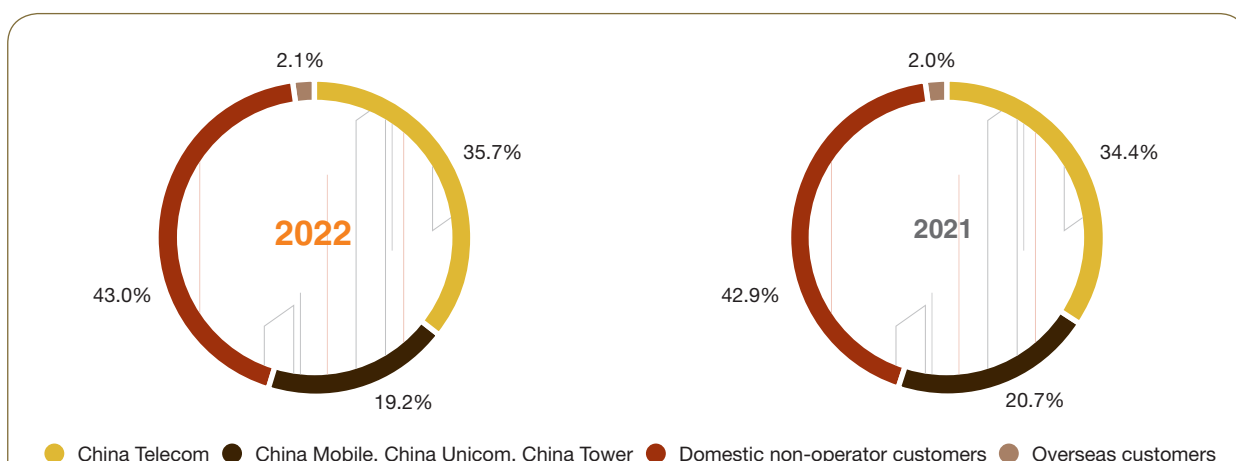
BUSINESS OVERVIEW

MARKET EXPANSION

In 2022, the Group overcame multiple difficulties and continued to adhere to the overall roadmap of “value-driven, seeking steady yet progressive growth and high-quality development”, actively engaged in the trend of building Digital China and seized the development opportunities in digital economy. Along the path of high-quality development, the Group further enhanced market development and shifted growth momentum, thereby optimizing its business structure and improving development quality. Total revenues amounted to RMB140,746 million for the year, representing a year-on-year growth of 5.0%.

In 2022, the Group focused on the digitalization reform of society and grasped the opportunities in accelerating digital technology innovation application in key industries. The revenue from the domestic non-operator market amounted to RMB60,583 million for the year, representing a year-on-year increase of 5.5%. 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 RMB77,165 million for the year, representing a year-on-year increase of 4.6%. In the face of the impact of the overseas macro-environment and pandemic, the Group 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 RMB2,998 million, representing a year-on-year increase of 9.3%.

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



Domestic Non-Operator Market

In 2022, the Group kept abreast of the digitalization reform of society and tapped into the opportunity of acceleration of digital transformation across the industry. With a focus on key areas such as digital infrastructure, smart city, green and low-carbon, emergency management and security, it continuously forged core capabilities and platforms and leveraged its strength in integrated services to achieve improvement of quality of business and continuous optimization in revenue structure. Revenue from the domestic non-operator market amounted to RMB60,583 million, representing a year-on-year increase of 5.5%.

The Group actively participated in the digital transformation business of the domestic non-operator market



“One Platform Unified Management” City Operation Management Center



Application of BIM digitalization technology

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. In view of the vast opportunities arising from the rapid development of Digital China, the Group has accelerated its deployment in strategic emerging industries, such as digital infrastructure, smart city, green and low-carbon, emergency management and security. For data center business, the Group leveraged its high-end consulting and design capabilities and applied BIM digitalization technology to provide 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-To-West Computing Resources Transfer” projects, and participated extensively in the construction of national integrated big data centers for the “8 National Computing Hubs and 10 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 neighbourhood and community development, and important needs of smart transportation, safe city, smart government services, 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 sector, the Group offered integrated AI energy-saving and carbon reduction service for new green and low-carbon data centers to different types of customers. Apart from that, the Group provided new energy solutions including photovoltaic energy, wind power and hydropower solutions. Besides, it engaged in platform development and services for the dual carbon management cloud platform, energy consumption monitoring management platform and carbon asset digitalized management platform. It also offered energy management, production and manufacturing equipment disposal management. As for cybersecurity, the Group offered asset surveying and mapping, situational awareness, data security and password application and other cybersecurity products and solutions to customers. In respect of emergency management sector, it developed, maintained and optimized the risk monitoring and alert platform for customers. The Group made achievements in the expansion of key projects. It undertook several benchmark projects such as the Digital Road Intelligentization Project of the Rongdong Area in Xiong'an New Area, Hebei Province, the Phase 5 Intelligentization Project of the Xixi Park in Hangzhou City, Zhejiang Province, and the construction of the Government Affairs Data Brain cum Smart City Intelligent Operations Center (IOC) Project of a city in Guangdong Province. In 2022, the contract amount of the Group's new contracts related to data centers and smart cities exceeded RMB10 billion, respectively.

The Group undertook benchmark projects in various industries



Digital Road Intelligentization Project of the Rongdong Area in Xiong'an New Area



The EPC general contracting project of distributed photovoltaic power generation facilities of a factory

Capitalizing on its “Consultant + Staff + Housekeeper” service advantages and its superior “Platform + Software + Service” capabilities, the Group established the “Industry + Region” marketing system and built a sound and localized marketing mechanism across the country with over 17,000 sales personnel deployed in the key industries. By constantly strengthening its efforts in group-level product marketing synergy, the Group secured over 1,200 new contracts with the contract amount exceeding RMB10 million each during the year. The Group also accelerated the formation of the technical expert team for its core products, which comprised over 10,000 consulting 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, transportation, electricity, finance, water conservancy, education and medical care, has exceeded RMB1 billion in each sector.

BUSINESS OVERVIEW

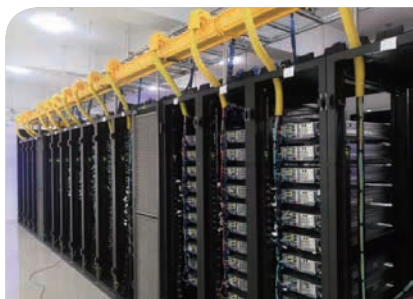
The Group undertook various key data center projects



Xiong'an City Supercomputing Cloud Center Project



China Telecom (National) Digital Qinghai Green Big Data Center Project



Digital Government Big Data Dedicated Cloud Machine Room Project



EPC general contracting project of a big data center in a city in Jiangsu

Domestic Telecommunications Operator Market

In 2022, 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 new opportunities in industrial digitalization, 5G and cloud-network 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 and expanding the markets of 5G industrial applications, business derived from government and enterprise customers of operators and network information security, and it assisted operators to achieve green and low-carbon by supporting “zero carbon” data center construction, green retrofit of old machine rooms, and dual carbon and energy-saving platform construction, which ultimately stabilized the fundamentals of business from the domestic telecommunications operators. The revenue from this market amounted to RMB77,165 million for the year, representing a year-on-year increase of 4.6%. Of which, the revenue from China Telecom amounted to RMB50,268 million, representing a year-on-year increase of 9.2%.

The Group actively participated in the business development and transformation of domestic telecommunications operators



Overseas Market

In 2022, the Group proactively adapted to 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” Initiative. Following the principles of safety, compliance, efficiency and high-quality, the Group continuously optimized overseas market deployment and focused on key regions and countries such as the Middle East, and Southeast Asia. Through collaboration with “Go Abroad” Chinese companies and a focus on key businesses such as overseas digital infrastructure, data centers, power and new energy, smart products and services, the Group promoted innovation and transformation of overseas businesses and increased the market share by promoting “EPC+” new model, with a view to enhancing the quality of its development. The revenue from overseas customers amounted to RMB2,998 million, representing a year-on-year increase of 9.3%.

The Group proactively expanded overseas 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 (“Network Maintenance”), general facilities management (“Property 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 2022, revenue from telecommunications infrastructure services amounted to RMB72,907 million, representing a year-on-year growth of 1.4%.

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 2022, the Group endeavoured to address the business needs of domestic telecommunications operator customers and supported the construction of the domestic 5G network and data centers. The revenue of telecommunications infrastructure services from domestic telecommunications operator customers amounted to RMB38,913 million for the year, representing a year-on-year slight decline of 1.4%.

The Group also provides various services, including construction services for ancillary communications networks, integrated informatization solutions and industrial intelligentization 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 2022, the Group made constant new breakthroughs in the fields of data center, smart city, green and low-carbon, smart transportation and building intelligentization. The Group's revenue of telecommunications infrastructure services from domestic non-operator customers amounted to RMB31,526 million for the year, representing a year-on-year growth of 4.2%.

BUSINESS OVERVIEW

As domestic telecommunications operators continue to accelerate digital transformation, increase their investment in new infrastructure such as data centers, and speed up the transformation of cloud-network integration, 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 maintain the stable development of the business from domestic telecommunications operators. Meanwhile, with the in-depth implementation of the Digital China strategy, the construction of digital information infrastructure will accelerate while industrial digitalization will thrive. The Group will also embrace new growth opportunities in both the domestic non-operator market and overseas market.

The Group endeavoured to support digital information infrastructure construction**Business Process Outsourcing Services**

The Group is the largest integrated provider of business process outsourcing services in the communications industry in China. It keeps extending the business scope from core networks to access networks along the communications business value chain, and provides services including Network Maintenance, 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 2022, the Group's revenue from the business process outsourcing services amounted to RMB43,072 million, representing a year-on-year increase of 6.0%.

The Group provides Network Maintenance and network optimization services for telecommunications operators covering fiber optic cables, electric cables, mobile base stations, network equipment and terminals. In 2022, the Group relied on its proprietary "Maintenance Cloud" digital transformation platform for professional maintenance to facilitate the development of Network Maintenance business with a revenue of RMB18,158 million, representing a year-on-year increase of 8.9%.

The Group provides Property Management services to customers for their data centers, cloud bases, commercial buildings, high-end residential buildings, high-speed railway stations and airports, etc. During the year, the Group established China Comservice Smart Property Development Co., Ltd., which advanced the business consolidation of its property management business, improved synergistic operation capabilities and developed smart service capabilities. In 2022, the Group's revenue from Property Management services amounted to RMB7,740 million, representing a year-on-year growth of 8.6%.

The Group provided operation and maintenance services



The Group penetrates the operators' supply chain business and further expands customers from other sectors. The Group focuses on upstream and downstream customers, and continuously 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 logistics and transportation, warehousing and distribution, inspection service and tender agent, digital procurement, repair and disposition to domestic telecommunications operators, government and enterprise customers. In 2022, the Group's revenue from supply chain services amounted to RMB12,849 million, representing a year-on-year growth of 7.4%.

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 2022, the Group proactively reduced the business of products distribution with low-efficiency, and the revenue of products distribution business amounted to RMB4,325 million, representing a year-on-year decline of 10.9%.

Given the increasing scale of the 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.

The Group continuously leveraged its advantage in full-process and network-wide synergistic operation in supply chain



BUSINESS OVERVIEW

Applications, Content and Other Services

The Group provides information system integration and project implementation, industrial digitalization application and solutions, 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 2022, the relevant revenue amounted to RMB24,767 million, representing a year-on-year increase of 15.3%.

The Group advanced on research and development under the leadership of China Comservice General Research Institute. Focusing on “1 Positioning, 4 Roles” in key technology applications and innovation, it further increased research and development investment. The Group has invested a total of RMB25 billion in research and development since the “13th Five-Year Plan”, of which approximately RMB5 billion was invested in 2022. The Group managed relevant resources in a centralised manner to solidify the technological innovation system that comprised “three tiers of research and development management + three tiers of research and development production”. The Group refined technological innovation management through three core functions, which were the strategic management, project management and integrated management of research and development efforts. Special emphasis was put on the deployment in five major aspects, namely the industrial research institute, the digitalization capability middle platform, industrial application products, network information security and emergency management. Currently, the Group has around 20 product research and development centers and over 30 industrial application products have been developed, covering various industries and sectors such as smart city, digital government, cybersecurity, Industrial Internet, smart sport, smart community 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 2022, the contract amount of the Group’s new contracts related to smart city and digital infrastructure exceeded RMB10 billion, respectively, and the revenue from software development and system support recorded a year-on-year growth of over 31%.

The Group continued to upgrade its smart products and core platforms



Emergency management



Smart campus



Cybersecurity platform



Maintenance cloud platform

In 2022, the Group seized opportunities in the New Infrastructure and digital transformation in China by capitalising 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, transportation, electricity and emergency management, which effectively satisfied the demand of government and enterprise customers for digital transformation. As the Group gained increasing industry recognition and brand influence, it continued to rank 4th in “100 Most Competitive Software & IT Service Enterprises 2022”, being named in the “China Cybersecurity Industry Panorama” and “China AIoT Industry Panoramic Map”, and winning a total of 28 provincial and ministerial-level or above awards during the year for its technological innovation achievements.

The Group gained increasing industry recognition and brand influence in the area of technological innovation



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 and businesses, 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 carried out ecological cooperation



CONTENTS OF CERTAIN KEY PRODUCTS OF THE GROUP

1



Smart City

Relying on 5G, IoT, big data, cloud computing, AI and other emerging technologies, we provide integrated solutions for top-level planning, consultation and design, product research and development, delivery and implementation, and operation and maintenance of 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 and other thematic smart applications that can be assembled and disassembled. Based on the effective integration and collaborative sharing of city data resources, it 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. It can comprehensively elevate the overall competitiveness of local economy, nurture the industry ecosystem and promote the government's digital transformation and upgrade of governance.

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 provides informatization core platforms and solutions for the government's digital transformation, including the integrated government service platform, the unified management platform in one network and the smart government service hall. The integrated government service platform promotes the in-depth integration of decentralized online and offline service channels, service capabilities and service resources; the unified management platform in one network supports decision-making of governments at all levels; the smart government service hall provides the government with "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 cyber security capability matrix with the featured advantages of the Group. It builds security operation products such as cyberspace asset surveying and mapping and security orchestration and response, data security solutions such as data security monitoring and commercial password application modification, security training services such as security service cloud and network security training, and empowerment platforms such as asset surveying and mapping cloud brain and vulnerability response, providing one-stop security guarantee for the construction of national critical information infrastructure, and providing comprehensive security support for the safe operation of smart society and the support of major national events.

4



CCS Emergency
Management
Product Portfolio

With the main business line of seven major industries such as emergency management, ecological environment, natural resources, fire-fighting, forestry and grass, water conservancy and human defense, CCS Emergency Management have built a product system based on production safety risk monitoring and early warning platform, emergency rescue command platform, smart park comprehensive supervision platform, Industrial Internet + enterprise production safety cloud platform, smart fire-fighting monitoring and early warning platform, smart forestry and grass comprehensive service platform, smart water conservancy informatization management platform. It has independent intellectual property rights and core technologies, and provides integrated services including consultation and planning, software development, system integration and operation and maintenance. Through scientific and technological means, we promote the transformation of the public security governance model towards prior prevention, and effectively enhance the capacity for disaster prevention, mitigation and relief and the management and support of major public emergencies.

5



Industrial
Internet

Based on the Group's professional service capability and combined with the experience accumulation of exploration and practice in the industry, we create an integrated solutions and products combining Comservice's IoT platform and edge computing platform at the edge access side; on the cloud-network foundation side, Comservice has an innovation middle platform and provides professional services of cloud-network professional planning and design, consultation and development, and implementation supervision based on experience over the years; on the platform service side, Comservice data middle platform provides customers with data management services such as mining, cleaning, classification and application; on the application service side, we have formed multi-dimensional professional products such as security situation, intelligent integration industrial management and industry applications. For customers such as government and industrial enterprises, the Group provides a full process of Industrial Internet service system to help the development of the Industrial Internet industry.





6



Smart Sport

Smart Sport is designed to build a leading smart sports technological innovation and empowerment middle platform in China to provide comprehensive services of "whole process consultation + product research and development + integrated operation". Driven by high-end consultation, we promote industry research, top-level planning and standard compilation, while providing pan-sports solutions based on customer needs; achieving full coverage of key segments of smart sports for sports authorities, sports industry organizations and enterprises, innovating and building core platforms for sports administration, mass sports, youth sports, athletic sports, sports industry, smart matches, smart venues, and sports-education integration. It promotes the integration of sports business, integration of data and integration of technology, and help improve the comprehensive sports management system and public service system; deeply integrates into the overall deployment of smart city, digital government and smart society development, build the integrated operation service capability of "planning, construction and operation", and realize the transformation from sports informatization constructor to digitalization service provider and operator.

BUSINESS OVERVIEW

-
- 7  "Fuju Smart Connection" Smart Community
- According to the four business application platforms, three data governance platforms, four smart foundation, three support systems framework, "Fuju Smart Connection" Smart Community is a new intelligent community platform integrating "security, management, service and visualization". At present, the "Fuju Smart Connection" Smart Community has achieved five levels of SaaS overall management of "city - county - street - community - district".
-
- 8  Intelligent Building
- Leveraging the Intelligent Building Management System (CCS-iBMS) as the core, the Group realizes integration and interconnection among self-control system of building equipment, and also automation systems of office, security, fire protection and communications etc, so as to provide visualized management, operation and service.
-
- 9  CCS Innovation Middle Platform
- 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 commit to realizing the digital operation of technological innovation while improving the research and development management and technological innovation capability. The innovation middle platform contains core functional modules such as enterprise technological innovation management, development workbench and cloud exhibition hall. The enterprise technological innovation module provides R&D management personnel of the Group with whole process management in respect of organization, personnel, R&D project, R&D results with experience accumulation and other functions. The development workbench offers full-process management and the one-stop DevOps tools to the R&D personnel of the Group and incorporates production commercialization guidelines in the R&D process. 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 Company's business innovation to achieve digital transformation.
-
- 10  CCS IoT
- The CCS IoT is an all-scenario integrated IoT platform converging different project status including R&D 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 operation monitoring; aggregates internal and external ecology to expand AI, BI and digital twin capabilities as well as support the quick implementation for projects. The CCS IoT has accumulated 3500+ device protocols, 100+ scenario modules, 300+ AI, BI and digital twin capabilities components; 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.
-

11



Based on the principles of self-research, independence and controllability, "China Comservice Blockchain Platform" provides a cloud-native blockchain BaaS trusted service network and application support platform based on the core technology foundation of high performance, scalability, high availability, easy operation and maintenance, and software and hardware integration, to build a trusted value interconnection. Certified as "Trusted Blockchain" by China Academy of Information and Communications Technology, the core products help enterprises to dig deeper into the value of blockchain empowerment from their actual needs, support the implementation of scenarios such as finance, government affairs, public inspection and law, health care, emergency management, cultural tourism, dual carbon and other applications, and derive flagship products such as blockchain + first examination and then issuance, blockchain + tax bill commissioning and collection, blockchain + supply chain finance, blockchain + carbon asset trading, blockchain + IoT, etc. We support the digital transformation of government and enterprises customers as well as promote the "blockchain+" industry integration and serves the real economy.

12



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